Beyond the Single Window
Paving the way for collaborative border management

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In the decades since the first Single Windows (SWs) opened in Singapore and Sweden, national SW implementations by Customs focused on simplifying the interactions of traders with government, ultimately achieving a single point and moment of interaction for data submission by traders and for clearance decisions by government. Building on the same skills as those required for SWs, leading Customs administrations have enhanced their border clearance operating model with four best practices: streamlined inter-agency workflow; account-based Customs practices; segmented clearance classes; and cross-functional intervention teams. This article suggests that by combining these four best practices with the traditional SW, a best practices operational model for collaborative border management (CBM) can be realized [Editor’s note: the WCO has adopted the term ‘Coordinated Border Management’ when referring to this approach].

The traditional Single Window
In the 20-plus years since they first opened in Singapore and Sweden, SWs have remained a central focus of border clearance strategies, even though the majority of Customs administrations have not implemented them. Although design plans vary considerably, most SW systems support an electronic data exchange model which, as described by Ramesh Siva, Lead ICT Specialist at the World Bank, allows for:

1. Single submission of data and information;
2. Single and synchronous processing;

Two decades of experience revealed many challenges that suggest why the number of SWs and their scope has been so limited: implementation is very difficult! Technology represents only one of the challenges. Both the World Bank and WCO surveys noted that the key development challenges were primarily non-technical, namely policy issues, process reengineering, stakeholder collaboration, organizational change management and governance.

Evolving best practices for Customs and border management
As SWs emerged during the past two decades, technology trends, economic competition and the growth in international trade and in threats to public welfare generated a wave of Customs modernization programmes across many nations.
Two technology trends became primary drivers of change. Firstly, data-sharing tools and techniques have enabled process integration on three levels: across traders and agencies, as in the traditional SW; across traditional silos within Customs; and across governments. Secondly, advanced analytical tools and data warehouses provide intelligence and insights for managing the compliance of traders; these insights are used in making clearance decisions and also in revenue collection.

These technology trends drove a series of interdependent best practices in the modernization programmes of leading border management agencies:

1. Interagency border clearance choreography to automate collaboration between systems of multiple agencies;
2. Account-based Customs practices to maximize the usage of available information on traders in any action of Customs;
3. Segmented clearance classes to optimize risk detection and facilitation for Authorized Economic Operators (AEOS);
4. Cross-functional intervention teams to make risk mitigation faster and more effective.

Most SW projects have focused on the front office, that is, on trader interaction. The best practice functions listed above include clearance and pre- and post-arrival activities which focus, to a large extent, on back office operations. Yet all these operations have a trader interaction aspect: trade interaction for the clearance decision; for inspections; for obtaining a horizontal view of a trader’s activities; and for certification as an AEO or other simplification schemes.

By establishing a strong correlation between the traditional front office SW data exchange model and the new best practices for back office clearance and border management, a best practices operational model for CBM can be realized. It is this combination of the three old functions with the four new ones that provides a comprehensive operational model for interaction with traders, resulting in an end-to-end process flow that includes all major functions of border clearance.

**Best practices to be integrated with Single Window implementations**

1. **Interagency border clearance choreography**
   
   The most straightforward practice that SW projects have fostered is automation and coordination of clearance processing across border agency systems and personnel. The potential value of interagency workflow automation is demonstrated by the large number of agencies involved in border clearance. Clearly, both technical and business process integration, as well as collaboration to manage impacts on operations and personnel, is required.

   Interagency choreography can span various aspects of clearance, including the release of goods, inspections and risk assessment, as well as intelligence. Implementations can range in depth of choreography, from the original data exchange model (e.g., between Customs and the agriculture agency, in the case of a shipment of fruit seeds) to the integration of clearance processes between the agencies, where business rules in the SW coordinating agency could choreograph required data exchanges, resulting in inspections using agriculture’s operational criteria. This level of integration requires collaboration on inspection procedures and scheduling, with impacts on business processes and office work schedules.

   Often the leading or choreography role in the SW is given to Customs because the latter accounts for the majority of the traffic in the SW environment. The central role of Customs is recognized by the Association of Southeast Asian Nations (ASEAN) Single Window initiative, which explicitly gives Customs the mandate to be the single point of decision for the release of cargo “...on the basis of decisions, if required, taken by line ministries and agencies, and communicated in a timely manner to the Customs.” [Somnuk Keretho, ASEAN Single Window Initiative and Thailand’s Case Experience for Trade Facilitation Enhancement, December 2007, available from http://www.unescap.org/tid/projects/poverty_s3somnuk.pdf].

2. **Account-based Customs practices**
   Account-based Customs practices use all available information about an account (i.e., an economic operator) in performing Customs operations. Two dominant examples are in the area of revenue collection and risk management. The account model is applied to revenue collection in allowing (periodically, often monthly) a single payment of accounts receivable, covering all tax types (import duties, value-added tax, excise and more).

   The account model is applied to risk management through risk assessment models that consider the full historical context of all that is known about the importer and other parties associated with the shipment – ultimately across government agencies. To continue the example of an agricultural import begun above, with the integration of import account data in a single repository, the combination of Customs and agriculture performance data for the importer and carrier could reveal a level of risk not detected in either agency’s system, thus producing an inspection that detects a non-compliant shipment posing a biosecurity risk to the market.
In the case of risk management, this best practice is often applied per transaction (e.g. upon risk assessment for every Customs declaration). In the case of revenue collection, the account-based model is applied to a batch process (payment is done periodically). In both cases, Customs operations are driven by all the information available about the account.

In the United States, US Customs and Border Protection (CBP) systems and programmes have fully implemented account-based processes starting in 1999, when a variety of account and risk management programmes were consolidated into the Trade Compliance and Risk Management Process that formally established account management disciplines across operations.

In the Netherlands, the introduction of the ‘horizontal monitoring’ approach by the Dutch Tax and Customs Administration in 2005 formalized the Dutch supervisory philosophy, which introduced a strategic change to traditional compliance monitoring. While traditionally control is based on vertical supervision and distrust – Customs selects and inspects – the Dutch Administration’s horizontal monitoring is based on trust. Not blind trust, but trust based on positive past experience, such as an enterprise’s reputation with Customs and its personal responsibility.

Horizontal monitoring is seen as a form of account-based best practice because it is a monitoring approach that uses a holistic, enterprise-broad approach to compliance monitoring of the account: top-management commits itself to pursue compliance; Customs and the economic operator interact based on transparency, trust and understanding each other’s business; both entities work together to find new work practices for implementing the legislation, especially where achieving compliance is inefficient.

3. Clearance based on customer segmentation
Growing recognition that risk detection and facilitation of trusted traders were two sides of the same coin, inherently interdependent and reinforcing, spurred the development of AEO programmes and clearance regimes aligned with customer segmentation based on measured compliance rates and process maturity. The enabling technical capability is ‘intelligence-driven risk management’ [Tom Doyle, The future of border management, Border Management Modernization, IDBR/World Bank, 2011] coupled with empirical measurement of performance and feedback from interventions, such as audits, inspections and resulting fines, penalties and seizures.

Segmented customer classes span the Customs back office for the actual clearance processing and the Customs front office for trader interaction, as implemented in a SW. SW front office regimes required AEOs to establish new modes of normalized and coordinated data submission in exchange for the reduced complexity and cost of clearance provided by the simplified communication interface. Trader segmentation based on measured performance history recognizes this mutual business value model and extends it to back office functions.

Sweden has been a forerunner in adopting a programme for clearance based on customer segmentation aligned with compliance management through its two accreditation schemes: Stairway, which assesses supply chain quality; and StairSec, which assesses supply chain security. Both schemes set a clear relationship between the degree of risk that a trader poses and the degree of trade facilitation that the trader can enjoy.

4. Cross-functional intervention teams
The best practice that emerged in response to sophisticated smuggling or commodity fraud schemes was officer specialization by commodity or risk domain and cross-functional enforcement teams. This teaming model that exploited specialized skills was replicated across ports and agencies and then in national targeting or “data fusion” centres.

Advanced analytical tools in these centres combined with interagency teams, including Customs, police, immigration, agriculture, intelligence and targeting analysts, can significantly increase the efficiency and effectiveness of border management operations and allow a more rapid response to incidents in a coordinated risk mitigation plan, functioning as a national interagency command centre. The targeting analysts in these centres often conduct an advanced analysis of account, transaction, trade and compliance information to determine emerging trading patterns, both those of strategic economic interest to be fostered and those presenting new threat vectors to be intercepted.

For example, the New Zealand Customs Integrated Targeting and Operations Centre (ITOC), which opened in September 2011, is staffed by Customs as well as border agencies responsible for immigration, agriculture, forestry and maritime matters. ITOC brings together “…everything needed to determine risks presented by people, goods, or craft.” On a smaller scale, in Mauritius, a SW cargo inspection office brought together Customs cargo inspectors along with inspectors from health and agriculture in a single examination shed [United Nations Economic Commission for Europe (UNECE), Case Studies on Implementing a Single Window, June 2006].

Combining functions
In countries where a SW plan is underway, the core capabilities supporting it can be exploited to address CBM back
office functions. For the many countries without a SW strategy, Customs can examine the lessons and benefits of these practices and decide what their ambition level is by starting with a SW for trade facilitation (front office focus) or aim also at collaborative (back office) best practices that support other government priorities in the area of border management.

Success on both paths requires investment in the same ICT capability. Enterprise information management is a key technological enabler supporting all seven best practices described in this article. Information management competency provides methodologies, techniques and technologies that address data architecture, extraction, transformation, movement, storage, integration and governance of enterprise information, as well as master data management. A robust data foundation makes it possible to capture, combine and use information from many sources, and disseminate it so that individuals throughout the organization, at virtually every level, have access to it.

The four modernization best practices described in this article emerged building on the same skills as those that made traditional SW implementation possible. They are back office best practices extending into the front office with a focus on integration of data, systems and business processes to support and enhance increased collaboration between specialized officers, agencies and Customs administrations.

By combining these four best practices with the traditional SW, a best practice operational model for CBM can be realized. This is the beginning of a new era in SW implementations, an era in which the SW has a new, additional strategic goal, namely realizing CBM.

Twenty years ago, SW projects planted the seeds of CBM in the new skills and disciplines that are now growing in 30 Customs administrations. Other countries were less quick to implement a SW, but faster in setting and adopting the four new best practices discussed in this article. Now these capabilities need to be sown and tended in a hundred more gardens.

The extended version of this article is available at http://ibm.co/17xg5A0.

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