

ECONOMIC COMMISSION FOR EUROPE
**United Nations Centre for Trade Facilitation
and Electronic Business (UN/CEFACT)**

Case Studies on Implementing a Single Window

*to enhance the efficient exchange of information
between trade and government*

WORKING DRAFT



UNITED NATIONS

The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT)

Simple, Transparent and Effective Processes for Global Commerce

UN/CEFACT's mission is to improve the ability of business, trade and administrative organizations, from developed, developing and transitional economies, to exchange products and relevant services effectively. Its principal focus is on facilitating national and international transactions, through the simplification and harmonization of processes, procedures and information flows, and so contribute to the growth of global commerce.

Participation in UN/CEFACT is open to United Nations Member States, Intergovernmental Organizations and Non-Governmental Organizations recognised by the United Nations Economic and Social Council (ECOSOC). Through this participation of government and business representatives from around the world, UN/CEFACT has developed a range of trade facilitation and e-business standards, recommendations and tools that are approved within a broad intergovernmental process and implemented globally.

www.unece.org/trade
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List of Abbreviations

APEC	Asia Pacific Economic Cooperation
ASEAL	Asia Europe Alliance for Paperless Trade
ASEAN	Association of Southeast Asian Nations
ASPs	Application Service Providers
ASYCUDA	Automated System for Customs Data
BPI	Business Process Interconnect
CO	Certificate of Origin
DG	Dangerous Goods
EDI	Electronic Data Interchange
ETA	Expected Time of Arrival
ETD	Expected Time of Departure
EU	European Union
FMA	Finnish Maritime Administration
FTP	File Transfer Protocol
GST	Goods and Services Tax
ICT	Information and Communication Technologies
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
IMO FAL	Trade Facilitation Committee of the International Maritime Organization
ISPS	International Ship and Port Facility Security Code
ISPs	Internet Service Providers
IT	Information Technologies
ITPWG-TBG15	International Trade Procedures Working Group
NAFTA	North American Free Trade Agreement
PAA	Pan Asian eCommerce Alliance
PGA	Participating Government Agencies
PKI	Public Key Infrastructure
PPP	Private-Public Partnership
R&D	Research and Development
SEW	Single Electronic Window
SMEs	Small and Medium-Sized Enterprises
SNS	Singapore Network Services
SW	Single Window
UN LOCODE	United Nations Location Code For Trade and Transport
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UN/EDIFACT	United Nations Electronic Data Interchange for Administration, Commerce and Transport
UNCTAD	United Nations Conference on Trade and Development
UNeDocs	United Nations electronic Trade Documents
UNLK	UN Layout Key
USD	United States dollars
VAT	Value Added Tax
WCO	World Customs Organization
WTO	World Trade Organization

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PART I: UN/CEFACT SINGLE WINDOW REPOSITORY

1. Introduction

A number of countries are considering establishing a “Single Window” for the exchange of information between trade and government. The purpose of this publication is to provide these countries with concrete examples of the operation, costs and benefits of such facilities in other countries.

A Single Window is a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements¹. If information is electronic, then individual data elements should only be submitted once. The Single Window is a practical application of trade facilitation concepts intended to reduce non-tariff trade barriers and deliver immediate benefits to all members of the trading community.

2. Background

In most countries, companies engaged in international trade regularly have to submit large volumes of information and documents to governmental authorities to comply with import, export and transit-related regulatory requirements. This information and documentation often has to be submitted through several different agencies, each with its own specific (manual or automated) system and paper forms. These requirements, together with the associated compliance costs, constitute a burden both to Governments and to the business community and can also be a major barrier to the development of international trade, particularly in developing countries.

Establishing a Single Window facility is one means of addressing this problem. It can enhance the availability and handling of information, and can simplify and expedite information flows between trade and government. It can also bring about greater harmonization and better sharing of the relevant data across governmental systems, bringing meaningful gains to all parties involved in cross-border trade. It can result in improved efficiency and effectiveness of official controls and reduce costs both for Governments and for traders due to better use of resources.

In the *Recommendation and Guidelines on Establishing a Single Window*, it is recommended that Governments and those engaged in the international trade and movement of goods should actively consider the possibility of implementing a Single Window facility in their country. The *Recommendation and Guidelines* were developed by the International Trade Procedures Working Group (ITPWG-TBG15) of the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), and formally approved by UN/CEFACT in 2004.

To promote the establishment of Single Window facilities, UN/CEFACT has held several capacity-building workshops, with presentations by current Single Window operators. These presentations can be reviewed on the UN/CEFACT website:

http://www.unece.org/cefact/recommendations/rec33/sw_present_cases.htm

¹ United Nations Centre for Trade Facilitation and Electronic Business (N/CEFACT), *Recommendation and Guidelines on Establishing a Single Window*, ECE/TRADE/352, September 2004, available at http://www.unece.org/cefact/recommendations/rec33/rec33_ecetr352_e.pdf

3. *UN/CEFACT Single Window Repository*

Following the release of the *Recommendation and Guidelines*, numerous countries approached the UN/CEFACT with requests for information and support in planning and implementing their Single Window initiatives. The UN/CEFACT Repository of Single Window implementations was established in response to these requests. It is available in both hard copy (this publication) and on the web at www.unece.org/cefact.

The Repository contains case studies from countries that have already operational, or soon to be operational, Single Windows. This first issue of the Repository contains contributions from Finland, Germany, Guatemala, Hong Kong SAR (China), Malaysia, Mauritius, Senegal, Singapore, Sweden and the United States. There are over 30 Single Windows in operation throughout the world and UN/CEFACT plans to expand its Repository over time to include further examples.

For each Single Window, the Repository provides information in the following areas:

- Background
- Establishment
- Services
- Operational Model
- Business Model and Costs
- Technology
- Promotion and Communication
- Judicial aspects
- Standards
- Benefits
- Lessons Learned
- Future Plans
- Source for further information
- Contact details.

The template was designed to give potential operators an overview of the main issues that need to be addressed, the tools available and the steps that need to be taken for establishing a Single Window.

4. *Key features of a Single Window*

According to the UN/CEFACT Recommendation, a Single Window facility should allow:

- Parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once.
- The sharing of all information in respect of international trade transactions, which is supported by a legal framework that provides privacy and security in the exchange of information.
- The addition of facilities to provide trade related government information and receive payment of duties and other charges.
- Such a single entry point to disseminate, or provide access to, the relevant information to participating governmental authorities or authorised agencies
- Co-ordination of the controls and inspections of the various governmental authorities.

5. *Benefits and Costs*

A Single Window brings meaningful gains to all parties engaged in cross-border trade.

Benefits for government

- Correct revenue yields
- Improved trader compliance
- Enable the use of sophisticated “risk management” techniques for control and enforcement purposes
- More effective and efficient deployment of resources

Benefits for trade

- Cutting costs through reducing delays
- Faster clearance and release
- Predictable application and explanation of rules
- More effective and efficient deployment of resources

For example, when Mauritius introduced a Single Window, the average clearance time for goods decreased from an average of four hours to just around 15 minutes for non-litigious declarations. Similarly, the Single Window facility in Senegal allows clients to obtain in a single day what previously took two to three days (see specific case studies for details).

The costs associated with setting up a Single Window facility vary depending on the approach taken. In case of government-financed Single Windows, these costs often are part of the costs of a larger nation-wide trade development policy.

Costs of implementing a Single Window

Total implementation costs range from less than one million US dollars (Guatemala) to between 1 and 4 million dollars (Finland, Senegal, Malaysia). In the US, the cost was significantly higher but the system is quite extensive and covers many additional areas.

6. *Diversity of models*

There is no unique model for a Single Window, as operators adopt their systems to specific national/regional conditions and requirements,

Financing can be provided by the State (Finland, Sweden, United States), by the private sector (e.g. Guatemala, Germany) or with a help of a private-public partnership (e.g. China, Malaysia, Mauritius, Senegal, Singapore).

The use of Single Window facilities can be compulsory (Finland, Guatemala, Mauritius, Senegal) or voluntary (China, Germany, Malaysia, Sweden, United States).

Services vary and may be provided free on charge (Finland, Sweden, United States) or based on various payment schemes (Guatemala, Germany, China, Malaysia, Mauritius, Senegal, Singapore).

Despite these differences, all participating countries speak favourably of their Single Window experience. The benefits and revenues generally outweigh the establishment/operational costs. However, potential implementers should be aware of the lessons learned by existing Single Window operators. This publication sets out some of the difficulties and obstacles that were faced and overcome in each of the case studies.

7. *Towards common standards and interoperability*

Many Single Window operators have asked UN/CEFACT to support the establishment of common standards for the interoperability of Single Windows and UN/CEFACT is currently working towards achieving this goal. It will hold a workshop on this topic in early 2006 .

8. *Whom to contact for further information*

Contact details for all Single Window facilities reviewed in this publication are provided within each case study.

Countries wishing to obtain more information regarding introducing a Single Window and UN/CEFACT's work should consult the UN/CEFACT Recommendation and Guidelines on establishing a Single Window and should visit the UN/CEFACT website www.unece.org/cefact

UN/CEFACT hopes that the information in this publication will be beneficial to the reader and invites other operators to help expand our Repository by contacting the secretariat and sharing their experiences of a Single Window. For further information please contact

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PART II: SINGLE WINDOW CASE STUDIES

This Section of the report presents case studies on Single Window implementation in the following ten countries:

- Finland
- Germany
- Guatemala
- Hong Kong SAR (China)
- Mauritius
- Malaysia
- Senegal
- Singapore
- Sweden
- United States.

While illustrating the diversity of Single Window models, the case studies point to a common set of key factors for success. These include:

- Strong leadership, which can come from the private (Guatemala) or the public sector (Malaysia, Senegal, United States, Singapore)
- Cooperation and commitment of all stakeholders, private and public (Finland, Mauritius, Malaysia, Senegal, United States, Singapore)
- User-friendly system, which do not create complications for usual business procedures (China, Malaysia, Sweden, Senegal, United States)
- Investments in modern technologies (Guatemala, Malaysia)
- Phased, flexible approach (Germany, Mauritius, Singapore)
- Neutrality, transparency and reliability of the proposed technical solution (Hong Kong SAR (China))

Operators have reported difficulties in:

- Changing the established business and State practices (Malaysia, Senegal, Singapore, United States)
- Establishing cooperation and commitment of various state authorities involved in import/export procedures (Finland, USA)
- Modernizing the technologies currently used by the State and the private sector (Guatemala), and small and medium-sized enterprises in particular (Sweden).

The description of each facility is based on the “case study template” that was submitted between July and September 2005 by representatives of each of the facilities included here.

Each case study covers policy issues, as well as technical and practical aspects. Information is presented as received from the individual Single Window operators. All currencies are converted to United States Dollars as of September 2005.

These and further case studies will be made available at the UN/CEFACT website (www.unece.org/cefact), in the online UN/CEFACT Single Window Repository.

Single Window Case Study Template

Background	What motivated the establishment of your Single Window (SW)? What year was it established? What is the current status of the facility (study, pilot phase, running)?
Establishment	How did the SW interface with already established systems (if any existed)? Did any other SW model serve as inspiration or model? What process was followed in setting it up? Was there a pilot project? What kind of training for the staff was required in the establishment and how was it organized? How long did it take the facility to become operational?
Services	What services does the SW provide? What documents/information/process are covered? How many transactions per day are handled? What percentage of total transactions? How many clients does the SW have at the present time?
Operational Model	How does it work? What is the operational model for the SW (describe the business process model)? Who are the main clients? Which public and private agencies are involved in the facility?
Business Model	What is the business model? How is it financed (government, private sector, Private-Public partnership)? What were the costs of establishment of the facility? What was the difference between estimated costs and real costs? What are the ongoing operational costs (annual)? What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)? How will the SW be sustained over the coming years? Do the revenues generated cover operational costs or do they make a profit? Are the revenues (if any) reinvested in the SW?
Technology	What technology is used? How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)? Where are data sent and lodged (government or private entity)? Who can submit data (importer, exporter, agent, customs broker)?
Promotion and communication	How did you promote the facility? How were all stakeholders kept informed about the facility's progress? What kind of training was provided for users? Do you provide any helpdesk or customer service?
Judicial aspects	Is use of the facility obligatory or voluntary? Do participants need to sign a contract with provider/agency in order to participate? Was specific legislation (or change of old legislation) necessary? How is the privacy of information protected?
Standards	What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT Single Window Recommendation, etc) in your SW?
Benefits	What are the benefits to clients and to participating agencies? How did it benefit trading community and the Government? What was the impact on Customs revenues? What problems did it solve?
Lessons Learned	What were the crucial success factors? What were the greatest obstacles? What are the main lessons learned?
Future Plans	What are the plans for further development of the SW? What are the biggest obstacles to further development of the SW? Do you intend to make agreements concerning SW cooperation on the regional level? Are you planning to have agreements for exchange of data with SW running in other countries?

Source for further information and contact person

Finland

Background

What motivated the establishment of your Single Window (SW)? At the beginning of the 1990s there could be up to 7 different forms to fill in, on arrival of a ship into a Finnish port. 80-90 % of the content was the same, only the layout was incompatible. The content was rather basic, containing information on identification, expected time of arrival (ETA) or expected time of departure (ETD), cargo and dangerous goods (DG) details on a statistical level. Thus there was a lot of work done which was felt to be largely unnecessary and expensive. The first task was to try to convince the different authorities that reform was urgently needed and to realise one common paper form. A cost savings estimate was produced showing a theoretical saving of a few 100,000€ on a national level. The electronic notice transfer was not even contemplated initially!

What year was it established? The process started in 1991, but the first electronic system was set up in 1993-94. It was set up on an IBM mainframe and RB2 database and dumb terminals.

What is the current status of the facility (study, pilot phase, running)? The present PortNet system is up and running since 2000, which replaced the old mainframe based system. We are now building the new PortNet 2 (perhaps it should have been called PortNet 3), to come into production in 2007.

Establishment

How did the SW interface with already established systems (if any existed)? The first system operated with a central database and dumb terminals, it was very rigorous and nothing could be changed without huge cost. There were no SW interfaces to replace at that time. A Windows SW interface was added later, without great success, because it was exceptionally badly designed.

Did any other SW model serve as inspiration or model? As an inspiration we had the Imaging Riometer for Ionospheric Studies (IRIS) system, a traffic information system solely for icebreakers, which was set up in 1986 by the maritime authorities in Finland and Sweden. The technical solution, however, was far more advanced than the first version of PortNet.

What process was followed in setting it up? Was there a pilot project? In 1992 nobody knew what we were doing; hence the solution was left to the state-owned software company VTTK to resolve. The result was a rather clumsy, inflexible and expensive system. It was, however, a useful learning experience. The pressure to build a completely new system mounted and when it was realised, in 1998, that the system was not Y2K proof, we had a good excuse to make a fresh start. We now knew what we wanted and the design phase involved everybody who wanted to have a say. The present system is easy to learn and use, but its age has started to show.

What kind of training for the staff In the early days training was performed by VTTK for every company that

* 1 US\$ = €0.82 (September 2005)

was required in the establishment and how was it organized? joined the system. With the present system the Finnish Maritime Administration arranged/arranges 1-2 day training courses.

How long did it take the facility to become operational? No information provided

Services

What services does the SW provide? What documents/information/process are covered? The user (normally the ship agent or terminal operator) can give the following notices and get the following information:

- Port arrival notice, containing ship id, ETA, destination port, previous port(s), detailed dangerous cargo notice, cargo notice (initially on a statistical level, going in the direction of a general cargo declaration, accepted by the customs office), passenger list, ship provisions
- Port departure notice, similar to the above but less complete at this time (new development ongoing)
- Issuing a single common customs reference number for the ship call, valid throughout the whole duration of the visit
- Paid fairway dues and authority decisions on exemption of fairway dues
- List of exemption for line ships that have a contract with a local ship waste handling company
- A request to the port to allow some particular DG into port and as a response the decision from that port on that matter
- International Ship and Port Facility Security Code (ISPS) notice (security notice, prescribed by the International Maritime Organization (IMO))
- Terminal notice regarding containers
- Ship database, with relevant basic information on all ships that have visited Finland before
- A restricted set of the International Maritime Dangerous Goods (IMDG) code database
- UN LOCODE database, including port areas
- Database on id and contact data on all agents using the system
- Database on id and contact data for ports
- To order port services, like towing, water electricity, telephone (a very little used feature)
- Six IMO FAL forms produced automatically from the information are available

How many transactions per day are handled? What percentage of total transactions? There are two alternatives to provide information to the PortNet. Using an Internet-browser and by XML-file transfer. All the major players presently use file transfer, even if they sometimes correct mistakes later using the Internet browser interface. Smaller players use the Internet browser. The number of part or complete transactions is impossible to estimate because of the diversity of information. A rough idea is given by the fact that there are about 70000 annual ship calls to Finland, the system handles more than 99% of their notices, there are some 1500 registered users and up to 1000 daily users.

How many clients does the SW have at the present time? A rough idea is given by the fact that there are about 70000 annual ship calls to Finland, the system handles more than 99% of their notices, there

are some 1500 registered users and up to 1000 daily users. (Copied from previous question)

Operational model

How does it work? What is the operational model for the SW (describe the business process model)?

PortNet is a national maritime traffic database, not a port community system (operating within one port only). The user logs on to the system using the given user name and password and may provide the information using an Internet browser (https://) or file transfer (XML or UN/EDIFACT) using dedicated data communication. The access is restricted by the user management system into user profiles. Agents only have access to their own data, port authorities have access only to data within their own port, and governmental authorities have access to all information. The Border Guard, however, only use read-only access. Hence all the data is available to everybody within the limits of his prescribed user profile. Timetable data is open to use without any restrictions. The business profile has never been depicted really, although everybody involved knows how it works.

Who are the main clients?

This is a tool for the ship agent to give all his formal notices to authorities at the same time, using a single window. It is also a tool for authorities, and all that are involved, to track what is going on in the maritime traffic. Finally this is a tool to enable anybody to update information regarding ETA and ETD timetables.

Which public and private agencies are involved in the facility?

It has already been stated that all the players in the port environment are involved in using the system. Presently the system is paid and maintained by the Maritime Administration, the Customs Office and the 21 largest ports. The Border Guard is using the system. Hence the system encompasses the maritime safety, maritime security, cargo logistics and environmental aspects of maritime traffic.

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)?

Presently, the Maritime Administration, the Customs Office and the 21 largest ports finance it. It could be defined as a Private-Public partnership (PPP), as some of the ports are privately owned. This is, however, going to change with PortNet 2. It has been considered that with the advent of the added emphasis on security and the ISPS code, the system should be state-owned. When PortNet 2 is taken into use in 2007, it is going to be state-owned. No user charges have been charged at any time and there are no plans to change this.

What were the costs of establishment of the facility?

It has been estimated that the total cost until year 2002 has been €1 million (approx. 1,220,000 US\$) , including operating cost. It was not possible to separate between investment and operating cost.

What was the difference between estimated costs and real costs?

As everything was built up step by step over the years, the cost estimate was always matched.

What are the ongoing operational costs (annual)? Roughly €100,000 (approx. 122,000 US\$) per year. Some small investments as well as testing costs for new FTP clients were also added to the operating costs adding up to a total of €160,000 (approx. 195,000 US\$) per year.

What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)? No user charges are carried. First charges were rejected because the system was voluntary and charges could have discouraged use. Now it is mandatory but it is considered to be inappropriate and unfair to collect mandatory information for government use and in addition charge for it. However it has been seriously discussed, that those few traders who are still delivering their information on paper should be charged with a paper-handling fee.

How will the SW be sustained over the coming years? PortNet is considered a public utility and hence paid for by the taxpayer.

Do the revenues generated cover operational costs or do they make a profit? Not applicable.

Are the revenues (if any) reinvested in the SW? Not applicable.

Technology

What technology is used? Conventional techniques: Database server, two application servers, Firewall server, Internet server and communication server. Win2k, Oracle 9.0, Apache 2.0, Tomcat 4.1, IBM WeBSphere MQ 5.4.

How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)? Manually, using an Internet browser and input forms or automatically using FTP and XML- or EDIFACT-files (CUSCAR, CUSREP, and IFTDGN).

Where are data sent and lodged (government or private entity)? The system operator is the Finnish Maritime Administration (FMA), selected by the owner group. The operator must be third trusted party as in this case. Hence the data is sent to FMA.

Who can submit data (importer, exporter, agent, customs broker)? Any party who is legally responsible for the cargo coming into and out of Finland and registered with PortNet may input data. Authorities may input any data they want. In particular the customs is using the system very actively.

Promotion and communication

How did you promote the facility? We are contacting directly those parties, who we consider important

enough, encouraging them to join. Also we give frequent presentations both nationally and internationally to promote the PortNet philosophy.

How were all stakeholders kept informed about the facility's progress?

PortNet is connected to a portal, www.portnet.fi, where information on important issues is promulgated. Information on more long-term issues and trends are promulgated at an annual user conference.

What kind of training was provided for users?

Any potential candidate may contact our main user and ask for a training course, which is arranged free of charge. In the initial stages larger classes were arranged, even outside the capital, according to demand.

Do you provide any helpdesk or customer service?

The main user and his assistant, who are located at the customs office, give online and telephone help. The access address and telephone numbers can be found on the PortNet portal.

Judicial aspects

Is use of the facility obligatory or voluntary?

The use is obligatory, as prescribed by a Customs decree. This Customs decree is from few years back. Until then it was voluntary, but initially some larger ports gave a 1% reduction on port fees if PortNet was used.

Do participants need to sign a contract with provider/agency in order to participate?

At present nothing else is needed but a formal application. This is going to change with the advent of PortNet 2.

Was specific legislation (or change of old legislation) necessary?

At present legislation exists only for gathering information for ISPS purposes and for producing import and export statistics. This is barely adequate and new legislation is planned.

How is the privacy of information protected?

By robust user profiling. Once a common standard, on a mandatory electronic identification card, is agreed upon in Finland, it is probably going to be applied.

Standards

What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT Single Window Recommendation, etc) in your SW?

The UN/EDIFACT and UN LOCODE standards are applied.

Benefits

What are the benefits to clients and to participating agencies?

In the old times agents submitted separate paper documents to all the authorities either by fax or by hand. There is a documented case where the number of annual faxes was reduced from 50000 to 365. The old regime did not encourage agents to correct mistakes by sending new faxes or manual documents. It just wasn't done. The data about the ship had to be accurate even if the agent did not have the information. So the agent invented what he did not know. For line vessels there is the obvious benefit of copying the old notice into a new notice just modifying the

changed parts. Ports may and frequently do import PortNet information into their invoicing systems for automatic invoicing.

How did it benefit trading community and the Government?

The Customs earlier stored enormous amounts of notices and even distributed copies of the notices within the Customs organisation. That is all gone now, nothing is stored on paper. The existence largely governs the way the Customs work. It is used as a daily task list. The new regime has also affected the data quality in a very positive way. Field checking and routines are certainly going to increase in the new PortNet 2. Customs also may import PortNet information into their invoicing systems for automatic invoicing. The reduction of work phases has a profound effect on both cost and accuracy.

What was the impact on Customs revenues?

Revenues are improved, as the invoice cycle is faster

What problems did it solve?

There is no easy and simple answer to this question as there are so many benefits. The advent of PortNet has profoundly changed the modus operandi of people. Things are done now, which simply were not done previously, because it would have been too elaborate or expensive.

Lessons learned

What were the crucial success factors?

The key success factor is the co-operation between the parties that are responsible for the maritime safety, maritime security, cargo logistics and environmental issues. In particular it has to be stressed that a system that works well is just a minor enabling factor.

What were the greatest obstacles?

The greatest obstacle has been establishing the co-operation between authorities and real commitment. Initially it was very difficult. Once those obstacles were removed, problems vanished. In fact co-operation is getting better all the time. We have seen it time and time again that without this co-operation the idea does not work, no matter how good the system is technically. There are major barriers between these authorities that have to be pulled down: some of the authorities are not used to/do not like to share information with other authorities. There are also matters of authority (who will take the lead?), how will financing be shared and what about federal borders? The authorities may also be located under different ministries. Often there seems to be no one responsible for an application covering this large an area of jurisdiction. We have also seen that once an enlightened person is found in an organisation, high enough in command, problems tend to resolve themselves. The final initiative, however, has to come from the inside.

What are the main lessons learned?

Establish the co-operation between authorities, decide what services actually should be set up, decide on finance, and decide on who will take the technical lead. Prepare legislation, if not in place already. Listen to and follow good advice.

Future plans

What are the plans for further development of the SW?

There are a number of development issues, small and big. For the whole of the 1990s the number of users was about 200 and the new system was

built under that assumption. As the present daily user number is around 1000 we have to make the system considerably more robust. We are soon taking into use the terminal notice application for goods arriving into the terminal. It also has to be integrated with the PortNet system. There is also an obvious trend to look at the whole logistics chain all the way from the consignor to the consignee, in particular regarding cost issues.

What are the biggest obstacles to further development of the SW?

There are none, within the scope we are working with presently.

Do you intend to make agreements concerning SW cooperation on the regional level?

It is fairly obvious for a country like Finland that the information about goods coming to Finland originates abroad; hence the information should be input at its origin. As we are not interested in enlargement of our national PortNet system, similar national PortNet-like systems have to be established in those countries and then interconnected with us. This we try to accomplish both with individual countries and within the ongoing European Union (EU) BaSIM project. Denmark is already well under way and is taking the right approach to it.

Are you planning to have agreements for exchange of data with SW running in other countries?

No information provided

Source for further information

Website:

www.portnet.fi

Contact details

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Germany

Background

What motivated the establishment of your Single Window (SW)? The urgent need to speed up the flow of information within the harbour of Hamburg was the major motivating factor. A group of liner agents, forwarders and quay operators set up a working group to discuss a possible solution. This group agreed that:

- Efficient organization of transportation needs early information
- Information exchange using EDI
 - avoids double typing
 - avoids errors due to double typing
 - saves time and
 - saves money
- Flow of information within the harbour was too slow and too expensive

What year was it established? 1982

What is the current status of the facility (study, pilot phase, running)? Running

Establishment

How did the SW interface with already established systems (if any existed)? The system is interlinked with systems of customers and authorities by EDI.

Did any other SW model serve as inspiration or model? The basis for the Single Window was the pilot project of 1974 “Datenbank Hamburger Hafen”. Participants at that time were a number of liner agents and forwarders and the two biggest quay operators (basically the same companies who started again in 1982) as well as IBM. The technical solution of that pilot was a central host with dialogue interface (i.e. terminals) for users, no EDI.

What process was followed in setting it up? Was there a pilot project?

- Setup of a committee
- Identification of the first Business Cases: Quay order and B/L
- Engagement of an external adviser: “Write the concept”
- “Take into account the existing IT- Structure of the acting parties!”
- A case study, written by an external consultant, proposed the technical an commercial solution.
- First investment: One year time for seven people to design and develop Quay order and B/L and to start the first pilot!
- The initial group of liner agents, forwarders and quay operators participated in a pilot.

What kind of training for the staff The IT staff needed more knowledge about the business of the customers.

was required in the establishment and how was it organized? It was arranged for them to attend various offices in order to learn about the daily business.

How long did it take the facility to become operational? One year. There was a successful start of the first pilot in 1982, in 1983 there was an enlargement of the pilot to include more companies: DAKOSY going alive!

Services

What services does the SW provide? What documents /information/process are covered? DAKOSY AG operates as a full service provider, offering both pure EDI and SW-applications with EDI-modules. All documents needed during the transport can be exchanged via the network of DAKOSY.

DAKOSY's IT Services include:

- Backup Services
- Disaster Management
- Networks and Communications
- Outsourcing
- Internet Services
- Data Centre Services

How many transactions per day are handled? What percentage of total transactions? No information available

How many clients does the SW have at the present time? 1360.

Operational model

How does it work? What is the operational model for the SW (describe the business process model)? DAKOSY is owned by three shareholding companies. These companies represent the interest of forwarder, liner agent / ocean carrier and quay operator. In order to become part of the so-called basic-network (i.e. all documents needed for the business within the harbour), each participant has to sign a contract with one of the three-shareholding companies. The shareholders pay a yearly fee to uphold the so-called basic-network. They charge their clientele accordingly.

All services beyond the basic-network are charged directly from DAKOSY, contract-partner is DAKOSY.

Who are the main clients? Mainly forwarders, warehouses and logistic departments of industries and manufacturing companies.

Which public and private agencies are involved in the facility? DAKOSY AG is a privately owned company. For more information refer to answer to “*How does it work? What is the operational model for the SW (describe the business process model)?*” (above)

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)?

AG with the shareholders:
- 33.33% DHU (Gesellschaft Datenverarbeitung Hamburger Umschlagbetriebe GmbH) = quay operators
- 33.33% DIHLA (DAKOSY Interessengemeinschaft Hamburger Linienagenten GmbH) = liner agents and shipping companies
- 33.33% DIHS (DAKOSY Interessengemeinschaft Hamburger Spediteure GmbH) = forwarding agents

Capital = €1.53 Million (approx. 1,866,000 US\$)

Shareholders pay a yearly fee for the so called “traditionell EDI-business within the port - community”

Additional services of DAKOSY (EDI, ASP and IT- Services) are charged by DAKOSY directly

What were the costs of establishment of the facility?

2 million DM (German Mark) (approx. 1,248,000 US\$)

What was the difference between estimated costs and real costs?

No information provided

What are the ongoing operational costs (annual)?

No information provided

What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)?

Users are charged per transaction.

For more information, refer to answer to “How does it work? What is the operational model for the SW (describe the business process model)?” (Operational Model).

How will the SW be sustained over the coming years?

No information provided

Do the revenues generated cover operational costs or do they make a profit?

Revenues exceed operational costs (i.e. profits are generated).

Are the revenues (if any) reinvested in the SW?

Yes.

Technology

What technology is used?

IBM iSeries eServer is the heart of DAKOSY DP-Centre both for EDI- and for ASP-Services.

IBM iSeries eServer offers:

- High Availability
- Low TCO
- High Scalability to meet the demands

How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)?

EDI:

- a. Formats
- UN-EDIFACT
 - XML
 - Inhouse-Formats
 - others
- b. Protocols
- FTP
 - E-Mail (SMTP / POP3)
 - APPC over TCP/IP (Anynet)
 - X.400
 - OFTP (Odette File Transfer Protocol)
 - FTAM

ASP:

- a. Clients
- Microsoft Windows 98/2000/NT/XP
 - WBT (Windows Based Terminal)
 - 5250-Emulation
 - Browser with JDK (JAVA Development Kit)
 - Citrix
- b. Communication ways:
- Dial -In and leased line
 - Internet (incl. VPN = Virtual Private Network)
 - All „Point-to-Point“-links

Where are data sent and lodged (government or private entity)?

At DAKOSY. Private entity. DAKOSY AG is a 100 % privately owned company.

Who can submit data (importer, exporter, agent, customs broker)?

All partners in the transport chain.

Promotion and communication

How did you promote the facility?

Normal sales and marketing activities. And best of all: Users promote DAKOSY by demanding their customers to use DAKOSY.

How were all stakeholders kept informed about the facility's progress?

Quarterly newsletter and yearly Open Day event.

What kind of training was provided for users?

The DAKOSY training department offers both training on the spot and in DAKOSY's own training centre.

Do you provide any helpdesk or customer service?

The DAKOSY helpdesk offers first and second level support between 7:00 and 18:00 on working days. The rest of the time first level support is

available. Trader's can view important tips, helpful pointers, and current status information on the websites www.dakosy.de and www.dakosy-direct.de. There is also an on-call service for emergency support calls in the evenings or on the weekends.

Judicial aspects

Is use of the facility obligatory or voluntary? Only the announcement of Dangerous Cargo Movements and announcements of export (for Customs Control) is obligatory.

Do participants need to sign a contract with provider/agency in order to participate? Refer to answer to "How does it work? What is the operational model for the SW (describe the business process model)?" (Operational Model)

Was specific legislation (or change of old legislation) necessary? In order to establish a Dangerous Cargo Movement Control System, the City of Hamburg had to change some regulations to make the announcements obligatory.

How is the privacy of information protected? All users get their own coding and password. Data is only forwarded to user addressed by the sending party.

Standards

What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT Single Window Recommendation, etc) in your SW? Whenever an international standard is available (and the customer demands for it) it is used.

Benefits

What are the benefits to clients and to participating agencies?

- ✓ Information Chain established
- ✓ Flow of information speeded up
- ✓ Less double typing
- ✓ Better quality of data
- ✓ Saved time and money
- ✓ Thanks to standardization process: Less documents!
- ✓ Higher visibility and better control on the Transport Chain

How did it benefit trading community and the Government? Please, refer to answer to previous question

What was the impact on Customs revenues? No information available.

What problems did it solve? Following results were achieved:

- Information Chain established
- Flow of information speeded up
- Less double typing
- Better quality of data
- Saved time and money
- Thanks to standardization process: Less documents!

- Higher visibility and better control on the Transport Chain

Lessons learned

What were the crucial success factors?

- To hit the spot at the right time meeting real pioneer spirit!
- Neutrality!
- Easy to use!

What were the greatest obstacles? No information provided

What are the main lessons learned?

- ✓ 90 % Talking, 10 % Doing
- ✓ Most important: All people to tow one rope in the same direction!
- ✓ “Eat the elephant piece by piece”

Future plans

What are the plans for further development of the SW?

- Integration of more Exporters / Importers
- Extension of the Information Chain to overseas
- Redesign of ASP-Services
- Development of Value Added Services,
- Bring more intelligence to the Information Chain
→ eDocs
- Usage of workflow-engines to monitor business process

What are the biggest obstacles to further development of the SW? No information provided

Do you intend to make agreements concerning SW cooperation on the regional level? Yes

Are you planning to have agreements for exchange of data with SW running in other countries? Yes

Source for further information

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Guatemala

Background

- What motivated the establishment of your Single Window (SW)?* Facilitation and control of export process in Guatemala
- What year was it established?* On October 30th 1986. It was originally under the control of Government Customs General Administration and the Ministry of Economy. Since September 2nd, 1998 it is under the administration of Guatemala Non Traditional Products Exporters Association -AGEXPRONT-
- What is the current status of the facility (study, pilot phase, running)?* Running.

Establishment

- How did the SW interface with already established systems (if any existed)?* The SW was created by governmental agreement 790-86. There were no previously established systems.
- Did any other SW model serve as inspiration or model?* It was created to fill Guatemalan exporters' needs, we took some experiences from South American models but we established our own model.
- What process was followed in setting it up? Was there a pilot project?* It was implemented in two steps:
Step 1: Unification of documents, review of export processes and physical location of entities in a single window facility.
Step 2: Implementation of an electronic system to facilitate export processes and to replace manual processes.

Any change to this process is previously implemented in a pilot project with some chosen exporters.
- What kind of training for the staff was required in the establishment and how was it organized?* Training for the SW Staff was done by the entities involved in SW organization.
As per Step 2 in the previous question, SW administration, and some third parties, involved in systems development, have done training on electronic systems.
- How long did it take the facility to become operational?* From 1998, the Single Window administration was delegated to AGEXPRONT who developed an electronic system. It took approximately 1 year.

Services

What services does the SW provide? What documents /information/process are covered?

SERVICES

1. Statistics
2. Export documents
3. Seminars and advanced training courses.
4. Continuous Development of electronic systems to facilitate processes.
5. Personal assistance to exporters through a call center.
6. Issue of printed material containing customs procedures.
7. On line information is available for exporters through a web page.
8. On line payments, for exporters process.
9. Control over export agreements between Guatemala and other countries

DOCUMENTS

1. Exporter Codes
2. Export registration and control Form (DEPREX)
3. Central America Single Customs Form (FAUCA)
4. Certificates of Origin
5. Textiles control Form (EXTEX)
6. Fitosanitary and Zoosanitary Certificates
7. Nacional Forestry Institute (INAB) Certificates
8. CITES and Non- CITES Certificates

How many transactions per day are handled? What percentage of total transactions?

TYPE OF DOCUMENT	TOTAL DOCUMENTS PER DAY
DEPREX	267
FAUCAS	591
EXPORTER CODES	5
FITOSANITARY AND ZOOSANITARY	150
EXTEX	105
INAB CERFIFICATES	25
CERTIFICATES OF ORIGIN	40
TOTAL TRANSACTIONS PER DAY	1083

How many clients does the SW have at the present time?

8491 Registered Exporters

Operational model

How does it work? What is the operational model for the SW (describe the business process model)?



Who are the main clients?

Companies with high volume of exports
 Companies physically located in remote regions of the country
 Companies with high volume of transactions per day
 Producers who need several types of documents for exports

Which public and private agencies are involved in the facility?

1. Non Traditional Products Exporters Association -AGEXPRONT-
2. Ministry of Economy -MINECO-
3. Guatemala Customs Administration -SAT-
4. Oficina de Regímenes de Perfeccionamiento Activo -OPA-
5. Textile Commission VESTEX
6. Ministry of Agriculture -MAGA-
7. Protected Areas Counsel -CONAP-
8. Forestry Institute -INAB-
9. Chamber of Commerce
10. Chamber of Industry
11. Centro de Trámites de Exportación -CENTREX-
12. El Salvador Customs General Administration DGRA
13. Honduras Customs General Administration DEI
14. Guatemalan banks

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)?

The government delegated the Single Window to the private sector who are now responsible for financing it.

What were the costs of establishment of the facility? The total cost of establishment was approximately US\$ 871,000.

What was the difference between estimated costs and real costs? The real costs exceeded estimated costs but the difference was not significant.

What are the ongoing operational costs (annual)? Approximately US\$ 1.2 Million

What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)? Combination: price per transaction and price per month.

How will the SW be sustained over the coming years? SW is self-sustained by its own incomes.

Do the revenues generated cover operational costs or do they make a profit? SW revenues generate profits.

Are the revenues (if any) reinvested in the SW? Yes

Technology

What technology is used? There are 3 modules; the central module is used in SW facilities. The technology used for this module is:

LANGUAGE	VERSION
Oracle Forms	Forms Version 6 PL/SQL Version 6
Oracle Reports	Report Builder 6

The remote module is used by the exporters for data transmission and uses Visual Basic 6 with Service Pack 5 technology, access database version 2000 or above.
The websites module uses Asp, Asp.net Technologies in migration process to J2EE with Java technology

How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)? The Information can be totally sent by electronic means through SOAP protocols using XML and WebServices standards. Some of them are developed in Java or .Net.

Where are data sent and lodged (government or private entity)? Information is stored in our private facility and is sent to government entities like Customs Administration and international Customs Agencies.

Who can submit data (importer, exporter, agent, customs broker)? The exporter sends most Information, but customs brokers and agents also send some information.

Promotion and communication

How did you promote the facility? Magazines, Internet, Brochures and e-mail.

How were all stakeholders kept informed about the facility's progress? Through meetings with the board of directors every 3 months

What kind of training was provided for users? There is constant advanced training for exporters in several exportation topics like new procedures, Free Trade Agreements, how to use electronic systems, web pages, etc.

Do you provide any helpdesk or customer service? Personal assistance in SW facilities

Judicial aspects

Is use of the facility obligatory or voluntary? It is obligatory

Do participants need to sign a contract with provider/agency in order to participate? They must register in SW as an exporter. SW issues an exporter code.

Was specific legislation (or change of old legislation) necessary? Yes, it was necessary.

How is the privacy of information protected? There is a regulations department in AGEXPRONT in charge of providing information to exporters. All information requests have to be previously approved by this department.

Standards

What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT Single Window Recommendation, etc) in your SW? SW for exports fulfills all international standards required by the Customs Directory in Guatemala

Benefits

What are the benefits to clients and to participating agencies?

- To streamline the export process through an electronic system.
- SW is available 365 days a year, 24 hours a day.
- Support and assistance for exporters in specific problems
- To reduce costs and time through efficiency.

All specific information is available on line to exporters through a website.

- Exporters can obtain export documentation electronically in their own facilities

<i>How did it benefit trading community and the Government?</i>	Reduction of bureaucratic processes, modernization of participant entities, better control of exports, less corruption in customs and participant entities, increase in the reliability of statistics, increase in exports and investment, increase in job offers, promotion of Guatemalan products in international markets.
<i>What was the impact on Customs revenues?</i>	So far, there is no single window for imports in Guatemala, so there is no impact on revenues. In Central America, customs agencies can obtain tax payments electronically before the goods have been sent.
<i>What problems did it solve?</i>	Time reduction, costs reduction, less corruption, there is no need for customs brokers in the export process.

Lessons learned

<i>What were the crucial success factors?</i>	<ul style="list-style-type: none"> • Administration by private sector • Private sector demands better services • There is an added value in the process • Investment in modern Technologies • Ability to implement changes in the process without problems for exporters • To have the necessary tools for solving problems in the export process
<i>What were the greatest obstacles?</i>	<ul style="list-style-type: none"> • Technology used in government entities • Technology used in some export companies • Political decisions in Guatemalan governments
<i>What are the main lessons learned?</i>	<ul style="list-style-type: none"> • Private sector administration is more efficient than the public sector administration; private sector generates an added value in the process. • There is a tendency, across World, toward Trade facilitation through electronic systems.

Future plans

<i>What are the plans for further development of the SW?</i>	<ul style="list-style-type: none"> • Unification of import and export processes, with this Single Window becoming a Single Window for Guatemalan international commerce. • To submit and receive information to and from Single Windows in Central America and other countries. • Substitution of paper documents for electronic transmissions. • Access to Guatemalan exporters database through web technology.
<i>What are the biggest obstacles to further development of the SW?</i>	<ul style="list-style-type: none"> • There is no SW organization in the World for existing SWs. • There are not many SW models in other countries. • Assessments for these SW models are not available. • There are many changes in customs processes in these countries. • Financing for development of new projects is scarce. • Political instability in Latin American countries.
<i>Do you intend to make agreements concerning SW cooperation on the regional level?</i>	Yes.

Are you planning to have agreements for exchange of data with SW running in other countries?

Yes, we are actually developing projects for data Exchange between Central American Countries.

Source for further information

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Hong Kong SAR (China)

Background

What motivated the establishment of your Single Window (SW)?

As a Single Window to the Hong Kong Special Administrative Region (HKSAR) Government for the HK trading community, Tradelink Electronic Commerce Limited (Tradelink) began production operations in 1997 to process specified Government trade documents (e.g. trade declarations, dutiable commodity permit, certificate of origin, production notification, restrained textile export license, electronic manifest) electronically, as an exclusive service provider appointed by the HKSAR Government. The HKSAR Government enhanced the Import / Export Ordinance to provide for digitally signed electronic submissions. Today Tradelink processes over 18 million documents annually and has over 53,000 customers the bulk of the HK trading and logistics community,

To further strengthen the role of Hong Kong as the preferred international and regional transportation and logistics hub, the HKSAR Government wished to expand the Single Window Business-to-Government concept to be a Single Window for any commercial organization to all their trading, logistics, financial business partners as well as Government.

The Digital Trade and Transportation Network (DTTN) is the name of this expanded Single Window initiative.

One of the top priority initiatives to achieve this objective is to establish a DTTN to reduce inefficiencies arising from the “digital gap” and to facilitate data sharing amongst the trade and logistics industry stakeholders.

Comprehensive analysis on DTTN was conducted in 2002 and a consultancy report (DTTN Report) was published in November the same year. With reference to the suggestions proposed in the DTTN Report, the HKSAR Government invited experienced solutions providers to submit proposals on establishing the DTTN for Hong Kong. Tradelink was endorsed by the HKSAR Government in 2003 to develop and operate the DTTN. After a comprehensive exercise of planning and preparation, the system development work was formally commenced in 2004.

What year was it established?

With the aims to assure a neutral and community focused DTTN operating framework, the “Digital Trade and Transportation Network Limited” (“DTTN Ltd”), which is jointly owned by Tradelink, the HKSAR Government and industry associations, was incorporated in 2004. DTTN Ltd will take up the remaining development work and the subsequent operations of the DTTN that will be formally launched in 2006.

What is the current status of the facility (study, pilot phase, running)?

System development work of the DTTN is now close to completion and comprehensive system testing will soon commence. With the aim to demonstrate the value and benefit of the DTTN, DTTN Ltd is now actively inviting companies to join a Pilot Program, which is scheduled for launch

by the end of 2005. This Pilot Program is also an important first step in establishing a mass of users, which is, in turn, fundamental to the success of the DTTN and therefore, attaining its objective of improving Hong Kong's competitiveness.

Establishment

How did the SW interface with already established systems (if any existed)?

Interconnection maps will be developed to enable any to any protocol connections to the DTTN. In other words, the maps will facilitate conversion from standards adopted by the established systems to that of the DTTN's so as to make the data exchange possible.

Did any other SW model serve as inspiration or model?

In the DTTN Report published in November 2002, e-business operations overseas with a reduced scope (e.g. the Singapore's Portnet, the Netherlands' W@VE, the US' FIRST, the Australia's Tradegate, the UK's FCPS/Destin8, and the Germany's Dakosy) were studied as background for the DTTN.

What process was followed in setting it up? Was there a pilot project?

With the aim to showcase the value and benefit of the DTTN, a Pilot Program is scheduled for launch by the end of 2005 when all the system development and quality assurance work is completed. This is an important first step to build confidence amongst the trade and logistics industry, and to establish a critical mass of users, which is essential for the success of the DTTN.

What kind of training for the staff was required in the establishment and how was it organized?

By observing the guiding principle of minimum intervention to the existing business process, all participating companies are able to make use of the existing in-house IT systems or even Microsoft Excel spreadsheets to connect to the DTTN. Therefore, only minimal training on using the DTTN Portal for information enquiry, reporting and downloading is needed.

How long did it take the facility to become operational?

According to the plan, the DTTN will be up and running 15 months after commencement of the system development work.

Services

What services does the SW provide? What documents /information/process are covered?

The DTTN is a neutral, open, secure, non-exclusive, transparent state-of-the-art electronic platform that provides the any-to-any document exchange services to the trade; logistics and finance industries to facilitate information flow and enhance efficiency.

The initial DTTN services support and optimize the major trade and logistics processes covering import and export between the Pearl River Delta region (PRD), including Hong Kong, and overseas via ocean, air, truck, rail or river. Over 80 major documents related to trade, logistics and finance for both import and export business processes are supported by the DTTN infrastructure. Please visit our website (see below) for a list of documents currently supported by the DTTN.

<http://www.hk-dtn.com/standards/english/dttnxmldocumentstructures.html>

How many transactions per day are handled? What percentage of total transactions?

The volume projection stated in the DTTN Report published in November 2002:

Millions unless otherwise stated

	2006	2007	2008	2009	2010	2011	2012
Adoption Rate (%)	21.7	23.5	26.7	34.2	46.8	59.4	66.9
Total Document Volume via DTTN	47.5	51.4	58.7	75.2	103	130.7	147.2

How many clients does the SW have at the present time?

We plan to launch the Pilot Program by the end of 2005 and are currently inviting companies with foresight to join as Pilot Users. Please visit our website (see below) for the various incentives that we offer to the Pilot Users and the contact information for clients who would like to enjoy the early mover advantages.

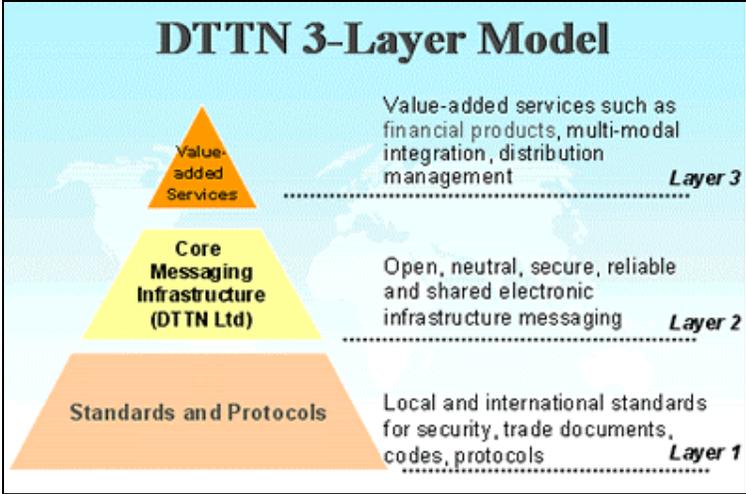
http://www.hk-dttn.com/home/english/join_the_dttn.html

Operational model

How does it work? What is the operational model for the SW (describe the business process model)?

The DTTN is a platform that provides interconnection among the trade, logistics and finance industries to facilitate information flow and enhance efficiency. It will facilitate the Business Process Interconnect (BPI) requirements of industry and provide a platform to promote development of new business opportunities. The existence of a common and shared user platform with defined standards and protocols will attract existing suppliers and spawn the development of new businesses such as logistics software development and value added services, which will contribute to economic development.

The DTTN environment can be illustrated as structured into three layers as shown in the below diagram. Layers 1 and 2 are the core elements of the DTTN. They lay the foundation of the DTTN and provide an environment conducive to the continued growth of the third layer – the value-added services. Collectively, layers 1, 2 and 3 form the DTTN.



Who are the main clients?

The DTTN includes nine major communities:

1. Buyers / importers
2. Sellers / exporters
3. Freight forwarders including third party logistics service providers
3. Carriers (ocean, river, road, rail and air) including express integrators
4. Terminals
5. Government and its agencies
6. Banks and financial institutions
7. Insurance companies
8. Inspection agencies

These industry stakeholders are involved at different stages in the trade chain and they are closely related to one another. The DTTN will co-exist with and complement offerings provided by the various Application Service Providers (ASPs), Internet Service Providers (ISPs), and the global service providers and will help to promote a greater take up of e-business in the region to the ultimate benefit of the commercial sectors.

Which public and private agencies are involved in the facility?

Please refer to the answer to the previous question.

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)?

DTTN Ltd is a private entity jointly owned by Tradelink, Government of the HKSAR and industry associations.

What were the costs of establishment of the facility?

Hardware, system and application software license, application development and integration, document structure standards development, testing, marketing and promotion.

What was the difference between estimated costs and real costs?

We are so far in line with the planned / budgeted costs.

What are the ongoing operational costs (annual)?

Key ongoing annual costs include staff costs, outsourced operation and support services costs, facilities repair and maintenance costs, etc.

What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)?

The expected DTTN price model includes a document fee of no more than HK\$2.50 (0.32 US\$ per document for each document successfully delivered, together with an initial connectivity fee, training fee, an annual fee and customization fees associated with, for example, specific document transformations. If value-added services from the Application Service Providers are utilized, they may levy charges for their own services, separate or additional to the DTTN charges.

How will the SW be sustained over the coming years?

Operations of the DTTN Ltd will be sustained primarily by revenue from document fee charged for the document conversion and exchange services.

Do the revenues generated cover operational costs or do they make a profit? Revenues are intended to provide a small profit to sustain ongoing enhancement of the platform.

Are the revenues (if any) reinvested in the SW? Yes.

Technology

What technology is used? Technically, the DTTN is an HP-UX / Oracle based system with an Axway XIB messaging hub that provides a transformation service and facilitates the communication among various trading parties through the exchange of messages conforming to a set of defined and agreed message standards. The DTTN leverages the Internet as the public infrastructure to transfer information from the sender to the recipient.

How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)? DTTN supports any-to-any protocol, character set and document transformation. For example, a message submitted using FTP to the DTTN as an EDIFACT formatted document is translated to the DTTN XML structure and then delivered as an email in the recipient's required format such as Excel.

Protocols supported include:

- FTP/S
- HTTP/S
- SMTP
- S/MIME
- AS/1
- AS/2
- ebMS V2

Document formats supported include:

- XML
- EDIFACT
- ANSI X12
- Excel
- Flat file
- Cargo-IMP
- SMS

Where are data sent and lodged (government or private entity)? The data is sent directly to the intended recipient, which are primarily the commercial business partners of the sender. All data (including documents, messages and audit trails) will be stored online for 2 years in the DTTN servers, and offline for 7 years.

Who can submit data (importer, exporter, agent, customs broker)? All companies in the following sectors who are registered to the DTTN are eligible to use and exchange documents via the DTTN:

- Buyers / importers
- Sellers / exporters
- Freight forwarders including third party logistics service providers

- Carriers (ocean, river, road, rail and air) including express integrators
- Terminals
- Government and its agencies
- Banks and financial institutions
- Insurance companies
- Inspection agencies

Promotion and communication

How did you promote the facility? The marketing and promotional activities currently focus on raising the public awareness of this initiative, especially among the trade and logistics players in Hong Kong, China and the Asia Pacific region, utilizing seminars, conferences, exhibitions, advertisements, press releases and media interviews. Normally, most of the marketing events are organized together with the HKSAR Government or related industry associations. In addition, we are recruiting Pilot Users for the Pilot Program that scheduled for the end of 2005. In order to attract early-movers to join the Pilot, all charges for getting connected to and using the DTTN services will be waived during the Pilot. Interested users may visit our website (see below) for details:
http://www.hk-dttn.com/home/english/join_the_dttn.html

How were all stakeholders kept informed about the facility's progress? The key channels for keeping the stakeholders informed include different briefing sessions, seminars, conferences, e-newsletters, etc.

What kind of training was provided for users? Detailed information will be provided after the DTTN services are launched at the end of 2005.

Do you provide any helpdesk or customer service? Yes.

Judicial aspects

Is use of the facility obligatory or voluntary? Use of the DTTN services is voluntary.

Do participants need to sign a contract with provider/agency in order to participate? Yes.

Was specific legislation (or change of old legislation) necessary? No. The Electronic Transactions Ordinance is already in place and since the DTTN services are primarily for commercial documents and are voluntary, there is no need for any change to legislation.

How is the privacy of information protected? DTTN recognizes that "trust" in business is critical, and we are implementing a "trust" framework that utilizes the highest level of security backed by a comprehensive legal framework that is effective for both local and cross border electronic transactions.

The DTTN provides a security and legal "Trust Framework" that

implements the four pillars of electronic trust: authenticity, integrity, confidentiality, and non-repudiation of origin. It allows users of the DTTN community to reliably exchange legally recognized documents.

The technical security implementation primarily utilizes Public Key Infrastructure (PKI) technology to apply message encryption and digital signatures generated using certificates issued by commonly accepted Certification Authorities, such as Digi-Sign Certification Services Limited or Hong Kong Post. It also allows the use of other secure connection technology such as leased lines and secure Virtual Private Networks to ensure authenticity, integrity and confidentiality.

A key part of the Trust Framework is the DTTN user agreement which accepts the use of electronic documents and digital signatures as being equivalent to their paper counterparts, both for local and cross border transactions.

In addition, recognizing that different business transactions may require different levels of security, DTTN allows trading partners the flexibility to agree on different security requirements for different types of documents exchanged through the platform.

Standards

What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT Single Window Recommendation, etc) in your SW?

DTTN flexibly supports a defined set of standards and protocols that facilitates any organization to interconnect with the DTTN as the digital express link to their trade, logistics and finance partners. This covers standards and protocols for:

- **Communications and secure messaging protocols**

Regarding the common communication protocols, DTTN supports SMTP, HTTP, HTTP/S, FTP, and FTP/S. Regarding the secure messaging protocols, DTTN supports ebMS V2.0 using SMTP or HTTP or HTTP/S, AS/1 using SMTP, and AS/2 using HTTP or HTTP/S

- **Document formats**

The commonly used business document formats that DTTN supports include XML Vx.0, UN/EDIFACT, IATA Cargo Interchange Message Procedures (Cargo-IMP), ANSI / X12, Microsoft Excel, Comma-Separated Values File, and Short Messaging System (SMS).

- **DTTN XML Canonical Document Structures**

DTTN has adopted the UNCEFACT Core Component methodology in defining the document structure standards and has made reference to the Universal Business Language (UBL), which has implemented the Core Component methodology. While DTTN will use the DTTN standard document structures as the canonical format for the transformation between the sender and recipient formats, it is important to note that DTTN allows an interconnecting party to use whatever format is simplest for them to interconnect with the DTTN, and accordingly the DTTN supports the use of international document standards (e.g. UN/EDIFACT, ANSI X.12, IATA CargoIMP) and end user specific formats (e.g. XML, MS Excel, CSV) by both the senders and recipients.

- **Code Sets**

DTTN supports both proprietary code sets and internationally recognized / commonly adopted code sets. The DTTN provides facilities for the mapping to be specified between a proprietary code set and any other code set, be it another proprietary code set or an internationally recognized code set.

To ensure the standards adopted or developed are in line with industry requirements and practices, the DTTN Standards Advisory Group (STAG) was established in November 2004. While the STAG may review all aspects of standards and protocols, its primary focus is the review and endorsement of the DTTN XML Canonical Document Structures, which are maintained and developed by DTTN Ltd.

Benefits

What are the benefits to clients and to participating agencies?

Key benefits of the DTTN include but are not limited to:

- Save time and cost for document delivery e.g. EIR, HWB
- Cut operating costs through reduced delays, double handling/date entry and minimized errors
- Better financial management e.g. credit, cash flow
- Easy, cheap and fast to interconnect with trading partners
- Any-to-any protocol and document transformation
- Retain existing business against competition
- More timely, accurate and value-add services
- Significant business and efficiency opportunities
- “Just in time” supply chain management
- E-access to more trading partners

How did it benefit trading community and the Government?

- **Improved operational efficiency**

The DTTN will improve the overall effectiveness and efficiency of the industry. Significant savings in terms of the reduction of paperwork, process time, and time spent in data re-keying will be realized. With assistance and input from the key industry representatives, the project team has conservatively estimated that the annual savings from operational efficiency improvement to the industry will be around HK\$1.3 billion (approx. 167 million US\$) per annum.

- **Enable new business opportunities**

The DTTN will strengthen Hong Kong’s capabilities in attracting foreign direct investment to establish value-added service businesses. The service offerings from value-added service providers are dependent on timely and seamless information flow across transportation modes and trade chain participants. The DTTN will provide an infrastructure to enable these service providers to make the best use of their physical assets and resources. The local IT industry will benefit from the DTTN, as it will generate new demand for software and professional services. The DTTN will create an environment, which will stimulate the development of the logistics and supply chain software sector and accelerate the transition of

Hong Kong to a knowledge-based economy. Many additional spin-off benefits including increased employment will result from the new business opportunities enabled by the DTTN across multiple trade business sectors.

- **Compete on value, not just cost**

With China's accession to World Trade Organization (WTO) and the mushrooming of lower cost logistics service options in China, the Hong Kong trade and logistics industry is expected to transform into a league of premium service leaders offering high quality, value-added services rather than merely competing on cost. Efficient information flow is seen as the key. The provision of a neutral and secure infrastructure as envisaged for the DTTN will be a critical service enabler and market differentiator.

- **Integration with global initiatives**

The DTTN will be a common tool for Hong Kong to leverage in order to rapidly address changes in the global logistics industry and to meet the requirements of global trade initiatives. Such a common information infrastructure in Hong Kong will facilitate compliance with changes of this type in a timely fashion, and more importantly, reduce the social cost since change can be negotiated, managed and implemented as a sector.

- **Integration with Mainland China**

The DTTN can lead change. By helping Hong Kong lead the development of the Pearl River Delta regional economy through the use of the DTTN as an anchor to secure market position and facilitate integration in the areas of logistics and supply chain management. The DTTN can become the de-facto standard for other emerging initiatives in Mainland China. Compatibility between Hong Kong and Mainland Chinese e-commerce infrastructures will be essential. With this common and neutral information infrastructure in place, Hong Kong businesses can leverage the DTTN to provide logistics services to the Mainland Chinese market.

- **Induce changes to improve IT literacy of the industry**

The DTTN will change the way in which local businesses operate, and induce continuous improvement in the standard of IT literacy of the existing workforce. The consequences will be of particular relevance to SMEs. Traditional processes in the current paper-centric SME environment have effectively discounted the drive for change and made them unprepared for the demands of electronic transactions that are now being mandated in international trade. The DTTN can help to provide good business reasons, benefits and a persuasive argument for SMEs to adopt new and more efficient business practices. The need to achieve incremental growth in the use of IT and e-commerce is seen as a critical factor if the overall competitiveness of Hong Kong is to be significantly improved.

- **Improve Hong Kong's image**

Complementing "Digital 21", the Government's e-Government blueprint, the establishment of the DTTN will unequivocally deliver a positive and assertive message to the public and the international

business community that Hong Kong is committed to harnessing the benefits of IT. Hong Kong can promote e-commerce for global logistics as part of a clear strategy to be the leader in the adoption of IT in a cyber world.

▪ **Shield the industry from frequent upgrades**

The DTTN will enable significant efficiency gains across the entire trade and logistics sectors by centralizing, consolidating and managing around a defined set of standards and protocols for both technology and messaging. A centrally managed DTTN can effectively shield stakeholders in the trade and logistics sector from the effects of frequent upgrades in standards and protocols, and thereby reduce the in-house resources required.

What was the impact on Customs revenues?

Since the DTTN is basically a Business-to-Business (B to B) communication platform, no impact is expected on the Customs revenues.

What problems did it solve?

The tremendous efforts wasted and the efficiency lost in data re-capturing and error checking activities along the supply chain.

Lessons learned

What were the crucial success factors?

In order to ensure successful implementation and community adoption, the DTTN will be developed and operated in accordance with seven overarching principles, which are considered crucial to the development of a critical mass of users:

Neutrality

The DTTN provides a level-playing field for all stakeholders without undue bias towards particular players or industry sectors.

Non-exclusivity

DTTN provides fair access to all industry stakeholders without discrimination, and does not preclude some segments of stakeholders from using the DTTN.

Transparent, accountable, and responsible operations

DTTN is subject to strict scrutiny and control regarding its transparency, accountability and responsibility for its operations. Transactions involving confidential and mission critical information will not be misused in any way.

Minimum intervention to internal business process and client relationships

DTTN recognizes that each industry stakeholder has its own way of conducting business and of interacting with business partners. DTTN will only provide data interchange capabilities and will not require organizations to change their business processes or customer relationships just to make use of the DTTN.

Facilitate and respect market force

The DTTN is an infrastructure to facilitate or complement businesses and

will not compete with other existing private sector initiatives over the provision of value-added services. DTTN will only offer value-added services when there are industry needs that cannot be satisfactorily fulfilled by the commercial market, and that non-fulfilment may lead to adverse impact to the DTTN community as a whole.

Easy to access and use

The design of the DTTN is user-friendly, intuitive and participant centric.

Improve overall competitiveness of Hong Kong

By providing a low cost community infrastructure that helps improve efficiency, the DTTN can help the overall competitiveness of the trade and logistics industry in Hong Kong.

What were the greatest obstacles? Information will be provided at a later stage after launching of the DTTN services by the end of 2005.

What are the main lessons learned? Information will be provided at a later stage after launching of the DTTN services by the end of 2005.

Future plans

What are the plans for further development of the SW? To expand regional and global interconnections

What are the biggest obstacles to further development of the SW? Acceptance by overseas countries of electronic documents originating in another country, for customs clearance and payment settlement

Do you intend to make agreements concerning SW cooperation on the regional level? Yes. The Pan-Asian E-Commerce Alliance has been established with this in mind and it is intended to expand such initiatives.

Are you planning to have agreements for exchange of data with SW running in other countries? Yes. The Pan-Asian E-Commerce Alliance has been established with this in mind and it is intended to expand such initiatives.

Source for further information

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Malaysia

Background

- What motivated the establishment of your Single Window (SW)?* To provide more value-added and integrated services to our customers so that common data from various applications can be re-used to enhance efficiency
- What year was it established?* First service started in 2002
- What is the current status of the facility (study, pilot phase, running)?* The SW service is being incorporated by stages
- eLogistics – running
 - ePermit – running
 - Cross-Border Exchange Service – pilot phase
 - Order Fulfilment Service – to be piloted
 - Other – Dagang Net Technologies (DNT) have acquired business process management software and we will continue to integrate “upstream” and “downstream” data and processes.

Establishment

- How did the SW interface with already established systems (if any existed)?* Ultimately, Dagang Net will integrate all products to create a seamless environment, to provide users with a single filing, multiple submission platform. Currently, the following products are integrated with the Electronic Declaration Systems:
- ePermit
 - eLogistics
 - Cross-border Declaration Exchange Service
 - Order Fulfilment Service
- Did any other SW model serve as inspiration or model?* Because of the many challenges in Malaysia (e.g.: various forms, government legacy systems), Dagang Net, a private sector company, lead the initiative of SW by establishing a “single point” where data from one application to an authority/recipient can be re-used by other applications to subsequent authorities/recipients. (Please refer to the previous question)
- What process was followed in setting it up? Was there a pilot project?*
- Standardization and harmonization of information parameters for entities involved
 - Adoption of international standards
 - Product development & integration test
 - Pilot run
- What kind of training for the staff was required in the establishment and how was it organized?* Understanding the concept of SW and developed new strategic direction for products development. Training is organized internally.
- How long did it take the facility to become operational?* From initialization to pilot implementation takes 3 months (for eLogistics product)

Services

What services does the SW provide? What documents/information/process are covered?

SW allows the user to file an application and reuse the information for submission to other authorities. Documents involved are Import/Export Permit, Advance Shipping Notice, Overseas Export Declaration to be reused for preparation/submission of import/export declaration to Customs Authorities

How many transactions per day are handled? What percentage of total transactions?

Approximately 1000 transactions a month (ePermit)

How many clients does the SW have at the present time?

200 users (ePermit)

Operational model

How does it work? What is the operational model for the SW (describe the business process model)?

SW allows the user to file an application and re-use the information for submission to other authorities.

Who are the main clients?

Importer/Exporters, Forwarding Agents

Which public and private agencies are involved in the facility?

Permit Issuing Agencies and Customs Authorities

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)?

- eLogistics – Financed by the Government
- Order Fulfilment Service – all cost borne by Dagang Net
- ePermit – all costs borne by Dagang Net
- Cross-Border Declaration Exchange Service – all cost borne by Dagang Net and charge per by message received

What were the costs of establishment of the facility?

Utilising the Dagang Net's existing Value-Added Network (VAN) infrastructure, which was revamped in 2004 at RM13m. (approx. 3,485,000 US\$).

What was the difference between estimated costs and real costs?

Dagang Net is planning to do a cost-saving survey in 2006.

What are the ongoing operational costs (annual)?

As a VAN service provider, the annual operational cost is estimated to be RM36m (approx. 9,650,000 US\$).

What are the user fees (if any) and annual revenue? Model of payment (fixed price per year,

- eLogistics – not charged
- Order Fulfilment Service – yet to determine
- ePermit – fixed price per application

price per transaction, combination, other model)? • Cross-Border Declaration Exchange Service – fixed price per message received

How will the SW be sustained over the coming years? From the transaction fees collected from users

Do the revenues generated cover operational costs or do they make a profit? The revenues should cover the operational costs

Are the revenues (if any) reinvested in the SW? Yes

Technology

What technology is used? Web technology – XML, International standards such as RosettaNet, Business Process Engines, Message Translator and etc

How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)? • RosettaNet - PIP3B18 (ASN), PIP3A1 (Quotation), PIP3A4 (PO), PIP3B2 (DO), PIP3C3 (Invoice)
• PAA Pre-Declaration message format (XML)
Permit - UN/EDIFACT – SANCRT

Where are data sent and lodged (government or private entity)? **Sender**
• Importer / exporter
• Forwarding Agent
Documents
• Import / Export Permit
• Import / Export Declarations
Authorities
• Permit Issuing Agencies
• Customs Authorities

Who can submit data (importer, exporter, agent, customs broker)? All of those listed

Promotion and communication

How did you promote the facility? First, develop the “success story” and followed by Education and Awareness.

How were all stakeholders kept informed about the facility’s progress? Dagang Net’s Newsletters and Users Dialogues

What kind of training was provided for users? Understanding the concept of SW.
(Copied from earlier answer)

Do you provide any helpdesk or customer service? Yes. 24 / 7

Judicial aspects

<i>Is use of the facility obligatory or voluntary?</i>	Voluntary
<i>Do participants need to sign a contract with provider/agency in order to participate?</i>	Yes. Service Subscriber Agreement
<i>Was specific legislation (or change of old legislation) necessary?</i>	Currently the SW initiatives are led and promoted by Dagang Net.
<i>How is the privacy of information protected?</i>	It is taken care of under current legislation and by the Service Subscriber Agreement

Standards

<i>What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT Single Window Recommendation, etc) in your SW?</i>	Refer to technology section
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Benefits

<i>What are the benefits to clients and to participating agencies?</i>	<ul style="list-style-type: none">● To the clients:<ul style="list-style-type: none">- Reusability of data- Data accuracy- Time saving & cost reduction- Enhance efficiency● To the participating agencies<ul style="list-style-type: none">- Data accuracy- Encouraged the usage of electronic application/submission- Efficiency (less data entry and service counter)- Time saving and cost reduction- In line with the government direction to go electronic
<i>How did it benefit trading community and the Government?</i>	Please refer to the previous question

<i>What was the impact on Customs revenues?</i>	No impact
<i>What problems did it solve?</i>	<ul style="list-style-type: none">● Human resources constraint● Increases service level● Digitization of information provide speedier and more accurate decision making and statistics

Lessons learned

<i>What were the crucial success</i>	As the initiatives are led and promoted by Dagang Net, the crucial success
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factors?

factors are:

- Secure support from the government and policy maker
- Demonstrate benefits to the users
- Standardization and harmonization of information parameters among the Government Agencies (including Customs)

What were the greatest obstacles?

- User's willingness to change
- Harmonization of information parameters
- Sighting of paper document (in hardcopy)
- Change in procedures/processes to cater for implementation of SW

What are the main lessons learned?

- Government Agencies' involvement is crucial
- Single windows must meet the requirement of trading community and the Government Agencies (public and private sectors collaboration)

Future plans

What are the plans for further development of the SW?

- To promote and get the Government involvement and support
- To continue roll-out of integrated services for trade, transport & logistics

What are the biggest obstacles to further development of the SW?

- User's willingness to change
- Harmonization of information parameters
- Sighting of paper document (in hardcopy)
- Change in procedures/processes to cater for implementation of SW

(Copied from earlier answer)

Do you intend to make agreements concerning SW cooperation on the regional level?

Yes. Currently we are involved in ASEAN Single Window Task Force

Are you planning to have agreements for exchange of data with SW running in other countries?

Yes. Already implemented with Singapore, Chinese Taipei and Indonesia. Working with other Pan Asian eCommerce Alliance (PAA) members, (Hong Kong, Korea, Thailand and People's Republic of China) and Philippines. Dagang Net is also exploring working with ASEAL and APEC members.

Source for further information

Website:

www.myports.net (content services are provided at no charge and document access to subscribers only)

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Mauritius

Background

What motivated the establishment of your Single Window (SW)?

As a small island economy (60 km long by 40 km wide), Mauritius is extremely open and highly dependent on the outside world for its supplies of current consumption and equipment goods (total imports and exports exceed the GDP in value), and its economic growth relies to a considerable extent on possibilities of access to foreign markets for its export goods. Both the import and local distributive trades are highly decentralized, with over one thousand regular importers and over seven thousand retail outlets. On the other hand, close to five hundred firms export goods (mainly sugar and apparel) to the European Union, to the US and to Africa. Finally, one has to note that purchasing power within that small system is limited.

Because of the above factors, import, export and distributive trade procedures and processes have to be as simple and efficient as possible. The TradeNet single window system contributes significantly to this objective in Mauritius through the speedy processing of data and the maintaining of high levels of cost-effectiveness.

What year was it established?

Launch date	TradeNet Phases
28 th July, 1994	Phase 1 - Transmission of Approved Non-verification declarations from Customs to Freight Stations for Delivery of Goods. This phase is now obsolete with Phase 3 fully operational.
5 th January, 1995	Phase 2 - Submission of Manifests from Shipping, Clearing & Forwarding Agents to Customs.
28 th July, 1997	Customs Management System & Phase 3 - Submission of declarations from traders to Customs and receiving response from Customs for Goods Delivery.
11 th July, 2000	Phase 4 - Submission of Form 28 for the transfer of containers.
11 th December, 2000	Phase 5 - Submission of Import and Export Permits.

In addition to the phases defined, the Mauritius Customs adopted the 'Single Goods Declaration' form to be in line with the World Customs Organisation recommendation. In 2001, the system has integrated a programme for the electronic submission of declarations by operators of the bonded warehouses within the port area (for goods in transit), and it is in the process of providing for the electronic payment of Customs duties and taxes.

What is the current status of the facility (study, pilot phase, running)?

Running

Establishment

<i>How did the SW interface with already established systems (if any existed)?</i>	It did not evolve from another system, as it was designed from scratch with the help of ‘Singapore Network Services Ltd.’ and a local team at ‘Mauritius Network Services Ltd.’.
<i>Did any other SW model serve as inspiration or model?</i>	The system in Mauritius is known as the TradeNet system. It is the first EDI network on the island; it has been modelled on the Singapore TradeNet system, with local requirements and conditions having been taken into count.
<i>What process was followed in setting it up? Was there a pilot project?</i>	Refer to the table on the previous page
<i>What kind of training for the staff was required in the establishment and how was it organized?</i>	No information provided
<i>How long did it take the facility to become operational?</i>	Refer to the table on the previous page

Services

<i>What services does the SW provide? What documents /information/process are covered?</i>	Distribution of data through TradeNet concerns the sending of electronic copies of manifests to the Mauritius Ports Authority, the Cargo Handling Corporation, and the Mauritius Chamber of Commerce and Industry. Selective electronic copies of Customs declarations are sent to Ministry of Cooperatives and Commerce, and to the Mauritius Freeport Authority. Selective electronic copies of import permits are sent to banks for funds transfers, to the Registrar General, and to the National Transport Authority (in relation to the importation of second-hand cars). The system also links with banks to allow for electronic payments
<i>How many transactions per day are handled? What percentage of total transactions?</i>	No information provided
<i>How many clients does the SW have at the present time?</i>	Around 400 companies

Operational model

<i>How does it work? What is the operational model for the SW (describe the business process model)?</i>	It is a value-added network system based on mailboxes. There are no systems of various participants that are integrated. The network operator allows transmission of electronic documents between various parties.
<i>Who are the main clients?</i>	No information provided

Which public and private agencies are involved in the facility? Refer to the answer to “*What services does the SW provide? What documents /information/process are covered?*” (Services)

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)? Public private sector partnership

What were the costs of establishment of the facility? Costs were related to the establishment of a company to act as the value-added network operator, and this included equipment, software, and staff. There were also expenses for Customs, namely for the purchasing of equipment.

What was the difference between estimated costs and real costs? No information provided

What are the ongoing operational costs (annual)? Running costs originate mainly from communications, maintenance of equipment and staff retribution.

What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)? There are one-time costs such as registration fees, and price of software. Then there is a pricing per transaction element applied on a current basis.

How will the SW be sustained over the coming years? The programme has been designed to be self-sustainable, and the objectives in that respect have been fully met, to the extent that the value-added network operator is already self-sustainable, and has been able to use its own resources to finance its investment and participation in new related projects.

Do the revenues generated cover operational costs or do they make a profit? Fully self sustainable (see previous question)

Are the revenues (if any) reinvested in the SW? The programme has been able to use its own resources to finance its investment and participation in new related projects.
(Copied from earlier answer)

Technology

What technology is used? No information provided

How are data submitted (electronically – what type of format/language, paper – what Customs-related documents, such as declarations, manifests, and import and export permits are submitted electronically, in EDI format. However, paper copies of declarations are required as supporting documents and

forms, combination – what kind of combination)? have to be printed out and kept on record.

Where are data sent and lodged (government or private entity)? The data is lodged through front-end software supplied by the value-added network operator. It is then routed to the government agency concerned via the value-added network operator.

Who can submit data (importer, exporter, agent, customs broker)? Individual importing and exporting firms, clearing and forwarding agents, customs brokers and commission agents are allowed to submit data through the system.

Promotion and communication

How did you promote the facility? No information provided

How were all stakeholders kept informed about the facility's progress? No information provided

What kind of training was provided for users? No information provided

Do you provide any helpdesk or customer service? Mauritius Network Services Ltd. was set up as a value-added network operator to operate the TradeNet system. It takes care of operational issues, installation and training, and it provides help-desk services and support to the operators. If there is a problem on the system, contingency measures exist and provide for continuity of service, so that no party is penalized.

Judicial aspects

Is use of the facility obligatory or voluntary? The programme is obligatory

Do participants need to sign a contract with provider/agency in order to participate? Yes, a network service agreement is signed with the value-added network operator. Operators are granted permission to use TradeNet by the Mauritius Customs and the Ministry of Cooperatives and Commerce, or by the Mauritius Freeport Authority for the operation of bonded warehouses.

Was specific legislation (or change of old legislation) necessary? Changes to Customs legislation and additional legislation governing submission of declarations and data by electronic means were required.

How is the privacy of information protected? No information provided

Standards

What is the role of international standards (UN/EDIFACT, UNLK,

No information provided

*UN LOCODE, UN/CEFACT
Single Window Recommendation,
etc) in your SW?*

Benefits

*What are the benefits to clients
and to participating agencies?*

Surveys have showed that availability of the system on a 24 hour/7 days basis allows the operators to do better planning, and the average clearance time of goods has been reduced from 4 hours on average to around 15 minutes for non-litigious declarations.

*How did it benefit trading
community and the Government?*

The trading community benefits in the sense that goods are cleared faster and in a more transparent manner, hence enhancing their competitiveness

*What was the impact on Customs
revenues?*

The system is a tool for the authorities to foster trade facilitation – namely through the use of risk management – while ensuring that customs revenues are not affected. There results a high level of efficiency for all business concerns which deal with Customs.

What problems did it solve?

The aim was to streamline the paper-based trade procedures in order to result in faster turnaround time for trade declarations, reduction in paperwork, faster clearance of goods, and an overall improvement of services to the public.

Lessons learned

*What were the crucial success
factors?*

Success factors were commitment from all stakeholders, with the participation of both government and the private sector in the operating company, and implementation in phases which allows the project to be more manageable, and acceptable.

What were the greatest obstacles?

The main obstacle was the replacement of UNCTAD’s ASYCUDA system at the Mauritius Customs. Owing to the impossibility of getting a new version of the ASYCUDA system that could link to the TradeNet, a decision was taken to develop our own local Customs Management System with the help of international consultants. This set back the launch of Phase 3 of the project by almost 2 years.

*What are the main lessons
learned?*

No information provided

Future plans

*What are the plans for further
development of the SW?*

No information provided

*What are the biggest obstacles to
further development of the SW?*

No information provided

*Do you intend to make agreements
concerning SW cooperation on the
regional level?*

No information provided

Source for further information

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Senegal

Background

- What motivated the establishment of your Single Window (SW)?* The Senegalese Single Window, called ORBUS, was established in order to achieve the following objectives:
- Reduction of customs clearance time-limits;
 - Reduction of customs clearance costs;
 - Improve quality of the service offered to importers and exporters;
 - Elimination of red tape;
- What year was it established?* The Ministry of Commerce started the project in early 1996. In 2001 the project moved to the Ministry of Finance. In 2002, GIE GAINDE 2000 was created in order to finalize the project and to run the system.
- What is the current status of the facility (study, pilot phase, running)?*
- **Study phase:** from 1996 to 1998
 - **Development phase:** from 1998 to 2003 (the project was frozen from 2000 to 2002)
 - **Pilot phase:** from February 2004 to July 2004
 - **Parallel run:** from July 2005 to February 2005 (55% of operation through ORBUS)
 - **Total run:** since March 2005 (100% of operations through ORBUS)

Establishment

How did the SW interface with already established systems (if any existed)? Some stakeholders were already equipped with their own system (e.g.: Banks, insurance companies, inspection, customs) others were not. For those who were not equipped, we provided them with ORBUS interface as their new system (hardware and software were offered to public stakeholders. For private stakeholders, only software was offered).

We provided those who were equipped, with an open interface that they can use by creating an electronic link to their system to proceed 100% electronically. It is also possible for them to use the interface as a stand-alone application and to manually feed data into their system. The two situations currently exist.

Did any other SW model serve as inspiration or model? In early 1996, during the study phase, Senegalese experts visited Singapore to learn from their single window experience, since it was the only existing operational model in the world. We were impressed by what we saw of SNS (Singapore Network Services). There was a high level of organization and coordination. Considering that our context was different, we finally decided to build our system from our ground realities. So we can say that the Senegalese model is an original one.

What process was followed in setting it up? Was there a pilot project? The project was driven by the department of Commerce as a component of a Trade Point project. The first step was to decide about the “WHAT”. Should it be a physical single window or a virtual single window? The

government decided that it would be a virtual one.

The second step was to agree on an operational model, which involved discussion with all stakeholders. This has taken a long time because the needs were disparate and the necessity to preserve all the prerogatives was crucial.

The third step was to design and develop the system. At each step, there is a need for a validation with the concerned stakeholder. Proximity management is critical because, from the time you start the project, rules and people are changing.

Fourth and further steps were the following:

- Test (internal and external)
- Training
- Pilot phase
- Parallel run
- Total run

What kind of training for the staff was required in the establishment and how was it organized?

During the development phase the project was driven by Trade Point, training required was mostly related to “Trade Facilitation” and “Information System Management”. During the GAINDE 2000 phase (deployment phase) the same requirements remain. There is also the need of having helpdesk assistance and people highly qualified in IT infrastructure.

How long did it take the facility to become operational?

The project was long in Senegal because of the 3 years intermission. So we can consider that the project started in 1996 and ended in 2004 with 3 years of interruption.

Services

What services does the SW provide? What documents /information/process are covered?

The following documents are covered by ORBUS

N°	CODE	DOCUMENTS
1	DPI	Déclaration Préalable d’Importation
3	AC	Autorisation de Change
4	AI	Attestation d’Importation
5	EC	Engagement de Change
6	AE	Attestation d’Exportation
7	FD	Facture Définitive
8	FP	Facture Pro Forma
9	QT	Quittance de paiement Trésor
10	BAE	Bon A Enlever Douane
11	PA	Police d’Assurance
12	CON	Connaissance
13	COI	Certificat d’Origine Import
14	COE	Certificat d’Origine Export. (7 types de certificats)
15	CSD	Certificat Sanitaire DIREL (8 types de certificats)
16	CZSD	Certificat Zoo – Sanitaire DIREL (6 types de
17	CSDO	Certificat Sanitaire DOPM
18	CCOS	Certificat de Contrôle d’Origine Sanitaire
19	DIPA	Déclaration d’Importation de Produit Alimentaires
20	RDIIM	Récépissé de déclaration d’Importation des

		Instruments de Mesure
20	CQ	Certificat de Qualité
21	PI	Permis d'Importation DPV (2 types de demandes)
22	CPS	Certificat PhytoSanitaire
23	PVIPI	Procès Verbal d'Inspection Phytosanitaire à l'Importation

How many transactions per day are handled? What percentage of total transactions?

- 100% of transactions
- About 300 demands per day (each demand requires at least 2 or 3 documents)

How many clients does the SW have at the present time?

- 258 clients have subscribed and are connected to ORBUS (they submit 70% of the demands)
- 30% of demands are submitted by importers who are not connected through the centre of facilitation set by GAINDE 2000.

Operational model

How does it work? What is the operational model for the SW (describe the business process model)?

The ORBUS 2000 System is designed to facilitate foreign trade procedures through electronic exchanges among the different stakeholders. The system is built on a technological infrastructure and provides a set of services.

The Facilitation Center (the Key point of the ORBUS System) is in charge of coordinating the ORBUS operations and the monitoring of the system's performances.

ROLE OF THE FACILITATION CENTER

The Centre has been set up to carry out three main functions:

- Serve as the back office of the ORBUS System
- Manage the traders who do not have direct access to the system
- Certify the ORBUS printouts to be submitted to non automated Customs Stations

MISSION OF THE FACILITATION CENTER

The Centre has been entrusted with the mission to see to the performance of the facilitation system. To this end, it has to:

- Manage users' requests
- Monitor the daily restart of all the initialized processes
- Coordinate the facilitation Centre of Yoff (L.L.S Airport of Dakar)
- Set up and manage the licensed centres
- Coordinate the intervention of stakeholders involved in ORBUS 2000
- Provide hotline assistance to users
- Design and implement work procedures
- Coordinate the resolution of technical hitches hindering the proper functioning of the system
- See to the availability of stakeholders' facilities
- Assure the provision of consumables to stakeholders
- Assure the invoicing and recovery of customers' dues
- Coordinate the remittance of service charges to stakeholders
- Manage certified printouts
- Define the service quality policy

Who are the main clients?

All of Senegal's importers and exporters, since the system is mandatory

Which public and private agencies are involved in the facility? Senegal's single window is interconnected to the following agencies:

- **Banks**
- **Currency and Credit Department (DMC):** in charge of controlling exchange permits.
- **Insurance Companies**
- **Plant Protection Office (DPV)**
- **Livestock Department (DIREL)**
- **Foreign Trade Division (DCE)**
- **Oceanography and Maritime Fishery Department (DOPM)**
- **Control and Quality Division (DCQ)**
- **Metrology Department**
- **COTECNA:** Inspection Company authorised by the Senegalese authorities.
- **Forestry Authority.**

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)? During the Trade point phase, the government mainly financed the project. After transferring the project to Customs, the project was financed by a committee including both the private sector and government. That committee collects 10 USD per customs declaration to maintain and improve the system.

What were the costs of establishment of the facility? We don't have specific information about the cost of the development process during the Trade point phase. But we can estimate that more than 2 millions USD has been spent by Trade Point to support the development process and to buy the necessary equipment to operate the system.

From the time the project was transferred to customs (2001) to the operational phase (2004), we know that 800,000 USD was spent to update the application, install a new infrastructure, set the facilitation centre and cover the starting expenses (training, communication...).

What was the difference between estimated costs and real costs? Since the project has two distinct phases, it is difficult for us to answer that question. Our feeling is, with the decrease of information technology cost, the project is less expensive than we have expected. For instance, from 1996 to now, the connection fees have decreased by more than 70% in Senegal. Computer hardware has also decreased significantly.

What are the ongoing operational costs (annual)? 800,000 USD (estimation)

What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)?

- Subscription fees (once off): 200 USD
- Fixed price per transaction: 10 USD
- Additional price per document: 2 USD

For those who are not connected, subscription fees are not required but they have to pay additional service charges of 10 USD for each transaction.

How will the SW be sustained over the coming years? The single window of Senegal is self-sustainable after one year of operation. The rate has been determined to cover all the operational cost and the research and development activities. Note that the central servers

of ORBUS are hosted by customs. So ORBUS and the customs system (Trade X) share the same central infrastructure and maintenance costs are supported by Customs administration.

Do the revenues generated cover operational costs or do they make a profit?

We are just covering operational costs. Profits are made with other services we provide and which are not mandatory. (E.g. Training, electronic payment,...)

Are the revenues (if any) reinvested in the SW?

We have a permanent activity of research and development to improve the system in respect with technology evolution, use of international standards and to enlarge scope of procedures.

Technology

What technology is used?

Distributed environment:
- Web (VB6 /ASP)
- MTS
- MSMQ

How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)?

- Invoice data
- Stakeholder documents (IDF, Permits...)
- Scanned attached documents

Where are data sent and lodged (government or private entity)?

- Local stakeholder information on their own servers
- A central server collects all the data

Who can submit data (importer, exporter, agent, customs broker)?

- Users and stakeholders (Importer, Exporter, Custom Brokers, Banks...)
- Government agencies

Promotion and communication

How did you promote the facility?

- Public relation activities involving officials and medias
- Diffusion of a video in French and Wolof (national language)

How were all stakeholders kept informed about the facility's progress?

- Regular meetings with stakeholders to allow them to be able to defend the project
- Regular letters of information from the Minister or the customs commissioner to stakeholders and importers/exporters associations to keep them informed.

What kind of training was provided for users?

Training was free during the pilot phase. For the stakeholders, we provided them with 2 classes. One related to computers for those who are not computer literate, and another one related to ORBUS application. For the users, we just provide a class for the use of the system. Each participant received an instruction manual at the end of the training period. For the large users and the stakeholders, we coach them at their office during the first days of use to make them comfortable with the application.

Do you provide any helpdesk or

We have a monitoring application to supervise the flows, a helpdesk to

customer service? assist users and a mobile team to visit them and take care of technical issues they face. It is a necessary component of the system. After one year of operation, the level of assistance needs has decreased but is still important.

Judicial aspects

Is use of the facility obligatory or voluntary? Obligatory

Do participants need to sign a contract with provider/agency in order to participate? Yes but only for those connected to the system.

Was specific legislation (or change of old legislation) necessary? In Senegal, we use the simplest way to implement the SW project. Since Customs administration is the body that require all the documents collected, and Customs is also the operator of the SW (80% of GIE GAINDE 2000 belong to custom), so there was no problem for customs to accept electronic documents collected through ORBUS. New legislation was not necessary to allow ORBUS to be operational. Nevertheless, the government is working to set up a new regulatory framework to handle issues related to electronic documents and electronic signature.

How is the privacy of information protected? The regulatory framework related to protection of private information is not yet in place in Senegal. The government expects to make it available by the end of 2006.

Standards

What is the role of international standards (UN/EDIFACT, UNLK, UN LOC CODE, UN/CEFACT Single Window Recommendation, etc) in your SW? ORBUS and TRADE X are compliant with most of UN and WCO standards and guidelines. We use EDIFACT in Trade X for Manifest treatment and we also use UN LOC CODE. Concerning UNLK we don't use it 100% in ORBUS because we have kept the forms as they were to avoid resistance. So some forms were ever compliant with UNLK some others were not. Now we want to move to UNEDOCs and by the same way being 100% compliant with international standards requirements.

Benefits

What are the benefits to clients and to participating agencies? In the first six months of operation, the benefits were not visible. Now clients can have in a single day, without moving an inch, what they obtained in 2 or 3 days in the past with at least 4 displacements. For the public participating Agencies, ORBUS provide them with an electronic system they didn't have in the past. They can now have a better control of operations, they can communicate online with other stakeholders and with the clients, and they can also provide a better quality of service to the users. Concerning the private agencies, they have the same benefits as the public agencies as well as benefiting from operational cost reduction.

How did it benefit trading Trade facilitation always leads to time processing reduction and then to cost reduction. There is currently no survey to measure it. But the

community and the Government? indicators we have can allow us to confirm that these two objectives have been reached.

What was the impact on Customs revenues? It is too early to know in which regard ORBUS has contributed to Customs revenue increase.

What problems did it solve? Coordination between stakeholders
Reliability of transactions
Improvement of competitiveness

Lessons learned

What were the crucial success factors?

- Government strong involvement
- Customs leadership
- Public and Private Partnership
- Creation of an autonomous entity to develop and operate the SW
- Regular information meeting with the stakeholders

What were the greatest obstacles?

- Changing resistance
- Power migration or reduction with IT introduction

What are the main lessons learned?

- Start by mapping the existing rules
- Change the minimum of rules so people on the ground will not fear the new system
- When everyone is on the system it becomes easier to simplify, standardize, etc
- Spend time to discuss and to put people in confidence. Don't use technical words. They need to understand to support.

Future plans

What are the plans for further development of the SW?

- Interoperability with others
- Single window platform for African countries
- Improvement of functionalities

What are the biggest obstacles to further development of the SW? Interoperability within Africa, because there is only few systems operational

Do you intend to make agreements concerning SW cooperation on the regional level? YES

Are you planning to have agreements for exchange of data with SW running in other countries? YES

Source for further information

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Background

What motivated the establishment of your Single Window (SW)?

After a period of economic issues in the mid 80's, the Singapore government decided to streamline the processes involved in the regulatory framework of trade permit approvals to further strengthen the already established trade hub status of Singapore and to improve external trade. Special committees comprising high powered government officials and business leaders were set up to ensure sufficient backing was given to use technology to support the re-engineering and improvement of the trade regulatory framework and processes. In fact, the then Minister of Trade and Industry, Brigadier General Lee Hsien Loong (now the Prime Minister of Singapore) chaired the review committees for approval of the plans and implementations. Starting with the trade process involving a few government agencies in 1989, today, the Singapore TradeNet[®] System provides the trading community with an electronic means of submitting trade documentations to all relevant government authorities (Singapore Customs and the Controlling agencies) for their processing, through a single electronic window (SEW). Within 10 minutes after submission of the permit application, traders will receive an electronic response, be it approval or rejection, from the relevant authorities, with details on the approval conditions or reasons for rejection.

TradeNet[®] was established with the key objectives to:

1. Reduce the cost of trade documentation
2. Reduce delays in turnaround time for trade documentation
3. Increase authorities' processing efficiencies with streamlined process flow
4. Attract foreign direct investment as a result of operational efficiency and transparency

The world's first nationwide electronic trade documentation system TradeNet[®] has been recognized as a great contribution to Singapore's pro-business environment, bringing about increases in efficiency and lowering business costs for the Singapore trading community with the innovative use of IT.

What year was it established?

TradeNet[®] was launched on 1 Jan 1989. It was recognized by the government that the introduction of the TradeNet[®] will bring about many benefits to the Singapore Trading community and hence to the economy as a whole.

The high cost savings, greater efficiency and shorter turnaround time derived from TradeNet[®] made Singapore a much more competitive trading hub.

What is the current status of the facility (study, pilot phase, running)?

The TradeNet[®] system has been in operation and serving the Singapore Trading community since 1989. 100% of the trade declarations are submitted electronically via the SEW TradeNet[®] system. Government had also mandated the electronic submission of trade declarations.

Today, TradeNet[®] is the world's first nationwide electronic trade clearance system. It processes some 9 million trade permit applications per year, of which 90% are processed within 10 minutes and some 70,000 Certificates of Origin yearly.

Establishment

How did the SW interface with already established systems (if any existed)?

Before TradeNet[®], there was no one overall computer system to coordinate all processes and trade permit processing was done manually. The main design principle that TradeNet[®] adopted was to reduce the interfaces required by the shipping community with the systems belonging to different government agencies. Different methods of interfaces are used for the integration. For those agencies which have yet to develop a system for processing trade permits, a user interface was provided for approval of exceptions which the business rules in TradeNet[®] could not automatically approve. For those with existing systems, TradeNet[®] built a few standard interfaces including MQ, flat file transfers, ftp etc. However, it is important to note that all the processing logic and rules are centralised in TradeNet[®], thereby realising the optimization of resources and time spent by automating the business rules of the agencies involved.

Did any other SW model serve as inspiration or model?

In 1986, a core team and several working groups comprising representatives from relevant government authorities and interested parties from the private sector were formed. They were to conceptualize a nationwide SEW for traders to submit trade declarations electronically to the government authorities as there was no other SW model that could be modelled after.

Hence, existing procedures of various authorities concerning information and processing requirements were analysed, documented and simplified such that trade procedures were streamlined. Automation was implemented based on a single form concept that is able to meet the trade documentation requirements of all government authorities. CrimsonLogic Pte Ltd (formerly known as SNS Pte Ltd) was formed as a private entity to deliver and host the TradeNet[®] system.

What process was followed in setting it up? Was there a pilot project?

A phased approach was adopted. First to be implemented was the electronic processing and approval of import and export permit applications for non-controlled and non-dutiable goods. The facility was later extended, under the second phase, to cover controlled and dutiable goods. Automated inter-bank deductions and application for Certificates of Origins (COs) were introduced in subsequent phases.

The initial phase kicked off in January 1989 with a group of 50 pilot users. The system was extended to the rest after the successful implementation of the pilot phase. Electronic permit application submission was not made mandatory on day 1 of TradeNet[®] operation. In fact, as an interim and parallel implementation strategy, it was rolled out with an option to allow manual permit application as a counter service.

What kind of training for the staff was required in the establishment and how was it organized?

Among the other essential basic computer training, there are 3 key training subjects prior to the implementation:

- i) Business Process Management & Re-engineering

- ii) Standards Adoption
- iii) Trade Documentation Domain knowledge

User profiles were surveyed and their needs for training identified. The different categories of user were then scheduled for the relevant training.

How long did it take the facility to become operational? TradeNet[®] was conceptualised in 1986. The planning and development of TradeNet[®] was carried out from 1987 to 1988. TradeNet[®] was rolled out to be operational on 1 Jan 1989.

Services

What services does the SW provide? What documents/information/process are covered?

The TradeNet[®] system allows the application, submission, receiving, processing and returning of response to trade declarations submitted. It covers the import (dutiabale/GST/non-dutiabale/warehousing/free trade zone), export (GST/non-dutiabale) and Transshipment declarations.

For Importers/Exporters/Freight Forwarders, among others, the major services include:

- User and company registration
- Receipt and intelligent routing of user submitted permit and Certificate of Origin (CO) applications from the Trade Net[®] Front-End software to the Singapore Customs (SC) and the Controlling Agencies (CA) for their processing;
- Syntax checks on the message structure;
- Code table validations of the received applications against the code tables (e.g., Product Codes, Harmonised System Codes etc);
- Automated permit processing based on the rules and criteria of Singapore Customs and the CAs;
- Web enquiry facilities to
 - Check the status of their TradeNet[®] permit applications,
 - Enquire & download code tables (e.g. Port code, Country, etc.);
- Automated billing and direct bank account debit facility on the statutory and processing fees incurred;
- 24x7 Call Centre Support;

For Controlling Agencies(CA) and Singapore Customs(SC), the major services provided under TradeNet include:

- Automated and online processing (i.e. to allow manual intervention to pend, approve, reject some selected types of applications) of permit application;
- Online enquiry and downloading of TradeNet[®] permit applications
- Online maintenance of the CAs and SC code tables (e.g. Product codes, Trader, License, Establishment codes, etc);
- Interconnectivities with the CA in-house systems for the file transfer and reporting functions for transferring and uploading of the CA controlled permit information and databases (e.g., trader, declarant and license information);
- Generation of ad hoc and periodic statistics reports

To TradeNet[®] Cert of Origin (CO) Officers:

- Automatic and online processing of user submitted permit application;
- Online enquiry and printing of TradeNet[®] permit applications / certificates
- Online maintenance of the CO code tables.

To other Users such as the Port of Singapore Authority:

- Extraction cum provision of interconnectivities with the user in-house system for transfer of TradeNet[®] permit information to PSA;
- Provision of interconnectivities for exchange of information between PSA & SC such as data for Manifest Reconciliation

How many transactions per day are handled? What percentage of total transactions?

The TradeNet[®] system handles approximately 30,000 permit applications per day, amounting to some 9 million transactions a year. 100% of the total Trade Permit applications are processed by the TradeNet[®] system. The Singapore Government has mandated the electronic submission of Trade Permit Application.

How many clients does the SW have at the present time?

The TradeNet[®] system is used by approximately 2,500 companies with 8,000 users.

Operational model

How does it work? What is the operational model for the SW (describe the business process model)?

The shipping and trade community sends in the trade declaration via any TradeNet[®] Front-End (FE) software. These are software provided by any SC's approved service providers. The FE software offers the users a variety of data submission methods, i.e. via internet / web application, client based input or host-to-host connection. Having submitted the data, the FE system sends their trade declarations via the TradeNet[®] SEW for automated processing by the various authorities.

The Permit Processing sub-module of the TradeNet[®] system provides an Intelligent Routing Agent that automatically determines the workflow required for that particular permit application and routes it to the relevant authorities for their processing. A set of rules embedded in the Rules Engine will then execute the processing requirements for each of the Controlling agencies involved in the processing.

With the in-built intelligence that enables automated processing, 90% of the declarations do not require manual intervention and users are able to receive and print their approved cargo clearance permit within 10 minutes. There are also options for declarants to transmit data directly via their host systems in any structure data format.

Web Portal Services are provided for traders to process their permits, check on the transaction status and make billing enquiries. It also allows download of code tables (e.g. country, port, harmonized system codes etc). The portal also enables the authorities to process the declarations and to make enquiry.

Who are the main clients? There are 3 main client groups for TradeNet® which is the following:

1. Trading Community – Traders, Freight Forwarders, Declaring Agents, Service Bureau
2. Controlling Agencies (CA)
3. Singapore Customs (SC)

Which public and private agencies are involved in the facility? Please see above.

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)? By creating CrimsonLogic, an independent profit centre, the government no longer has to bear the cost of running and operating a nationwide network infrastructure and services. The beneficiaries, namely, trading companies, pay for use of the services without incurring developmental or maintenance costs.

CrimsonLogic charges the declarants based on a pay per use model. Users pay a one-time registration / subscription fee with a monthly fee to maintain an account with the system. A usage fee is also imposed for every permit processed.

What were the costs of establishment of the facility? The initial shareholder capital invested in CrimsonLogic (formerly known as Singapore Network Services) was S\$24M (approx. US\$14,300,000).

What was the difference between estimated costs and real costs? The project did not overrun in terms of budget as well as schedule, as this roll-out of TradeNet® was crucial for the survivability of the country's economy.

What are the ongoing operational costs (annual)? The costs are part of the overall company cost. As CrimsonLogic is a private company, these numbers are confidential.

What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)? We charge based on a per use basis as follows:
Monthly Account / User id fee: S\$20 / S\$20 (approx. US\$11.90) per account / user
Usage Fee: Approx. S\$3.30 (approx. US\$1.96) per transaction (includes statutory fees) / Permit

The mode of payment is through direct debit from the declarants' bank accounts.

How will the SW be sustained over the coming years? The revenue collected from TradeNet® is used to fund the operation, maintenance, regulatory enhancements and technology refresh.

Do the revenues generated cover operational costs or do they make a profit? The revenues generated are mainly for the purpose explained above, merely for cost recovery and a margin for improvements in processes and technology refresh.

Are the revenues (if any) reinvested in the SW?

Yes, the revenue collected from TradeNet® is used to fund the operation, maintain and enhance the system including routine technical upgrades and incorporation of new rules and regulations from the government. It also caters for continuous technology refresh to ensure that the system continues to be on the leading edge of technology and meeting the increasing user needs.

Technology

What technology is used?

The 1st generation TradeNet® system, implemented on 1 Jan 1989, was operating in COBOL/CICS on a Mainframe platform. As part of our continuous effort in upgrading and refreshing our technology, TradeNet® was right-sized to an open platform using Object Oriented Methodology, Java/J2EE technology and is now operating on the Unix Platform. It utilises the following:

JAVA & J2EE

- J2EE, EJB 2.0 (Enterprise Java Beans), Core Java, Java Servlets, JSP, JMS (Messaging), RMI, Java Applets, JDBC

XML TOOLS AND TECHNOLOGIES

- XML, XSL, XSLT, JAXP, Apaches' Xerces Parser, SAX & DOM APIs, xQuery

OBJECT ORIENTED METHODOLOGIES

- UML object-oriented analysis and design methodology

COMMUNICATIONS

- Numeric and message paging
- Short message service (SMS)
- Email (SMTP), Secure Email (S-MIME)
- FTP, SecureFTP (S-MIME)
- Fax

How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)?

The data is submitted electronically in a single form in UN/EDIFACT standards format. Alternatively, the users could submit in other formats and the company then translates the information into that required by TradeNet®.

Where are data sent and lodged (government or private entity)?

Data are sent by private entities (i.e. trading community) to the Government Authorities for processing.

Who can submit data (importer, exporter, agent, customs broker)?

Importers, exporters, freight forwarders and declaring agents, who are registered with Singapore Customs, can submit the trade declarations data. Traders can also file their declaration using the services rendered by documentation service providers. The service providers will enter and submit the trade declaration to the TradeNet® system on behalf of the Traders.

Promotion and communication

- How did you promote the facility?* During the initial implementation, the promotion was done via large scale nation-wide campaign. Currently, CrimsonLogic has a team of staff dedicated to account manage the key users including the CAs. Online web enquiry facilities are provided in the Singapore Customs and the CAs' websites as well as Crimsonlogic's websites. Mass marketing and communication programmes are done as and when required to roll out major changes and implementation.
- How were all stakeholders kept informed about the facility's progress?* Regular meetings are held with the key stakeholders to review the facility's progress.
- What kind of training was provided for users?* New subscribers to TradeNet[®] undergo a course conducted by Singapore Customs on the TradeNet[®] procedures. CrimsonLogic and the various software vendors also provide training to the users on the use of the system.
- Do you provide any helpdesk or customer service?* Yes. CrimsonLogic provides a 24 X 7 call centre service for our customers.

Judicial aspects

- Is use of the facility obligatory or voluntary?* The electronic submission of the permit application is made mandatory by the Singapore Customs. Users who are not registered and do not have the frontend software may approach the documentation service bureaus to submit the applications.
- Do participants need to sign a contract with provider/agency in order to participate?* Two separate agreements will be signed with both the provider and Singapore Customs.
- Was specific legislation (or change of old legislation) necessary?* The electronic submission via TradeNet is mandated by the Government, with the permit fees legislated. Contractual agreement is signed for the use of the system.
- How is the privacy of information protected?* The documents and information submitted to TradeNet[®] are restricted for use by the respective authorized owners. Authorized users of the Singapore Customs and CAs can also view and download these declarations for approval, reporting and record keeping purposes.
- During the messaging stage where the trade declarations are sent from the traders' local PCs to the TradeNet[®] system via the Messaging engine, the data are sent via secured channels and encrypted throughout the transport layer. In this way, the trade declarations are safe and secured from any form of intrusions.

Standards

- What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT* We use the UN/EDIFACT standard version D.96A to develop the TradeNet[®] message specifications. This includes CUSDEC, CUSRES, APERAK (and many others). The UN LOCODE is also being used and is

Single Window Recommendation, etc) in your SW?

kept in our TradeNet[®] database. The adoption of wide practised industry standards provides the ease of integration with other systems on different platforms.

Benefits

What are the benefits to clients and to participating agencies?

The benefits are summarized in the table below.

How did it benefit trading community and the Government?

The benefits are summarized in the table below.

TradeNet[®] has revolutionized the trade documentation process in Singapore and has been a subject of two Harvard Business School Case Studies². It has been identified as one of the strategic national information systems that enhanced the competitiveness of Singapore as a global city of international trade. Surveys and studies have revealed that TradeNet[®] has brought about the following benefits to the trading community: The following are accolades and awards won by TradeNet[®]:

“It is estimated that TradeNet[®] saves Singapore traders around US\$1 billion per year.”

- Robert M Howe, IBM

“...Fill in one online form and receive the import or export license 15 seconds later ...”

- McKinsey Quarterly 2001 No.2

“...received Top eAsia award under Trade Facilitation Category”

- 2003 September

“CrimsonLogic was entrusted to own and operate the TradeNet[®] system, with the Singapore Trade Development Bureau, the port and civil aviation authorities, and the international airport as stakeholders....”

- Customs Modernization Handbook by WorldBank, 2004

Table 1 illustrates some of the tangible benefits to the trading community brought about by TradeNet[®], excluding economic gain such as the FDI figures.

Characteristics	Previous Manual Process	With TradeNet [®]
Submission of documents	By dispatch clerks	From comfort of office
Submission of documents	Within office hours only	Available 24 hours daily
Trips to the Controlling	At least 2 required	None required
Copies of	Multiple copies (up to 35)	Single copy (to be

documents	forms)	printed at user's premise)
Processing time for approval	From 4 hours to 2 days	Within 10 minutes
Dutiable goods handling	Separate documents for Customs processing	Same electronic document routed to Customs for processing
Controlled goods handling	Separate documents to different Controlling Agencies for processing	Same electronic document routed to Controlling Agencies for processing
Fees Charged	S\$10 – S\$20	S\$3.30
Customs duties collection	By cheque	Automated bank deductions

What was the impact on Customs revenues?

With a SEW system enforcing transparency via online submission and automated processes, duties, fees and taxes due are collected accurately and promptly from the traders.

The payment system is directly interfaced with the banks to facilitate the respective direct debiting and crediting of traders', and governments', bank accounts. There is no loss of revenue collection with automated system validation and assessment of duties, fees and taxes due.

What problems did it solve?

In general, TradeNet[®] has greatly improved and streamlined the trade process which was vital to the Singapore's economy.

Besides the benefits listed above, additional achievements were accomplished with the Internet-based TradeNet[®] SEW system:

- **Faster response to facilitate dynamic enforcement and implementation of rules and regulations**

Urgent implementation of regulatory and policy changes can be done quickly with the system. For example, this includes imposing restrictions to import specific type of goods to/from certain countries due to, say, outbreak of diseases. It eliminates the tedious dissemination process for any such changes to be implemented under the manual process flow. Timely and accurate enforcement are made possible.

- **Enable accurate and prompt collection of trade statistics**

Trade statistics are collected on a timely manner for analysis of trading patterns and forecasting of potential trading trends.

- **Improved Customer Service with TradeNet[®] Accessible Anytime, Anywhere**

With TradeNet[®] on the Internet, users can gain access to the system from any location as it is a web-based application. With the 24 x 7 service

standard provided for TradeNet[®], the permit application and processing service is available for use round-the-clock. As TradeNet[®] serves a huge base of 8,000 users, the Internet service brings about more efficiency and savings.

- **Ease of Use and Increased Efficiency and Productivity**

Productivity level increases as a result of the shortened turnaround time for the processing of trade declarations. With efficient and user-friendly Web portals provided, TradeNet[®] users carry out their daily trading businesses with a breeze. Only one permit application is necessary for submission to various agencies using a common web interface for all goods and purposes.

- **Maintenance and Easy Deployment**

Processing and validation rules are tied to political, social and environmental changes. Changes to processing and validation rules are made easy with J2EE technology deployed, specifically the Rules Engine where the permit processing rules' path and action profile can be easily updated in readable XML format or parameterised in code tables. Any change of rules will require only an update to the XML file or code tables and can be effected once reloaded to the system. This is crucial as it reflects and affects the efficiency of the government authorities in exercising controls whenever required.

As this is a server-based application, all changes and maintenance of the application and data were carried out at the server. In this way, deployment for any future upgrades can be easily and instantaneously effected. No tedious application deployment for the 8,000 over workstations of TradeNet[®] users is required, thus saving time, effort and resources.

- **Cost effectiveness**

Users

Employing scalable, portable and reusable software gives rise to savings. Having the system available on the Web, users can access using their existing workstations and Internet connections. There is no one-time or annual software maintenance or setup cost attached.

Business operating costs (i.e. warehouse storage charges) will no longer be increased due to delays in documentation. In fact, the manpower cost has been reduced with the simplified processes and high system availability.

Service Provider

The TradeNet[®] system is designed to allow deployment on multiple servers where the load can be balanced. The current hardware setup has been optimized to meet the required performance expectation given the transaction load. With the new architectural design that allows optimization of the hardware setup and flexibility to scale with future growth, the operating and maintenance cost can be more effectively controlled and managed.

- **Ease of Integration and Connectivity**

With the use of leading-edge technology (**J2EE, XML and MQ Series**) and systems running on diversified platform, integration with trading partners and authorities can be easily and concisely implemented.

- **Ease of Future development to cater for local trade growth and international trade information exchange**

Hardware Scalability

Investments on hardware can be scaled up or down depending on the processing performance expectation and transaction volume.

Software Portability and reusability

One of the advantages of J2EE technology is that it enables portability (write once, run anywhere) and reusability. Modules created in J2EE for one project can be easily applied and reused in others, especially when they have common functionality and features.

- **Promotes Data sharing and reduces data redundancy or repeated data entries**

TradeNet[®] Permit Preparation module has currently established itself to be an accessible, affordable and user-friendly Internet-based application for trade permit preparation.

CrimsonLogic has gone a step further to cater to the growing needs of traders by providing other useful trade-related solutions such as logistics, trade insurance and finance, purchasing and warehouse solutions to the trading community as a bundle together with a web-based front end TradeNet[®] Permit Preparation module.

As the solutions come together as a bundle on the same platform, information sharing between the different applications can be enabled, providing a seamless flow of information between the different applications within each company's business process flow. It minimizes the need for repeated data entry on the same piece of cargo information and provides a single sign-on interface to all the modules in the trade cycle.

Lessons learned

What were the crucial success factors?

The main success of TradeNet[®] lies in the Government's foresight in identifying the problems, finding a solution and championing the implementation. The cohesiveness of all the stakeholders, the systematic planning with phased implementation strategy as well as the adoption and use of appropriate technology are also pivotal to the success.

What were the greatest obstacles?

The greatest obstacles during the initial phases of implementation were the need to change the mindsets of the users to switch from their existing manual process to an electronic means of trade declaration.

What are the main lessons learned?

Refer to answer to "What were the crucial success factors?"(above)

Future plans

What are the plans for further development of the SW?

In the near future, TradeNet[®] will further enhance its SEW concept to act as the single gateway to all other Critical Systems such as the seaport community systems, air cargo community systems as well as the Maritime Authority's Declaration Systems. It will also be the SEW to allow information sharing among the shipping and trading community and to facilitate the local community to reach out to the world to fulfil a global vision via this SEW.

What are the biggest obstacles to further development of the SW?

With the need to develop into a global nation, the challenges will be bridging into a global city, which are at different levels of economic, and technology maturity. Various interim and bridging mechanism and bi-lateral discussions will be necessary to ensure the next phase of Trade SEW.

Do you intend to make agreements concerning SW cooperation on the regional level?

CrimsonLogic is already providing SEW consultancy to overseas Governments as well as Asian Development Bank, WorkBank and Commonwealth Secretariat funded projects. Further, the TradeNet[®] software is already installed in other countries such as Ghana, Mauritius, Panama and Saudi Arabia. Cross border linkages are also available to enable data sharing with some of the Asian and Americas economy. More are being added.

Are you planning to have agreements for exchange of data with SW running in other countries?

CrimsonLogic is one of the founding members of the Pan Asian Alliance. This is a grouping of regional trade declaration operators. This alliance meets regularly to discuss the exchange of cross border trade data amongst its trading communities. CrimsonLogic has also tested the operational model for the cross border exchange of trade declaration data with some of the alliance countries.

Source for further information

Website:

<https://tn31.tradenet21.com>
<https://utility31.tradenet21.com>
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Sweden

Background

- What motivated the establishment of your Single Window (SW)?* Swedish Customs has a long-standing tradition as being the only public service at Swedish borders, performing several tasks for other public services such as the National Board of Trade and the Swedish Board of Agriculture. Hence when the use of information technology increased it was a natural process to involve all such partner agencies in the design and development of IT-systems supporting the overall process of foreign trade.
- What year was it established?* The first initiatives of the establishment of a true Single Window were established in 1989, when Swedish Customs developed the Customs Information System for the export process and forwarding statistics electronically to Statistics Sweden.
- What is the current status of the facility (study, pilot phase, running)?* Running.

Establishment

- How did the SW interface with already established systems (if any existed)?* The development of Swedish Customs Information System was one of the first large scale business systems used by a public service in Sweden. Therefore the interfaces developed were to be the “standard” to follow.
- Did any other SW model serve as inspiration or model?* At the time of establishment not very many Single Windows existed, hence outside inspiration was scarce.
- What process was followed in setting it up? Was there a pilot project?* The set up was managed by introducing different Customs procedures at different times, starting with export, then transit and finally import. Also the collection of revenue, simplified procedures and supportive systems such as the Customs tariff were introduced at different times allowing a staged set up.
- What kind of training for the staff was required in the establishment and how was it organized?* Staff were trained between 16 to 32 hours depending on the individuals role in the organization and the complexity of the sub-system introduced. The concept of “train the trainer” was used, i.e. super-users and teachers were trained centrally and then the staff obtained training locally.
- How long did it take the facility to become operational?* The development of the first sub-system, export, was initiated in 1988 and at the end of 1989 the system went operational.

Services

- What services does the SW provide? What documents/information/process are covered?* The Single Window provides services for customers performing foreign trade with demands for licences where Swedish Customs has established a solution in cooperation with the National Board of Trade, the Swedish Board of Agriculture and also the National Inspectorate of Strategic

Products. Regarding Norwegian and Russian Customs, Single Window solutions are operational for Authorised Economic Operators concerning the export procedure. Foreign trade statistics are extracted from the Customs declarations and submitted electronically from Swedish Customs to Statistics Sweden covering requirements for operators concerning statistical information. Regarding import VAT, the debts are paid to Swedish Customs that forwards the information to the National Board of Taxation. Deliveries of Customs duties paid are done automatically between Swedish Customs and the National Debt Office and also the European Commission. For citizens, pets may be declared electronically over the Internet to Swedish Customs fulfilling also the requirements from the Swedish Board of Agriculture. A similar solution is provided for hunters and other citizens needing to declare firearms and weapons where also the requirements from the Swedish Police are fulfilled.

How many transactions per day are handled? What percentage of total transactions?

On a yearly basis, 94 % of all Customs declarations are submitted electronically using either XML or EDIFACT. The Swedish Customs Information Systems manages more than 100,000 electronic messages on a daily basis.

How many clients does the SW have at the present time?

Approximately 12,000 companies and 7,000 citizens use one or several of the Single Window services provided by Swedish Customs.

Operational model

How does it work? What is the operational model for the SW (describe the business process model)?

The customer submits information to Swedish Customs. Dependent on whether the information is a requirement in order to perform a specific procedure, for instance a license, the information is forwarded to the relevant public service. If that is not the case, a Customs declaration is submitted electronically and selected information is extracted and forwarded to the responsible public service, for instance trade statistics to Statistics Sweden.

Who are the main clients?

The main clients are importers, exporters and customs brokers (agents). (Individual companies may not be mentioned due to national confidentiality acts.)

Which public and private agencies are involved in the facility?

The national board of taxation, the national board of trade, the Swedish board of agriculture, Statistics Sweden, the Swedish Police, the national inspectorate of strategic products, the Swedish national debt office, Norwegian Customs, Russian Customs and the European Union.

Business model

What is the business model? How is it financed (government, private sector, Private-Public partnership)?

The Single Window was initially financed using dedicated funds from the Swedish Government. When new services are designed and implemented today, financing is done under existing budgets allocated to each public service respectively. Some initiatives are ongoing to use Private – Public Partnerships for development of new systems of great complexity.

What were the costs of

Due to the fact that establishment took place in 1988 – 89, figures are not

<i>establishment of the facility?</i>	available
<i>What was the difference between estimated costs and real costs?</i>	Due to the fact that establishment took place in 1988 – 89, figures are not available
<i>What are the ongoing operational costs (annual)?</i>	No figures are available since it is not possible to extract detailed costs from the overall operational, development and maintenance costs for the Single Window.
<i>What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)?</i>	The services under the Single Window of Swedish Customs are free of charge. However some investments may be necessary for customers to be able to use the more advanced services, i.e. submitting electronic Customs declarations using EDIFACT.
<i>How will the SW be sustained over the coming years?</i>	A lot of focus will be on developing Single Window services for the enforcement process allowing for seamless interaction electronically with prosecutors, police, courts and other relevant public services involved in the crime-fighting process. Furthermore, services will be developed supporting Authorised Economic Operators, not least in the light of the ongoing reformation of the Customs procedures within the European Union. Naturally requirements and requests from the customers of Swedish Customs, i.e. companies and citizens, will be prioritized in the continuation of the Single Window.
<i>Do the revenues generated cover operational costs or do they make a profit?</i>	With no revenue, the costs are not covered per se. However, automated processes allow Swedish Customs to allocate resources differently, for instance working with enforcement or more complex matters.
<i>Are the revenues (if any) reinvested in the SW?</i>	Please see above.

Technology

<i>What technology is used?</i>	Different technical solutions are used based on the amount of information to be shared, how often it must be shared, if “push” or “pull” is used, and so on. Therefore it is not possible to give a detailed answer to this question.
<i>How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)?</i>	Data are submitted electronically either using EDIFACT or XML, depending on the choice of the customer (customers who submit many Customs declarations normally choose EDIFACT). Paper declarations may be submitted and are then keyed into the Customs Information System by a Customs Officer (outside of office hours and during weekends at a fee of approximately 5 USD). All declarations, electronically or submitted on paper, are stored in the data warehouse and used for ex-post controls and Customs audits.
<i>Where are data sent and lodged (government or private entity)?</i>	Data are sent primarily to a private entity controlling that format is correct, i.e. EDIFACT or XML CUSDEC and also saves the original electronic message in a legal archive. Then the information is forwarded to the Customs Information System that performs automatic controls of

the information submitted, risk profiles, tariff numbers and other qualitative controls. Swedish Customs then forwards where applicable necessary information to other public services.

Who can submit data (importer, exporter, agent, customs broker)?

Importer, exporter, agent/customs broker, private citizens

Promotion and communication

How did you promote the facility?

Promotion of electronic services has been undertaken since 1989. During the latest years, specific services have been targeted when promoting to relevant groups of clients, i.e. export refund service is promoted towards exporters of foodstuff and that according to the Swedish Board of Agriculture applies for export refunds. Promotion is also done having satisfied customers support Swedish Customs.

How were all stakeholders kept informed about the facility's progress?

The stakeholders, i.e. representatives selected by different customer groups, participate in joint committees initiated by Swedish Customs at strategic and tactical levels. At tactical level, two joint committees exist, one dealing with Customs process (for instance interpretation of legislation) and one dealing with R&D and ICT-issues. Through these joint committees customers and end-users of the services of the Single Window are actively participating in the prioritization of new services and are not merely informed.

What kind of training was provided for users?

Users have the possibility to participate in training sessions organised by Swedish Customs in cooperation with other relevant public services, for instance the Swedish Board of Agriculture regarding licenses and export refunds. Training is also provided for at The Virtual Customs Office where eLearning covering different topics may be used.

Do you provide any helpdesk or customer service?

For the use of the Swedish Customs Information System and technical support, a helpdesk is available 24 / 7, 365 days a year. For questions regarding tariffs, procedures etc a call centre (CallCustoms) is available office days 8.00 – 19.00. For urgent questions during other times or during weekends, customers may turn to a Customs Office or use self-services at www.tullverket.se.

Judicial aspects

Is use of the facility obligatory or voluntary?

The use of the Single Window is voluntary except for Customs declarations concerning the transit procedure, where electronic declarations are obligatory.

Do participants need to sign a contract with provider/agency in order to participate?

Each operator that submits electronic Customs declarations must apply at Swedish Customs. Detailed instructions and conditions are laid down for the use of the Single Window. If additional sub-systems are to be used, for instance transit, licenses or export refunds, a new application must be submitted. It is not a traditional contract but a set of transparent rules defining the playing field.

Was specific legislation (or change

Yes, in order to allow for electronic documents, for instance regarding

of old legislation) necessary? signatures, stamps, rejected declarations and similar issues. Also the possibility to submit electronic declarations, and for Swedish Customs to share the information with other relevant public services, were regulated through amendments to existing legislation.

How is the privacy of information protected? Each customer wanting to make use of the services of the Single Window is aware of exactly what information is forwarded from Swedish Customs to other public service(s) when appropriate. Through this transparent approach the submitter of information is ensured that only the information necessary in order to perform the different tasks of two public services is shared. When information is submitted, each public service respectively is responsible for the protection of privacy according to the Swedish privacy legislation, i.e. the same regulations apply but may be used differently for instance Swedish Customs may forward information on a food stuff consignment to both Norwegian Customs and the Swedish Board of Agriculture but the Board of Agriculture cannot do this due to specifics in the applicable legislation even though the information is identical.

Standards

What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT Single Window Recommendation, etc) in your SW? The messages used in the Swedish Customs Information System for submitting electronic Customs declarations are based on the existing standards, i.e. CUSDEC and CUSRES. Hence international standards have played an important role in the Single Window of Swedish Customs.

Benefits

What are the benefits to clients and to participating agencies? Seamless processes, higher quality/less error, reuse of information and quicker handling from the public services are the main benefits.

How did it benefit trading community and the Government? Less time, and hence money, has to be spent on submitting the same information twice to two different public services. This means that compliance costs have been radically decreased, estimation between 20 – 50 % depending on the prerequisites of the individual operator. Electronically shared information also means less errors and higher quality meaning more fluent and seamless processes. For Government, Single Window means that less time has to be spent on tasks requiring lower skills and possibilities to allocate resources to processes or procedures that are more complex or not possible to computerize. One example is the Single Window for export refunds where Swedish Customs has decreased its time spent on documentary controls by 50 %, the Swedish Board of Agriculture has cut its processing time by 40 % and the customers receives the subsidiaries at half the time it took before the Single Window went operational.

What was the impact on Customs revenues? Customs revenues have increased marginally but the main reason for the increase being that levels of proper collection were high even before the Single Window was introduced, almost 99.5 %.

What problems did it solve? The Single Window solved a situation whereby more and more procedures cut across more than one single public service. By offering an integrated

solution where information was submitted only once, smoother processes were possible to implement, benefiting all stakeholders. It also made Swedish Customs even more aware of risks connected to processes shared with other public services and today discussions on risk analysis and risk profiles are conducted continuously between Swedish Customs and other relevant public services.

Lessons learned

What were the crucial success factors?

To identify and offer efficient solutions for processes and procedures used by several customers creating the necessary critical mass. Also, listening to requirements and demands from the end-users has been a critical success factor.

What were the greatest obstacles?

One major challenge was to enable a technical framework that enabled SME's to participate in the electronic submission of information to public services. Therefore priorities have been to identify services possible to offer free of charge, hence a lot of services are based on web-technology and/or text-messages over mobile phone. At the same time major customers, i.e. companies submitting several Customs declarations annually, must be offered solutions possible to integrate with existing business systems.

What are the main lessons learned?

- Involve the customers, i.e. the users, in the design and development phase
- Focus on main stream processes initially
- Use solutions for authentication that are flexible but still provide security
- Form a strategy on what customer to prioritize to use the system, i.e. with large volumes creating benefits also for the public services
- Use interfaces that are understandable based on ICT that are affordable

Future plans

What are the plans for further development of the SW?

A lot of focus will be on developing Single Window services for the enforcement process allowing for seamless interaction electronically with prosecutors, police, courts and other relevant public services involved in the crime-fighting process. Furthermore, services will be developed supporting Authorised Economic Operators, not least in the light of the ongoing reformation of the Customs procedures within the European Union. Naturally also requirements and requests from the customers of Swedish Customs, i.e. companies and citizens, will be prioritized in the continuation of the Single Window.

What are the biggest obstacles to further development of the SW?

One area of concern for the time being is to reach even more standardisation while simultaneously remaining flexible. An important task is to create a level playing field with high degree of transparency. Such concrete areas may be more standardisation regarding electronic signatures and electronic identification. Another area is the welcome work of the World Customs Organization (WCO) and the recently adopted Customs Data Model that provides multinational operators more transparency when implemented, especially in harmonisation with the

revised Kyoto Convention.

Do you intend to make agreements concerning SW cooperation on the regional level?

Yes, but the details cannot be given at this moment. The reason is that the European Union currently is redesigning the Customs procedures. One item that is going to be introduced is the Single Access Point, allowing for economic operators to communicate with one Customs Administration regardless of physical location of the commodities. A prerequisite for this to operate is Single Window.

Are you planning to have agreements for exchange of data with SW running in other countries?

Please see above.

Source for further information

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United States

Background

What motivated the establishment of your Single Window (SW)?

The US International Trade Data System (ITDS) was a result of a report of a special task force known as the “Report of the Future Automated Commercial Environment Team”, the FACET Report. Among the recommendations specific to Single Window in the FACET report were; the use of the same data for import and export and integrated government oversight of international trade. The FACET Report was issued at the same time as Vice-President Gore’s Reinventing Government initiative. This initiative endorsed the integrated oversight concept that evolved into ITDS.

What year was it established?

ITDS was established in 1996. While this may seem like a long time for development, prospective Single Window users should not be discouraged. The ITDS concept was never in dispute. There were many associated issues (governance, control, funding, etc) that had to be resolved before Single Window development and implementation could proceed.

What is the current status of the facility (study, pilot phase, running)?

Customs and Border Protection (CBP) is redesigning its current Automated Commercial System (ACS) and developing the new Automated Commercial Environment (ACE). ACE is a phased implementation for Customs and Single Window participants. The initial rollout is transportation declaration at the land border. This included requirements for Customs, Immigration, and Department of Transportation. Additional functionality and agencies will be added in subsequent releases.

Establishment

How did the SW interface with already established systems (if any existed)?

ITDS provides capability for these agencies with existing, operating international trade processing systems (interfaced agencies) and those without any systems (operational agencies). For interfaced agencies, data is sent from ITDS to the agency system for processing. Results and action to be taken is returned to ITDS by the agencies. For operational agencies, processes are integrated into the ITDS “box”, where actions based on agencies requirements are determined by ITDS.

Did any other SW model serve as inspiration or model?

ITDS was conceived and designed without any outside inspiration or model.

What process was followed in setting it up? Was there a pilot project?

ITDS conducted a limited prototype under the aegis of the North American Free Trade Agreement (NAFTA) called NATAP – the North American Trade Automation Prototype. This was limited and involved Customs, Immigration, and Transportation but was significant in that, under NAFTA, Canada and Mexico also participated. Prior to the initial

rollout, a brief ITDS (US only) pilot was conducted.

What kind of training for the staff was required in the establishment and how was it organized?

For the initial pilot, training was held on site at the selected locations by system designers. For the rollout of ACE, there is training staff dedicated to training users. An important note is that training is required not only for government personnel but for trade community users as well.

How long did it take the facility to become operational?

Since this is part of a much larger implementation of the overall Customs Automated Commercial Environment (ACE) it is difficult to isolate the length of time for the Single Window to become operational.

Services

What services does the SW provide? What documents /information/process are covered?

The long-range goal of the US Single Window - ITDS is to provide one electronic interface for all information for all government agencies. This would cover all processes from advance screening and targeting (note the WCO Framework of Standards to Secure and Facilitate Global Trade), release of goods (the transport and goods declarations) payment of duties, taxes, and fees, and post declaration processing. It is important to note that current plans for ITDS do not include the licensing and permitting application process, but the validation of licenses and permits by the appropriate Participating Government Agencies (PGA's).

How many transactions per day are handled? What percentage of total transactions?

Approximately 1500 bills of lading are processed at the initial rollout site.

How many clients does the SW have at the present time?

There are approximately 25 trade participants at this time.

Operational model

How does it work? What is the operational model for the SW (describe the business process model)?

Refer to answer to “*What motivated the establishment of your Single Window (SW)?*” (The first question)

Who are the main clients?

The main clients are the international trade agencies. These are commonly known as Other Government Agencies (OGA's) or Other Government Departments (OGD's). The US however, prefers to use the term Participating Government Agencies (PGA's).

Which public and private agencies are involved in the facility?

In addition to the federal trade agencies, participants include the trade community consisting of exporters, carriers, importers, Customs brokers, freight forwarders, etc.

Business model

<i>What is the business model? How is it financed (government, private sector, Private-Public partnership)?</i>	ITDS is funded through appropriations as part of the development of the Automated Commercial Environment (ACE), the new CBP system.
<i>What were the costs of establishment of the facility?</i>	Since costs are part of the larger development of ACE, it is difficult to isolate the costs of ITDS.
<i>What was the difference between estimated costs and real costs?</i>	Unknown
<i>What are the ongoing operational costs (annual)?</i>	Since costs are part of the larger development of ACE, it is difficult to isolate the costs of ITDS.
<i>What are the user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction, combination, other model)?</i>	No user fees are collected to finance ACE/ITDS. It is financed through appropriations.
<i>How will the SW be sustained over the coming years?</i>	It will be funded through appropriations.
<i>Do the revenues generated cover operational costs or do they make a profit?</i>	The US Government is not profit motivated. Cost benefit analysis reveals that there will be savings, not profits.
<i>Are the revenues (if any) reinvested in the SW?</i>	No

Technology

<i>What technology is used?</i>	A mainframe application.
<i>How are data submitted (electronically – what type of format/language, paper – what forms, combination – what kind of combination)?</i>	ITDS data is submitted electronically using several message exchange standards; proprietary, ANSI x1, EDIFACT, and an Internet-based web portal.
<i>Where are data sent and lodged (government or private entity)?</i>	The data is sent and lodged with U.S. Customs
<i>Who can submit data (importer, exporter, agent, customs broker)?</i>	Data is submitted from various entities. The carrier or carrier's agent submits transport data. Goods data is sent by the importer or agent (broker). US law is quite specific on who can submit the information.

Promotion and communication

How did you promote the facility?

Single Window is promoted through a variety of methods. The most effective is the Customs Modernization Trade Support Network (TSN). The TSN is held at least twice a year and is attended by several hundred stakeholders from both government and trade. Within the TSN there is an ITDS (Single Window) Sub-Committee jointly chaired by government and trade. In addition there is a Government Support Network (GSN) composed of Participating Government Agencies (held twice yearly) and the PGA Program Support Group (PSG) held monthly.

How were all stakeholders kept informed about the facility's progress?

In addition to the information noted in the answer to the previous question, there is an ITDS web site, www.itds.treas.gov

What kind of training was provided for users?

Training was provided on site and at CPB Headquarters for government and trade users.

Do you provide any helpdesk or customer service?

Customs and Border Protection maintains a 24 / 7 help desk.

Judicial aspects

Is use of the facility obligatory or voluntary?

The use of Single Window is voluntary.

Do participants need to sign a contract with provider/agency in order to participate?

In order to participate in automated processing, etc. participants must sign a letter of intent. Participants may develop their own in-house interface or purchase a software package from private vendors. All interfaces (in-house or private) go through a rigorous testing procedure to guarantee their ability to successfully interface with the government system

Was specific legislation (or change of old legislation) necessary?

Change in legislation will be necessary and is currently under review. There is a specific group in ITDS responsible for legislative review.

How is the privacy of information protected?

Privacy of information is a critical issue. There are two perspectives in this area: internal within the government and external with trade users. When identifying their information requirements, agencies must cite both their authority to both collect and view the information. Agencies are able to access only that information which they have the authority to see. Trade users are able to access only that information pertaining to their transactions. Safeguards are built into ITDS to insure that users view only that information that they are authorized to see. Currently this is accomplished through passwords. Future capabilities will include PKI and other security measures.

Standards

What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT Single Window Recommendation, etc) in your SW?

International standards play a major role in Customs modernization and ITDS. US CBP is a major participant in the harmonization and standardization efforts resulting in the World Customs Organization (WCO) Data Model and the WCO Framework of Standards to Secure and Facilitate Global Trade (WCO Framework). The WCO standards are based on UN Trade data Elements Directory (UNTDDED) and UN/EDIFACT. The ITDS Standard Data Set and the ACE Logical data Model are mapped to the WCO Data Model. Users are able and encouraged to use the WCO Data Model and messages for ACE/ITDS. However, many users now employ US Customs proprietary data and syntaxes and ANSI X12. CPD will continue to support these messages.

Benefits

What are the benefits to clients and to participating agencies?

Refer to the answer to the next question

How did it benefit trading community and the Government?

Government and trade benefits are as follows:

- Cost - There is decreased cost of system development and maintenance. If agencies develop and maintain their own systems and traders must build to interface with this variety of systems there is cost; building one system is less costly.
- Burden - Providing information (electronically or on paper) to the government costs money. These costs are passed on to consumers. Providing data, only once will reduce costs and burden of reporting.
- Accuracy - Changing from one data standard to another, transferring information from one form to another, translating messages from one syntax to another is costly, but also results in errors. Some of these errors may be inadvertent. Others may be deliberate. Removing this manipulation of data will improve accuracy.
- Efficiency - Factors noted above will logically result in greater efficiency.
- Simplification - The growth of the various government systems, forms, requirements, etc. has resulted in over-complication and confusion. A Single Window will reduce this confusion and will simplify compliance.

What was the impact on Customs revenues?

There is little impact on Customs revenues since US has an efficient collection mechanism. However, it is believed that a Single Window will have significant impact on a country's overall economic condition. This is due to the collection of accurate and timely statistical data.

What problems did it solve?

Governments often forget the public's expectation of what is expected from their government processing of international trade data. Citizens expect their government to protect them from unsafe food, dangerous goods, environmental concerns, security and terrorism concerns, safe

vehicles, etc. The lack of coordination among government agencies erodes the public's confidence in the government's ability to meet these basic concerns. A coordinated, integrated approach will improve the government's ability to meet the public's expectations, (Also refer to the two previous questions)

Lessons learned

What were the crucial success factors?

Refer to the answer to "What are the main lessons learned?"(Below)

What were the greatest obstacles?

Change, or the reluctance to change, is the greatest obstacle to Single Window development. Through our lack of coordination and consultation agencies and countries have grown far apart on how international trade data is defined, sent, and processed. Companies and governments have spent money to develop these processes and are reluctant to spend the money to make the changes. Participants must see how the Single Window is a global effort (see also, answer to, "How best can UN/CEFACT help with the development of the SW facility (standards, capacity building etc.)?" below. (Future Plans)

What are the main lessons learned?

The crucial success factors are as follows:

- *Leadership* - commitment at the highest level possible
- *Budget* - commitment to provide long-term funding for the Single Window
- *Technical* - must respond to the needs of participating agencies and trade community
- *Operational* - buy-in to the process, cooperation, and operational vision

The factors shown above are also the greatest obstacles to overcome. Overcoming these obstacles through outreach, consultation, listening to the concerns, and responding to these concerns are the main lessons learned. It is also important to promote the Single Window from the international perspective. The trade community sees the value of international harmonization. Countries should be developing their Single Window in concert with activities with other countries.

Future plans

What are the plans for further development of the SW?

- Plans for further development of ACE/ITDS are as follows:
- Pilot ACE/ITDS (release 4) January 2005 and expansion to additional locations
- Evaluate and modify as needed
- Plans for implementation of first tier of Participating Government Agencies (PGA)
- Continue data harmonisation efforts domestically with the ITDS Standard Data Set and internationally with the WCO Data Model
- Identify second tier of (PGA)
- Implement second tier PGA
- Identify remaining PGA

What are the biggest obstacles to further development of the SW?

See answer to *Lessons Learned*

Do you intend to make agreements concerning SW cooperation on the regional level?

The US has met with Canada and Mexico to promote the Single Window in North America and has offered assistance to these countries in their Single Window development efforts. Along with Canada and Australia, the US participated in an APEC data harmonization workshop by presenting ITDS and the Single Window concept to APEC economies.

Are you planning to have agreements for exchange of data with SW running in other countries?

The long-term objective of ITDS is to plan for Government-to-Government, Single Window-to-Single Window exchange of data. Version 3 of the WCO Data Model will incorporate Single Window requirements. The US is actively promoting and participating in these activities as noted in the Revised Kyoto Convention and the WCO Framework.

Source for further information

Website:

www.cbp.gov
www.itds.treas.gov

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