Republic of Korea
Single Window Case

Korea Customs Service

July 2010

1. Background

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

 ◦ Since 1992, the Korea Customs Service (KCS) has been seeking to automate customs clearance process through Electronic Data Interchange (EDI) system by forming well-constructed mid-and long-term plan. As a result of such efforts, in 1998 KCS successfully built systems where all clearance-related application and declaration documents including those for import/export clearance, bonded transportation management and drawback are processed electronically.

 ◦ Korea Customs e-clearance System named UNI-PASS serves as a cyber community utilized by about 110 thousand businesses. Included in the users are parties involved in trade such as import/export companies, customs brokers and banks as well as logistics-related businesses such as carriers, forwarders, shipping companies, airliners and bonded warehouse operators.

 ◦ With dramatic advancement in information communications technology and the Internet penetration in Korea, the KCS has established and operated an Internet clearance portal system since 2004. It enabled customs clearance processes to be executed over the Internet.

 ◦ When implementing the internet clearance portal, the KCS also rolled out a Single Window system where traders can lodge various clearance-related applications such as a quarantine application along with import/export declaration with a single entry point.

 ◦ The SW system in Korea was developed and implemented with a strong focus on the benefits for trading community and government agencies. The KCS streamlined and standardized multiple application procedures so that the users can file necessary applications with just a single visit to the system. It contributed to saving time and cost entailed in customs clearance procedures. On the government's side, the system was designed to achieve optimal information sharing among relevant government agencies, which led to more effective risk management.

 b. What year was it established?

◦ The Single Window project was conducted in three phases. The KSC opted for a phased implementation because otherwise it would have taken far too long for numerous government agencies to consult among themselves and develop a system all at the same time.

◦ In the first phase from 2003 to 2004, a unified channel that deals with requirements and declaration regarding customs, immigration and quarantine (CIQ) was introduced. As the second phase, eight agencies involved in trade-related regulatory requirements participated in the SW in 2005. In 2006 as the third phase, four other organizations were added to the facility. As the fourth phase, two agencies were added to the facility.

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

◦ The implementation of Korea's SW is completed in December 2009. It is now fully operational and offers diverse administrative services involving seventeen government agencies.

2. Establishment

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

◦ Korean SW is built in a way that it can be utilized with or without proprietary systems. The facility is interconnected with the existing systems of relevant authorities so that applications can be processed seamlessly. At the same time, agencies without a system can using o the SW and carry out necessary actions.

- As for a government agency with an existing operation system, when a user lodges an application for requirement verification at the SW, it will be automatically sent to the agency for trade-relate requirements processing. The result will be returned to the applicant and KSC UNI-PASS system through the SW facility respectively.

- The Single Window is also equipped with application service provider (ASP) functionality so government authorities without its own system can log onto the SW and electronically process applications.

b. Did any other SW model serve as inspiration or model?

◦ The Korean SW was designed without external inspiration. Although the KCS looked at the cases of the US, Australia and Japan, the structure and functions of participating government organizations and other trade environment were much different from Korea. Therefore, the KCS devised and built its own model.

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

◦ There was no separate pilot project. Before implementing SW, a task force team was formed comprising related government agencies and information technology experts. The team conducted business process reengineering and information strategy planning project. It was intended to minimize trial and error during the implementation by formulating the overarching strategy which encompassed the goal and objectives of the SW project, roles and responsibilities of involved parties as well as timeframe and roadmap for the project.

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

◦ Before the implementation, training was held on various locations around Korea targeted at prospective users, customs officers and officials from participating agencies. Feedback and suggestions taken at these training sessions were reflected in the facility. The training also generated greater interest in the system within the trade community.

◦ The user manual is made available on the SW website in order to help anyone take full advantage of the facility.

e. How long did it take the facility to become operational?

◦ The number of users has been increased significantly during the short period of time since the implementation. The facility is being operated very stably. This is largely due to the sheer convenience of the system as well as diverse additional information services. Such services include progressing status information, clearance record statistics for individual users and commodity classification data. The SW also contains a software tool with which users can practice filling out various forms.

3. Services

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

◦ Import/export Customs Clearance Covered in SW (17 organizations, 33 documents)

Organization	Document	Note
Korea Food & Drug Administration	Import declaration for food items, etc.	Import
	Import declaration for health supplements	Import
	Import declaration for controlled chemicals (precursors for narcotics)	Import
	Export declaration for controlled chemicals (precursors for narcotics)	Export
	Approval application for import of narcotics substance	Import
	Approval application for export of narcotics substance	Export
National Fisheries Products Quality Inspection Service	Import declaration for food items, etc.	Import
	Quarantine application for fisheries products import	Import
	Quarantine application for fisheries products export	Export
National Plant Quarantine Service	Inspection application for plant import	Import
	Inspection application for plant export	Export
National Veterinary Research & Quarantine Service	Import declaration for livestock item	Import
	Quarantine application for livestock item	Import
	Quarantine application for animal	Import
	Quarantine application for livestock item	Export
	Quarantine application for animal	Export
	Transport application for quarantine items	Import
Korea Pharmaceutical Traders Association	Standard clearance report (pharmaceutical products)	Import
	Standard clearance report (human tissue)	Import
Korea Medical Devices Industry Association	Standard clearance report (medical devices)	Import
Korean Dental Trade Association	Standard clearance report (dental devices)	Import

Korea Animal Health Products Association	Standard clearance report (animal medication)	Import
Korea Environment & Merchandise Testing Institute	Confirmation application for identical model of manufactured goods	Import
Korea Toy Industry Cooperative	Confirmation application for identical model of manufactured goods	Import
Korea Testing & Research Institute	Confirmation application for identical model of manufactured goods	Import
Korea Testing Laboratory	Confirmation application for identical model of manufactured goods	Import
FITI Testing & Research Institute	Industrial product model certification	Import
Meter and Petrochemical Testing and Research Institute	Industrial product model certification	Import
Korea Apparel Testing and Research Institute	Industrial product model certification	Import
Environmental Management Corporation	Waste declaration form import	Import
	Waste declaration form export	Export
Radio Research Agency	Application for electronic device authentication	Import
	Application for electronic device clearance	Import

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

◦ As of December 2009, a daily average of about 3,000 applications along with import/export reports are lodged at the SW. They are approximately 80% of all import applications. Even when imp/export applications are not submitted with the SW, 100% of the PGA's processing results are handled through the SW 100%.

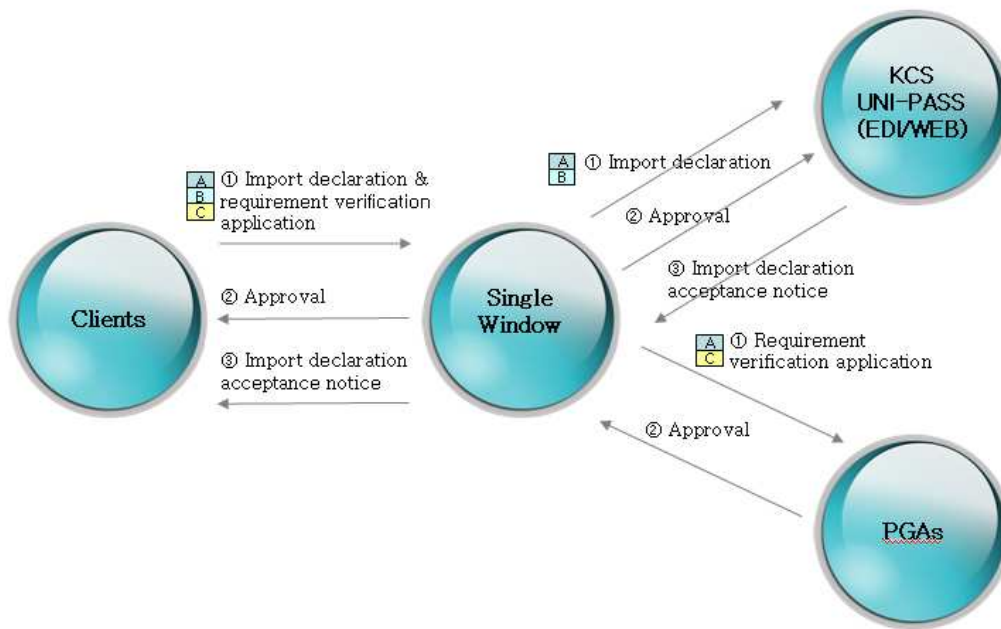c. How many clients does the SW have at the present time?

◦ The SW is used by 17 participating organizations and about 16,068 businesses from the trade community as of December 2009.

4. Operational Model

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

 ∘ Applicants log onto the SW system at http://potal.customs.go.kr and submit both import declaration and requirement verification application. The SW automatically sends the documents to appropriate government agencies.

 The agencies process the requests and transmit the result to the SW, which in turn relays the result to e-clearance system of KCS and the applicants. Based on that result, the KCS proceeds with the import procedure.

 ∘ In short, applicants can take care of import declaration and PGA's requirement at the same time with a single entry point.

b. Who are the main clients?

∘ The main clients are import/export businesses, customs brokers, forwarders, shipping companies, airline companies and other parties involved in trade and transport.

c. Which public and private agencies are involved in the facility?

∘ The total of 17 organizations participate in the SW. Four of them are government agencies including Korea Food & Drug Administration and National Fisheries Products Quality Inspection Service. The remaining thirteen are private organizations that are commissioned with requirement verification tasks by the Korean government such as Korea Pharmaceutical Traders Association.

5. Costs and Business Model

a. What were the costs of establishment of the facility?

∘ The four-phase implementation so far cost about KRW5.8 billion or US$4.7 million.

b. What were the difference between estimated costs and real costs?

∘ Unknown

c. What are the ongoing operational costs (annual)?

∘ It is difficult to isolate the operational costs of the SW because it is operated with e-clearance system called UNI-PASS by the KCS.

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

∘ The SW server systems are built with a government budget and financed by KCS appropriations. No fees are collected in relation to the SW. The SW and the user end of the system are Internet-based making it possible for the users to utilize the SW system free of charge.

e. 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 fees are collected for the Korean SW system.

f. How will the SW be sustained over the coming years?

◦ The system will be operated with the government appropriation as the user base continues to expand.

g. Do the revenues generated cover operational costs or do they make a profit?
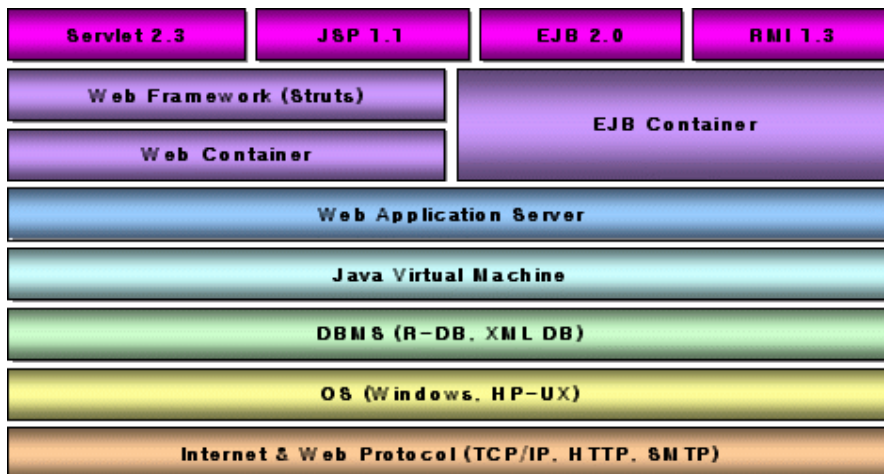
◦ Please refer to the answer to question 5-d.

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

◦ Please refer to the answer to question 5-d.

6. Technology

a. What technology is used?

◦ The system employs J2EE-based Web technologies, EJB and JSP as well as Weblogic workshop framework, Titan framework and Struts framework. The application architecture is implemented as seen in the following chart.

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

 ◦ The SW is Internet-based so electronic documents are in ebXML standard.

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

 ◦ Shippers, customs brokers, freight forwarders and agents can submit data.

7. Promotion and communication

a. How did you promote the facility?

 ◦ Shortly after the development, user training sessions took place at different locations around Korea where the trade community was informed of the benefits and encouraged to use it actively. In addition the SW system is consistently promoted through the websites of participating organizations.

 ◦ KCS continues to work to enhance user convenience. In the year-end of 2006, the system was added with the electronic payment functionality for inspection fees incurred during quarantine processes.

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

 ◦ The implementation of the SW was completed fairly recently because the fourth phase of the project ended in December 2009. Therefore, information and notices relevant to participating organizations are distributed to them by the task force team established for the SW project.

 ◦ The facility's progress and other modifications are made known to users on the SW website. The website is also used to collect suggestions and possible complaints about the system from the users for further enhancement.

 c. What kind of training was provided for users?

◦ While testing the SW system before full implementation, education programs were provided for potential users and explained the positive effects of the SW and how to use it. The KCS offers user manual and a software tool with which traders can practice filing various applications and reports in order to help them take full advantage of the system.

◦ At the same time, the KCS set up a help desk team of about 20 staff members with a view to resolving any possible difficulties and problems experienced by the users.

d. Do you provide any helpdesk or customer service?

◦ General customer service about the SW is provided by staff members of the KCS help desk team. However, more specific inquiries regarding requirement verification are handled by appropriate participating organizations.

8. Judicial Aspects

a. Is use of the facility obligatory or voluntary?

◦ The use of the facility is voluntary.

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

◦ No contractual arrangement is required to participate in the system. In addition, the system is mainly operated with active consultation among the participating organizations.

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

◦ The format of some declarations and applications was modified in the process of standardization. The regulation pertaining to the format requirements was revised.

d. How is the privacy of information protected?

◦ The system adopts very strict security policies in order to ensure maximum protection of user information.

◦ KCS information technology system is built within a powerful firewall so as to prevent intrusion from outside. The users can only access the system when they have public key infrastructure registered at the system. Data transmission to and from outside participating agencies are completely encrypted.

9. Standards

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

◦ Korean SW is established based on the shared views with UN/CEFACT and WCO and it complies with standard guidance provided by UN/CEFACT.

10. Benefits

a. What are the benefits to clients and to participating agencies?

◦ The users can fulfill requirements for PGAs and import declaration obligations for Customs with a single entry point via the internet using simplified and standardized formalities. This resulted in sizable saving in time and cost for trade and transport procedure.

  - The SW reduced about 24 hours in import procedure of approval of PGAs and Customs declaration.

◦ Electronic documents for process results are transmitted among participating agencies and KCS not through EDI but over the Internet. This led to cost reduction of about KRW250 million or over USD 260 thousand annually in EDI transmission fees.

b. How did it benefit trading community and the Government?

◦ The SW facilitates trade and enables the trading community to reap the benefits of time and cost reduction thanks to simplified report procedures.

◦ The government can conduct better risk management by actively sharing information submitted by traders.

◦ The SW helps to enhance customer satisfaction and confidence in the government because it is, in essence, improvement toward customer-centered administrative services.

c. What was the impact on Customs revenues?

◦ The SW does not generate additional customs revenues because Korea Customs has already set up the electronic clearance system.

d. What problems did it solve?

◦ Before the SW was set up, when traders were importing food items that require quarantine inspection, they must apply for inspection to Korea Food and Drug Administration and other relevant authorities. Afterwards, they had to wait for approval to come through and then had to file import reports with the KCS again.

◦ Traders had to deal with dual tasks of submitting PGA requirement applications and Customs declarations to multiple organizations respectively. When they lodge import reports after PGA's approval being issued, declaration was sometimes done redundantly for the same items. Different lodging procedures and information systems caused inconvenience and incurred hefty logistics costs including EDI fees. The SW solved these problems and traders can now comply with clearance requirements with much less time and cost

11. Lessons Learned

a. What were the crucial success factors?

◦ As was in many other countries, the initial stage of SW launch experienced significant strain because of insufficient attention and difficulty in coordinating interests of different organizations.

◦ To overcome the initial barrier, the KCS and the Presidential Committee on Government Innovation and Decentralization took the initiative and exercised strong

leadership. The lead agency continued to persuade related agencies to take part in the SW project and coordinated their interests actively. This afforded the crucial basis for the success of SW implementation.

b. What were the greatest obstacles?

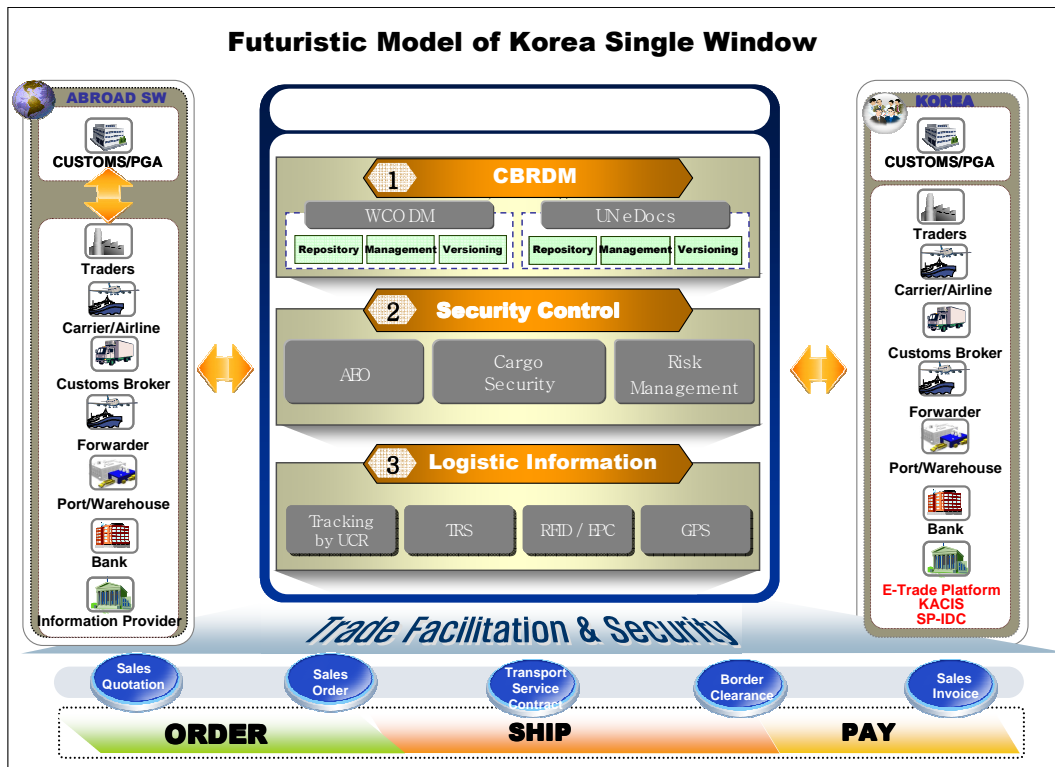◦ Please refer to the answer to question 11-a.

c. What are the main lessons learned?

◦ Building a SW is fundamentally a process reengineering and innovation project that covers numerous parties involved in the international trade. It must be conducted with strong focus on users of administrative service. Therefore, it cannot be successful without strong political will and leadership. Only with unshaken political determination can participating organizations' different interest be harmonized from a customer-centric point of view.

12. Future Plans

a. What are the plans for further development of the SW?

◦ The KCS is committed to expanding participating organizations, improving system performance for user convenience and to offering customized services that are tailored to a variety of users.

Futuristic Model of Korea Single Window

◦ Furthermore, the KCS also plans to establish the International Trade Single Window, which will encompass connecting e-trade network and import/export logistics networks, such as e-Trade Platform of the Korea Trade Network Corp. (KTNET), Korea Air Cargo Information System (KACIS) of Incheon International Airport Corp., Shipping & Port-Internet Data Center (SP-IDC) of KL-NET Corp., etc.

Please refer to the following websites for more information:
- ✓ e-Trade Platform : http://homepage.ktnet.co.kr/ktnet
- ✓ KACIS : http://www.airport.or.kr/eng/airport/
- ✓ SP-IDC : http://www.spidc.go.kr

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

◦ The SW requires active participation of involved organizations. The biggest issue that needs to be constantly addressed is securing their collaboration.

c. How best can UN/CEFACT help with the development of the SW facility (standards, capacity building, etc.)?

  ◦ The ultimate goal of SW initiative is to construct an international Single Window. For this, UN/CEFACT has even greater a role to play.

  ◦ Particularly, it is important for UN/CEFACT to provide more opportunities to share experience. It can organize training programs where success cases of the countries with running SW systems can be discussed and distributed to other countries.

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

  ◦ Korea is willing to actively cooperate on the regional level when there is a request from countries in the region.

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

  ◦ The KCS intends to conduct a pilot project for data exchange with one or two countries in 2007. The KCS plans to expand the number of countries and the scope of data exchange further in the future.

    Further Information

Website: http://www.customs.go.kr
Contact: KIM, Seung-Jung
Korea Customs Service

Address : Government Complex #920 Dunsan-Dong, Seo-Gu, 302-701 Daejeon,
        Republic of Korea
Tel : +82 42 481 7742
Fax : +82 42 481 7769
E-mail : sjkim@customs.go.kr