Single Window Systems
Conceptual Framework and Global Trends and Practices

OIC study 2017

9th Meeting of the COMCEC Trade Working Group
Outline

1. Introduction to the study
   - Objectives
   - Approach

2. Single Window concept
   - Business architecture Services and Functionalities
   - IT architecture
   - Organisational aspects

3. Best Practices
   - Evolution and Trends
   - Achievements
   - Conditions for success
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Objectives of the study

1. Improve **awareness** on single window systems and their benefits on trade facilitation;
2. Share **information on the best practices** of implementing single windows
3. Analyze the **current status** of the implementation of the single windows in the OIC member states;
4. Provide **policy recommendations** for the OIC Member States for establishing or furthering the operation and implementation of the single window systems.
Approach

- Objective: Reflect characteristics of the existing Single Window
  - Implementation progress
  - Services and functionalities
  - Organisational Management
  - Technical and Technology
- 4 months period
- Reviewed more than 400 documents, received 19 replies to survey, drafted six case studies
- Some OIC member countries with very little information
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3. Best Practices
   • Challenges
   • Possible solutions
Single Window Concept

A 'Single Window' environment

Trader

Electronic

Paper

Single Window

Transport

Customs

Agriculture

Health Dept
SW Concept

• What is behind
  – Organisation that consists of an institution, people, processes, rules, budgets, and strategies
  – Business processes that translate regulatory and operational procedures into services
  – IT system/architecture that consists of services and applications, technical infrastructure, strategy
# SW Business Processes and Services

## Core Business Processes

- Declaration Processing
- Permit Certificate Management
- User Profile Company profile
- Transport and financial document management
- Payments m-Payments
- Manifest Management

## Supporting Services

- The filing and lodging of documents and data
- Processing of applications / decision making
- Real time status information
- Messaging two way communication / feedback
- Coordination of joined controls
- Exchange of data between different systems and applications
- Reporting and Analysis
- Business Intelligence
- Risk management / selectivity
- Data validation, authentication and authorization
- Real time container / cargo tracking
- E-payment
SW Strategy

SW Business Strategy

- Business objectives
- Functionalities
- Service and Applications
- Technical requirements

Translates into

IT Architecture

- Business Architecture
- Functional Architecture
- Service and Applications Architecture
- Technical Architecture

Informs
<table>
<thead>
<tr>
<th>Architecture Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributed Architecture</td>
<td>• Hub - Central support for data exchange between SW stakeholders</td>
</tr>
<tr>
<td>Centralised Architecture</td>
<td>• Common data repository and services, share of IT Infrastructure</td>
</tr>
<tr>
<td>Hybrid Architecture</td>
<td>• Central provision and hosting of SW service components and support of the transactional processing</td>
</tr>
</tbody>
</table>
It is mentioned that the SW organisation has different models. The table compares the public and public-private models in terms of funding, enactment, and legal structure.

<table>
<thead>
<tr>
<th></th>
<th>Public model</th>
<th>Public-Private model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Funding (investment)</strong></td>
<td>Gov. budget</td>
<td>Gov budget and private partner</td>
</tr>
<tr>
<td><strong>Funding (operation)</strong></td>
<td>Gov. budget and own resources</td>
<td>Own resources</td>
</tr>
<tr>
<td><strong>Enactment</strong></td>
<td>Statutory delegation by government act</td>
<td>PPP contractual arrangement</td>
</tr>
<tr>
<td><strong>Legal structure</strong></td>
<td>Departmental entity, public enterprise (non-profit under private law)</td>
<td>Private company (For profit)</td>
</tr>
</tbody>
</table>
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Evolution and Trends

• Increasing number of SW worldwide in past 10 years. UN survey 70 out of 119 have a SW
• Following trends in the current developments can be observed
  1. Towards more digitisation and automation
  2. Towards cross-functional design
  3. Towards single submission (# single data entry location)
  4. Towards cross-border expansion
  5. Towards data centralization in distributed IT architectures
  6. Towards Single Window interoperability
Towards single data submission

1 request = 1 data entry

1 contact point

Single Data entry

1 request = 1 data entry

1 contact point

Single Data submission
Towards interoperability

• Ability to exchange data and information across systems is becoming more important at national and regional level
• Trend towards distributed IT architecture because more independent IT systems that need to be incorporated
• Diversity of IT systems among SW stakeholders lead to difficult integration and interoperability in the SW
  — Technical interoperability = interconnectivity patterns like network systems, security devices and communication standards
  — Process interoperability = common process and data model
  — Message interoperability = common data definitions and structure (syntax and semantic)
Towards cross-border expansion

- Increase in bilateral and regional initiatives for data exchange and regional Single Windows.
- Drivers
  - Exchange of pre-arrival information
  - Exchange of certificates
  - Exchange of customs information
- Different possible patterns
  - Peer-to-peer
  - Central hub
- Challenges: Different IT technology and architecture, non-standardised data and messages and processes.
Implementation Process

On average, 4+ years:

- Up to 6 months to go through Legal & Governance procedures;
- Up to 6 months to go through BPA, BPR and Data Harmonisation;
- Up to 6 months to go through contractual and tender procedures;
- Up to 12 months to build the necessary architecture;
- Up to 24 months for deployment, development and testing.*

* UNECE 2013
General Success factors

- Political support
- Enabling legal framework
- Solid business model and resource allocation
- Engagement and adherence of stakeholders
- Interoperability
- Common process design
- Use of project management methodology
- Efficient use of technology and high priority for common service development and central and reusable functional service components;
## Impact

<table>
<thead>
<tr>
<th></th>
<th>From</th>
<th>Reduction</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Border Crossing</td>
<td>180 min</td>
<td>-160 min</td>
<td>20 min</td>
</tr>
<tr>
<td>Documents collecting time</td>
<td>4 days</td>
<td>-3 days</td>
<td>1 day</td>
</tr>
<tr>
<td></td>
<td>39 days</td>
<td>-33 days</td>
<td>6 days</td>
</tr>
<tr>
<td></td>
<td>4 days</td>
<td>-2 days</td>
<td>2 days</td>
</tr>
<tr>
<td>Cargo turnaround time</td>
<td>6 days</td>
<td>-357 hrs</td>
<td>3 hours</td>
</tr>
<tr>
<td>Customs clearance</td>
<td>3-35</td>
<td>-2 to 34</td>
<td>1</td>
</tr>
<tr>
<td>Number of Documents</td>
<td>3-35</td>
<td>-2 to 34</td>
<td>1</td>
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