Training of Trainers Workshop on Trade Facilitation and Paperless Systems for Agrifood Products

Bangkok, Thailand, 15-17 December 2014
Module 2.3:
Trade Single Window & Paperless Trade Project Implementation

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Objectives of this module

- To briefly introduce how to plan and implement SW and paperless trade project
  [based on the UNNExT Single Window Planning and Implementation Guide].

- To discuss some case studies on SW/paperless trade planning and implementation
Original Definition of Single Window (2005)*

**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 fulfill all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once.

Aiming to

1. **enhance the efficient information exchange and coordination** of traders, transport and government for regulatory transactions, and

2. **facilitate single submission of data** or reduction of the same data/same document submissions.

*UN/CEFACT Recommendation and Guidelines on establishing a Single Window, UNECE, 2005
http://www.unece.org/cefact/recommendations/rec33/rec33_ecetrd352_e.pdf
After about 10 years of experiences*
Different forms of Single Windows emerged!

**Pre-Single Window Evolution**
- Basic Customs Automation
- Trade Points Portals, e.g. Lao PDR’s Trade Portal
- Trade Electronic Data Interchange (EDI)/Value Added Network (VAN)

**Single Window Evolution**
- A limited form of SW - Customs Single Window, e.g. Pakistan Customs SW
- A limited form of SW - Port Community System, e.g. India Port Community Systems
- Trade-regulatory National Single Windows, evolving from few number of regulatory agencies, e.g. Azerbaijan NSW (with 11 agencies), Thai NSW (from 4, to 15 to 36)
- Extended Trade National Single Window, e.g. Korea uTradeHub, HK DTTN
- Transport-regulatory National Single Windows, e.g. China LOGINK (Maritime SW)
- Integrated National Single Window (all-regulation NSW+PCS), e.g. Japan NACCS
- Integrated Sub-National Single Window, e.g. Shanghai e-Port SW
- Regional/Global Single Windows, e.g. ASEAN Single Window (regional trade SW), NEAL-NET (connecting China, Japan, Korea maritime SWs)

* "Ten Years of Single Window Implementation: Lessons Learned for the Future,“ J. Tat Tsen - Global Trade Facilitation Conference, 2011
Stage A: [Customs SW] Paperless Customs + e-Payment for Customs Duty + e-Manifest + and electronic risk-based inspection

Stage B: [Regulatory SW] Connecting Other Government Back-end IT systems, and e-Permit/e-Certificate Exchange with Paperless Customs System

Stage C: [PCS] e-Document/Data Exchange among Stakeholders within the (air, sea) port community

Stage D: [Integrated SW] An integrated national logistics platform also with traders, regulators and logistics-service providers information exchange

Stage E: A regional information-exchange environment

**Note 1** - Stage C can be developed before with Stage B.

**Note 2** – The evolution may not be sequential, e.g. Stage B & C may be developed separately in parallel, and may then be interconnected later.

Why a systematic approach is needed?

Because there are so many complicated challenges to be managed such that the SW Vision could be transformed into reality.

**Vision**
- e.g.
  - 25% better, faster, cheaper trading across border* within 5 years (2015-2019)**

**Why a systematic approach is needed?**

* Referring to World Bank’s Trading Across Border Indicators (www.doingbusiness.org)

**Within an economy or a regional economic cooperation, measurable goals should be mandated by its Leaders.**
25% better, faster, cheaper trading across border* within 5 years (2013-2018)**

From the “As-Is” conditions (architectures) of all these components

10 critical components must be considered for SW planning and implementation

Migrating to the target “To-Be” architectures of all these 10 components

For large-scale e-government projects, EA frameworks are recommended in many literatures and in practices, e.g. TOGAF, and US FEA. Refer to UNNExT SW Planning and Implementation Guide, 2012.
(3) Ten Critical Success Components
must be analyzed to understand the “as-is” and its bottlenecks, propose the “to-be”, reconcile and agree.

1. SW Vision Articulation and Political Will Creation
2. Stakeholder Collaborative Platform Establishment
3. Governance & Finance Model
4. Business process analysis and improvement
5. Data Harmonization and document simplification
6. Application architecture design
7. Technology architecture design including standards & technical interoperability
8. Legal Infrastructure
9. IT infrastructure & solutions design
10. Change adoption, operations, and sustainability
(4) Collaborative SW Project Management in 5 Phases

1. **Inception Phase (Preliminary)** – Developing a concept paper for preliminary and initial discussion

2. **Elaboration Phase** – Conducting a detailed feasibility study and architecture design

3. **Planning Phase** – Formulating a high-level SW master plan & and detailed implementation plans

4. **Execution/Implementation Phase**
   – Securing the funding, executing and overseeing the SW project implementation

5. **Change Adoption/Lessons-learned Phase**
   – Change adoption, impact assessment, collecting lessons learned and suggesting opportunities for further SW improvement in the next cycle.
SW Project Management in 5 Phases

**Design the Blueprints & Organize the Plan**

1. Inception Phase
   - 1.1 Engage Sponsor and Assess stakeholder Needs
   - 1.2 Analyze and Validate Needs
   - 1.3 Formulate Case to Address the Needs
   - 1.4 Identify and Engage Governance

2. Elaboration Phase (Architecture Design)
   - 2.1 Identify Organizations and Service Providers to Engage
   - 2.2 Analyze Opportunities to Leverage
   - 2.3 Determine Whether to Leverage

3. Planning Phase
   - 3.1 Formalize Collaborative Planning Team and Launch Planning
   - 3.2 Refine the Vision for Performance and Outcomes
   - 3.3 Analyze the Current State, Determine Adjustments, and Plan the Target State

**Implement and Measure**

4. Execution Phase
   - 4.1 Define Funding Strategy and Make Decision
   - 4.2 Obtain Resources and Validate Plan
   - 4.3 Execute the Plan

5. Go-Live Change Adoption Phase
   - 5.1 Operate with the New Capabilities
   - 5.2 Measure Performance Against Metrics
   - 5.3 Analyze and Provide Feedback

**In each phase, all 10 critical components shall be revisited and refined (as-is → to-be).**
1. Inception Phase

To conduct an initial concept study
Why an inception phase should be conducted?  
(the purpose of an initial concept study)

- The purpose of this inception phase is **to develop a concept paper aiming to facilitate initial discussion on the SW and then to obtain feedback and approval** to go forward for an in-depth study into the need for, approach to and feasibility of a Single Window.

- Normally, this initial concept paper is not intended to seek commitment or agreement for the implementation of a Single Window yet.
2. Elaboration Phase

To conduct a detailed feasibility study & SW design
The purpose of the elaboration phase

- The purpose of the feasibility study is to provide decision-makers with an insight into the options available and their consequences for each governmental authority and each involved business sector, e.g.

  - detailed analysis of “as-is” and “to-be” processes and documentation requirements,
  - possible service functions to be provided by the “to-be” applications architecture,
  - Technical standards and interoperability issues,
  - legal infrastructure
  - implementation options i.e. full or phased implementation, and the possible steps,
  - Financial and business concerns, e.g. free services or charge for services, options for investment (public, public-private, or private only), and other required resources
  - potential benefits and risks,
  - a time frame, and
  - implementation and management institutions and strategy.
How to conduct a detailed feasibility study? (cont)

Referring to the SW Development Cycle (Business Process)

- Conducting more detailed Business Process Analysis (BPA) to
  - understand the “as-is” procedures and documentation,
  - identify bottlenecks and improvement opportunities, and
  - propose “to-be” procedures and documentation enabled by reducing and simplifying some procedures/documents, applying e-document submission, e-document exchange, and electronic processing.

For a more detailed BPA guide and associated capacity building workshops request, please refer to UNESCAP/UNECE and
- unnext.unescap.org
How to conduct a feasibility study? (cont)

Referring to the SW Development Cycle (Data Harmonization)

- Conducting feasibility and potential benefits through some document analysis and data harmonization to
  - understand the “as-is” data elements and their structures of relevant documents, and
  - propose “to-be” flows and structures of documents and data elements for better data exchange, and easier (e.g. non-duplicated data entry by the users) and more automatic handlings.

With this analysis, we could identify one important sub-project to be carried as part of the overall project implementation phase which is the Data Harmonization Project.
How to conduct Data Harmonization?

• Evaluate and select data model based on comprehensiveness and compliance, e.g. WCO Data Model 3.0

• Confirm that the scope of a data harmonization project matches the scope of the business process analysis of the Business Process Phase

• Define each data element in terms of definition, data type, data format, and data constraints in actual operation

• Analyze data elements across various documents and organize them in a comparable manner

• Map the data elements to selected standard data model
Financial Analysis and Business Model Study

Referring to the SW Development Cycle (Financial and Business Model Analysis)

- It is necessary to conduct a comprehensive cost benefit analysis, e.g. cost of designing, developing, and maintaining individual agency systems; its potential benefits; and who should finance the development and operations e.g.
  - a system totally financed by government (e.g. with no service fee) to an entirely self-sustainable model (e.g. with some forms of revenue), or
  - possibilities for public-private partnerships with some service fees, or
  - Some parts financially supported by private sectors with fees.

- Clarity on the financial model can significantly influence decision-makers to support the implementation of the system.
A Special Vehicle/Entity may be needed to develop and operate the SW platform

- Since the SW environment is an evolutionary and long-term platform for trade facilitation, a study about the sustainability of the “entity” that will be in charge of this platform is needed.

- Most of countries with successful SW environments have institutionalized a special vehicle(s) or a special organization to develop and provide operational services (and continuously improve) their SW environment (again several options could be considers), e.g.

  - Solely owned and invested by Governments (without service fees), or
  - Solely owned and invested by Governments, and later transformed into a government corporate, or
  - A business entity by public-private partnership (shared investment, and with some service fees).
  - A Build-Operate-Transfer Model (developed by a private company, operated with some service fees, and transfer the ownership to the government after an agreed duration, etc.)
3. Planning Phase

To formulate a high-level master plan
An architecture-based planning approach

- After the inception and elaboration phases, the SW vision, objectives, and target “to-be” architectures and associated issues should be commonly clarified and agreed.

- When the architecture analysis has been conducted, i.e. when we’ve already agreed upon the clear “to-be” architecture, we can now readily take those components into sub-projects with tasks (what to do) and schedule.
To formulate the SW project implementation plan, again we should revisit all SW key components, but with the perspectives of prioritizing these components into sub projects with associated deliverables, tasks, schedules, budgets, management issues, other necessary resources, etc.
A Suggested Template for a SW Master Plan

1. Executive Summary
2. Overview of a National Single Window
   2.1 Scope and Objectives of NSW
   2.2 Expected Benefits
   2.3 Major Components of NSW
   2.4 Participating Agencies
3. Implementation Strategies
   3.1 Incremental Development
   3.2 Use of International Best Practices and Standards
   3.3 Business Process Improvement
   3.4 Harmonization of Data Requirements
   3.5 Provision of Legal Infrastructure
   3.6 Stakeholder Co-ordination
4. Stocktaking of NSW-related Development thus Far
   4.1 NSW Exchange Systems
   4.2 Business Process Analysis
   4.3 Business Model
   4.4 Harmonization of Data Requirements
5. Institutional Arrangement for Project Implementation, Management, and Governance
   5.1 Project Implementation
   5.2 Project Management
   5.3 Project Governance
6. Project Schedule and Budgets
Who and What should we do with the draft plan?

- The **draft** project plan could be developed by a consulting team or a designated task force, but it should **be reviewed and refined** by relevant stakeholders through several rounds of communication and discussions.

- The final SW high-level master plan should be **commonly understood** by all relevant stakeholders, **and then agreed** by the senior-level Project Management group.

- The project should be **approved and funded** by the government authority or those high-level policy decision makers who have the resources and can grant the sponsorship for the project.
Summary

- A SW high-level master plan is to align SW objectives with the current As-Is context, and to define clear paths for development and deployment of the target To-Be Single Window.

- After a SW high-level master plan is initially established, approved and financially funded, it would become the reference for future solution implementation and deployment initiatives responding to SW requirements.

- Over the time, this master plan should be periodically refined with changes in environments or business objectives in order to stay as strategic and reference.
Case Examples & Discussion on SW high-level master plans
A “To-Be” SW Architecture

Governance Mechanism – policy decision, service charge regulation, SLA etc

1. e-Document Exchange Hub for Cross-boarder Trade and Transport
2. 36 Government and Facilitation Agencies
3. ICT National Infrastructure and related Laws
4. National Single Window (NSW) By Customs Department
5. Value-Added Service Providers
6. Private Sector & Transport Agencies

Private Sector & Transport Agencies:
- Importer/Exporter
- Carrier
- Custom Broker/Freight Forwarder
- Ship Agent, Airlines Agent
- Other Logistics Service Providers
- Bank and Insurance

Other Business Parties:
- Value-Added Services for Single Window Entry and Business Process Management

Process & Data Harmonization:
- Gateway

1. ebMS
2. ebMS
3. ebMS
4. ebMS
5. ebMS
6. ebMS

A Case Example 2 (cont)
(referencing to the SW Roadmap - Stage2)
Case Example – SW High-Level Project Plan (with Sub-Projects)

1. Preparation Projects
- Awareness Creation & Capacity Building Project (by Ministry of ICT)
- Business Process Re-design and Streamlining Rules & Regulation Project to support e-transaction via NSW (by Customs Department)
- Data Harmonization Project (by Customs Department)
- Interoperability Framework Project (to establish a national development standard for enabling interoperability across agencies and across different IT platforms) (by Ministry of ICT)

2. System Implementation Projects
- NSW-phase-1 (pilot) project for exchanging e-permits between 3 other government agencies with Customs department. (by Customs Department)
- Backend-IT system implementation projects for 20 regulatory agencies (by each own department)
- NSW-phase-2 project for interconnecting 36 government agencies (by Customs Department)
- E-Port Development Project (by Port Authority)
- Cross-border data exchange pilot project (by Customs Department)

3. Deployment and Change Management Project
- Awareness Creation, Training & Promotion Project (by Customs Department)

4. Other Supporting Projects
- Upgrading high-speed G2G infrastructure Project (by Ministry of ICT)
- Root CA (Certificate Authority) Development Project (by Ministry of ICT)
4. Overseeing the SW Implementation Phase
Establishing Several Levels of Project Management Offices (PMO)

- After the SW high-level master plan has been officially approved and funded, several levels of Project Management Offices (PMOs) must be established and mandated to coordinate, manage and/or implementation the different levels of the SW program and (sub)projects to ensure long-term institutional support and operation (with offices and staffs), i.e. at least in 3 major levels

1. PMO at the political level
2. PMO at the strategic level
3. PMO at the implementation and operation level
What and How to monitor and control a project? [At least 3 key things you should do]

- A project’s documented plan is the basis for
  1. monitoring activities & their deliverables
  2. communicating status, and
  3. taking corrective actions

- Progress is primarily determined by comparing “actual” work product, task, cost and schedule with the “planned” at prescribed milestones within the project schedule or within the work breakdown structure (WBS), e.g.
  - Comparing the “actual” finished-date with the “planned” finished date of Milestones
  - Comparing the “actual” deliverable with the “planned” (expected) deliverable (work product)

- Appropriate visibility enables timely corrective action to be taken when performance deviates significantly from the plan.
  - A deviate is significant if, when left unsolved, it precludes the project from meeting its objective.
5. Change Adoption, Measurement, Lessons-learned Collection Phase

- Since establishing a SW environment is a long-term and complicated development program (e.g. referring to the SW Roadmap), the concept of continuous improvement should be adopted since we could learn and continuously gain more experiences as we go.

- Note that the SW project implementation include not just the technological components, e.g. hardware/network, software development, but also human-related operations and life-style environment changes.

  - It is very important to collect lessons learned and suggest improvement opportunities for the next iteration of SW project management process.
Summary

- **Step-wise SW project management in 5 phases**
  - inception phase,
  - the detailed feasibility study phase,
  - planning phase,
  - implementation and oversight phase, and
  - change adoption/lessons-learned/feedback phase

- In each phase, the **ten key components and associated activities/deliverables** in the recommended SW development cycles should be revisited and refined iteratively,
  - for example, until the “to-be” architectures of those key components are **commonly agreed and committed** (for analysis and planning),
  - or for monitoring the progress (during the implementation and oversight phase), or for change adoption/colllecting lessons learned (during the change adoption/lessons-learned phase).
The First Three (3) Critical Challenges for SW Implementation

- **Creating Political Will, e.g.**
  - Establishing it as the national commitment (by developing national strategic plan, and obtaining endorsement by the highest political institution, e.g. the Prime Minister, the Cabinet, the President, ….).
  - Establishing it as a regional commitment, e.g. MOU signing among the Head of States to develop the National SW and the Regional SW.

- **Institutionalizing the Policy**, i.e. transforming the policy mandates into normal routine management, e.g.
  - Institutionalize the National High-level Committee, and Project Management Group for steering and overseeing the SW implementation, by the Cabinet’s mandates and by laws (with the support from several working groups, governments, business sectors and academia)
  - Securing the necessary budgets to finance the project.

- **Establishing an effective inter-agency collaboration platform**

* As cited by case studies of Singapore’s TradeNet, Korea’s uTradeHub, Malaysia NSW, Japan’s NACCS, and Thailand NSW in the UNNExT Policy Brief No. 02, 03, 04, 06 and 08 respectively, and also in the UNECE Single Window Repository.
Other critical success factors* that have also been cited in many SW case studies

- Conductive legal framework
- Other planning and implementation challenges
- Sustainability and Business/Financial Models, e.g.

  - In several economies, “Special Corporate Vehicles (SCV)” have been established, e.g. Japan’s NACCS, Inc., Korea’s KTNet,

  * As cited by case studies of Singapore’s TradeNet, Korea’s uTradeHub, Malaysia NSW, Japan’s NACCS, and Thailand NSW in the UNNExT Policy Brief No. 02, 03, 04, 06 and 08 respectively, and also in the UNECE Single Window Repository.
Q & A

Thank You.

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