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STUDY REPORT  
ON  
REGIONAL ARRANGEMENTS FOR FACILITATION OF CROSS-BORDER  
PAPERLESS TRADE  
IN ASIA AND THE PACIFIC

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## CHAPTER 1

# **NEED FOR REGIONAL ARRANGEMENTS ON PAPERLESS TRADE IN THE ASIA PACIFIC**

### **Introduction:**

This Report is the outcome of a study undertaken at the instance of UNESCAP on "Regional Arrangements for facilitation of cross-border paperless trade in Asia and the Pacific". The first chapter seeks to examine the necessity for such a regional arrangement in the context of Asia and the Pacific. In the second chapter, a review is undertaken of the existing practices in regard to paperless trade in different countries/ regions and discussions in the relevant multilateral bodies. The third chapter proposes a detailed regional arrangement outlining its contents and features. The fourth chapter proposes an institutional mechanism for proper maintenance and expansion of such a regional arrangement. The annex provides a draft legal text to operationalize the proposed regional arrangement.

### **Scope and Methodology:**

This Report deals with facilitation of cross-border trade, i.e. trade taking place across the border of one country with another or across a customs territory. It is not concerned with trading activities taking place within a country. It also deals with transit trade where there is movement of goods across a country as in the case of landlocked countries.

Cross-border trade not only entails exchange of documents and information across the border, but also within the country. For example, prior to clearance of goods at the border, such exchange of information and

documents takes place between the importer and the customs authorities as well as with other regulating authorities. Exchange of information and documents also takes place between customs and the port/ airport authorities. Facilitation of cross-border trade has to necessarily deal with such exchange of information and documents even though it takes place within the exporting and importing country while dealing with similar exchange taking place across the border.

The term 'paperless trade' does not appear to have a standard definition. The Global Facilitation Partnership for Transportation and Trade uses the following definition for the term 'paperless trade': -

*"A trade system where trade information is exchanged through dematerialized, structured trade documents, based on open and agreed standards." – [www.gfptt.org](http://www.gfptt.org)*

For the purpose of this paper the same is adopted as a workable definition.

Since paperless trade envisages exchange of data and trade documents electronically, sometimes terms like 'e-trade' or 'electronic trade' are sought to be used synonymously with the term 'paperless trade'. However, electronic trading or e-trading is more aptly applied to a method of trading, such as trading of securities, stocks, bonds, foreign exchanges etc. on an electronic trading platform. On the other hand, the term 'paperless trade' includes trade in goods which are physically traded but without exchange of paper documents. For the purpose of this report, we use the term 'paperless trade' throughout instead of the restrictive term 'e-trade'.

This Report draws extensively upon previous work/ study reports prepared under the aegis of UNESCAP, UNECE, WCO, WTO and other international organizations as well as different country reports. The sources have been referred to in the text where ever possible and also listed in the end. We

have also drawn upon our interactions with trade, as well as government officials dealing with customs, trade issues and ports. We have also drawn upon our own field experience.

### **Need for Facilitating Paperless Trade and Transit:**

Before examining the need for a Regional Arrangement, it is worthwhile to briefly look at the need for paperless trade *per se*. The UNECE Document titled "A Roadmap towards Paperless Trade" (Document No. Trade/RCR/371) points out that billions of paper documents are used in international trade by traders and administrations. This is happening despite phenomenal advances in Information and Communication Technology (ICT). The arguments supporting changeover from paper documents to paperless trade are now well known. These are briefly summarized below: -

- (i) The cost involved in international trade can be reduced significantly saving billions of dollars.
- (ii) There will be increased revenue for both private sector and the Governments.
- (iii) Security, transparency and efficiency in supply chains would increase.
- (iv) Electronic information will be easier to process and more reliable.
- (v) Delays in border clearance would be reduced.
- (vi) Changeover to paperless trade will be invariably accompanied by reengineering of existing complicated procedures resulting in simplification.
- (vii) Reduction in cost and simplification of procedure will help small and medium enterprises to become more competitive as savings from paperless trade are found to be highest for smaller shipments and perishable goods.

- (viii) Electronic information is more amenable to automatic risk analysis which will help in preventing fraud and non-compliance giving rise to more revenue.
- (ix) It will help in modernizing administrations and result in better utilization of available manpower.
- (x) Trade will benefit from reduction in repeated data entry, reduction in errors and delays.
- (xi) It will allow private enterprises to develop and use automatic tracking systems to enable secure and timely delivery of goods.
- (xii) Paperless trade can significantly cut down bureaucratic delays and accompanied corruption.
- (xiii) Landlocked countries would specially benefit by paperless trade as electronic information can be received and processed in advance before arrival of the goods at the border enabling faster clearance.
- (xiv) Very often Administrations are forced to make use of incomplete and unauthenticated data while imposing WTO mandated trade remedy measures such as antidumping duties etc. In a paperless trading environment there will be complete and transparent capture of reliable trade data enabling Administrations to take informed decisions.

The usual arguments against changeover from paper documents to paperless trade relate to initial costs involved, reluctance of traders to incur additional costs unless they see the benefit, resource constraints in respect of developing countries as well as small traders. These can, however, be overcome by: -

- (i) demonstrating the distinct advantages of a paperless system to all stake-holders;
- (ii) the national Governments taking the initiative and bearing the initial costs particularly for the small traders; and

- (iii) providing international financial and technical assistance to developing countries lacking in resources.

It is also important to plan and manage a smooth and phased transition to a new system so that it gains wider acceptance.

### **Gaps in furthering Cross-border Paperless Trade**

While most countries recognize the advantages ICT presents and the benefits a paperless trading environment offers in improving competitiveness of exporters, several countries in the Asia-Pacific region face significant challenges in moving towards paperless trading.

The reasons are manifold: -

- (a) Inadequate national effort to apply ICT in matters relating customs and port clearance.
- (b) Computerization by different government departments dealing with different aspects of international trade in an uncoordinated manner and thereby making implementation of a single window system difficult.
- (c) Computerization at the national level without applying global standards diminishing chances of inter-operability and cross-border exchange.
- (d) Lack of financial resources and qualified technical personnel.
- (e) Lack of political will and lack of leadership within the administration to opt for and manage a change-over from the existing system to a paperless trading environment.
- (f) Lack of public – private partnership in evolving a better trading environment using ICT.
- (g) Apart from the fear of change, continuance of a non-transparent manual system may be at times attributable to vested interests that benefits from an opaque system.

Not only issues relating to resources and technology gap are relevant for furthering paperless trade across borders, a legal gap analysis is also called for to identify legal issues that need to be addressed. Some of these issues are highlighted below: -

- (i) An overarching national legislation is required to validate electronic documents, messages, and transactions and make the same acceptable in lieu of paper documents.
- (ii) In the alternative, changes are required to be made in various individual laws relating to customs, civil, criminal matters and any other law relating to enforcement, laws relating to evidence and laws of regulatory nature.
- (iii) Laws are required to be made for data protection, data privacy, data integrity, data sharing, and data retention/ archiving along with period of retention.
- (iv) Laws are also required for electronic/ digital signatures, their authentication and acceptance of certification authorities across the border.
- (v) Legal provisions must also provide for responsibility for wrong data entry and consequent liabilities.

These legal issues merit equal attention for creating an enabling environment for paperless cross-border trading arrangement.

It is often the case that while designing and implementing a new system, the trade is not consulted. It is important that what is required by the trade is ascertained and factored so that the trade accepts and benefits from the new system.



## **Need for Regional arrangements for facilitating Cross-border Paperless Trade**

Review of various initiatives taken by different countries in the direction of paperless trade in the following chapter indicates the following: -

- 1) A participating country in a cross-border paperless trading arrangement should ideally have a sound single window system as a prerequisite.
- 2) Simplification of procedures through reengineering of existing complex trade procedures and documents should precede the design of such a single window system.
- 3) A global arrangement for paperless cross-border trade is rather ambitious at this stage as it is likely to involve huge costs and time going by the WTO Doha Round experience.
- 4) A paperless trading arrangement must take into account specific national/ regional requirements to be acceptable to participating countries.
- 5) Such an arrangement should not only factor in administrative requirements relating to compliance and enforcement; but also the requirements of international trade relating to safe and fast delivery of goods, as well as timely payment for the goods.
- 6) There must be organizational support available for implementation and maintenance of a cross-border paperless trading arrangement.
- 7) Developing countries lacking in resources and small traders must be provided adequate financial and technical support to enable a paperless trading arrangement to become inclusive.

These factors point to the need for a regional trading arrangement which can take into account national/ regional specificities, can be implemented in a shorter time-frame, helping the needy partners in the region with financial

and technical support. It goes without saying that the regional arrangement must make use of global standards and protocols, so that it can easily become compatible to a global trading network in the future. Use of global standards and protocols will also enable regional partners to carry on paperless trade with their trading partners in other regions without having to resort to multiple protocols.

Asia and the Pacific region has several countries whose administrations, trading communities and political leadership seem eager to harness the advantages of ICT to improve their trade competitiveness - a few outstanding examples being Singapore, Malaysia and Korea. Several of these countries already have well working single window systems and bilateral arrangements for electronic exchange of trade data within and outside the region. Some others are considered to be ICT power-houses. As such, Asia and the Pacific region is perhaps the best choice for putting in place a regional arrangement for paperless cross-border trade, which can later be extended to other regions.

### **UNESCAP Resolution 68/3**

It therefore seems that Resolution 68/3 adopted by Member States at the 68<sup>th</sup> ESCAP Commission Session during 17-23 May 2012 in regard to 'Enabling paperless trade and the cross-border recognition of electronic data and documents for inclusive and sustainable intraregional trade facilitation' is very timely and appropriate. For ready reference, we reproduce below the main part of the Resolution which reads as follows: -

*"The Economic and Social Commission for Asia and the Pacific,*

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*Taking note* of the proposal of the Committee on Trade and Investment supporting a regional agreement on electronic trade data and document exchange,

1. *Invites* member States to work towards the development of regional arrangements on the facilitation of cross-border paperless trade;

2. *Encourages* all members and associate members:

(a) To support and participate in the knowledge-sharing and capacity-building activities of the United Nations Network of Experts for Paperless Trade in Asia and the Pacific, including the Asia-Pacific Trade Facilitation Forum and related activities supported by regional and international organizations active in the field of trade facilitation;

(b) To initiate or accelerate the implementation of national paperless trade systems, including national single windows defined in United Nations Centre for Trade Facilitation and Electronic Business recommendation No. 33 and related recommendation No. 35;

(c) To take into account, and whenever possible adopt, available international standards made by relevant United Nations bodies, such as the United Nations Centre for Trade Facilitation and Electronic Business, and the United Nations Commission on International Trade Law, and other international organizations, such as the World Customs Organization and the International Organization for Standardization, when implementing these systems so as to facilitate their interoperability;

(d) To participate in the development of new international standards to achieve the seamless exchange and recognition of trade-related information and documents across borders among all relevant stakeholders from both the public and private sectors;

(e) To share lessons learned and the outcomes of existing bilateral and sub-regional pilot projects on the recognition and exchange of trade-related electronic data and documents with other members and associate members, and to initiate new ones;

(f) To consider entering into bilateral and sub-regional agreements on the cross-border recognition and exchange of trade-related documents as building blocks towards regional and global cross-border paperless trade.”

The Regional arrangement proposed in this report fully takes into account the above resolution as well as the work done by the related international organizations. However, a detailed review of the existing systems has been first attempted in the next chapter to draw appropriate lessons from the same before drawing up the proposed elements of a new Regional arrangement.

## CHAPTER 2

### **REVIEW OF EXISTING ARRANGEMENTS FOR THE FACILITATION OF PAPERLESS TRADE**

In this chapter an attempt has been made to review various initiatives taken at the level of individual countries as well as bilateral, regional and global initiatives to facilitate paperless trade. These initiatives range from putting single window systems in place to electronic exchange of cross border trade data and document for administration, trade and commerce. Such a review is important as it provides important lessons for chiseling a viable regional arrangement for facilitating paperless trade. It is noted that at country level, several successful initiatives have been taken to establish Single Window Systems but there are relatively few examples of arrangements for cross-border exchange of information in a paperless mode. Some international organizations like Asia-Pacific Economic Cooperation (APEC) have suggested a step-by-step move towards cross-border paperless trade where the first step should be to develop a National Single Window. The next step should be to interlink these National Single Windows to facilitate cross-border paperless exchange of information and documents. However, in practice, several different models have been followed for cross-border paperless trade.

This chapter first looks at the individual country initiatives in establishing Single Window. It then looks at initiatives for cross-border electronic exchange of information and documents. The Chapter further examines developments towards cross-border electronic information exchange through Free Trade Agreements and in international fora like WCO, WTO and APEC.

It also examines private initiatives to develop cross-border paperless trade systems

## **Section I**

### **Single Window and use of ICT in domestic setting**

The World Bank Publication 'Border Management Modernization' (Page 125) explains that the term *National Single Window* denotes coordinated national electronic information exchanges with a focus on legislation, procedures and information and communications technology (ICT). Most notable Single Window initiatives in Asia-Pacific region are those of Singapore, Korea and Malaysia. These are discussed in some detail in order to understand their salient features.

#### **Singapore Single Window**

UNNEXT Brief No. 02, March 2012 has published the Single Window experience of Singapore. In 1989, Singapore developed an operational e-platform for exchange of electronic information between different parties involved in external trade transaction. This is called the TradeNet system. It links 35 agencies having a role in import export activity to a single point of transaction. The agencies include Custom, Narcotics Bureau, Agriculture, Agri-Food and Veterinary Authority and all trade documentation of the agencies are submitted electronically.

An important step in achieving the goal of Single Window was to create a single administrative document. This document was a synthesis of 20 different forms used earlier for international trade and this formed the core of computerization. From October 2007, a TradeNet version 4.0 was implemented. This further simplified issuance of permits and permitted new facilities like amendment of permit details, cancellation of unused permits and filing refund claims for duties.

Development of Single Window was spearheaded by a government agency called Singapore Trade Development Board (STDB, now renamed International Enterprise Singapore). The impulses for undertaking this project were manifold like increasing volume of trade to meet the demands of just-in-time (JIT) stock inventory management, lack of manpower, recession of 1985 and a desire to keep up with its competitors like Hong Kong, China.

The TradeNet system was developed through a private operator in order to reduce the financial burden on the Government. A new company called the Singapore Network Services Pte Ltd (SNS) was created in March 1988 which owned and operated the TradeNet system (now known as CrimsonLogic Pte Ltd). This company was owned by four key Singaporean agencies having a dominant role in international trade, namely, STDB, Port of Singapore Authority, Civil Aviation Authority and Singapore Telecoms. The system was developed by IBM.

TradeNet operated as a profit centre where traders could subscribe to it and pay user charges. The advantage to the private players was that they did not have to pay for the development of the system.

Enabling legislative changes were also carried out like section 47(1) of the Electronic Transaction Act (ETA) which permits filing, creation and retention of electronic documents and issuing statutory permit and license in the form of electronic records. The ETA 2010 is based on the UNCITRAL Model Law on Electronic Commerce (1996) and the UN Convention on the Use of Electronic Communications in International Contracts (2005), which legally recognize electronic functional equivalents of written documents and written signatures through a number of provisions. In the relevant specific legislation of Singapore, such as the Customs Act, the Import and Export Act and the Goods and Services Tax Act, specific provisions were incorporated to permit

operation of computer service and electronic submission of relevant documents. This facilitated electronic filing of documents such as manifest, return, declaration, permit etc.

The Evidence Act (Sec. 35-36) of Singapore provides for acceptance of electronic evidence in order to ensure that Customs and other controlling agencies continue to carry out their enforcement functions effectively, after implementation of National Single Window. There are strict confidentiality laws to protect business and trade sensitive information submitted by traders which has a higher chance of misuse if submitted and maintained in electronic form.

There have been several tangible benefits from the TradeNet. The most important was the reduction in the turnaround time for processing documents from 2-4 days to 15 minutes. TradeNet also led to reduction of manpower requirement and its better deployment, early payment of taxes and improvement in accuracy of statistics. It could also efficiently handle 3 to 4 fold jump in the number of permit documents being processed in 2012 (30,000-40,000 everyday) as compared to 1987 (10,000 everyday).

Tradenet has prepared Singapore to move towards the next stage of Paperless Trade. It constitutes the core application of Singapore Trade Exchange platform operational since October 2007. This electronic platform is meant to facilitate information exchange for trade and logistic operation and provides a basis for connectivity to commercial systems and regulatory systems in other countries.

### **Korea's National Paperless Trade Platform - uTradeHub**

UNNExT Brief No. 03, May 2010 has a good description of the development of the Single Window System in Korea.



Korea's move towards single window was actuated by its exponential growth in trade which made it the 9<sup>th</sup> largest exporter in the world by 2010. In 2009 contribution of its foreign trade to GDP was as high as 82.4%. This generated huge paper work and the Korean government decided to move towards a paperless trade system to enhance its efficiency and competitiveness.

The process was led by Korea's Ministry of Commerce, Industry and Energy (MOCIE) which laid out a 'Basic Plan for Foreign Trade Process Automation' in 1989 to introduce EDI-based Trade Automation. The private sector was actively involved in the automation process. One of Korea's foremost trade promotion organization, namely Korea International Trade Association (KITA) established a team for Trade Business Automation Project.

The evolution to Paperless Trade system went through four broad phases: The 1<sup>st</sup> phase lasted five years (1989-1993) during which some basic institutional arrangements were put in place. This included legislative action like passing the 'Act on Promotion of Trade Business Automation' (December 1991).

In the next stage lasting 6 years (1994-2000), several automated services were launched. These included the EDI service for export/import approval and Letter of Credit; export declaration; EDI service for import declaration; export/import Manifest Consolidation System, etc.

In the third stage (2001-2007), the Paperless Trading project got further boost by development of more e-applications. These included: Development of Internet Management System of Logistics (IMSL) (2001); Establishment of National e-Trade Committee (2003); Amending the e-Trade Facilitation Act and launching the project for internet-based national Paperless Trade system (2005). All this finally culminated in opening the uTradeHub in 2007. uTradeHub is a Paperless Trade platform which links various agents

connected to trade on an electronic format. This enabled agencies like customs, banks, logistics firms and other government organizations to exchange information electronically and also provide a platform for data maintenance.

In the fourth stage (2008-onwards), the uTradeHub came to be used widely. It also got international recognition and was recognized as a global network for Paperless Trade. The paperless trade also came to be used more widely through such means as Ministry of Justice's designation of KTNET as Electronic Bill of Lading (BL) Title Registry and use of electronic negotiation (financial settlement) system. The Paperless Trade in Korea today covers a large number of agencies. The uTradeHub platform is now used by trade and logistics firms, banks, forwarders and customs brokers. The uTradeHub offers 7 main services such as notifying export L/C, local L/C and opening import L/C, issuing certificate of origin and freight insurance policy; permitting export clearance, import clearance and customs duty refunds; and declaring transportation of bonded goods and manifest, etc.

The Korean economy has benefitted considerably from uTradeHub leading to saving of around US\$ 3 billion through productivity increases, reduction of extra fees and other systemic benefits (Based on Hyundai Research Institute Study, 2006).

In order to make Paperless Trade a success, Korea enacted several enabling legislations. These included: the 'Act on Promotion of Trade Business Automation' (1991) which was fully revised into the e-Trade Facilitation Act (2006), the Framework Act on Electronic Commerce (1999), the Digital Signature Act (1999), the Act on Promotion of Information and Communications Network Utilization and Information Protection (2001). In 2008, the Commercial Law was revised to permit issuance of e-Bill of Lading.

Some of the key elements for the success of Paperless Trade in Korea can be summarized as follows:

- i. Practical necessity of coping with high volumes of trade;
- ii. Development of sound legal framework for Paperless Trade;
- iii. Active collaboration with private sector;
- iv. Highly development IT infrastructure.

### **Malaysia Single Window**

The UNNExT Brief No. 04, July 2010 contains a detailed description of the development and benefits of the Malaysian Single Window System.

From late 1990s, Malaysia started the use of ICT to establish an environment of Paperless Trade. It realized that this was very important to improve its trade competitiveness. In September 2009, the Malaysian government appointed Dagang Net as the service provider to develop a National Single Window (NSW) for trade facilitation. The choice of Dagang Net showed strong government and trade partnership to achieve the goal of a Paperless Trade environment. Dagang Net was set up in 1989 in the Malaysia National Chamber of Commerce and Industry to create electronic interface for customs activities. This company introduced EDI in 1993. The Malaysian Customs had established an EDIFACT-EDI system. The network of Dagang Net was linked to this EDI system. They constituted the national backbone for Paperless Trade called the 'SMK-Dagang Net'.

The first interface between the two systems was implemented in August 1994. The Port Klang used the system for activities like electronic exchange of data, digital signature and electronic fund transfer. The results were positive in terms of efficiency and cost savings and greater accuracy in documentation. The rate of documentation error was reduced from 40% to

5% and the cost savings amounted to US\$ 29 million per year. The cargo turn-around time was reduced from 4 days to 2 days, and subsequently it was further reduced to 'same-day cargo turnaround'. This success spurred the use of automation at other customs entry points. By 2003, the SMK-Dagang Net had achieved automation of all customs entry points. It provided nationwide portal to facilitate payment of duties and taxes. This integrated gateway permitted importers and exporters, customs brokers, freight forwarders, shipping agents, banks, insurance companies, etc. to file trade related information and document only once at the single entry point. After establishment of the single window, Malaysia started work on National Single Window by linking participating permit issuing agencies electronically in 2009, allowing submission of application and approval of import-export permits through the internet.

The services offered by the SMK-Dagang Net are as follows:

- (i) Electronic declaration (e Declare): Importers and exporters can file their import and export declaration to Customs through the internet;
- (ii) Electronic Preferential Certificate of Origin (ePCO): Electronic issuance of Preferential Certificate of Origin for various Free Trade Agreements;
- (iii) Electronic customs duty payment (e Payment);
- (iv) Electronic Manifest (e Manifest): The port users can submit cargo and vessel manifest through the Internet;
- (v) Electronic Permit (e Permit): Importers-exporters can obtain permits electronically.

The critical elements ensuring success of Malaysian National Single Window project are:

- (i) Steadfast support of the Malaysian government;

- (ii) A strong inter agency collaboration by about 30 agencies;
- (iii) A robust public-private partnership where private sector was given a key role to devise and implement the paperless system.

By 2009 Malaysia fully developed its National Single Window which provided the single entry point for trade related information and document to be submitted by exporters-importers, freight forwarders, shipping agents, etc.

Malaysia is preparing to connect to ASEAN Single Window (ASW). It conducted the bilateral ASW pilot project with Thailand and Philippines. Malaysia is also conducting its data harmonization project compliance with ASEAN Data Model (ADM). This project will eventually lead to ASEAN wide transmission of paperless information.

UN/CEFACT International Trade Procedures Working Group studied the Single Window system of several countries. These are reported in the UN publication, 'Recommendations and Guidelines on Establishing a Single Window: Recommendation No. 33' (UN 2005). It can be seen that Single Window in different countries provides a variety of services. These are briefly discussed below:

1. **Mauritius:** The Single Window in Mauritius allows the submission of customs declarations, their processing and their return by electronic means through the TradeNet, a proprietary system developed by Mauritius Network Services Ltd. in collaboration with Singapore Network Services Ltd. (now operating under the name Crimson Logic). The system is an EDI-based network application that allows the electronic transmission of documents between various parties connected with import and export of goods namely Customs and Excise Department, Freight Forwarders, Shipping Agents, Customs Brokers, the Cargo Handling Corporation, Ministry of Commerce, Operators within the

Freeport, and Importers and Exporters. Banks are to be connected to TradeNet in a phased manner.

2. **Sweden:** The Swedish Single Window system is known as "The Virtual Customs Office" (VCO). It allows for electronic customs declarations and application for import and export licenses and licenses for strategic products. It automatically updates changes in exchange rates, tariff codes and duty rates. It also contains trade related regulations and can provide traders with automated updates on changes via Internet and/or SMS services.
3. **Netherlands:** The Single Window at Schiphol Airport allows electronic submission of cargo manifest by airlines to customs. It has led to creation of a "cargo clearance point" (CCP) where 10 other enforcement agencies coordinate with Customs for various agency functions. These agencies include: immigration, Health Care Inspectorate, Inspectorate General of Transport, Public Works and Water Management, Inspectorate for Health Protection and Veterinary Public Health, etc. The CCP is managed by Customs. The relevant agencies provide Customs with risk-profiles on the basis of which Customs analyses the information and passes it on, either electronically or on paper, to the other agencies.
4. **United States:** The United States Single Window is called International Trade Data System (ITDS). The Customs and Border Protection (CBP) of US has integrated ITDS requirements into a joint Automated Commercial Environment/International Trade Data System (ACE/ITDS) system. This eliminates parallel and duplicative data submission to various agencies. The agencies that participate in this Single Window include government agencies dealing with border

operations, licensing and permits, statistical functions and trade promotion.

The description of the Single Windows of Singapore, Korea and Malaysia and of various other countries shows that Single Window leads to substantial gains in terms of cost and time saving for both the private sector and government. The experiences underline that the process of development of single window is often driven by the growing volumes of trade and it is backed by strong political and government support. It is useful to follow a gradual approach in terms of interlinking various agencies dealing with trade. It is also very important to have the private stakeholders on board, and in several occasions, they have acted as the lead agency to develop Single Window Systems. This also reduces cost burden of the government, and payment of user charges makes these systems self-sustaining. A successful development of Single Window requires a good legal and technical base. The UNCITRAL Model Law on Electronic Commerce, the UNCITRAL Model Law on Electronic Signatures and the UN Convention on the Use of Electronic Communications in International Contracts have several provisions to legally recognize electronic functional equivalents of written documents and written signatures and contracts, which have been used as the basis for creating the enabling legal framework both in terms of an overarching legal framework and in introducing enabling provisions in trade specific legislations like the Customs Act, Import and Export Act, Goods and Services Tax, etc. On the technical side, different kinds of systems have been used.

## **Use of ICT in Border Clearance**

### **India**

Several countries in the Asia-Pacific do not yet have a single window but they are very advanced in using ICT for border clearance of goods. They are well placed to move towards a single window system. A case in point is India's use of ICT for clearance of goods at the border.

India uses an upgraded version of the Indian Customs EDI System, (ICES) which provides for automated workflow relating to clearance of import and export consignments at 108 customs locations.

The ICES permits electronic filing of various documents like cargo declaration, import and export declaration on a 24X7 basis without physically visiting the custom house. The ICES also permits exchange of electronic information with other agencies like the Directorate General of Foreign Trade (DGFT) for certain categories of licenses and with banks for refund of duty drawback and service tax. During April 2011 – March 2012, ICES handled about 8.6 million customs declarations for import and export, and over half a million import and export manifests.

ICEGATE (Indian Customs Electronic Commerce/Electronic Data Interchange Gateway) is an e-commerce portal that provides e-filing services to the trade and cargo carriers and other stakeholders and links them with the ICES through message exchange facility enabling faster customs clearance. About 8,500 users are registered with the ICEGATE, which serves about 0.67 million importers/exporters. The system allows use of commonly used communication protocols on the Internet. Apart from allowing e-filing of entry documents and manifests, the system allows the Custodians and Cargo Logistics Operators to interact with the ICES through the ICEGATE for cargo and logistics related information. Besides, it allows data exchange between Customs and various regulatory agencies such as the DGFT, the Reserve Bank of India (the central bank), the Ministry of Steel and the Director General of Commercial Intelligence and Statistics (DGCIS). The National



Import Database and Export Commodity Database for Directorate of Valuation are also serviced through the ICEGATE. It also provides other services like on-line registration for IPR, tracking status of document processing by customs, online verification of authorizations under export promotion schemes, etc. The ICEGATE has 24X7 helpdesk facility for all the stakeholders. To ensure secure filing of documents, work is on the way to use digital signatures.

The ICES provides for a Risk Management System (RMS) to enable the Indian customs authorities to strike an appropriate balance between trade facilitation and enforcement. Under the RMS, Bills of Entry filed by importers are processed for risk and a large number of consignments are allowed clearance without examination based on the importers' self assessment. Other consignments go for assessment or examination or both, depending on the evaluation of risk by the RMS. The RMS is operational at 74 customs locations and covers more than 99% of imports.

All the qualified importers, who have demonstrated capacity and willingness to comply with the laws are registered with the Risk Management Division under the Accredited Clients Programme (ACP) and get assured facilitation. Except for a small percentage of consignments selected on a random basis by the RMS, or cases where specific intelligence is available or where a specifically observed pattern of non-compliance is required to be addressed, the ACP importers are allowed clearance on the basis of self assessment. It is reported that presently there are 308 such ACP importers. Upon introduction of the RMS, the erstwhile concurrent audit has been replaced by post clearance audit which is carried out only on Bills of Entry selected by the RMS for such audit. The implementation of the RMS has greatly helped speeding up the customs import clearance process by cutting down the dwell time of cargo and transaction costs for importers. A module for cargo declaration based selection of containers for scanning on arrival at

Jawaharlal Nehru Port, Nhava Sheva, (near Mumbai) has been developed and successfully implemented by the Risk Management Division. Risk Management System for Exports and courier clearance has also been developed and Pilot projects are under implementation.

The countries that have operational Single Windows or which have advance usage of ICT have already experienced the advantage of considerable reduction in transaction cost. As the international business environment is becoming increasingly competitive, and supply chains are getting fragmented, transaction cost needs to be brought down continuously. Adoption of Cross-border paperless trade provides an opportunity in this direction. However, presently such systems are used in very limited number of cases, and the prime focus of many of them is improved customs enforcement. Some such systems are discussed in the Section II of this Chapter.

## **Section II**

### **Cross-Border Paperless Trade Systems**

WCO has prepared some useful case studies on Systematic Exchange of Commercial Information between Customs Administrations in Bilateral and Regional Arrangements. The WCO Research Paper No. 11 by Tadashi Yasui (February 2011) delineates four such systems. One such exchange system involves China from the Asia-Pacific region. None of these systems provide for a generalized mechanism for exchange of information. Instead, they focus on specific objectives like reducing congestion at the border for landlocked countries or to improve customs control between the Customs Unions. The IT system used for such information flow is based on one of the two broad models; a 'Push System' or a 'Pull System'. In 'Push System', the

IT system automatically sends the necessary data while in 'Pull System", the relevant data is available online and the user administration accesses it, as and when required. The working of the four systems is discussed below:

### **1. New Computerized Transit System (NCTS) for Common Transit System between the EU and EFTA**

A common transit system is meant to promote easier movement of transit goods between 27 EU Member States and 4 EFTA countries (consisting of Iceland, Norway, Switzerland and Liechtenstein). The NCTS is based on exchange of electronic messages. The NCTS Customs office, at the point of departure, sends an electronic message on transit goods to each customs office *en route* the transit. Once goods arrive at a transit point, a message of arrival is sent to the office of origin. This process is repeated at every subsequent transit point and at the final destination point. If goods arrive as per description, the bond is released electronically. The system has been fully implemented since 2003.

The legal basis of this transit procedure is the Common Transit Convention of 20 May 1987. Data protection is governed by Article 13 of the Community Customs Code which requires that there should be an international agreement for transferring confidential data from the EU to the third countries.

NCTS was implemented in stages. Its implementation was started in a limited number of offices in a few countries and gradually extended to all contracting parties. In the initial phase, the paper based system coexisted with NCTS.

The data exchange is on the basis of a pre-determined message format (IE 001) and it includes information relating to: consignor;

consignee; carrier; description of goods; classification code; quantity; the country of departure; country of destination; Customs office of dispatch/transit/destination; means of transport; container number; and itinerary with anticipated time and place during the transit operation. This is sent as anticipated arrival record (AAR) message.

Traders can send and receive messages on NCTS using the web, Electronic Data Interchange For Administration, Commerce and Transport (EDIFACT) or Extensible Mark-up Language (XML) channels. EDIFACT is recommended for an operator who submits a high number of transit declarations. EDIFACT system sends and receives messages as email attachments, or in the body of the mail, via Simple Mail Transfer Protocol (SMTP) or the ISO standard for electronic mail (X.400). If a trader uses his own software to send message to NCTS, he has to either buy specialized software, or develop software that is compatible with NCTS. Use of XML is also recommended for large businesses as this route is only available to businesses that purchase or develop their own software. To send message through the XML route, EDIFACT messages are 'wrapped' with an XML envelope. Web channel is recommended for small businesses as it is free to use, requires no special software and online customer support is available.

Goods moving under the transit procedure must be accompanied by a Transit Accompanying Document (TAD). The TAD includes consignment's Movement Reference Number- printed in numeric form and as a barcode and it must be presented at the office of destination to enable the office to inform NCTS regarding the arrival of goods.

## **2. EU-China Smart and Secure Trade Lanes (SSTL) Pilot**

The impetus for this initiative came from rapidly increasing trade volume between EU and China in the recent years. This project aims to

improve security and trade facilitation throughout the supply chain between the EU and China. A pilot project was started in September 2006. The project seeks to test, strengthen, refine and agree on the principles for securing end-to-end supply chains. Its long term goal is to facilitate an agreement on the mutual recognition of security measures, control results, and Authorized Economic Operators (AEOs).

The SSTL pilot involves exchange of electronic information on sea containers between United Kingdom, Netherlands and China. The seaports that are participating in this pilot are Rotterdam, Felixstowe and Shenzhen. The first phase lasted for 9 months starting from November 2007 and it covered specific trade lanes of a limited number of economic operators. From November 2010, more ports and more complex trade lanes have been added in the project.

The legal framework of SSTL Pilot is Article 6, Para 2 of EU-China Customs Cooperation and Mutual Assessment Agreement (CCMAA). It provides that:

*The Contracting Parties undertake to develop trade facilitation action in customs matters taking into account the work done in this connection by international organizations.*

The data protection aspect is governed by Article 13 of the Community Customs Code as in the case of EU-EFTA and NCTS. The relevant provisions are Article 25 (1) of the Directive 95/46/EC and Article 9 of EC Regulation 45/2001. These provide for protection of personal data "to ensure adequate level of protection" of the third countries. There is a provision to derogate from this obligation under Article 26 of the EU

Directive on the condition that the concerned person gives his consent for sharing the data.

The communication tool for this project is 'WCO CENcomm', a WCO web-based application which enables a point-to-point and secured communication tool for operational purposes. It is accessible only to a closed user group of officers for the duration of an operation.

The electronic format of message exchange is based on the WCO Data Model. Initially 16 Data elements relating to exporters/importers, goods, carriers and ports of departure/arrival were exchanged between Customs at exit and entry. It was later expanded to 23 data elements, mostly derived from the WCO SAFE Framework of Standards.

The operational aspect of the project is as follows:

- An exporter lodges its export declaration on sealed sea container to Customs at the point of exit before departure;
- Customs at exit conducts risk analysis based on joint risk rules (JRR) mutually agreed with Customs at entry in advance;
- After processing declaration, Customs issues export permission;
- Before departure, Customs at exit sends 23 data elements including Unique Consignment Reference (UCR) number and control results to Customs at entry, in the format of WCO Data Model using WCO CENcomm platform;
- Customs at entry receives the information before the departure from the exporting countries;

- Once goods arrive in the port of the importing country, Customs of the importing country uses UCR to identify the sea container with the entry summary declaration lodged by the carrier
- Customs may inspect the container only if there is a specific reason like seal is broken; other containers are released after duty payment
- Customs at entry sends the control result back to Customs at exit using the WCO CENcomm platform

The first phase of the programme has been evaluated as successful. The project has contributed in improving trust and cooperation between EU and China Customs. It also marked a progressive step in the mutual recognition process of AEO programs between EU and China.

However, the first phase also experienced some difficulties. The companies identified for the Pilot project found it difficult to participate as very few companies moved full containers directly to and from Shenzhen/Felixstowe/Rotterdam. It is also reported that the companies were not convinced of tangible benefits additional to those already available from AEOs to encourage them to participate in such a project.

The second phase of the project started in November 2010 by extending the Pilot to ports in Belgium, France, Germany and Italy on the EU's side and to the port of Shanghai on the Chinese side, and included more complex trade lanes such as consolidations and transit.

### **3. INDIRA of Mercosur**

Mercosur is a Customs Union consisting of Brazil, Argentina, Paraguay and Uruguay formed in 1995. It has a common external tariff. The Customs duty payment takes place at the first port of arrival, and in order to avoid duty payment at another border crossing within Mercosur, INDIRA was implemented. It exchanges information on exported goods destined for other Mercosur countries and imported goods from all non-Mercosur countries.

The objectives of the system are to:

- Enable the automated exchange of trade information among the Customs administrations of Mercosur countries;
- Enhance the fight against illicit trade; and
- Serve as a tool to identify the transactions that complied with the Common Tariff Policy and the Mercosur Origin Regime

The legal framework for this exchange is in the Treaty of Asuncion and certain follow-up Mercosur Decisions. The most important of these is Article 21 of the Decision No. 27/05 which requires the Customs administration to establish information exchange mechanisms through the INDIRA system. Data confidentiality is provided for under Article 23 of the Decision No. 37/05. It provides that the information exchange through IT systems will enjoy the same level of confidentiality protection in the importing country as it enjoys in the country of origin.

Each Mercosur Member covers the maintenance cost of its communication tools and database. INDIRA is a web-based system for information exchange. Each Member of Mercosur has the right to access databases of other members when necessary ("pull system"). Once an import or export declaration is accepted by the System, the



main data elements of the declaration are available in the System. The request for supply of data is done by the Virtual Private Network (VPN) via the internet, consisting of two modules of "service requester" and "service provider". The data is encrypted to be communicated in XML format.

The data that can be accessed by Mercosur members include: declaration reference number; acceptance date of goods declaration; importer/ exporter; country of exportation/ destination; total number of items; associated government procedure code; office of entry; office of declaration; total gross weight; total invoice amount; freight costs; insurance costs; date of arrival; departure date; mode of transport; cargo manifest number; total number of packages; duty assessed.

There are several ways to request data in the system once the portal is accessed through internet, like export declaration number, followed by item number; period and destination or origin country of a declaration, certification number, etc.

INDIRA has been used extensively since 2009. Brazil accessed the databases of other countries over 11,000 times, while others accessed the database of Brazil over 47,000 times. The data exchanged was used for origin investigation and inspection after clearance.

#### **4. Revenue Digital Data Exchange (RADDEx) of the East African Community**

The East African Community (EAC) was formed into a Customs Union in 2004. It consists of Burundi, Rwanda, Tanzania and Uganda. The motivations behind development of RADDEx were to minimize delays in border crossings and to plug revenue loss because of diversion of

goods in transit. RADDEx enables exchange of export/re-export and transit information between member states of the EAC which permits targeting and profiling of goods before their arrival. It was developed by the Kenya Revenue Authority (KRA) and the Uganda Revenue Authority (URA) in partnership with the East and Central Africa Global Competitiveness Hub. It was launched in October 2007 after a two year Pilot. As of December 2010, RADDEx system has been operated by Rwanda, Uganda and Kenya on a bilateral basis. Tanzania and Burundi are likely to join.

The legal framework for this system is the East African Customs Management Act (2004). Section 10 (1) of the Act provides that:

Commissioners shall furnish each other with such information, certificate, official report or document on matters relating to any (a) prevention, investigation and suppression of offences under this Act; and (b) any other relevant information relating to Customs.

RADDEx system is operated under bilateral Memoranda of Understanding (MOU). It is a web based system interfacing with intermediate servers of national Customs systems (e.g. SIMBA 2005 for Kenya, ASYCUDA++ for Uganda and Rwanda). The intermediate servers are created to protect the data in each Customs system. It has two distinct portals: One accessed by Customs and the other by the Private Sector.

Data confidentiality is governed by section 9 (2) of the EAC Customs Management Act which provides for fine and imprisonment for a person disclosing information relating to any person, firm or business acquired in course of official duties.

The data is communicated in XML format and these include: declaration number and date; exporter/importer/agent name; the number of packages; total/gross/weight; country of origin; customs value; commodity description; and commodity code. Supporting document such as invoices and certificate of origin are not exchanged.

The benefits of RADDEx have been manifold. It has reduced cost of cargo clearance and enhanced partnership between Customs administrations, and expedited transit and import procedures through risk management methods. It has also proved effective in checking undervaluation of goods. RADEEx processed 95% of transit goods between Mombasa (Kenya) and Kampala (Uganda) in 2009. The border crossing time was substantially reduced (from 3 days to 15-20 minutes), several cases of fraud were detected leading to substantial revenue recovery. The clearing agents also save time and cost by "one-off data capture" declarations. As data elements from RADDEx are re-used, the operators do not have to re-key most of the data elements in declarations before different national customs administrations.

On the other hand, operation of RADDEx has also thrown up many challenges. Network failure has been frequent at remote borders. The process of expansion of RADDEx has been slow because it is to be done on a country-by-country basis. This also creates risk of "disharmony" in the region. Automation process is incomplete as supporting documents such as invoices and certificates of origin have to be physically submitted.

### **Exchange of Electronic Certificate of Origin (e-CO) between Chinese Taipei and Korea**

In order to assess the contribution of the actions and measures of APEC's Electronic Commerce Steering Group (ECSG) towards reducing trade transaction costs, a study was conducted on exchange of Electronic Certificate of Origin between Chinese Taipei and Korea (Facilitating Electronic Commerce in APEC: A Case Study of Electronic Certificate of Origin (e-CO), Authors: Alicia Say, Jack Wu and Peter Stokes- APEC Policy Support Unit October 2011)

The Customs administration of Chinese Taipei require Certificate of Origin (CO) for certain selected products exported from Korea to Chinese Taipei not as a part of a FTA arrangement but in order to ensure that these products do not originate from some economies from which import to Chinese Taipei is prohibited. Products that require CO are primary products like pear, apple, honeydew and cabbage.

On the Korean side, main agencies involved in export are: (i) The Korean Chamber of Commerce International (KCCI) which issues CO; (ii) KNet (Korea Trade Net), an electronic service provider which facilitates exchange of electronic documents within Korea between the trade community, Government and other agencies.

The normal process of exchange of CO between the two countries was part electronic and part paper based. KCCI has an online e-CO service through which a Korean exporter obtains the Certificate of Origin electronically (within 10 minutes of filing his application online). The cross-border movement of certificate of origin was in paper mode. For this, the exporter printed the paper copy of the CO with the "digital stamp", got it authenticated in the Chinese Taipei Mission Office in Seoul (which normally took 2 to 3 days) and then sent the authenticated CO to the importer or his Customs broker by mail service. On the Chinese Taipei side, the importer or his Customs broker would apply electronically for any import

permit/certificate and present the import declaration electronically along with the paper version of CO to Customs. The clearance of goods would be allowed on checking the authenticity of CO.

In order to expedite this process, in mid-2010 the Global e-CO service was jointly introduced by Trade-Van in Chinese Taipei and KNet in Korea. This permitted CO of a Korean exporter approved by KCCI to be transmitted electronically to a Chinese Taipei importer. The COs were sent with a digital signature which provided an assurance to the Chinese Taipei Customs that the e-CO was authentic. This eliminated the need to file a paper based CO authenticated by the Chinese Taipei Mission Office in Seoul. The importer would receive e-mail notification that the e-CO had been sent by the exporter, and would use the Trade-Van e-CO service to digitally sign the e-CO and forward it electronically to the Chinese Taipei Customs. Goods would be cleared on this basis.

The benefit from the above improvements was considerable in terms of savings in cost (US\$ 520 per shipment) and time (5 days per shipment). Out of this, savings of US\$ 217 per shipment was accounted for by exporter and of US\$ 203 was accounted for by importer. Time saving was 2 days for exporter and 3 days for importer. The time saving was on account of eliminating the need for authentication of paper Certificate of Origin in the exporting country, its presentation in the importing country, the time and expenses involved in physical delivery of Certificate of Origin by mail, and the time taken for clearance of goods in the importing country.

Introduction of e-CO led to additional benefits like easier process for rectification of errors in a CO. In case of rejection of a CO due to certain errors in the document, a fresh paper based CO took 8 days to reach the importer (6 days to re-issue and 2 days for postal delivery). The goods would be held up during this period leading to interest charges and loss of

opportunity to sell the goods at the optimal price. These losses amounted to US\$ 3,553 per shipment. There were errors in about 7% of the COs leading to a pro-rata cost of US\$ 249 per shipment. The study indicated that taking all this into account, the overall savings from the implementation of the new Global e-CO was US\$ 274 for the exporter and US\$ 397 for the importer.

Going by the encouraging results, the paper suggests that the scope of the APEC e-CO Pathfinder Project between Chinese Taipei and Korea be expanded to include other electronic B2B and B2G documents such as e-Invoice, e-Packing List, e-AWB, e-SPS etc. It also suggests that e-CO Pathfinder Project should be expanded to those APEC member economies that have FTA or EPA, as in most such cases, CO is a mandatory requirement to extend preferential tariff treatment. This would possibly encourage traders to adopt e-CO.

### **Electronic submission of Certificate of Origin between Malaysia and Japan and the Private Sector Role in Cross-Border Paperless Trade**

Private Sector has also been playing an important role in promoting cross-border paperless trading systems. An important example of cooperation between private sector and government in facilitating paperless trade is the partnership between Pan Asian e-Commerce Alliance (PAA) and the Customs Authorities of Malaysia and Japan. PAA is the first regional alliance established to develop commercial and IT infrastructure to facilitate trade across economies. There is a Pilot project of electronic submission of preferential COs issued by MITI Malaysia using a secure network established between the Customs service providers DagangNet of Malaysia and NACCS of Japan and PAA Members. The pilot test has been done since December 2010. The role of PAA in facilitating electronic exchange and the limitations of private entities in dealing with the issues of cross-border electronic exchange is discussed in Box 1.

### **Box 1**

#### **Pan Asian e-Commerce Alliance (PAA)**

PAA is a private sector organization that was founded in July 2000 by CrimsonLogic (Singapore), TRADE-VAN information Services Co. (Chinese Taipei), and Tradelink Electronic Commerce Limited (Hong Kong China). The PAA is the first regional e-Commerce alliance in Asia. It aims to promote and provide secure, reliable and value added IT infrastructure and facilities to enhance seamless trade globally. Combined membership of the parties is more than 150,000 organizations. PAA Members consist of the leading Customs and trade service providers of some of the most active Asian economies, like China, Japan, Korea, Singapore, Malaysia, etc.

Private entities that want to use the electronic infrastructure of PAA have to sign an agreement with PAA permitting inter-connection of network services. This allows such entities to use the PAA network for transmission of trade and logistics documents. In order to ensure that the network is secure and reliable, the documents have to bear a digital signature. In the system devised by PAA, before the originator's e-Document reaches the Addressee, the format is converted twice from the format of the Originator to the format of PAA, and then from the format of PAA to the format of Addressee. Digital signature on the e-Document is destroyed each time when formats are converted from one to another.

PAA provides for a system of mutual recognition of Certificate

Authorities based in the territories where the private users are located. An additional advantage for users is that they are able to re-use the relevant data from the received documents for the application and submission of trade or regulatory declarations, saving considerable time involved in rekeying data.

A PAA Certificate Authority has been commissioned as private framework for the mutual recognition of Public Key Infrastructure (PKI). An infrastructure to support both end-to-end digital signatures as well as digital signatures between service providers has been established. The alliance is targeting to have at least one Certificate Authority from each member country to be certified and participate in the PAA.

PAA provides a set of legal agreements, specification and procedures that privately enforces the legality of the electronic transactions within the PAA network through contract law. Within this network, the import and export trade declarations, electronic cargo manifest, electronic shipping orders, etc. in the e-commerce of trade may operate smoothly.

As pointed out in the Paper entitled 'Electronic Single Window Legal Issues: A Capacity Building Guide' (2012), lack of a common framework for international electronic transactions is deterring trading entities from carrying out cross border business dealing. PAA has multiple limits in its operation. Firstly, PAA rules and norms are merely operable within its network, rather than in the whole Asia-Pacific region. Secondly, PAA rules and norms are, by nature, private contracts among their members, and not national or international law.

The Guide further points out that in international trade, contractual



arrangements can, in most circumstances, pre-empt the application of non-mandatory legal norms and as long as there is no dispute between trading partners, define their rights and obligations. However, contractual arrangements still need to comply with domestic national laws of mandatory application and, when disputes are cross-border, relevant international law provisions. This compliance is critical to ensure the recognition and enforcement of judgments and arbitral awards rendered on the basis of contractual agreements. This will be particularly true where there are disputes arising from the contracts and the parties have to rely on the "external" interpretations or enforcement of their contractual arrangement. Further, where disputes involve third parties, i.e., individuals or entities that are not a party to PAA contract agreements, those third parties may not seek resolution under the PAA rules and norms. These limitations can be best overcome by providing a treaty based international legal framework for cross-border paperless

There also exist legal challenges to cross border paperless trade. For instance, there could be legal and practical problems for use of foreign electronic evidence in the enforcement of Customs or other regulatory laws. Often Customs administrations and other regulatory agencies prefer the declarant to be a person within the jurisdiction of that country so that he can be held accountable for the correctness of the declaration made. In such a situation a Single Window electronic network can help the exporter to share data with the importer and the importer could then reuse this data while filing his import declaration.

The Australian Case Study in Section II also brings out the challenges that Customs administrations may face in converting export declaration into import declaration. Some of these legal limitations

can be addressed by having a system where an exporter shares information electronically with the importer or his broker who will in turn file the declaration with the customs for clearance of imported goods. The APEC model also lays stress on such an approach which has been validated by some proof-of-concept studies as discussed in this Section. PAA model can play an important role in such Business to Business paperless cross-border exchange of data and documents.

### **ASEAN Single Window**

An interesting example of an incremental approach to development of a cross-border electronic exchange on the basis of Single Window electronic platforms is provided by the ASEAN framework of Single Window. The ASEAN Economic Ministers agreed to establish the ASEAN Single Window (ASW) as a step towards the realization of an ASEAN Economic Community by 2015. At the Eleventh ASEAN Summit in December 2005, ASEAN Economic Ministers signed the Agreement to establish and implement the ASW. Its main features are discussed below (based on Technical Guide of ASEAN Single Window and National Single Windows Implementation, March, 2006):

The ASW envisages integration of 10 operating National Single Windows (NSW) of ASEAN Members to expedite clearance of goods through Customs. It has linkages in the form of Government to Government, Government to Business and Business to Business. It also aims to harmonize and simplify customs procedures while working on the NSW projects. It uses international standard based on WCO's Revised Kyoto convention.

The NSW is envisioned as a single point of decision for the release/clearance of cargoes by the Customs on the basis of decisions communicated by relevant Ministries and agencies in a time bound manner to the Customs. The NSW uses internationally aligned standards and information parameters and a streamlined decision making process by Customs Authorities. The information processing within NSW involves linkages with various agencies namely Customs; other Government Agencies; Banking and Insurance Agencies; Transport Community; Trading Community; and ASEAN international link. These NSWs are to be linked to form an ASEAN Single Window (ASW). The ASW is to work on 5 models which are:

- i. The ASEAN Cargo Processing Model;
- ii. The ASEAN Customs Declaration Document;
- iii. The WCO Data Model, the WCO Data Set, the United Nations Trade Data Element Directory (UNTDDED);
- iv. The UN/CEFACT Modeling Methodology (UMM) and the Uniform Model Language (UML) for process analysis and functional determination;
- v. Other Conventions in trade facilitation and topics of relevance to Customs by the United Nations and international organizations

The work on ASEAN Single Window (ASW) is being overseen by ASW Steering Committee (ASWSC). Two working groups namely the Working Group on Technical Matters and the Working Group on Legal and Regulatory Matters were formed to assist the ASWSC to realize this task.

NSW aims to place the following facilities in an ASEAN wide customs environment.

- i. A Single Entry Point of data capture and data submission;

- ii. A Synchronous Environment of Information Processing and Sharing with functional and information linkages among stakeholders to ensure a seamless validation and clearance of submitted data;
- iii. A Public Internet Site to disseminate regulatory information to enhance transparency and voluntary compliance by stakeholders;
- iv. A Single Decision Making Process and System undertaken by Customs Administrations;
- v. A Platform for dialogue and consultation among government agencies being in contact to provide their respective decisions and information to the Customs;
- vi. An appropriate open architecture of information processing which aligns to international standards

The building block of ASW is the National Single Windows. There are five components of the NSW Database Infrastructure briefly described as follows:

- i. Translator: It converts incoming data and information of any format into the recipient's desired data format. This enables the mapping of data and information into the desired database format.
- ii. Process Management Engine (PME): It manages the workflow of the entire NSW and controls the processes relating to ICT applications such as routing, validation, etc.
- iii. Communication Modules: These modules administer various standard protocols being used in the NSWs to enable effective communication and connectivity. Some communication protocols are: HTTPs, FTP, ebMS, Ver 2.0, SMTP, X.400/X25, etc.
- iv. Security Domain: This component ensures the security and integrity of the ASW and NSWs.

- v. Database: It is the core of the MSW, which comprises related data and information for the ASW and NSWs.

Some important issues to be addressed in developing NSW is standardization and harmonization of the following:

- i. Documentation and Processes undertaken by the line ministries and agencies;
- ii. Information requirement of line ministries and agencies; and
- iii. Format of the data for ICT applications.

This needs to be complemented by compatibility and interoperability of national systems of data and information parameters of Customs administrations and line ministries.

As per the Agreement to Establish and Implement the ASEAN Single Window of 9 December 2005, the ASW was to be implemented by 2012. However, the task of setting up NSW is not yet complete in some ASEAN members. It is gathered that seven ASEAN countries will conduct a trial of the ASEAN Single Window (ASW) data system in 2012, as one of the key elements to realize the ASEAN Economic Community (AEC) in 2015. The trial would be conducted for one year to determine how far the system could be implemented as well as to evaluate it for necessary corrections. The seven countries are Indonesia, Singapore, Malaysia, Thailand, the Philippines, Vietnam and Brunei Darussalam. The remaining ASEAN countries, namely Cambodia, Laos and Myanmar, are stated to be not yet ready.

The delay in meeting the deadline for establishing the ASEAN Single Window is due to several challenges in establishing the National Single Window and then interconnecting them into ASW.

The challenges to achieving the goal of Single Window within the ASEAN member countries at the national level are several. These include: need for a consistent strong leadership; good interagency coordination; efficient and time bound business process reengineering; lack of similar level of computerization between different agencies within a country; lack of budgetary support.

Further challenges faced in achieving ASEAN level Single Window can be summarized as follows: lack of consensus between ASEAN Member States (AMS) on some issues; different levels of computerization between AMS; need for efficient and technically sound business process reengineering; effective regional and National Single Window Legal Framework; a sustainable budget to establish and maintain ASW such as the Regional Services servers and manpower and building for maintaining the same.

The above example indicates that ambitious projects of development of cross-border paperless trade through national single window system can be challenging and will take considerable time. The same lesson also emerges from other studies which indicate that the stage is not yet ripe to undertake ambitious steps for cross border exchange of information like the one where declaration of exporting country can become the mirror declaration in importing country. A case in point is the Australian Customs study as discussed below.

### **Pilot Study of exchange of Export and Import Declaration between two countries**

The Australian Customs and Border Protection Service (CBP) collaborated with the New Zealand Customs Service, Korea Customs Service and Japan Customs and Tariff Bureau in devising a mechanism for cross-border electronic data exchange. The aim was to explore whether obtaining information early would improve cargo risk assessment and would reduce

the regulatory burden on the industry. It published a Customs to Customs Data Exchange Proof of Concept Report in March 2009.

The Report concludes that many of the anticipated benefits are not achievable in the current business environment. The analysis found that data available at the time of export was not sufficient to meet clearance requirements at the importing country end without supplementing data at a later time and also by other reporting parties.

Some of the difficulties encountered in electronic exchange of information across border as highlighted in the Report are as follows:

- (i) There was a high degree of data misalignment that prevented an international data exchange from meeting aims like early risk assessment, reduced regulatory burden on industry across supply chain and early certainty of status for importers. Australian CBP found that there was no sufficient similarity of data between export data of overseas governments and the data requirements of Australian CBP. This prevented the Australian CBP from undertaking a comprehensive risk assessment in advance of filing import declaration as they would still require additional data to complete their risk assessment. Similarly, on the export side, they found that the Australian CBP did not capture data of House Air Way Bill (HAWB) numbers and as a result, importing countries could not match the export data with their corresponding import data. It was noted that only partial availability of data from exporting countries was not very beneficial as it would require developing two layers of risk assessment: (i) at the point of receipt of data from exporting countries; and (ii) at the point of receipt of data from the importer or his agent. It noted that this two-step risk assessment process would make the process of clearance more complex than the existing system.

- (ii) The Report noted that critical data required for import clearance was not available from overseas. It identified some elements of missing information as community protection questions, preference scheme data, and quarantine directions which usually required local knowledge to complete the information set. Lack of such data prevented Australian CBP to conduct a comprehensive risk assessment without obtaining information from the local agents.
- (iii) The Report also observed that additional data sources could introduce linking and data quality issues and might not necessarily relieve the reporting burden of Australian importers. It observed that the existing challenges faced by industry in linking import declaration with cargo reports would be exacerbated by the requirement to link a third document - the corresponding export declaration.
- (iv) The Report also observed that even currently, options existed for multinational companies to file information from any location but it was not used because of difficulties like the requirement to update the data with tariff classification, statistical codes, community protection questions, Australian Quarantine and Inspection Service information relevant for Australian CBP and also the need to provide supplementary information, that might be needed on these issues, which can only be furnished by a local agent.
- (v) The Report observed that implementation would be costly and would require significant changes to business processes and that this would be difficult to implement as a broad solution.



Two useful conclusions can be drawn from the above survey. First, that cross-border paperless information exchange is feasible and is underway in a limited number of cases. This includes both exchange of data and exchange of documents. It has yielded encouraging results both in terms of improving trade facilitation and compliance environment. Second, a very ambitious or prescriptive approach to cross-border information exchange can run into technical and other difficulties. It is therefore, advisable to follow an incremental approach with flexibility in the types of data to be exchanged.

### **Section III**

#### **Paperless Trade under Free Trade Agreements of Asia- Pacific Countries**

A review of the provisions of various Free Trade Agreements amongst the Asia-Pacific countries shows a considerable willingness to adopt paperless information exchange systems. Given below is a brief survey of the various relevant FTA provisions.

ASEAN-Australia-New Zealand FTA (Article 8, Chapter 10) provides that each Party shall, where possible, work towards the implementation of initiatives which provide for the use of paperless trade and for this, each Party shall take into account the methods agreed by international organizations including the World Customs Organization.

Australia-Chile FTA has a provision (Article 5.11, Chapter 5) providing that the Customs Administrations of each Party shall work towards having electronic means for its Customs reporting requirements, as soon as practicable and for this, they shall take into account the methods agreed by the World Customs Organization including WCO data model for simplification and harmonization of data. It also provides (Article 16.9, Chapter 16) that each Party shall endeavor to accept electronic version of trade

administration documents used by the other Party as the legal equivalent of paper documents. It further provides that each shall work towards developing a Single Window using relevant international standards.

Australia-Thailand FTA provides (Article 309, Chapter 3) that the customs administrations of each party shall work towards having electronic means for its customs reporting requirements as soon as practicable. It also provides that each Party shall accept the electronic format of trade administration documents as the legal equivalent of paper document (Article 1107, Chapter 11). The Australia-US FTA provides (Article 16.7, Chapter 16) that each Party shall endeavor to accept trade administration documents submitted electronically as the legal equivalent of the paper version of such documents.

China-Peru FTA (Article 61, Chapter 4) provides that the customs administrations shall endeavor to use information technology that expedite procedures for the release of goods, including the submission and processing of information and data, before arrival of the shipment as well, electronic or automated systems for risk management and targeting.

India-Singapore Comprehensive Economic Cooperation Agreement provides that the Parties shall cooperate with a view to realizing and promoting paperless trade between their respective customs administrations and its respective trading community (Article 4.4, Chapter 4).

Japan-Philippines Economic Partnership Agreement provides (Article 57, Chapter 5) that the Parties shall cooperate through the exchange of views and information on realizing and promoting paperless trading between them. It further provides that parties shall encourage cooperation between the relevant private entities engaging in activities relating to the paperless trade.

Japan-Singapore New Age Economic Partnership provides (Article 40, Chapter 5) that Parties recognize that using electronic filing and transfer of

trade-related information and electronic versions of documents will significantly enhance the efficiency of trade through reduction of cost and time, and hence shall cooperate to realize and promote paperless trading between them.

Japan- Switzerland FTA provides (Article 79, Chapter 8) that each party shall endeavor to accept trade administration documents submitted electronically as the legal equivalent of the paper version of such documents. Japan- Thailand Economic Partnership Agreement (Article 57, Chapter 5) provides that Parties shall cooperate to realize and promote paperless trade between them both in terms of electronic transfer of trade related information and exchange of electronic versions of documents like bills of lading, invoices etc. It also provides (Article 59, Chapter 5) that the Parties shall encourage cooperation between their relevant private entities engaging in activities relating to paperless trading.

Korea-Peru FTA provides (Article 5.8, Chapter 5) that their customs administrations shall endeavor to use information technology that expedite procedures for the release of goods including the submission and processing of information and data before arriving of the shipments, as well as electronic or automated systems for risk management and targeting. Korea- Singapore FTA provides (Article 14, Chapter 14) that each Party shall endeavor to accept trade administration documents submitted electronically as the legal equivalent of the paper version of such documents. It also commits (Article 14.7, Chapter 4) to adopt legislation to protect personal information of users engaged in electronic commerce. It also provides (Article 5.13, Chapter 5) that the parties shall endeavor to provide an electronic environment that supports business transactions between their customs administrations and their trading communities.

New Zealand-China FTA provides (Article 53, Chapter 5) that customs administrations shall apply information technology to support customs operations, where it is cost effective and efficient particularly in the paperless trading context, taking into account the developments in this area within the WCO. New Zealand-Hong Kong Closer Economic Partnership Agreement provides (Article 7, Chapter 5) almost similar provision as New Zealand-China FTA. New Zealand –Singapore Closer Economic Partnership Agreement provides (Article 12, Chapter 4) that both Parties shall put in place by the date of entry into force of the Agreement, an electronic environment that supports electronic business applications between each Customs administration and its trading communities, based on APEC Blueprint for Action on Electronic Commerce. New Zealand-Thailand Closer Economic Partnership Agreement provides (Article 3.12, Chapter 3) that customs administrations of the Parties shall, as soon as practicable, adopt electronic procedures for all reporting requirements and (in article 10.6, Chapter 10) that each Party shall accept the electronic format of the trade administration documents as the legal equivalent of paper documents.

Trans-Pacific Strategic Economic Partnership (Brunei, New Zealand, Singapore, Chile) provides (Article 5.10, Chapter 10) that customs administrations shall endeavor to provide an electronic environment that supports business transactions between it and its trading communities.

This survey of the provisions of the FTA involving countries of the Asia-Pacific region shows that there already exist a large number of provisions for introduction of a cross border electronic exchange of information between customs administrations. However, it is also to be noted that most of these are couched in a 'best endeavor' language. The relevant FTA provisions and their nature (binding or best endeavour) is summarized in Table 1. On one hand these provisions reflect caution on the side of the countries to take binding commitments in an area where capacities are evolving, while on the

other, it also reflects that there is a core body of Asia-Pacific countries willing to implement cross-border paperless exchange systems. A binding legal framework for Asia-Pacific countries seems the next logical step to advance this process.

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**Table 1**

**Commitments on Paperless Trade in FTAs involving Asia-Pacific countries**

<b>Agreement</b>	<b>Commitments</b>	<b>Type (Best Endeavour / Binding)</b>
(i) ASEAN-Australia-NZFTA (Article 8, Chapter 10)	Where possible, work towards use of paperless trading	Best Endeavour
(ii) (a) Australia-Chile FTA (Article 5.11, Chapter 5)  (b) (Article 16.9, Chapter 16)  (c) (Article 16.9, Chapter 16)	Shall work towards having electronic means for customs reporting requirements, as soon as practicable  Accept each other's electronic version of trade administration document as legal equivalent of paper documents  To work towards developing a Single Window using relevant international standard	Best Endeavour  Best Endeavour  Binding
(iii) (a) Australia-Thailand FTA (Article 309, Chapter 3)  (b) Article 1107, Chapter 11)	Each party to work towards having electronic means for Customs reporting requirements  Accept electronic format of trade administration documents as the legal equivalent of paper document	Best Endeavour  Binding
(iv) Australia – US FTA (Article 16.7, Chapter 16)	Accept trade administration documents submitted electronically as the legal equivalent of the paper version	Best Endeavour

(v)	China – Peru FTA (Article 61, Chapter 4)	Use information technology to expedite release of goods	Best Endeavour
(vi)	India – Singapore Comprehensive Economic Cooperation Agreement (Article 4.4, Chapter 4)	Promote paperless trade between Customs administration and between trading community of the Parties	Binding
(vii)	Japan – Philippines Economic Partnership Agreement (Article 57, Chapter 5)	Exchange views and information on promoting paperless trade and encourage cooperation between relevant private entities involved in paperless trade	Best Endeavour
(viii)	Japan – Singapore New Age Economic Partnership (Article 40, Chapter 5)	Shall cooperate to realize and promote paperless trading between them	Binding
(ix)	Japan – Switzerland FTA (Article 79, Chapter 8)	Accept electronically submitted trade administration documents as legal equivalent of paper version	Best Endeavour
(x)	(a) Japan – Thailand Economic Partnership Agreement (Article 57, Chapter 5)	Shall cooperate for electronic transfer of trade related data and documents	Binding
	(b) (Article 59, Chapter 5)	Encourage cooperation between private entities engaged in activities relating to	Best Endeavour

	paperless trading	
(xi) Korea – Peru FTA (Article 5.8, Chapter 5)	Use information technology to expedite clearance of goods	Best Endeavour
(xii) (a) Korea – Singapore FTA (Article 14, Chapter 14)	Accept electronic documents as legal equivalent of the paper version	Best Endeavour
(b) (Article 14.74, Chapter 4)	Commits to adopt legislation to protect personal information of users engaged in electronic commerce	Binding
(c) (Article 5.13, Chapter 5)	Provide an electronic environment to support business transactions between Customs administrations and trading communities	Best Endeavour
(xiii) New Zealand – China FTA (Article 53, Chapter 5)	Apply information technology to support Customs operations, particularly in paperless trading context	Best Endeavour
(xiv) New Zealand – Hong Kong Closer Economic Partnership Agreement (Article 7, Chapter 5)	Apply information technology to support Customs operations, particularly in paperless trading context	Best Endeavour
(xv) New Zealand – Singapore Closer Economic Partnership Agreement (Article 12, Chapter 4)	Put in place by the date entry into force of the Agreement an electronic environment to support electronic business applications between Customs administrations and trading communities	Binding



<p>(xvi) (a) New Zealand – Thailand Closer Economic Partnership Agreement (Article 3.12, Chapter 3)</p> <p>(b) (Article 10.6, Chapter 10)</p>	<p>Adopt electronic procedures for all reporting requirements</p> <p>Accept electronic format of the trade administration documents as legal equivalent of paper documents</p>	<p>Best Endeavour</p> <p>Binding</p>
<p>(xvii) Trans – Pacific SEP (Brunei, New Zealand, Singapore, Chile)</p>	<p>Provide an electronic environment that supports business transactions between Customs administrations and trading communities</p>	<p>Best Endeavour</p>

## **Section IV**

### **Status of Paperless Trade in Multilateral Bodies**

Considerable work is being done in developing paperless trade in multilateral bodies like the World Trade Organisation (WTO), the World Customs Organisation (WCO) and Asia-Pacific Economic Cooperation (APEC). These initiatives are discussed in this Section.

#### **WTO Negotiations on Trade Facilitation**

WTO Members have been negotiating an agreement on Trade Facilitation since the adoption of modalities for negotiation on Trade Facilitation as part of July Framework Agreement of 1 August 2004 (WTO Doc. No. WT/L/579 dated 2 August 2004). Several measures have been proposed to improve Trade Facilitation environment at the borders. In the initial Study phase, there was a proposal from the European Union to have a discipline on cross-border exchange of information but this was not pursued subsequently when actual negotiating proposals were put on the table. The current draft legal texts have no proposals on this issue. However, there is a proposal to have a Single Window system. Many countries have expressed their reservation in taking binding commitments on establishing a Single Window. The current draft legal text has various square brackets reflecting such concern, and many countries prefer to take this commitment only on a best endeavour basis. This hesitation stems from various considerations ranging from large resource requirements, lack of domestic preparedness, difficulties in harmonizing data requirements for a large number of agencies, and a wariness to face the strong dispute settlement mechanism of the WTO in case the commitment cannot be fulfilled. The latest draft text on the table in WTO as reflected in the document TN/TF/W/165/Rev.12 dated 12 May 2012 reads as follows (without footnotes):

"5.1 Members shall, [where practicable] [endeavour to], establish or maintain a single window, enabling traders to submit documentation and/or data requirement for importation, exportation or transit of goods to a single entry point. [The single window shall undertake onward distribution of the aforementioned documentation and/or data requirements to the participating authorities or agencies.] After the examination by the participating authorities or agencies of the documentation and/or data, the results shall be notified to the applicants through the single window in a timely manner.

5.2 In cases where documentation and/or data requirements have already been received by the single window, the same documentation and/or data requirements shall [normally] not be requested by participating authorities or agencies except in urgent circumstances and other limited exceptions which are made public.

5.3 Members shall notify the Committee the details of operation of the single window.

5.4 Members shall, to the extent possible and practical, use information technology to support the single window.

5.5 Members shall, where practicable, use relevant international standards as a basis for the single window schemes.

5.6 [With regard to the scope of the participating authorities or agencies, and of the documentation and/or data requirements,] Members may implement the single window in a progressive manner.

One important element to encourage the WTO Members to take commitments on this proposal (as on others) is to have a robust and firm commitment on Technical Assistance and Capacity Building. Discussions are ongoing in the WTO on this subject but it is gathered that developing countries are not very happy with the current proposals on Technical Assistance and Capacity Building.

## **WCO Model of Globally Networked Customs (GNC)**

WCO Members recognize that it will be cheaper and simpler to build one global system of paperless information exchange that can be used by all countries, However, they also recognize that presently this is not feasible due to several obstacles like legal issues, data security and protection concerns, general lack of trust, the need to have an organization responsible for the system, the complexity of setting up and financing such a system and the absence of initial investment funds.

Keeping in view these limitations, the WCO is working on a paperless trading system called Globally Networked Customs (GNC). GNC envisages information sharing between Customs-to-Customs (C2C), including data obtained from commercial sources. It is envisaged to be based on bilateral arrangements between Customs administrations. However, it can also be multilateral as in those cases where more than two countries come together for information sharing or where a Customs Union is involved in the project. It is proposed that the GNC will have a set of protocols, standards and guidelines which other WCO Members shall follow. GNC is proposed to be a voluntary method of information exchange. WCO Members can also in parallel continue to negotiate, develop and agree to other arrangements for information exchange, including in cases where the partner countries are using GNC for exchange of some other categories of data.

In order to make the system attractive, the GNC Model proposes only a minimum level of automation. The Customs system should be automated to the extent that it can process the information to be exchanged and it can send and receive information electronically. This can be achieved by existing

IT system of the Customs administrations. It also proposes use of Unique Consignment Reference (UCR) as an identifier for transactions in order to enable a sender and the receiver to track individual exchanges. GNC recognizes and accommodates the diversity of national identifiers for use of UCR. It also proposes to use a trade identifier.

The GNC seeks to address legal issues by providing that each Customs administration must have national laws which allow for the exchange of information and which protect the information shared with others. It also provides that countries involved in bilateral exchange of information should have in place laws that guarantee equivalent level of data security and protection. The existing bilateral agreements may require amendment if they are not based on existing WCO Models texts.

GNC envisages to "industrialize" the setting up of exchange information agreement between WCO Members. This will permit to speed up the creation of agreements and to replicate them easily.

The information exchange is envisaged to work on two tracks namely, Commercial Track and Enforcement Track. Commercial Track will handle systematic exchange of information through national customs application which will essentially consist of the data furnished by traders to the Customs administrations. Most common example is the export data. It is expected that a large part of information exchange will take place in this track.

The Enforcement Track will involve information exchange at the behest of Customs administrations either under Mutual Assistance Agreement or where a risk assessment of data received from the Commercial Track has led an administration to seek more information from the exporting administration. The GNC is expected to grow over a period of time and to

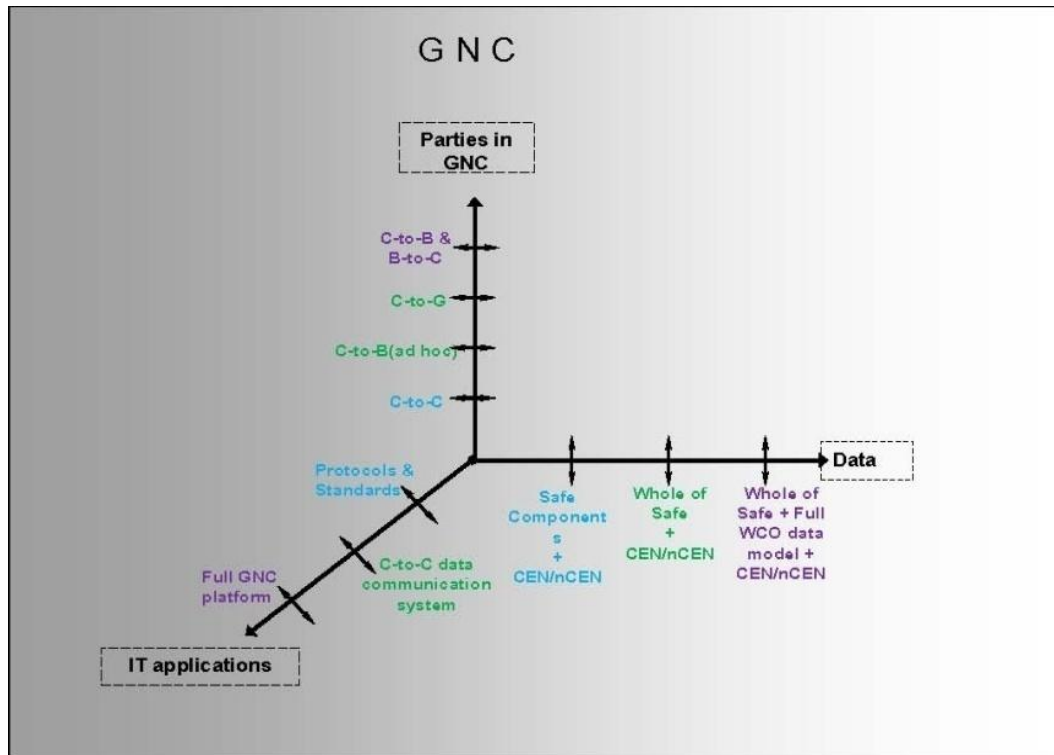
take in its fold further stakeholders such as commercial partners or other government agencies. GNC will conform to existing WCO instruments such as the Data Model, the Revised Kyoto Convention and the SAFE Framework of Standards. Pilot, 'proof of concept' projects will be run between willing Members and results of these will be validated by other WCO Members. This will then be made available to the WCO Secretariat and it can then be easily replicated by other interested WCO Members.

The exchange of information is envisaged to be done through 'Utility Blocks' which refers to specific part of a Customs business process. Members may exchange information on specific part of customs business process, including relevant data elements. Examples are Authorized Economic Operator, commercial fraud, transit, laboratories and facilities recognition arrangements; test results sharing system; mutual recognition of controls; transport means identification and information sharing system; product identification systems, etc. These are all building blocks to an eventual paperless trade environment.

Each Utility Block (UB) will have discrete business rules determined by the countries exchanging information but based on international standards, wherever possible. The interested WCO Members may continue to negotiate new international agreements, construct a UB for the content of their agreement using a prescribed template and be in full conformity with the Data Model and other relevant WCO instruments. UBs would need to satisfy GNC standards and include the Protocols and Guidelines which enable them to be used by other Members. The standards can be implemented using Member's choice of infrastructure, as GNC messages will be interoperable. WCO will play a role in development of UBs to the extent that it will provide a "Certificate of Conformity" to confirm that the UB complies with the GNC architecture. This way it expects to develop a library of GNC-compliant UBs housed in WCO covering various aspects of Customs business. Members can

use them for various WCO instruments or other international agreements as per their requirement. As each UB will conform to the same GNC architecture, every UB that a Member chooses to adopt will use the same components which would already have been used for earlier UBs. This is expected to expand into a regional network for exchange of information. It is reported that some 6 UB proposals are presently under development or at planning stage. These will deal with subjects like exit and entry data and information about AEOs. It is expected that the first UB will be deposited with the WCO Secretariat by 2014. The projected timeline for the GNC model to become globally operational is 20 years, starting from 2008 when GNC was first mooted. It is expected that a menu of 7 to 8 critical UBs should be available for global use by 2018. It is envisaged that GNC would initially operate through bilateral international agreements and slowly it would acquire a core density to make it viable to become operational in a regional or a multilateral environment.

The development of UB can be diagrammatically represented as below.



Adapted from WCO Paper SP0396E1a dated 2 June 2012

It can be seen that WCO is carrying out very important work on cross-border exchange of information. However, it has adopted a model where the exchange will be between Customs to Customs and improved Customs compliance is the major driver for the initiative. It has been left to the individual countries to decide on the areas of customs transactions (import, export, warehousing, export, transit, etc.) and the countries with which they will develop a mechanism of cross-border information exchange. However, the model has the provision to later incorporate modalities for Customs to Business exchange of information. Facilitation through 'Commercial Track' is also expected to reap significant trade facilitation gains. However, choices in this regard are again left to the individual Members. The WCO's role is to help such countries to develop a standardized model of cross-border information



exchange which can then serve as the model for other countries to adopt the same system.

WCO is a multilateral organization and at this stage, Member countries do not seem to be ready for a global negotiation for a mechanism for cross-border paperless information exchange. However, the situation is somewhat different for countries of the Asia-Pacific region where the move towards use of paperless systems is more advanced. An important lesson of the WCO model is that the process needs to be gradual and flexibilities need to be provided in the arrangement.

### **APEC's Work on Cross-Border Paperless Trade**

Members of the Asia-Pacific Economic Cooperation (APEC) in a Declaration in 1998 committed to reduce or eliminate the requirement for paper documents for Customs and other cross-border trade administration and documents for international trade.

In 2002, APEC Leaders and Ministers adopted the Trade Facilitation Action Plan (TFAP) with the aim to reduce business transaction costs by 5% in 2006. In its report to APEC's Leaders in 2003, the APEC Business Advisory Council (ABAC) recommended that APEC implement paperless trading through the development of a Single-Window system that covers import and export – related procedures.

The APEC paperless trading symposium hosted by Chinese Taipei in 2003 recommended following five strategies to achieve the goal of paperless trading: (i) Enhance public -private partnership; (ii) Strengthen APEC's institutional arrangements and capacity building programmes; (iii) Employ APEC Pathfinder as a valuable mechanism to initiate pilot programmes; (iv) Collaborate with international organization to pursue common standard and

procedure and interoperability framework; (v) Achieve balance between trade facilitation and security.

The Electronic Commerce Steering Group (ECSG) within APEC promotes the development and use of electronic commerce in the APEC region by creating necessary legal regulatory policy environment. The ECSG's Paperless Trading Subgroup develops projects on the use of paperless trading in commercial processes involving business-to-business (B2B) and business-to-government (B2G) transactions and promotes the use of electronic documents and internet technologies in international trade. These projects aim to use electronic procedures and processes in cross-border trade to save time and costs for firms and government agencies. Areas covered by these projects include: electronic Certificate of Origin (e-CO), electronic invoices, etc. Amongst these projects, e-CO project has been implemented in live transaction between Member economies beyond the pilot stage and it has shown substantial saving of costs and time as discussed in Section II of this Chapter. APEC's Strategies and Actions Towards a Cross-Border Paperless Trading Environment aims to enable electronic transmission of trade related information across the region by 2020.

In order to achieve paperless trading environment, APEC economies agreed to develop Paperless Trade Individual Action Plan (PTIAP). According to this, each APEC economy will establish a timetable to reduce or eliminate paper documents related to international trade. In order to achieve it, Members will provide a sound legal and regulatory framework for operation of paperless trading system and will ensure that the electronic equivalent of paper documents are secure and interoperable with and between parties involved in the international supply chain. Thus the APEC process is largely based on voluntary steps taken by Members towards eliminating a host of

paper-based documentations ranging from declaration to Customs and quarantine, import and export licenses, health certificate, certificate of origin, standard certification, assurance certificate, letters of credit, bills of lading and manifests.

There is merit in this approach where countries are situated at various levels of development and a binding commitment may not be agreeable to the members as noticed with respect to the ongoing work in the WTO and the WCO. However, it also presents several limitations. Different countries may adopt different approaches to paperless trade in the absence of an overarching common framework; there can be backsliding due to other competing compulsions; time lines can be highly stretched; and legal framework may not be compatible for a wider regional or global expansion. It is recognized that a highly prescriptive international agreement can be counterproductive, but a fully voluntary approach will also achieve less than optimal result.

It is relevant to note that 17 APEC Members (out of 21) have presented their PTIAP to show progress in promoting and realizing paperless trading in their home economy. The APEC website gives information on these PTIAPs which is summarized in Table 2.

**Table 2**

**Status of Paperless Trade Individual Action Plan (PTIAP) under APEC**

<b>Sl. No.</b>	<b>Economy</b>	<b>Last Update on APEC Website</b>
1.	Australia	2002
2.	Canada	2007
3.	Chile	2002
4.	China	2002

5.	Hong Kong China	2007
6.	Indonesia	2002
7.	Japan	2002
8.	Korea	2007
9.	Malaysia	2010
10.	Mexico	2010
11.	Peru	2008
12.	Philippines	2009
13.	Singapore	2005
14.	Chinese Taipei	2011
15.	Thailand	2011
16.	USA	2007
17.	Vietnam	2007

A review of the papers presented indicate that all countries have furnished information regarding progress made in using electronic means for clearance of goods within the country. However, no country has given information regarding any steps taken for cross-border paperless trade or the time lines within which it is likely to be achieved in future.

## **Section V**

### **Legal Issues**

Several legal issues need to be addressed during creation of Cross-Border Paperless Trade or in developing National Single Windows which can be eventually networked with such other Single Windows.

The following model laws/Conventions of United Nations Commission on International Trade Law (UNCITRAL) and the United Nations are crucial and

their relevant provisions need to be implemented in the domestic law to have the requisite enabling legal environment for cross-border paperless trade:

- i. UNCITRAL Model Law on Electronic Commerce with Guide to Enactment 1996 and additional article 5 bis adopted in 1998 (United Nations)
- ii. UNCITRAL Model Law on Electronic Signatures with Guide to Enactment 2001 (United Nations 2002)
- iii. United Nations Convention on the Use of Electronic Communications in International Contracts (United Nations, 2007)

Many examples of legal amendments mirroring the provisions of these laws have been discussed in Sections I and II of this Chapter. It is useful to recall the important provisions of these Conventions relevant for establishment of Cross-border Paperless Trade. These are summarized in Box 2.

**Box 2**

**Important Legal Provisions of UN Conventions for Paperless Trade**

**UNCITRAL Model Law on Electronic Commerce, 1996 with additional article 5 bis as adopted in 1998**

*Article 1. Sphere of application*

This Law applies to any kind of information in the form of a data message used in the context of commercial\*\*\*\* activities.

\*\*\*\*The term "commercial" should be given a wide interpretation so as to cover matters arising from all relationships of a commercial nature, whether contractual or not. Relationships of a commercial nature include, but are not limited to, the following transactions: any trade transaction for the supply or exchange of goods or services; distribution agreement; commercial representation or agency; factoring; leasing; construction of works; consulting; engineering; licensing; investment; financing; banking; insurance; exploitation agreement or concession; joint venture and other forms of industrial or business cooperation; carriage of goods or passengers by air, sea, rail or road.

## *Article 2. Definitions*

For the purposes of this Law:

(a) "Data message" means information generated, sent, received or stored by electronic, optical or similar means including, but not limited to, electronic data interchange (EDI), electronic mail, telegram, telex or telecopy;

(b) "Electronic data interchange (EDI)" means the electronic transfer from computer to computer of information using an agreed standard to structure the information;

## *Article 5. Legal recognition of data messages*

Information shall not be denied legal effect, validity or enforceability solely on the grounds that it is in the form of a data message.

### *Article 5 bis. Incorporation by reference*

*(as adopted by the Commission at its thirty-first session, in June 1998)*

Information shall not be denied legal effect, validity or enforceability solely on the grounds that it is not contained in the data message purporting to give rise to such legal effect, but is merely referred to in that data message.

## *Article 6. Writing*

(1) Where the law requires information to be in writing, that requirement is met by a data message if the information contained therein is accessible so as to be usable for subsequent reference.

#### Article 7. Signature

1) Where the law requires a signature of a person, that requirement is met in relation to a data message if:

- (a) a method is used to identify that person and to indicate that person's approval of the information contained in the data message; and
- (b) that method is as reliable as was appropriate for the purpose for which the data message was generated or communicated, in the light of all the circumstances, including any relevant agreement.

#### Article 8. Original

(1) Where the law requires information to be presented or retained in its original form, that requirement is met by a data message if:

- (a) there exists a reliable assurance as to the integrity of the information from the time when it was first generated in its final form, as a data message or otherwise; and
- (b) where it is required that information be presented, that information is capable of being displayed to the person to whom it is to be presented.

#### Article 9. Admissibility and evidential weight of data messages

(1) In any legal proceedings, nothing in the application of the rules of evidence shall apply so as to deny the admissibility of a data message in evidence:

- (a) on the sole ground that it is a data message; or,
- (b) if it is the best evidence that the person adducing it could reasonably be expected to obtain, on the grounds that it is not in its original form.

(2) Information in the form of a data message shall be given due evidential weight. In assessing the evidential weight of a data message, regard shall be had to the reliability of the manner in which the data message was generated, stored or communicated, to the reliability of the manner in which the integrity of the information was maintained, to the manner in which its originator was identified, and to any other relevant factor.

#### Article 10. Retention of data messages

(1) Where the law requires that certain documents, records or information be retained, that requirement is met by retaining data messages, provided that the following conditions are satisfied:

- (a) the information contained therein is accessible so as to be usable for

subsequent reference; and

(b) the data message is retained in the format in which it was generated, sent or received, or in a format which can be demonstrated to represent accurately the information generated, sent or received; and

(c) such information, if any, is retained as enables the identification of the origin and destination of a data message and the date and time when it was sent or received.

#### *Article 11. Formation and validity of contracts*

(1) In the context of contract formation, unless otherwise agreed by the parties, an offer and the acceptance of an offer may be expressed by means of data messages. Where a data message is used in the formation of a contract, that contract shall not be denied validity or enforceability on the sole ground that a data message was used for that purpose.

#### *Article 12. Recognition by parties of data messages*

(1) As between the originator and the addressee of a data message, a declaration of will or other statement shall not be denied legal effect, validity or enforceability solely on the grounds that it is in the form of a data message.

### **UNCITRAL Model Law on Electronic Signature (2001)**

#### **Article 1. Sphere of application**

This Law applies where electronic signatures are used in the context of commercial activities. It does not override any rule of law intended for the protection of consumers.

#### **Article 2. Definitions**

(a) "Electronic signature" means data in electronic form in, affixed to or logically associated with, a data message, which may be used to identify the signatory in relation to the data message and to indicate the signatory's approval of the information contained in the data message.

#### **Article 3. Equal treatment of signature technologies**



Nothing in this Law, except article 5, shall be applied so as to exclude, restrict or deprive of legal effect any method of creating an electronic signature that satisfies the requirements referred to in article 6, paragraph 1, or otherwise meets the requirements of applicable law.

#### Article 6. Compliance with a requirement for a signature

Where the law requires a signature of a person, that requirement is met in relation to a data message if an electronic signature is used that is as reliable as was appropriate for the purpose for which the data message was generated or communicated, in the light of all the circumstances, including any relevant agreement.

#### Article 7. Satisfaction of article 6

*[Any person, organ or authority, whether public or private, specified by the enacting State as competent]* may determine which electronic signatures satisfy the provisions of article 6 of this Law.

#### Article 12. Recognition of foreign certificates and electronic signatures

1. In determining whether, or to what extent, a certificate or an electronic signature is legally effective, no regard shall be had:

- (a) To the geographic location where the certificate is issued or the electronic signature created or used; or
- (b) To the geographic location of the place of business of the issuer or signatory.

2. A certificate issued outside *[the enacting State]* shall have the same legal effect in *[the enacting State]* as a certificate issued in *[the enacting State]* if it offers a substantially equivalent level of reliability.

3. An electronic signature created or used outside *[the enacting State]* shall have the same legal effect in *[the enacting State]* as an electronic signature created or used in *[the enacting State]* if it offers a substantially equivalent level of reliability.

4. In determining whether a certificate or an electronic signature offers a substantially equivalent level of reliability for the purposes of paragraph 2 or 3, regard shall be had to recognized international standards and to any other relevant factors.

### **UN Convention on the Use of Electronic Communications in**

## **International Contracts (2007)**

### *Article 1. Scope of application*

This Convention applies to the use of electronic communications in connection with the formation or performance of a contract between parties whose places of business are in different States.

### *Article 4. Definitions*

"Electronic communication" means any communication that the parties make by means of data messages;

### *Article 8. Legal recognition of electronic communications*

A communication or a contract shall not be denied validity or enforceability on the sole ground that it is in the form of an electronic communication.

### *Article 9. Form requirements*

1. Where the law requires that a communication or a contract should be in writing, or provides consequences for the absence of a writing, that requirement is met by an electronic communication if the information contained therein is accessible so as to be usable for subsequent reference.
2. Where the law requires that a communication or a contract should be signed by a party, or provides consequences for the absence of a signature, that requirement is met in relation to an electronic communication if:
  - (a) A method is used to identify the party and to indicate that party's intention in respect of the information contained in the electronic communication; and
  - (b) The method used is either:
    - (i) As reliable as appropriate for the purpose for which the electronic communication was generated or communicated, in the light of all the circumstances, including any relevant agreement; or
    - (ii) Proven in fact to have fulfilled the functions described in subparagraph (a) above, by itself or together with further evidence.
3. Where the law requires that a communication or a contract should be made available or retained in its original form, or provides consequences for

the absence of an original, that requirement is met in relation to an electronic communication if:

(a) There exists a reliable assurance as to the integrity of the information it contains from the time when it was first generated in its final form, as an electronic communication or otherwise; and

(b) Where it is required that the information it contains be made available, that information is capable of being displayed to the person to whom it is to be made available.

The 2012 UN publication entitled 'Electronic Single Window Legal Issues: A Capacity Building Guide' has suggested a step-by-step approach to address the legal issues. While the Guide is in the context of creation of National Single Window, the same issues are relevant in creating systems of Cross-Border Paperless Trade. Hence suggestions made in the Guide are discussed in detail in the following paragraphs.

In creation of a Single Window, (which will also hold good for creation of a system of Cross-border Paperless Trade), the first step should be to undertake a legal gap analysis to identify the potential legal barriers for implementation of an Electronic Single Window. This should be done by a body infused with sufficient 'political will' to take the process forward. Various sub committees or 'working groups' should be formed within this umbrella group which would be responsible for broad aspects of the Single Window. At least one Legal Working Group and one Technical Working Group should be established. Representatives from private sector should be preferably involved in order to understand their needs and to help create awareness of the benefits of a Single Window.

The Legal Working Group (LWG) will need to undertake the legal gap analysis and also to prepare legal texts in terms of new legislation etc. to implement a Single Window. Using the services of professional lawyers is also desirable. At the designing stage, international legal standards should be used so that a Single Window is interoperable with other Single Window

to develop cross border trade. The guide cautions against a one sided approach of only concentrating on development of technical architecture for the Single Window and neglecting the legal requirements. This can lead to a Single Window being stillborn.

The Legal Gap Analysis will need to cover the following issues:

- i. Electronic transactions legal issues such as identification, authorization and authentication of electronic transactions, legal requirements for electronic documents and messages;
- ii. Legislative enactments to formally establish the Single Window in national law;
- iii. Development of a service level arrangement for the operation of the Single Window;
- iv. Laws and regulations on data protection and information security;
- v. Legal and/or regulatory requirements for accessing and sharing information and data between and among government agencies;
- vi. Legal requirements and regulations on confidentiality and privacy;
- vii. Laws relating to data accuracy and integrity for the Single Window;
- viii. Liability issues related to operations of the Single Window, including cross-border transactions;
- ix. Regulatory/legal requirements for data retention and electronic archiving;
- x. Dispute settlement considerations;
- xi. Intellectual property rights and data base ownership issues;
- xii. Examination of banking law for electronic payments in the Single Window system;
- xiii. Cross-border (mutual) recognition of electronic signatures and, where appropriate, of certification of authorities;
- xiv. Legal issues related to conflict of laws in cross-border transactions;

- xv. The use of electronic evidence in judicial and enforcement proceedings;
- xvi. Competition law issues;
- xvii. An analysis of how international legal standards have been incorporated into a country's legal framework for its Single Window;
- xviii. Other legal issues such as laws governing individual ministries like Customs, import licensing, etc.

Based on the above analysis, the implementation of a National Single Window has to be carried out. The first step should be to develop the Single Window Legal Framework to address basic issues like national law authorizing activities like Single Window implementation, electronic commerce transactions and acceptance of electronic documents, records and messages in lieu of paper documents. Authorization can be done in various ways like creating a new legislation to implement Single Window. A broad enabling legislation helps overcome existing legal barriers in various agencies for use of electronic documents. Other approach can be to provide for implementation of Single Window in existing legislations such as Customs laws and other regulatory laws. It is also important to provide in the relevant laws governing Single Window that electronic documents and data messages are recognized in judicial or administrative proceedings related to a Single Window transaction. It is desirable to provide for cross-border electronic transactions as part of basic Single Window legal framework to provide for its incremental use in an electronic environment.

Use of electronic signature is a very important aspect of the enabling legal environment of Single Window. Mutual recognition of certification authorities is very important for cross-border transactions. The purpose of electronic signatures is to provide the equivalent to handwritten signature and other types of devices like seals and rubber stamps used in a paper environment.

UNCITRAL Secretariat defines several categories of electronic signatures and authentication methods which can be considered based on the level of security needed for a particular transaction. These can include “digital signatures”, authentication through a biometric device based on handwritten signatures, personal identification numbers (PINs), digitized versions of handwritten signatures, clicking an “OK-box” etc. The methods used depend upon the level of security desired for different transactions.

#### Digital Signatures

Digital Signatures” is a subset of electronic signatures and is often used for transactions involving government or other regulatory agencies where need for security is high.

Digital signatures are based on Public Key Infrastructure (PKI) system which involves use of two “keys”. One key is private and only the sender of the message or document knows it; the other is a public key, which is provided to the recipient of the digital electronic message or document. The sender digitally signs the message or document using the private key and if the sender’s public key matches the digital signature, the receiver can be reasonably certain that the message is from the person claiming to be the sender. Certification Authorities (CA) issue a “certificate” (an electronic record) that shows the public key and the name of the certificate subscriber as the subject of the certificate and confirms that the subscriber is the owner of the private key associated with the public key.

In a cross-border or international environment, there may be a need to determine whether a certification authority in a different country is

authorized to provide a valid certificate. For acceptance of certificates issued by CA, different approaches can be adopted. One approach can be to insist upon an office of the CA in the receiving country. A second more trade facilitating option can be to have mutual recognition agreements (MRAs) between the two countries engaged in cross-border exchange of electronic information. Under this, the CA certificate from one country can be accepted by another.

The issues regarding data quality are also important. Completeness and accuracy of data is important to ensure that there is no loss of revenue because of wrong declaration of value or origin of goods. It is necessary to establish controls with regard to data input process as well as responsibility for data entry and processing within Single Window. Regulations should be drawn providing guidelines for data entry and responsibility for errors submitted in electronic form, and for subsequent processing of data within the Single Window. It is also important to develop regulations for error correction.

Single Window should also provide for data protection and information security, which becomes even more important for cross-border Single Window operation. Single Window laws should include laws criminalizing unauthorized access to information by hacking or other means. There should be regulations providing for appropriate security features to be in place to protect the integrity of Single Window facility.

Regulations should also be established for data retention and electronic archiving. This should typically define the time for which such data may be retained and then be destroyed. It is also important to define the format in which data is to be stored. The requirements of national laws, such as "original documents" that might be needed for proceedings in an

enforcement action or for audit and civil disputes should also be incorporated in such regulation.

Legal provisions for dispute resolution are important as Single Window can create liabilities for various users. For instance traders can become liable for wrong data filing or delays in shipments leading to contractual violation because of breakdown of Single Window. Liability can also arise on account of hacking of information by unauthorized persons. There should be adequate criminal, administrative and civil laws to address this. Alternative dispute resolution mechanisms like arbitration, etc. should also be provided for.

### **Conclusions drawn from a Review of the Existing Arrangements/Potential Arrangements under Discussion**

A survey of the existing systems of paperless exchange of information shows that considerable ground has been covered on development of National Single Windows by many countries in the Asia-Pacific region as well as some cases of cross-border paperless exchange of information and documents. This experience prepares them well to embark on cross-border exchange of information in a more systematic manner.

Various provisions in the FTAs involving Asia-Pacific countries also show that many countries are committed to move in the direction of paperless cross-border exchange of information, though the language used in most of these Agreements is couched in best endeavor basis.

A second category of arrangements reviewed in this Chapter include those which are under discussion or which are work-in-progress. Work in the WTO and the WCO come in the first category and work in the APEC comes in the second category.



In the WTO, a discipline on Single Window is being negotiated as part of Trade Facilitation negotiations but its outcome is uncertain, given the hesitation of many countries in taking binding commitments in the WTO on account of various concerns. Work is also going on in the WCO to prepare a model for cross border paperless exchange of information. The WCO model of 'Globally Networked Customs' does not favour a prescriptive international agreement for information exchange. It proposes a voluntary approach based on the notion of voluntary development of electronic messaging exchange system for individual Customs processes (Utility Blocks) which is to be validated by WCO Membership as a whole and which can then be recognized as an internationally acceptable template for adoption by other countries. This model envisages a slow accretion of countries using paperless transaction across the border as per their individual needs which would create momentum for a more widespread international cross border data exchange system. APEC's work is based on a voluntary approach where members set their own timelines for establishing paperless trade and as discussed before, progress towards cross-border paperless trade is very limited. Some case studies in this Section (like the Australian Proof of Concept Report) further indicate that it is desirable to avoid ambitious and prescriptive approaches to cross-border paperless data exchange.

Cross-border paperless trade can be adopted on bilateral, regional or multilateral basis. However the weaknesses of the bilateral and multilateral approach have been discussed above. In view of these considerations, the Paper suggests that the best possible approach to adopt at this stage is a regional approach. In order to have a uniform approach and to encourage countries to move in the same direction, the regional approach should be within an overarching international treaty which lays down key principles and an institutional framework to address the numerous challenges associated with establishing cross-border paperless trade. This will need to

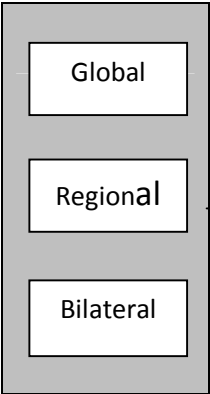
be followed up by development of pilots or prototypes in a collaborative manner within a dedicated institutional framework before putting the exchange mechanism in operation.

An international treaty in a regional context can have four possible models. Model 1 in the Table 3 is the most liberal one where the contracting parties to an international agreement will, within a broader treaty framework, have the freedom as to when they adopt a system of cross-border paperless trade and with which countries, the types of information/document to exchange, and the number of agencies that may undertake such exchange. Models 2 to 4 suggest an ascending order of prescription. Model 2 proposes to retain the voluntary nature of information exchange and types of information/document exchange but suggests that such exchange should take place through a Single Window Mechanism of the contracting parties. Countries will have a choice as to with which partner countries they want to establish cross-border exchange mechanism. It is also expected that a Single Window will be developed in a progressive manner and the agencies covered by the Single Window will also be covered for cross-border information exchange. Model 3 proposes that all contracting parties will follow the system of cross-border paperless trade in a given time frame but there will be flexibility regarding the type of information/documents to be exchanged. It also proposes that contracting parties endeavour to develop National Single Window. Model 4 proposes that all contracting parties shall adopt a system of cross-border paperless trade in a given time frame through their National Single Windows.

Keeping in mind the various existing models as discussed, the possible approaches to cross-border paperless trade can be summarized as in Table 3.

**Table 3**

**Approaches to Cross-Border Paperless Trade within an International Treaty Framework**

	Model 4	Paperless exchange of information and documents binding for all Contracting Parties; all regulatory information to be exchanged through National Single Windows
	Model 3	Paperless exchange of information binding between all Contracting Parties; flexibility regarding type of data and document exchange and number of agencies involved in such exchange (only Customs or Customs and few identified agencies). Countries develop National Single Window on a 'best endeavour' basis
	Model 2	Paperless exchange of information on voluntary basis, data and document exchange through Single Window involving all agencies and all data (Customs and other regulatory agencies); countries to have flexibility in choosing partner countries for data and document exchange
	Model 1	Paperless exchange of information on voluntary basis, flexibility regarding type of data and document exchange (only Customs or Customs and few identified agencies), number of agencies involved and choice of partner countries

This Paper suggests adopting Model 3 so that the contracting parties take steps to attain the goal of cross-border paperless exchange in a finite period of time, but they retain a flexibility to choose the type of data/document that they may exchange and that they also endeavour to develop National Single

Window. The time limit can be flexible depending upon the level of development of a country. Technical Assistance and Capacity Building should be available for countries in need.

The Asia-Pacific region is a dynamic region which has been a crucible for several important initiatives. It also accounts for a significant share of the world trade, making it potentially the most important beneficiary of further simplification of trade procedures that a cross-border electronic exchange of information represents. This is borne out by the number of successful initiatives on Single Window in this region and a few instances of across the border exchange of electronic data and document. This region is, therefore, well poised for a more proactive role in taking this process forward. Various FTA provisions indicate that countries of the Asia-Pacific region are willing to develop systems of cross-border electronic exchange. It is, therefore, an opportune time to create a regional framework for cross border electronic information exchange.

As mentioned above, the Paper recommends adoption of Model 3, namely, a binding mechanism for exchange of information between all contracting parties in a timeframe, which suits the needs of various countries depending upon their level of development. They need to be given technical assistance and capacity building support to bring their domestic institutions to a level which would facilitate cross-border information exchange. It should also permit flexibility regarding type of data/document to be exchanged and the number of agencies to be involved in data exchange (only customs or customs and few identified agencies). The contracting parties should also be encouraged to move towards creation of National Single Windows and to exchange information through them.

This requires development of both technical and legal frameworks. The legal framework has been discussed in some details in Section V of this Chapter. As regards technical requirements, contracting parties should have the flexibility to adopt a modern ICT system which is flexible enough to incorporate future changes and is interoperable with other systems.

The next chapter outlines the contours of a regional paperless trading arrangement which takes into account the above aspects.

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## CHAPTER 3

### **PROPOSED CONTENTS AND FEATURES OF REGIONAL ARRANGEMENT**

From a review of the existing arrangements undertaken in the previous chapter, it is found that successful creation of a cross-border paperless trading environment in any country would require a strong political will, administrative leadership to manage a changeover, and effective participation by trade in addition to creation of a suitable legal framework and marshalling of necessary technological, human and financial resources.

If all these favourable factors are present within a country it may not need an outside impetus to proceed in the direction of paperless trade. However, in the absence of a national initiative, a global multilateral agreement can also act as a catalyst for individual nations to create a paperless trading environment. But it is observed that a global agreement may take considerable time and may not emerge in the near future either in the WTO or in the WCO. Hence, the best way forward for the Asia-Pacific region at present appears to be to go in for a regional arrangement which can serve the nations in the region. If the UNESCAP members so wish, they may also decide to keep the arrangement open to non-regional members. As Asia-Pacific countries have FTAs with countries in other regions, it may be advisable to keep such an arrangement open to non-regional members. Such a regional arrangement will have the advantage of being compatible with similar other arrangements provided global standards are used for creating the legal and technological frameworks under the proposed regional arrangement for cross-border paperless trade.

We have benefited from a survey of a number of papers detailing approaches to paperless trade as discussed in Chapter 2. It seems logical to suggest that a country should first re-engineer and simplify existing business processes, carry out data harmonization, and establish a national single window system before embarking upon cross-border paperless exchange of trade-related data. Most of the success stories have followed that route. Several other countries which do not have an automated customs procedure in place have rightly decided to go the single window route. But some countries have in place automated systems which are not single window systems, and they need flexibility to go in for cross-border paperless data exchange which now seems technologically feasible as further discussed below. Further flexibility is also required in determining the data elements to be exchanged. With such flexibility provided, the proposed regional Agreement will have wider acceptability. Moreover, once the user countries see the practical benefits of cross-border paperless exchange of trade-related data, and a legal framework is also in place, it would perhaps be easier to achieve data harmonization and establishment of national single windows in place of existing automated systems in such countries. The model suggested in this paper, therefore, appears to be a more practical way of enabling more countries to participate in a regional cross-border paperless trade arrangement.

With these general observations, we proceed to define the contours of a workable regional arrangement. In our view, a regional arrangement should be in the form of a regional Agreement which the countries in the Asia-Pacific region can sign and become a party to. The Agreement should also provide an institutional arrangement to service the Agreement and to ensure its smooth implementation. This chapter first deals with the possible contents and features of a proposed regional Agreement and then proceeds

to deal with the institutional arrangement to support and implement the Regional Agreement.

### **Preamble to the Regional Agreement**

It would be desirable that the Preamble to the Regional Agreement closely follows the contents of the introductory portion of UNESCAP Resolution 68/3 as the text has already been agreed to and has found acceptance among the member states.

### **Scope and Objective**

The proposed Regional Agreement should clearly specify its scope and objectives to facilitate cross-border paperless trade for the Asia-Pacific region. The Agreement should be in a format aligned to other UNESCAP agreements.

### **Definitions**

It will be useful to provide definitions of important terminology used in the Agreement such as 'Mutual Recognition', 'Single Window', 'Trade Document', 'Commercial Transactions', 'Electronic Data Interchange' etc.

### **Use of Appropriate Terminology**

It is also suggested to use the expression 'paperless trade' in the Agreement instead of the expression 'E-trade' as the latter can be misunderstood to mean only what can be traded electronically such as shares, bonds, foreign exchange, music, software etc. On the other hand, the expression 'paperless trade' would also include goods which are physically traded without exchange of paper documents.



## **General Principles**

The Agreement should have a separate article containing general principles which will guide the Agreement and its implementation. Suggested general principles to be included would relate to technological neutrality, functional equivalence, non discrimination, functional interoperability etc.

## **National Committees and National Policy Framework**

It is proposed that there should be provisions in the Agreement for providing national paperless trade committees and national policy framework for the member countries which become parties to the Agreement.

## **Single Window System**

As stated earlier, though development of a National Single Window is very desirable for having a more effective cross-border paperless trade, the ground reality is that many countries in the Asia-Pacific region do not have a Single Window system at present. Insisting on a Single Window system as a pre-requisite may not be the most desirable way to move forward. Moreover, since it is possible to move on to a paperless trading arrangement without a country having a complete Single Window system, it is proposed to include a flexible provision regarding the same in the Agreement.

## **Technological Framework**

The Agreement should contain general provisions regarding the technical platform/ systems architecture that a member country may adopt from among various options available. The Agreement should, however, contain provisions to ensure capability to interconnect/ intercommunicate and to prevent illegal intrusions.

It is seen that many countries have adopted Automated Customs Procedures, which are at different levels of development. The data sets used are country

specific in some cases; in some cases international standards have been followed. Some countries have implemented Single Window systems and some have advanced further to effect cross-border transfer of trade data electronically either bilaterally or with a group of countries.

With technological advancement that is constantly taking place, it now seems possible to exchange trade data electronically either using UN/EDIFACT standard or XML standard. It is gathered that XML messages have larger file sizes but are easier to read and more flexible. XML also appears to have low set up cost and is, therefore, preferred by small businesses. On account of early adoption, Europe reportedly has a large EDIFACT installed base, whereas use of XML standard is more in Asia.

While harmonization of data will greatly facilitate data exchange, non-harmonization does not, however, present any insurmountable difficulty to prevent exchange data across the border. It is now technologically possible to use data mapping software for mapping of data exchanged applying global standards (such as EDIFACT or XML) and data recorded in the format in the existing legacy systems. Appropriate conversion software makes cross-border electronic exchange of trade-related data much easier than was thought earlier as it would not require legacy systems in use to be replaced.

The Agreement need not also specify the trade documents/ data elements that would be exchanged across the border. It is to be recognized that usually the number of data elements captured while allowing exports out of the country is smaller than the number of data elements required by the importing country for clearing an import consignment. It would be best to leave it initially to the member countries to bilaterally decide on the data elements to be exchanged. However, the UNESCAP Secretariat supporting implementation of the Agreement should be notified, and in due course of time, it may be possible to compile and arrive at a standard set of data

elements for exchange. Incidentally, as pointed out earlier, the discussions in the WCO also favour exchange of groups of data elements through 'Utility Blocks' relating to specific parts of business processes.

It would, therefore, be desirable that trading partner countries while operating under the regional Agreement bilaterally agree upon which standard they will use for electronic exchange of data and which data elements will be exchanged between them. They will also be required to intimate the UNESCAP Secretariat their choice of standard and choice of data elements.

There is also need for assigning a unique identification number to each consignment not only for tracking the consignment but also for correlating the electronically transmitted data to the consignment. It will be useful for the Agreement to require implementation of a global standard in this regard.

Each country may have to provide a gateway to receive and transfer data rather than put its main system online to guard against possible attempts at hacking from across the border or from within the country. Ideally, each country should also have business continuity servers and disaster recovery systems in addition to the online servers and gateways. However, the Agreement need not be specific about such requirements leaving the choice to the countries concerned.

Cross-border transmission of data should be accompanied by digital signature to ensure that the trade data communicated is authentic and therefore the same can be used for clearance of goods.

## **Legal Framework**

The Agreement should contain provisions for creating an enabling domestic legal environment, legal recognition of electronic documents received from across the border and for digital signature.

It should also provide for adoption of UNCITRAL convention on the use of electronic communication in international contracts.

The Agreement also needs to provide for privacy, data protection and protection of IPRs as well as a legal liability framework.

A separate Annex to the Agreement should spell out the guidelines for creating a legally enabling environment at the domestic level. A team of legal experts may be created by the UNESCAP Secretariat on the basis of UNNExT expertise, which on request may conduct legal gap analysis for any member country and provide assistance in framing suitable laws for such member countries.

## **Adoption of Global Standards**

The Agreement should also provide for adoption of global standards so as to ensure mutual recognition and interoperability. The following list of global standards may be appended to the Agreement as a separate Annex: -

- The United Nations Convention on the Use of Electronic Communications in International Contracts (2005)
- The UNCITRAL Model Law on Electronic Commerce (1996)
- The UNCITRAL Model Law on Electronic Signatures (2001)
- OECD Recommendation on Electronic Authentication and OECD Guidance for

<p>Electronic Authentication (2007)</p> <ul style="list-style-type: none"> <li>- WTO Agreements</li> <li>- Revised Kyoto Convention on Simplification and Harmonization of Customs procedures</li> <li>- World Customs Organization's Harmonized Data Set</li> <li>- WCO Recommendation on the Dematerialization of Supporting Documents (2012)</li> </ul>
<ul style="list-style-type: none"> <li>- OECD Guidelines on the Protection of Privacy and Trans-border Flows of Personal Data (1980)</li> <li>- OECD Recommendation on Electronic Authentication and OECD Guidance for Electronic Authentication (2007)</li> <li>- APEC Cross-Border Privacy Enforcement Arrangement (CPEA) (2009)</li> </ul>
<ul style="list-style-type: none"> <li>- Berne Convention for the Protection of Literary and Artistic Works (1886)</li> <li>- Paris Convention for the Protection of Industrial Property (1883)</li> <li>- WIPO Patent Law Treaty (2000)</li> <li>- WTO Agreement on TRIPS</li> </ul>
<ul style="list-style-type: none"> <li>- UNCITRAL Arbitration Rules (1976)</li> <li>- UNCITRAL Model Law on International Commercial Arbitration (1985, amended 2006)</li> <li>- UNCITRAL Model Law on International Commercial Conciliation (2002)</li> </ul>

<p>- Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958) (the "New York" Convention)</p>
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## **Dispute Resolution**

It will be useful to provide a mechanism for dispute resolution between the Parties to the Agreement arising in the course of its implementation. Similar provisions existing in other Agreements may be used with suitable modifications.

## **Amendment to the Agreement and Interpretation of the Agreement**

Provisions are required to be made for amendment to the Agreement including the Annexes to take into account any major technological change or otherwise. Similarly provisions are to be made for interpretation of the Agreement in the event of a dispute or doubt. It may also be useful to have a provision for final dissolution of the Agreement which can be used in the event of a wider global arrangement coming into force in the future. However, there does not appear any need to provide for any reservation for any part of the Agreement.

## **Capacity Building**

The Agreement also has to provide for special treatment to least developed countries for capacity building.

## **Entry into Force and Time-line for Implementation**

Ideally, the Agreement should also provide a time limit for implementation of its provisions after it enters into force. The proposed Agreement provides that it shall enter into force on the 90<sup>th</sup> day after at least 8 member States sign the Agreement. For member States who sign it later on, it will come

into force on the 90<sup>th</sup> day after the respective date of their signing. The number 8 and the period 90 days have been adopted from other regional agreements, which may be suitably changed if necessary.

The more important question is whether the Agreement should specify a time limit from the respective date of entry into force for implementation requiring the contracting State to create an enabling legal environment and making arrangement for cross-border paperless exchange of trade-related data within that time. While deciding on the time limit, several factors have to be kept in view including availability of finances, manpower, and technology. Building a Single Window system also takes time, apart from resources required, the time taken to persuade various government departments to come on to a single platform can be considerable. The proposed Agreement provides a flexible approach in regard to Single Window system and advances in ICT can cut down cost and time for implementation. Most important is of course the willingness of a member State to recognize the advantages of paperless trade and to implement the proposed Agreement. The report recommends a time period of 2-3 years, but a longer period may be adopted, if the member States so decide. Least Developing countries needing capacity building assistance may in any case approach the Council for extension of time.

### **Provision for Servicing and Implementing the Agreement**

The Agreement should also provide for an institutional arrangement to service and to oversee its implementation. An organizational mechanism necessary for proper maintenance and expansion of the regional arrangement is recommended in this Report. It is proposed to have a three tier organizational mechanism with a common secretariat for proper and effective implementation of the proposed Agreement.

## **Governing Body**

The Report proposes that the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) may establish a Cross-border Paperless Trade Council as a governing body for overall management of the proposed regional Agreement. To ensure proper representation of the contracting member states at decision-making level, it is recommended to be composed of one (1) ministerial-level nominee from each contracting State and the Executive Secretary of ESCAP. The Council may meet once every two years. By having a biennial meeting arrangement, the Council can avoid the burden of frequent meeting for the contracting states and can coordinate its decisions with the competent legislative body of the ESCAP, Committee on Trade and Investment, which meets biennially.

## **Implementing (or Supervisory) Body**

The Council will function as a governing body for making decisions. In the performance of its mandated functions, the Council would need support from a working level body, which can meet more frequently and address specific issues in more detail. The Report recommends establishing a Standing Committee for providing support to the Council. The Standing Committee would supervise and coordinate the implementation of the proposed regional Agreement and submit its recommendations for review and decision to the Council. The Standing Committee is recommended to be represented by National Paperless Trade Committees of contracting states and may meet at least once a year.

The Report recommends that the Standing Committee, under the supervision of the Council, should be mandated to develop and implement a comprehensive action plan. Such action plan should set out all concrete actions and measures with clear targets and timelines necessary for creating a consistent, transparent, and predictable environment for the



implementation of the proposed regional Agreement. The action plan should also include a roadmap for the implementation of global standards as well as the pilot projects initiative specified in the proposed regional Agreement.

### **Supportive Body**

In the implementation of the proposed regional Agreement, the Standing Committee may also need support from expert groups since this agreement involves implementation of both technical and legal aspects. The Report recommends allowing the Standing Committee to have authority to establish working groups comprising relevant technical or legal experts to handle specific technical and legal matters. Working group(s) should report to the Standing Committee on the implementation of this Agreement and the related Action Plan only in mandated areas of expertise.

### **Secretariat**

The UNESCAP Secretariat is recommended to act as the secretariat of the proposed regional Agreement itself as well as for the bodies established under the proposed regional Agreement. The secretariat should provide support in coordinating, reviewing, and supervising the implementation of the proposed regional Agreement.

The ESCAP Secretariat has demonstrated capacity to properly support the proposed regional Agreement. More than anything else, the ESCAP Secretariat has proven record of successful support to multiple regional agreements, including the Asia Pacific Trade Agreement (APTA), the Intergovernmental Agreement on the Asian Highway Agreement and the Intergovernmental Agreement on the Trans-Asian Railway Network.

The ESCAP Secretariat also has in-house expertise with its staff and knowledge accumulated over an extended period of work experience. It also has a regional network of experts on paperless trade (United Nations

Network of Experts for Paperless Trade in Asia and the Pacific), which can provide high-quality support in the substance and capacity building component of the proposed regional Agreement. Furthermore, the ESCAP Secretariat maintains strong partnership with relevant international and regional organizations, including UNCITRAL, WCO, World Bank, UNECE, WTO, ASEAN, APEC, ADB, etc.

On the basis of the above recommendations, a Draft Regional Agreement has been attempted which is provided in the Annex to this Report. Care has been taken to ensure that the proposed Agreement is in consonance with the global trends emerging from the discussions in the WTO and WCO. It will also be compatible with and not disrupt any of the existing bilateral/ regional arrangements for paperless exchange of trade-related data because the proposed Agreement takes note of the ground realities and adopts a flexible approach. It does not require doing away with the existing systems in operation but requires building on the same. A member State can participate in paperless trade whether it has a single window system or it has any other legacy system. A member State and its trading partner will also have the flexibility to mutually decide upon the data elements to be exchanged. Subsequently, more and more countries would opt for single window systems once they realize the greater advantage of such systems in the context of paperless trade. Similarly, the number of data elements to be exchanged would also get standardized.

The need for and advantages of a regional arrangement for the Asia-Pacific region have already been pointed out in the earlier parts of this Report. For obvious reasons, mere guidelines and recommendations would not be efficacious to usher in paperless trade to the region. A flexible regional Agreement would secure wider acceptance among the member States and would ensure that the member States set up the national paperless trade committees, create the necessary legal environment and also set up the

requisite IT infrastructure preferably in a time bound manner to participate in cross-border paperless trade. Obligation under an international agreement often acts as a catalyst to speedier action overcoming lack of political will and administrative inertia. This Report, therefore, strongly recommends adoption of the proposed Agreement given in the Annex.

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## CHAPTER 4

### **CONCLUSION AND WAY FORWARD**

In the preceding chapters, the advantages of cross-border paperless trade as a measure of trade facilitation have been analysed as also the need for a regional arrangement for the same in the Asia-Pacific region. An extensive examination of existing systems in operation and systems under implementation has also been done. The systems examined include national single window systems, advanced automated customs processing systems, bilateral trade-related data exchange systems and similar systems involving cross-border paperless data exchange between several countries and partner countries of Free Trade Agreements. The examination has not been limited to the Asia-Pacific region only but has also covered other regions as well. An examination of the work being done in the WTO and the WCO has also been undertaken.

The recommendations given in the Report are based on conclusions drawn from such examination. In particular, as stated earlier, the best possible approach to adopt at this stage has been found to be a regional arrangement in order to have a uniform approach and to encourage member States to move in the same direction. Accordingly, the Report recommends an overarching regional Agreement (see Annex) which lays down key principles and an institutional framework to address the numerous challenges associated with establishing cross-border paperless trade. The recommendations also envisage development of pilots or prototypes in a collaborative manner within a dedicated institutional framework for putting the exchange mechanism in operation.

The proposed Agreement requires contracting member States to put in place an enabling legal environment to carry on paperless trade adopting globally agreed legal instruments and standards. As regards data exchange protocols to be used, the Agreement provides flexibility to use any global standard mutually agreed upon between trading partner countries. Similarly, it provides for flexibility in choosing data elements to be exchanged. It is felt that such flexibilities will encourage wider acceptance of the Agreement. For the same reason it does not envisage discarding of the legacy systems, total overhauling of the existing procedures or installation of a single window system as a pre requisite. At the same time, the Agreement will hopefully kick-start the process of paperless trading systems in contracting states overcoming lack of political will or administrative lethargy, if any, which mere guidelines or recommendations will not be able to do. Furthermore, once the benefits of paperless trade are experienced, the member states would more likely appreciate the advantages of single window systems and standardization of data elements to be exchanged. Simultaneously, the least developed countries can be assisted by capacity building programmes and the member states can also benefit from sharing the experience gained from the pilot projects.

Implementation of the Agreement would require organizational support for which it has been proposed to have a 3-tier institutional mechanism comprising a Council, a Standing Committee and Working Groups, all to be assisted by the UNESCAP Secretariat. However, till such time the proposed Agreement is finalized, and is acceded to by the minimum number of contracting states bringing the same into force, the proposed institutional mechanism will not be in place. Hence, an interim arrangement is required to carry on the work in the mean time. It is proposed that the Committee on Trade and Investment (CTI) of ESCAP Commission creates a Sub-Committee on Trade Facilitation (or Paperless Trade) to take charge of the work in the

interim period with the assistance of the UNESCAP Secretariat. Such a Sub-Committee will be represented by experts from member states having expertise in the areas of customs/trade administration, information technology and international trade law. While the CTI itself can take such responsibility, it is advised to create a Sub-Committee under it, considering that the CTI has a quite broad mandate (inclusive of all aspects of trade and investment) and meets only biennially. A draft Terms of Reference for such a Sub-Committee is provided in Annex X. UNESCAP Resolution 68/3 clearly outlines the work required to be done which the Secretariat needs to coordinate. In addition, it also needs to get the draft Agreement in the Annex discussed among the UNESCAP members and secure their approval.

## **Annex**

### **Draft Regional Agreement**

#### **On**

#### **Cross-border Paperless Trade for the Asia – Pacific Region**

*The ESCAP Member States who are parties to this Regional Agreement (hereinafter referred to as "Contracting State Parties"),*

**Conscious** of the importance of trade as an engine of growth and development and of the need to increase the cost-effectiveness and efficiency of international trade transactions to maintain and enhance competitiveness of the region;

**Recognizing** that electronic commerce enhances the expansion of trade opportunities, and the importance of avoiding barriers to its use and development, the need to promote uniformity in the application of international standards and to aim for interoperability of paperless trade systems,

**Also recognizing** the potential of paperless trade in making international trade transactions more efficient and transparent,

**Noting** that the trade and supply-chain security initiatives under implementation in major export markets will make it increasingly necessary for all actors in the international supply chain to exchange data and documents electronically;

**Considering** the fact that many countries of the Asia-Pacific region are currently engaged in implementing national electronic Single Window systems to expedite processing of trade documents;

**Also considering** the fact that many countries of the Asia-Pacific region have significant provisions for exchange of information electronically in their Free Trade Agreements;

**Aware** that the benefits from these and related paperless trade systems would be greatly enhanced if the electronic documents generated by them could be used across borders;

**Also aware** that facilitating the cross-border recognition and electronic exchange of trade documents between landlocked and transit countries would significantly reduce transit time and enhance trade and development opportunities for the landlocked countries.

**Mindful** of the different levels of economic, and information and communication technology development of Contracting State parties;

**Acknowledging** that the availability of ICT and related physical infrastructure are not enough in some countries to ensure sustainable business development.

**Further noting** the desirability to establish an enabling legal environment in order to maximize the benefits associated with cross border paperless trade.

**Desiring** to formulate a legal framework to deepen and broaden cooperation in cross-border paperless trade facilitation among Contracting States and to chart the future developments in this area;

Hereby *agree* as follows:



### **Article 1: Objective**

The objective of this agreement is to promote cross-border paperless trade by enabling mutual recognition of trade-related data and documents and enhancing interoperability of National Single Windows and other paperless trade systems.

### **Article 2: Scope**

This Agreement applies to Contracting State Parties and provides for paperless exchange of trade-related data and documents in the course of international trade including transit trade.

### **Article 3: Definitions**

For the purpose of this Agreement:

1. Mutual Recognition means reciprocal recognition of the legal validity of documents exchanged in electronic form across borders between two or more countries. Mutual recognition is established by the Contracting State Parties agreeing that different national requirements are equal and respectively interchangeable in order to fulfill the requirements of the domestic legislation in a specific field.

2. Single Window means a facility that allows parties involved in a trade transaction to electronically lodge data and documents with a single entry point to fulfill all import, export, and transit-related regulatory requirements.

3. Trade-related Documents means documents related to commercial transactions.

4. Commercial transactions means transactions of buying and selling products [and services] between governments and businesses as well as between businesses.

5. Trade-related Data means data contained in or transmitted in connection with a trade-related electronic document.

6. Data message means information generated, sent, received or stored by electronic, magnetic, optical or similar means, including, but not limited to, electronic data interchange.

7. Electronic data interchange (EDI) means the electronic transfer from computer to computer of information using an agreed standard to structure the information.

Any term not otherwise defined in this Agreement are to be interpreted according to the definitions provided by the United Nations Convention on the Use of Electronic Communications in International Contracts, 2005, [UNCITRAL Model Law on Electronic Commerce 1996 with additional article 5*bis* adopted in 1998 and UNCITRAL Model Law on Electronic Signatures, 2001] as well as the general principles listed in this Agreement.

#### **Article 4: General Principles**

This Agreement shall be guided by the following general principles:

1. Technological neutrality is the principle that legislation should not impose nor discriminate in favor of the use of a particular type of technology to achieve its objectives.

2. Functional equivalence is a principle that encourages an analysis of the functions of paper-based requirements and determining how those functions could be fulfilled through electronic means. Using the functional equivalence approach involves singling out basic functions of paper-based

form requirements, with a view to providing criteria which, once they are met by electronic communications, enable such electronic communications to enjoy the same level of legal recognition as corresponding paper documents performing the same function.

3. Non-discrimination is a principle demanding that there should be no disparity of treatment between electronic communications and paper documents. Information should not be denied validity or enforceability on the sole ground that it is in the form of an electronic communication.

4. Functional Interoperability is based on the principle of functional equivalence; this concept refers to legal recognition of trade-related documents across borders within the legislative and regulatory framework of a Contracting State.

Contracting State Parties agree that implementing legislation that applies these principles to electronic exchanges of trade-related data and documents will establish common levels of trust and increase interoperability.

#### **Article 5: National Single Window development**

The Contracting State Parties [undertake]/[shall endeavour] to develop Single Window (SW) systems. They also undertake to facilitate cross-border paperless trade making use of the existing systems in operation till a Single Window system is developed.

#### **Article 6: National Paperless Trade Committees**

Contracting State Parties shall establish national Paperless Trade committees, comprising of relevant representatives of government and private sector including representatives from trade, logistics, port and airport authorities, customs agencies, and IT service providers. The Contracting State Parties shall have an option of relying on a similar organization already functioning

domestically in lieu of establishing a separate committee and of designating an existing organization or working group within that organization, as the national Paperless Trade committee for the purpose of this Agreement. The Paperless Trade committees will be responsible for promoting a legally enabling domestic environment for electronic exchanges of trade-related data and documents as well as ensuring interoperability of cross-border paperless trade information flows.

**Article 7: National Policy Framework**

Contracting State Parties shall establish a national policy framework for paperless trade, which defines targets and implementation strategies, allocates resources, and uses a legislative framework.

**Article 8: Enabling Domestic Legal Environment**

Contracting State Parties shall create appropriate legal and regulatory framework for paperless trade including but not limited to laws on electronic submission of documents, electronic signatures including digital signatures, user and message authentication, and electronic evidence regulation governing admissibility of electronic information in domestic courts and as described in Annex 1.

**Article 9: Cross-border legal recognition of trade-related electronic documents**

1. The Contracting State Parties shall provide for legal recognition of trade-related data and documents across borders when developing their cross-border paperless trade legal frameworks, with particular emphasis on functional equivalence.

2. The Contracting State Parties shall endeavor to enact legislation explicitly authorizing and giving full legal equivalence to cross-border trade-related

document exchanges and containing provisions for mutual recognition.

**Article 10:** Adoption of Global Paperless Trade Standards for Exchange of Trade-related Data and Documents

1. The Contracting State Parties shall endeavor to apply global standards listed in Annex 2 to ensure regional and eventually global interoperability.
2. For electronic exchange of trade-related data and documents, the Contracting State Parties shall have the option of using any of the global standards including UNEDIFACT or XML standards or any improved versions of these. The standard to be used and the data elements to be exchanged shall be mutually agreed upon between any two Contracting State Parties and intimated to the Secretariat.
3. The Contracting State Parties shall also have the option to use data mapping software for mapping of data exchanged using global standards and data recorded in the format in their existing systems.

**Article 11:** Unique Consignment Identifier

The Contracting State Parties shall use any one of the global standards available for uniquely identifying a consignment for ease of tracking the consignment and for easy correlation of the trade-related data and document associated with it.

**Article 12:** Global Standard Implementation

The Contracting State Parties shall endeavor to preserve legal interoperability and enhance mutual recognition of paperless trade-related data and documents. The Contracting State Parties shall collaborate on global standard implementation strategies through the institutional mechanism established under this Agreement.

### **Article 13:** Global Standard Development

The Contracting State Parties shall, to the extent possible, become involved in the development of international data standards and best practices.

### **Article 14:** UN Convention on the Use of Electronic Communication in International Contracts

The Contracting State Parties shall endeavor to become signatories to, or ratify and apply in case already signatories, the UN Convention on the Use of Electronic Communication in International Contracts.

### **Article 15:** Privacy, data protection, and protection of IPRs in cross-border data exchange

1. Protection of personal data in cross-border trade-related information exchanges shall be consistent with regional and international regulations.
2. Contracting State Parties are encouraged to consider participating in international agreements governing intellectual property rights such as the World Intellectual Property Organization (WIPO) Copyright Treaty and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) as administered by the WTO.

### **Article 16:** Legal liability framework

1. The Contracting State Parties acknowledge that liability and enforcement issues may arise in cross-border paperless trade-related data and document exchanges, especially in connection with information processing and protection, as well as the use of inaccurate, incomplete, or incorrect data.
2. The Contracting State Parties agree to establish a framework for national and international legal recourse, possible indemnities for damages, and liability limits to facilitate cross-border paperless trade-related information

flows.

### **Article 17:** Alternative Dispute Resolution

Contracting State Parties are encouraged to consider setting up alternative dispute resolution (ADR) mechanisms in order to expedite dispute resolution between the various parties involved in a cross-border paperless trade transaction.

### **Article 18:** Institutional Arrangements

1. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) shall, for the purposes of this agreement, establish a Paperless Trade Council comprising one (1) ministerial-level nominee from each Contracting State and the Executive Secretary of ESCAP. The Council shall meet once every two year.

2. In the performance of its functions, the Council shall be supported by the Standing Committee, which shall supervise and coordinate the implementation of this Agreement and submit its recommendations for review to the Council. The Standing Committee shall be composed of representatives of the National Paperless Trade Committees and will meet at least once a year.

3. For the purposes of implementing the Agreement, the Standing Committee may establish working groups comprising relevant technical or legal experts, which shall report to the Standing Committee on the implementation of this Agreement and the related Action Plan.

4. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) shall be designated the Secretariat of the Agreement. It shall also be the Secretariat to the bodies established under this Agreement.

It shall provide support in coordinating, reviewing, and supervising the implementation of this Agreement as well as in all related manners.

**Article 19: Action Plan**

1. The Standing Committee, under the supervision of the Council, shall develop and implement a comprehensive action plan, which sets out all concrete actions and measures with clear targets and timelines of implementation necessary for creating a consistent, transparent, and predictable environment for the implementation of this Agreement with the goal of saving time and reducing costs.

2. The action plan shall incorporate a roadmap for the implementation of global standards (Articles 12, 13) as well as the implementations of the pilot projects initiative (Article 20) for the purpose of this Agreement.

**Article 20: Pilot Projects and sharing of lessons learned**

1. The Contracting State Parties shall endeavor to initiate and launch pilot projects to initiate paperless trade-related data and documents exchanges, with an initial focus on exchanging blocks of trade-related information electronically.

2. The Contracting State Parties commit to report on pilot projects to facilitate exchanges of experience and lessons learned in order to establish a collection of best practices for legal interoperability of cross-border paperless trade-related data and document exchanges. The exchange of experience and lessons learned would extend beyond the parties to this agreement, in an effort to promote paperless trade implementation throughout the region and beyond.

**Article 21: Capacity Building**



Contracting State Parties commit to cooperate, including by providing technical support and assistance, in order to facilitate the implementation of this Agreement. Technical assistance shall be provided through a “request and offer” system, which shall facilitate exchanges of skills and best practices.

#### **Article 22:** Dispute Resolution

1. Any dispute that may arise among Contracting State Parties regarding the interpretation and application of this Agreement shall be settled by an agreement among the parties concerned.
2. In the case that the parties to the dispute are unable to settle it by negotiation or consultation, the parties shall be referred to conciliation if any of the parties to the dispute requests a referral.
3. The dispute shall be submitted to one or more conciliators selected by mutual agreement between the parties to the dispute. If the parties to the dispute fail to agree on the choice of a conciliator or conciliators within three (3) months after the request for conciliation, any of those parties may request the Executive Secretary of UNESCAP to appoint a single conciliator to whom the dispute shall be submitted.
4. The recommendation of the conciliator or conciliators appointed, while not binding in character, shall become the basis of renewed consideration by the parties to the dispute.
5. By mutual agreement, the parties to the dispute may agree in advance to accept the recommendation of the conciliator or conciliators as binding. The provisions of this article shall not be construed to exclude other measures for the settlement of disputes mutually agreed between the parties to the dispute.

#### **Article 23:** Procedure for signing and becoming a Contracting State Party

1. The Agreement shall be open for signature by States which are members of the United Nations Economic and Social Commission for Asia and the Pacific at ....., on ....., and thereafter at the United Nations Headquarters in New York from

..... to .....

2. Those States may become Parties to the Agreement by:

a) Signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or

b) Accession.

3. Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument in good and due form with the Secretary-General of the United Nations.

**Article 24:** Entry into force

1. The Agreement shall enter into force on the ninetieth day following the date on which the Governments of at least eight (8) Contracting States have consented to be bound by the Agreement pursuant to Article 23, paragraphs 2 and 3.

2. For each Contracting State which deposits its instrument of ratification, acceptance, approval or accession after the date upon which the conditions for the entry into force of the Agreement have been met, the Agreement shall enter into force for that Contracting State ninety (90) days after the date of its deposit of the said instrument.

3. Each Contracting State shall implement the provisions of this Agreement by creating a legally enabling environment and creating necessary technical infrastructure to facilitate cross-border paperless exchange of trade-related

data and documents within a period of [two]/ [three] years from the date of entry into force of this Agreement. Any Contracting State needing assistance in capacity building may seek extension of time beyond two years for implementation of the Agreement from the Council.

**Article 25:** Procedures for amending the Agreement

1. The main text and the Annexes of the Agreement may be amended by the procedure specified in this Article.
2. Amendments to the Agreement [including the Annexes] may be proposed by any Contracting State Party.
3. The text of any proposed amendment shall be circulated to all members of the Council by the Secretariat at least forty-five (45) days before the Council meeting at which it is proposed for adoption.
4. An amendment shall be adopted by the Council by a two-thirds majority of the Contracting State Parties present and voting. The amendment as adopted shall be communicated by the secretariat to the Secretary-General of the United Nations, who shall circulate it to all Parties for acceptance.
5. An amendment adopted in accordance with paragraph 4 of the present Article shall enter into force twelve (12) months after it has been accepted by two-thirds of the Contracting State Parties. The amendment shall enter into force with respect to all Parties except those which, before it enters into force, declare that they do not accept the amendment. Any Party that has declared that it does not accept an amendment adopted in accordance with this paragraph may at any time thereafter deposit an instrument of acceptance of such amendment with the Secretary-General of the United Nations. The amendment shall enter into force for that Contracting State Party twelve (12) months after the date of deposit of the said instrument.

6. An amendment accepted in accordance with paragraph 5 of the present Article shall enter into force for all Parties three (3) months after the expiry of the period of six (6) months referred to in paragraph 5 of the present Article.

#### **Article 26: Reservations**

Reservations may not be made with respect to any of the provisions of the Agreement.

#### **Article 27: Withdrawal**

Any Contracting State Party may withdraw from the Agreement by written notification addressed to the Secretary-General of the United Nations. The withdrawal shall take effect twelve (12) months after the date of receipt by the Secretary-General of such notification.

#### **Article 28: Suspension of validity**

The operation of the Agreement shall be suspended if the number of Contracting State Parties becomes less than eight (8) for any period of twelve (12) consecutive months. In such a situation the Secretariat shall notify the Contracting State Parties. The provisions of the Agreement shall again become operative if the number of Contracting State Parties reaches eight (8).

#### **Article 29: Limits to the application**

Nothing in the Agreement shall be construed as preventing a Party from taking such action, compatible with the provisions of the Charter of the United Nations and limited to the exigencies of the situation, as it considers necessary for its external or internal security.

### **Article 30: Annexes**

Annexes 1 and 2 to the Agreement shall form an integral part of the Agreement.

### **Article 31: Depositary**

The Secretary-General of the United Nations shall be designated the depositary of the Agreement.

IN WITNESS WHEREOF, the undersigned, being duly authorized thereto, have signed the Agreement,

OPENED for signature on the ..... at  
....., in a single copy in the Chinese, English and Russian  
languages, the three texts being equally authentic.

\*\*\*\*\*

## **Annex 1**

### **Guidelines on creating a legally enabling environment for Cross-border Paperless trade at the Domestic Level**

1. Contracting State Parties shall create appropriate legal and regulatory framework for paperless trade including but not limited to laws on electronic submission of documents, electronic signatures including digital signatures, user and message authentication, and electronic evidence regulation governing admissibility of electronic information in domestic courts.
2. Contracting State Parties shall also implement legislation in order to address the security of data collection, sharing, and amendment, as well as data accessibility, retention, archiving, and destruction methods. The legal provisions should include measures to ensure that an 'audit trail' is established for electronic information so that liability and responsibility issues can be addressed ex-post and should adhere to international standards where possible.
3. Contracting State Parties shall also enact legislation concerning liability and indemnity, enforcement and dispute resolution. In order to avoid lengthy judicial proceedings, the Contracting State Parties are encouraged to consider Alternative Dispute Resolution (ADR) provisions as a means of facilitating paperless trade-related dispute resolution.
4. Contracting State Parties shall enact laws addressing data protection and issues of privacy (e.g., personal data protection) as well as the protection of proprietary company data and confidential trade-related data.

5. Contracting State Parties shall provide legislation empowering government agencies to share trade-related data and documents among the relevant agencies in order to form a foundation for paperless exchanges of information and cross-border interoperability. This should be done in a manner consistent with the privacy provision above.

6. The governments or national paperless trade committees shall commit to protection of traders and citizens through implementation of legal structures that provide for control of service fees and service quality of paperless trade-related service providers.

7. Promotion of competition, to the extent possible, may be encouraged with an emphasis on transparency and neutrality.

## ANNEX 2

### Global Standards

International Trade law	<ul style="list-style-type: none"><li>- The United Nations Convention on the Use of Electronic Communications in International Contracts (2005)</li><li>- The UNCITRAL Model Law on Electronic Commerce (1996)</li><li>- The UNCITRAL Model Law on Electronic Signatures (2001)</li><li>- OECD Recommendation on Electronic Authentication and OECD Guidance for Electronic Authentication (2007)</li><li>- WTO Agreements</li><li>- Revised Kyoto Convention on Simplification and Harmonization of Customs procedures</li><li>- World Customs Organization's Harmonized Data Set</li><li>- WCO Recommendation on the Dematerialization of Supporting Documents (2012)</li></ul>
Privacy and Data Protection	<ul style="list-style-type: none"><li>- OECD Guidelines on the Protection of Privacy and Trans-border Flows of Personal Data (1980)</li><li>- OECD Recommendation on Electronic Authentication and OECD Guidance for Electronic Authentication (2007)</li></ul>



	<ul style="list-style-type: none"> <li>- APEC Cross-Border Privacy Enforcement Arrangement (CPEA) (2009)</li> </ul>
Intellectual Property	<ul style="list-style-type: none"> <li>- Berne Convention for the Protection of Literary and Artistic Works (1886)</li> <li>- Paris Convention for the Protection of Industrial Property (1883)</li> <li>- WIPO Patent Law Treaty (2000)</li> <li>- WTO Agreement on TRIPS</li> </ul>
Alternative Dispute Resolution / Arbitration	<ul style="list-style-type: none"> <li>- UNCITRAL Arbitration Rules (1976)</li> <li>- UNCITRAL Model Law on International Commercial Arbitration (1985, amended 2006)</li> <li>- UNCITRAL Model Law on International Commercial Conciliation (2002)</li> <li>- Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958) (the "New York" Convention)</li> </ul>

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