Capacity Building Workshop on Cross-border Paperless Trade Facilitation: Lessons from On-going Initiatives and Way Forward

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UNCC, Bangkok

Enabling Cross Border Data Exchange through Single Windows

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Agenda

1. Objective and Scope
2. Cross Border Data Exchange - Examples
3. Enabling Single Windows for Cross Border Data Exchange
4. Key Technical Considerations
5. Example – ASEAN Single Window Certificate of Origin

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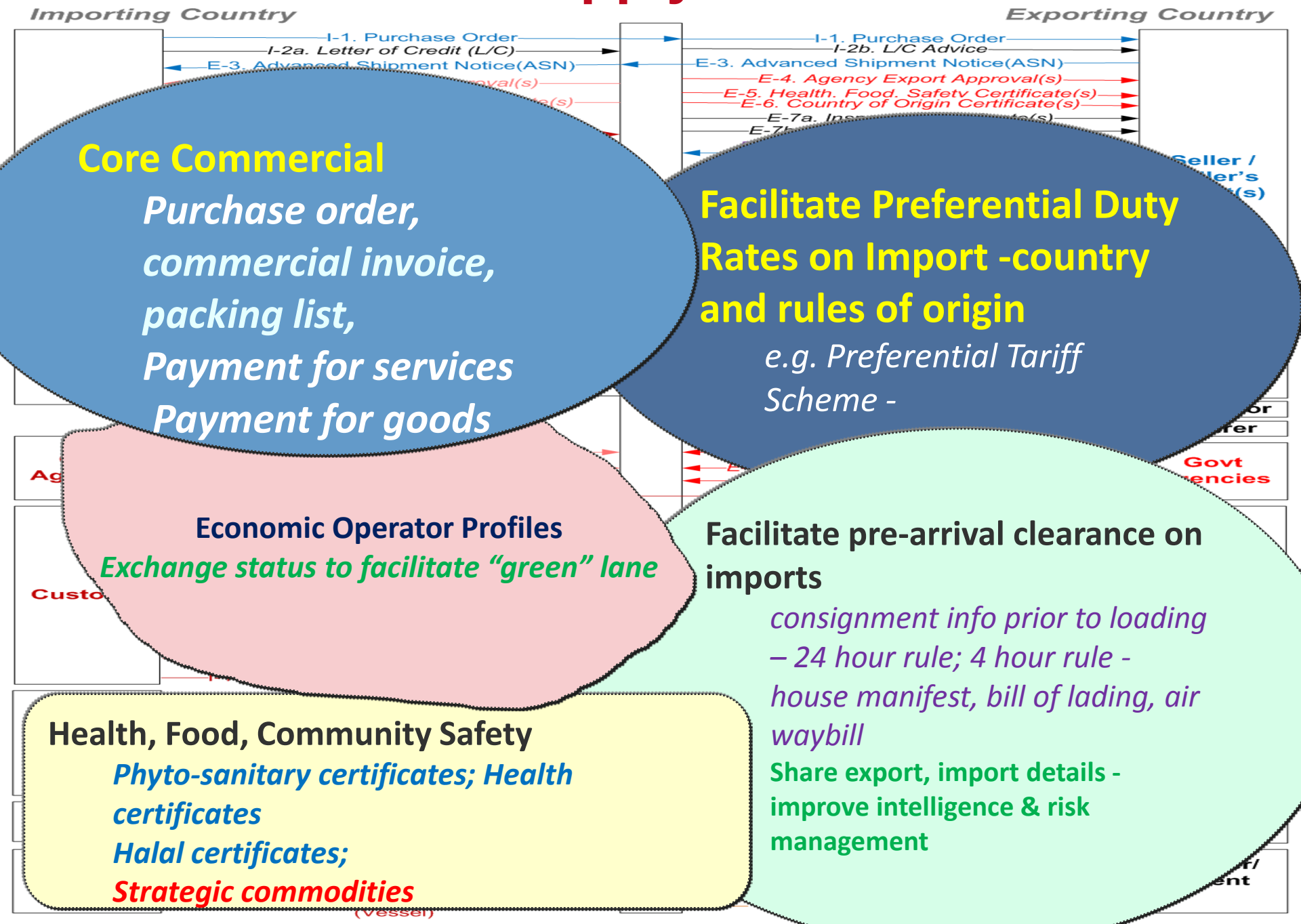
Objective and Scope

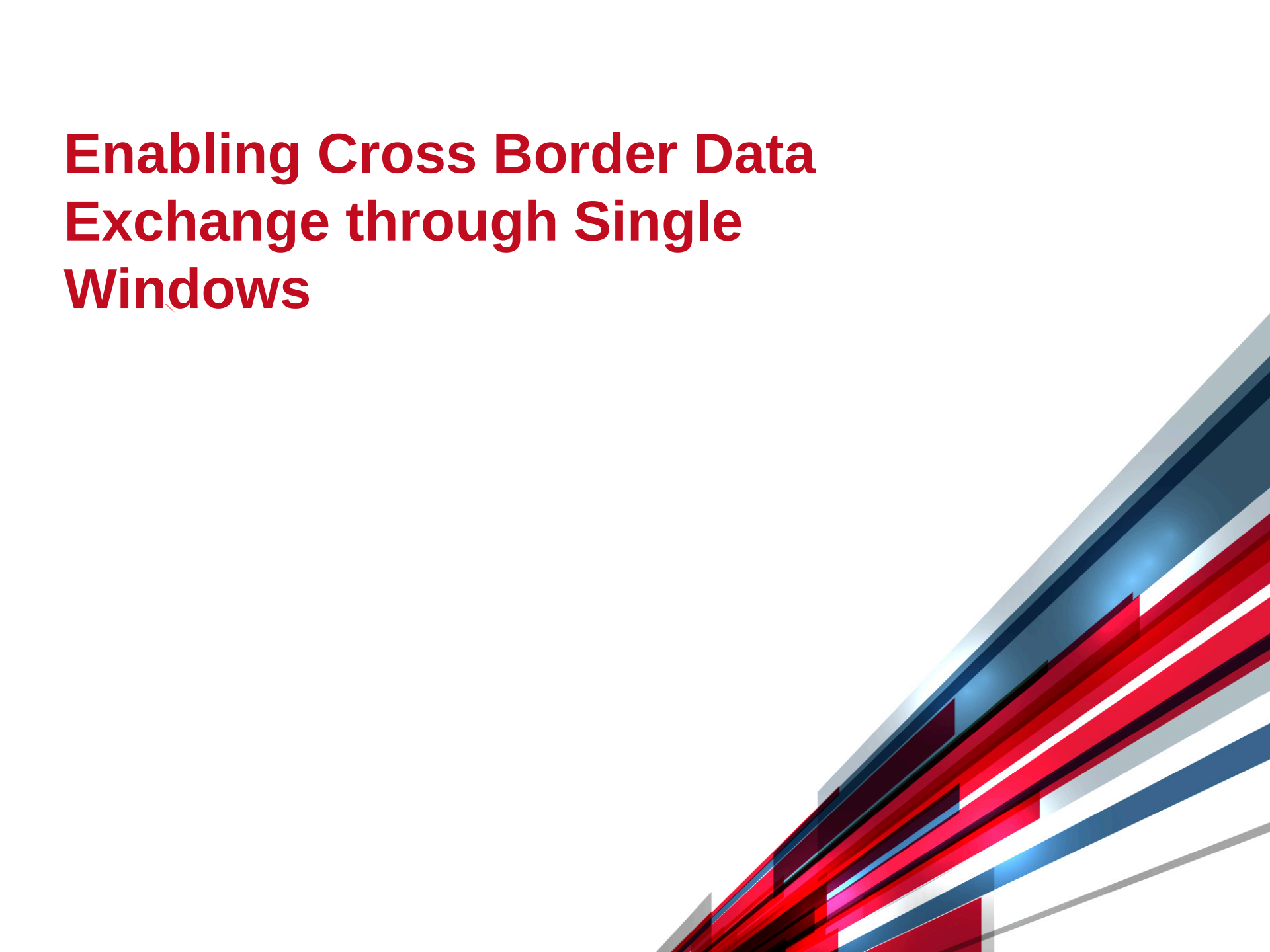
- **Starting point for (technical) deliverables in *"Draft Road Map for the Implementation of the Regional Arrangement (25 Aug 2015)"*:**
  - *Guide on how to develop or upgrade paperless trade systems consistently with the general principles*
  - *Guide to help facilitate concurrent implementation of national and cross-border paperless trade systems*
  - *Guide on different implementation options/mechanisms for paperless trade systems in an interoperable manner*
  - *Criteria for satisfying the requirements to offer a substantially equivalent level of reliability*
  - *Technical gap checklist*

- **Scope of Regional Arrangement assumed**
  - **In practise just government-to-government cross border exchanges**
  - **potentially business-to-government by implication**

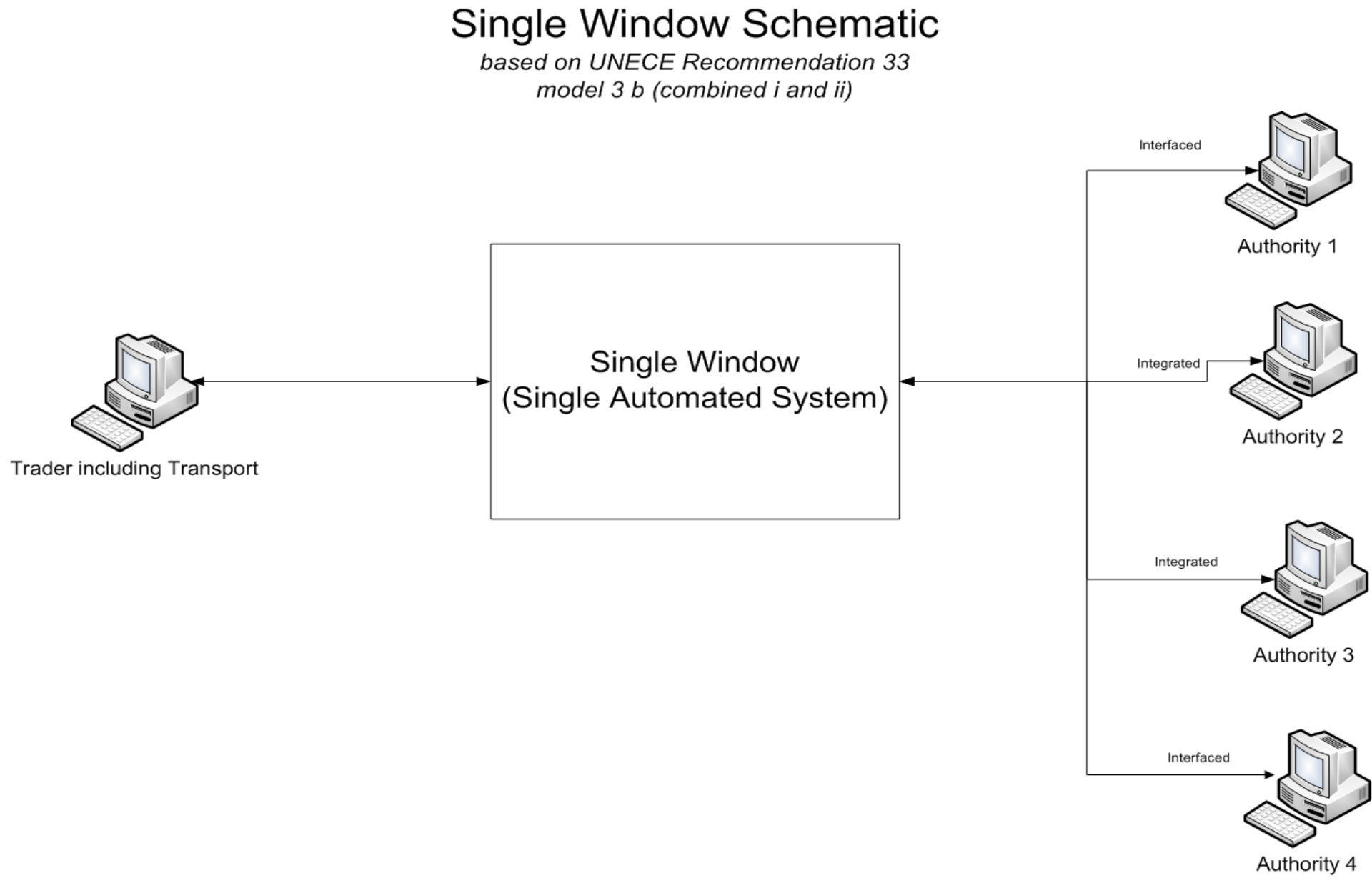
Cross Border Supply Chain Processes



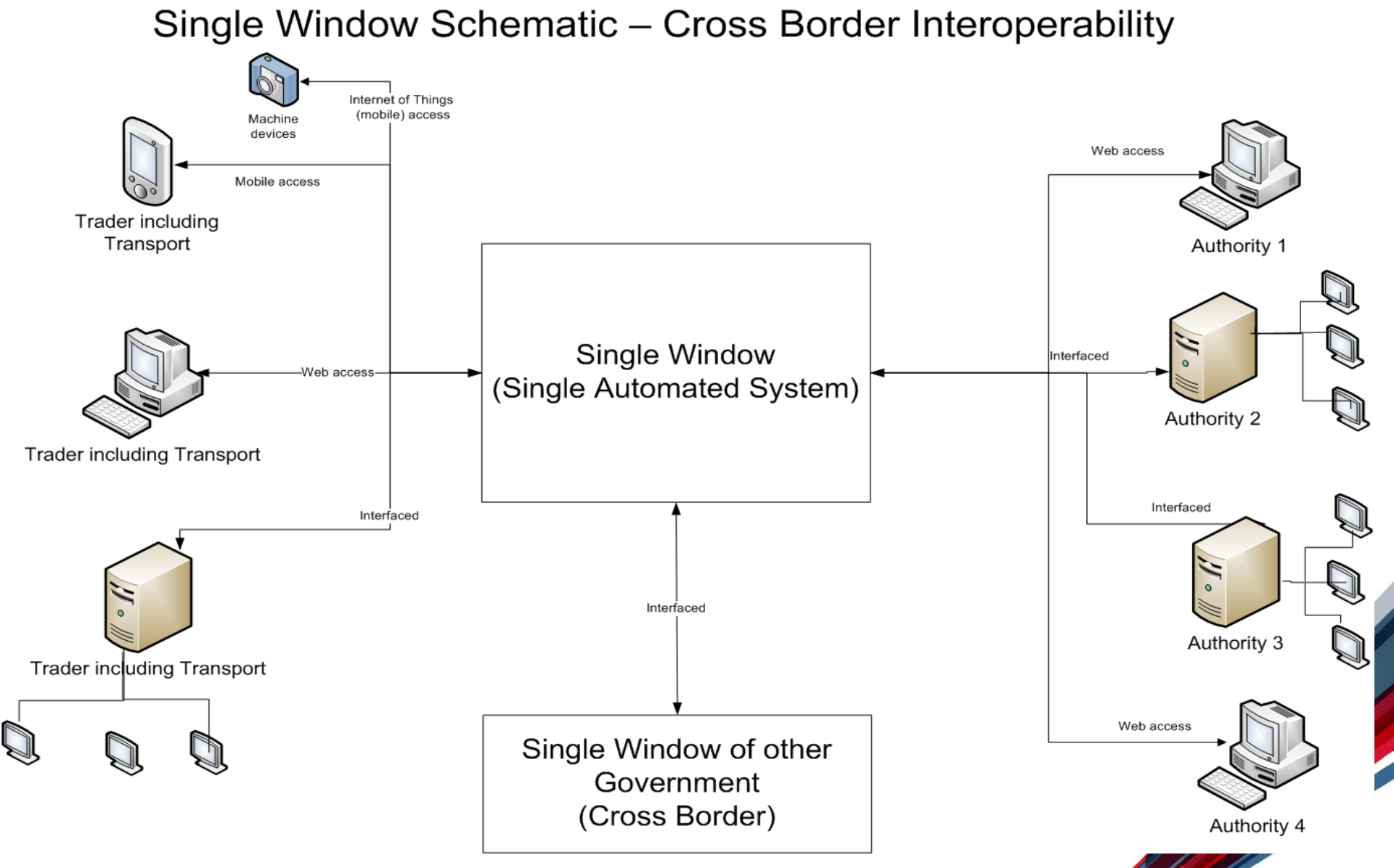
Enabling Cross Border Data Exchange through Single Windows



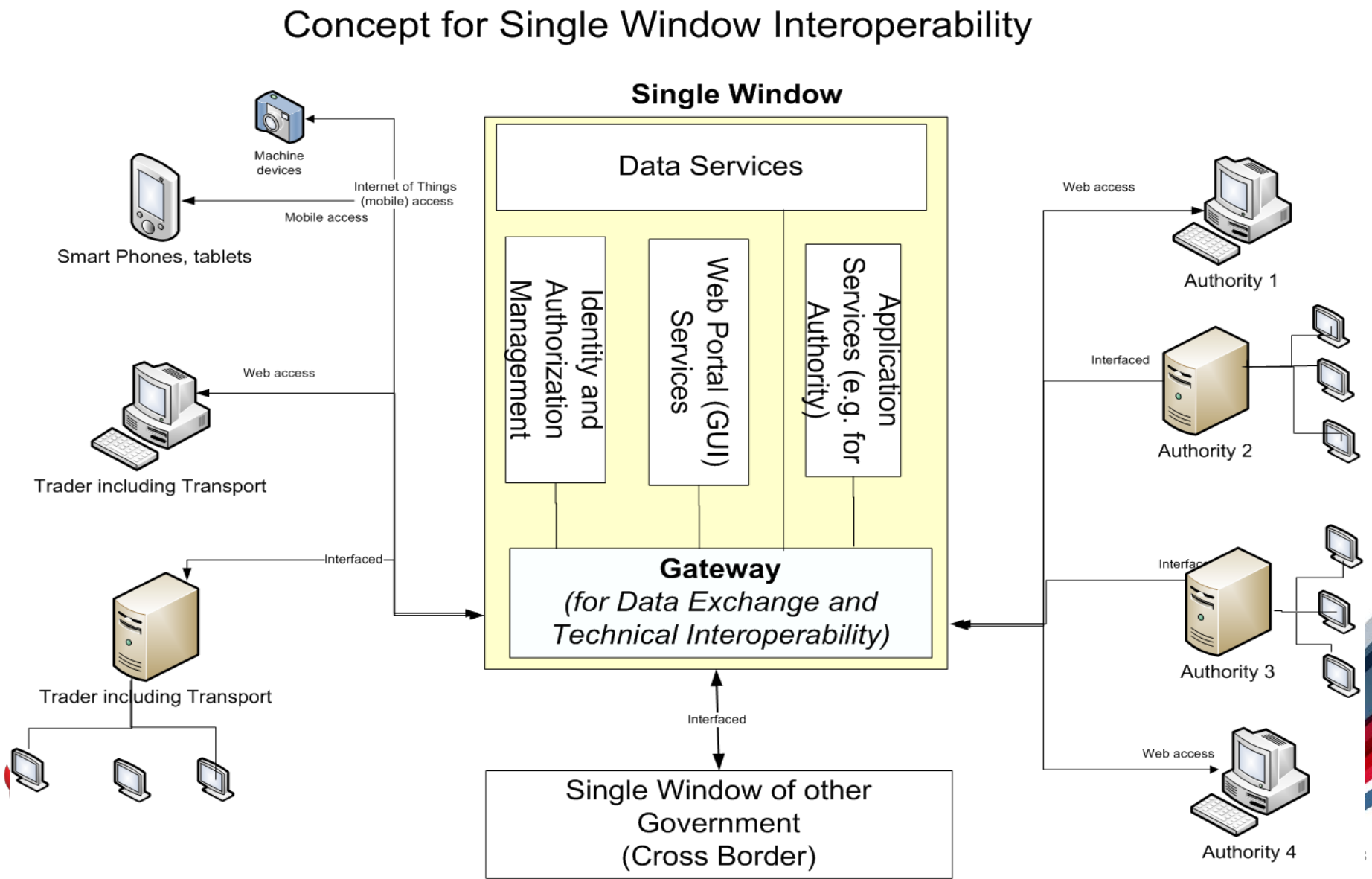
Single Window – UNECE Recommendation 33



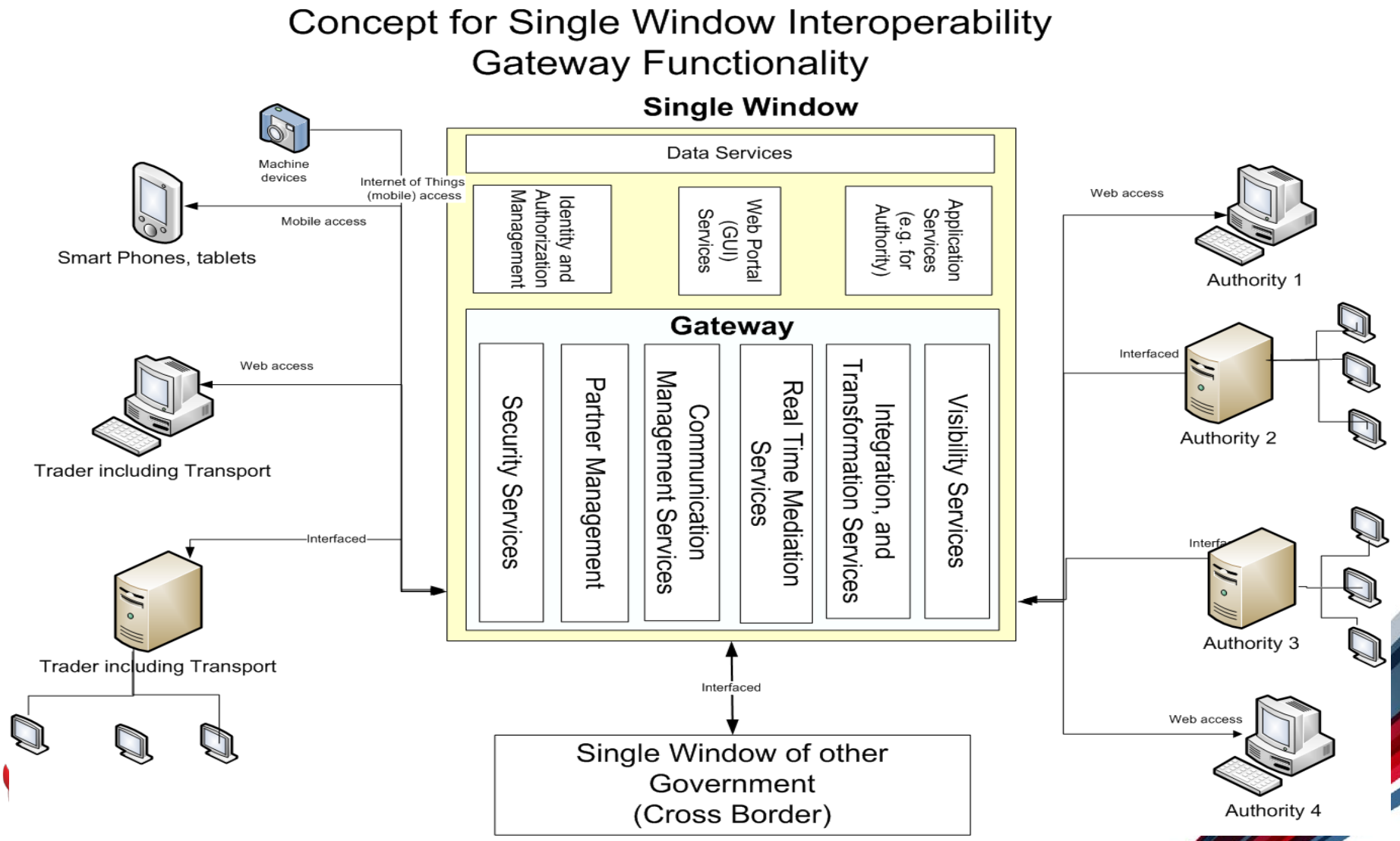
Single Window – UNECE Recommendation 33 + G2G Cross Border Interoperability



Single Window – Concept for G2G Cross Border Interoperability



Single Window – Gateway Functionality for Interoperability



Cross Border G2G Data Exchange
Key Technical Considerations

- **Security Foundation of the IT infrastructure**
  - Assurance in the authenticity and integrity of electronic transactions *sent to another jurisdiction*
  - Assurance that privacy and confidentiality obligations will be complied with, when providing data to another jurisdiction
  - Assurance of protection against cyber attacks
  - Trust in the authenticity and integrity of electronic transactions *received from another jurisdiction*
- **Data Exchange**
  - Secure and Reliable Communications for the Data Exchange
    - Authenticity, Integrity, Confidentiality, Reliable Delivery
  - Interoperability (mutual “IT” understanding) of the Data Structures used for the Data Exchange

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Security Foundation of the IT Infrastructure

- **Establish Technical Security Foundation with supporting processes and controls with regular certification from an accredited certification body**
- **Categories for Consideration (from ISO27001)**
  - **Information security policies (2 controls)**
  - **Organization of information security (7 controls)**
  - **Human resource security - 6 controls before, during, or after employment**
  - **Asset management (10 controls)**
  - **Access control (14 controls)**
  - **Cryptography (2 controls)**
  - **Physical and environmental security (15 controls)**
  - **Operations security (14 controls)**
  - **Communications security (7 controls)**
  - **System acquisition, development and maintenance (13 controls)**
  - **Supplier relationships (5 controls)**
  - **Information security incident management (7 controls)**
  - **Information security aspects of business continuity management (4 controls)**
  - **Compliance; with internal requirements, such as policies, and with external requirements, such as laws (8 controls)**

Communication Protocols for Data Exchange

- **Transfer Data/ Message –** this is the basic transmission of data from system to another
- **Encrypt Communication Channel -** to ensure the content of the data cannot be seen during transmission
- **Encrypt Data/ Message –** to ensure the content of the data cannot be seen at rest and during transmission and at rest at either end until it is decrypted
- **Digital signature for authentication / integrity -** this provides assurance that the content of the data has not been tampered with during transmission – that is, the data that is sent is identical to the data is received. It also provides the capability to authenticate the sender of the message
- **Once and only once delivery –** this provides assurance that no data/messages are lost and that no data/messages are duplicated during transmission from one system to another.

Use of a communication protocol that provides all these features is recommended

Interoperable Data Formats and Structures

- Use of Document Structure Standards libraries e.g. UNCEFACT; WCO; ANSI X12
- JSON (JavaScript Object Notation) - a lightweight data-interchange format that is used for data exchanges with mobile devices,
- *Specification and agreement of the transformation between the agreed cross border interoperability data structure and the data structures/ formats used domestically.*
- Design, development and testing of the transformations between the agreed cross border interoperability data structure and the data structures/ formats used domestically
- *Process orchestration and routing to incorporate the required data structures within the cross border business services.*

Example

ASEAN Single Window Certificate of Origin

e-ATIGA Form D
Legal Framework

Protocol on the Legal Framework(PLF) - *by LWG*

Legal recognition of electronic documents exchanged among ASEAN Member States (AMS) via mutually trusted secure, Government IT Systems and ASW

Operational Certification Procedures (OCP) for Electronic ATIGA Form D – *by SCAROO*

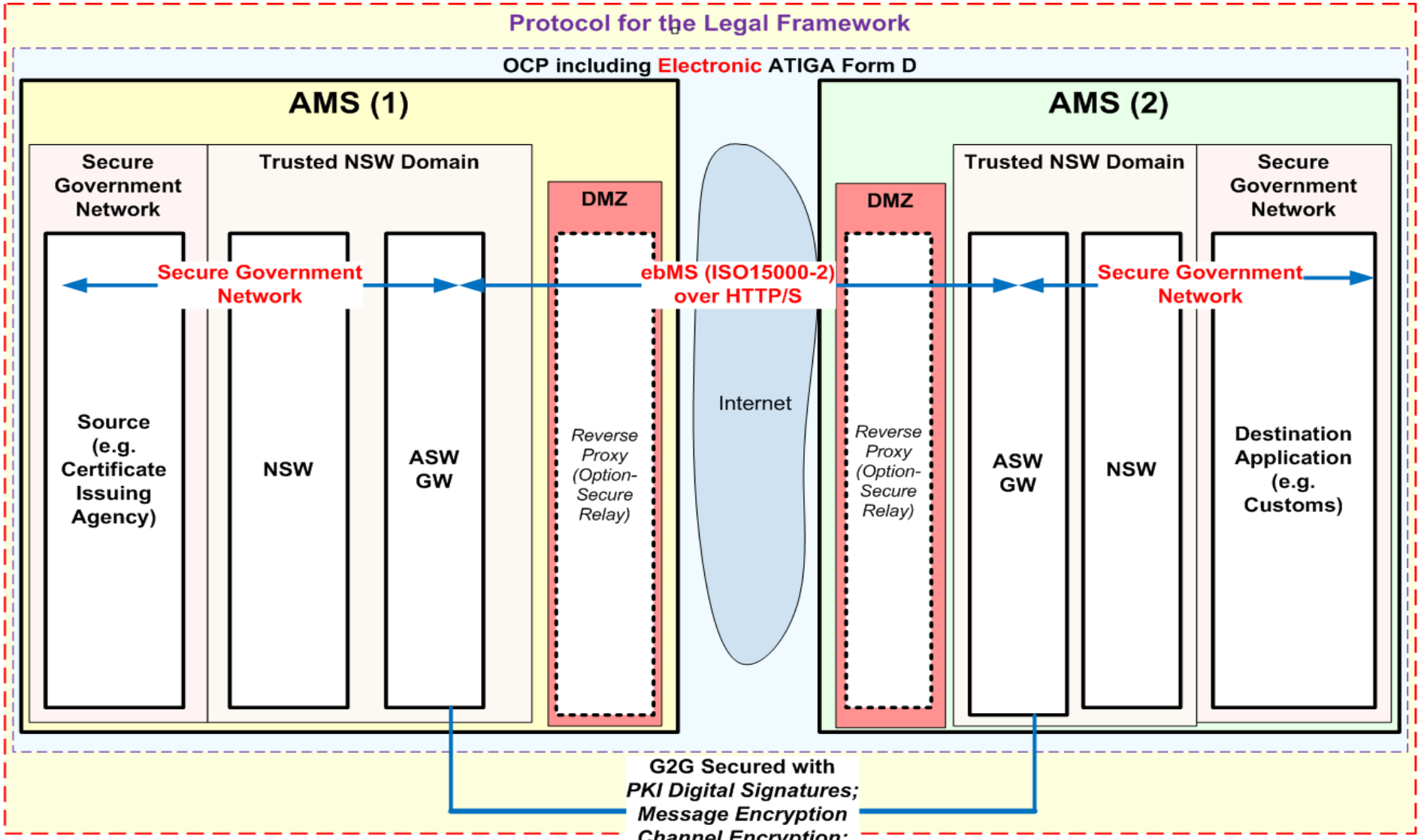
a) *Reference PLF for legal recognition of electronic documents, and related security*
b) *AMS agree to comply with e-ATIGA Form D Process Specification and Message Implementation Guideline for interoperability*
c) *Option for Electronic and Paper with prior agreement amongst AMS*
d) *Business specifics related to electronic processing, if any*

e-ATIGA Form D Process Specification and Message Implementation Guideline – *by TWG*

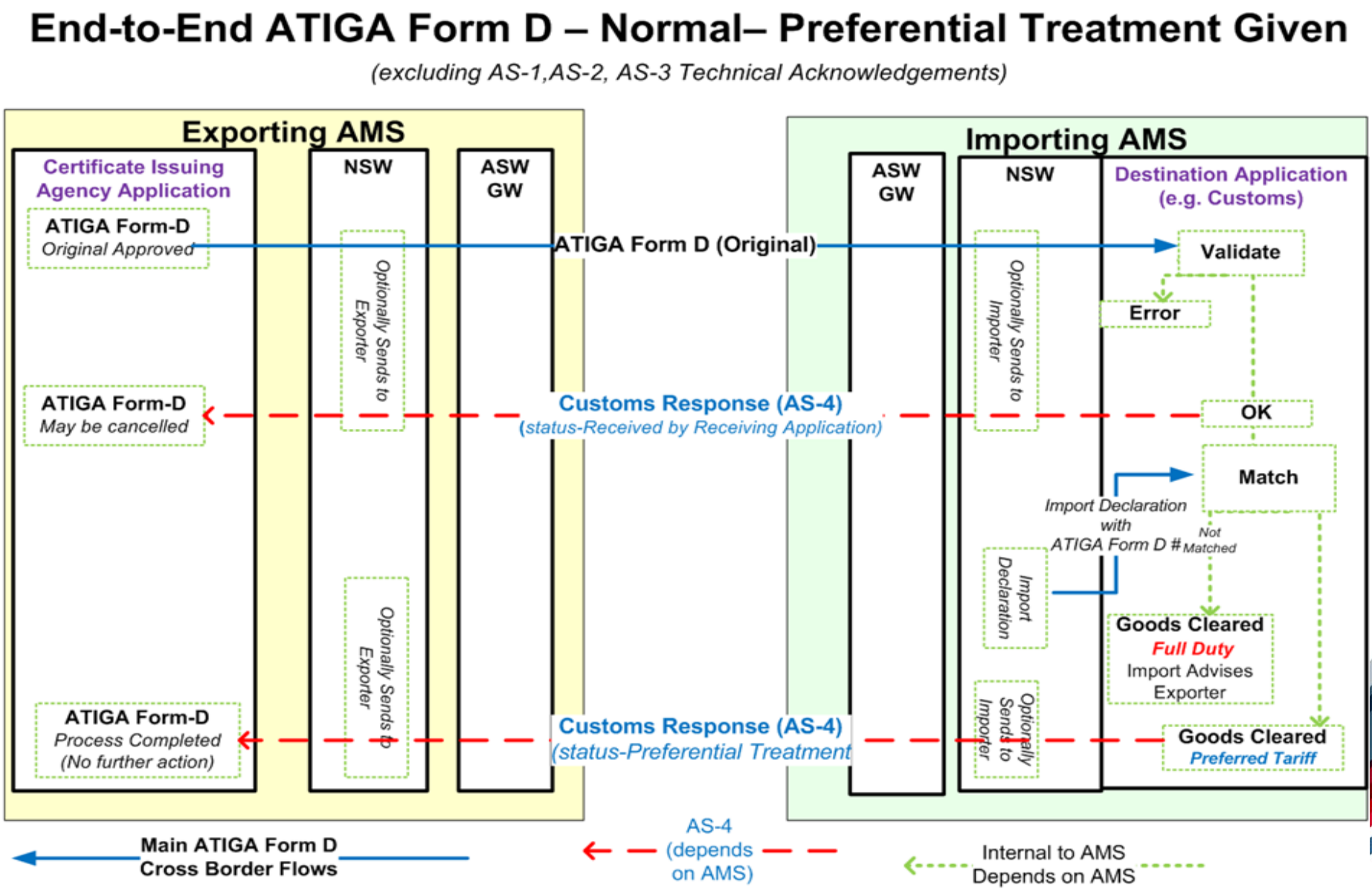
Defines agreed electronic processes and message structure

Example of Trust Framework

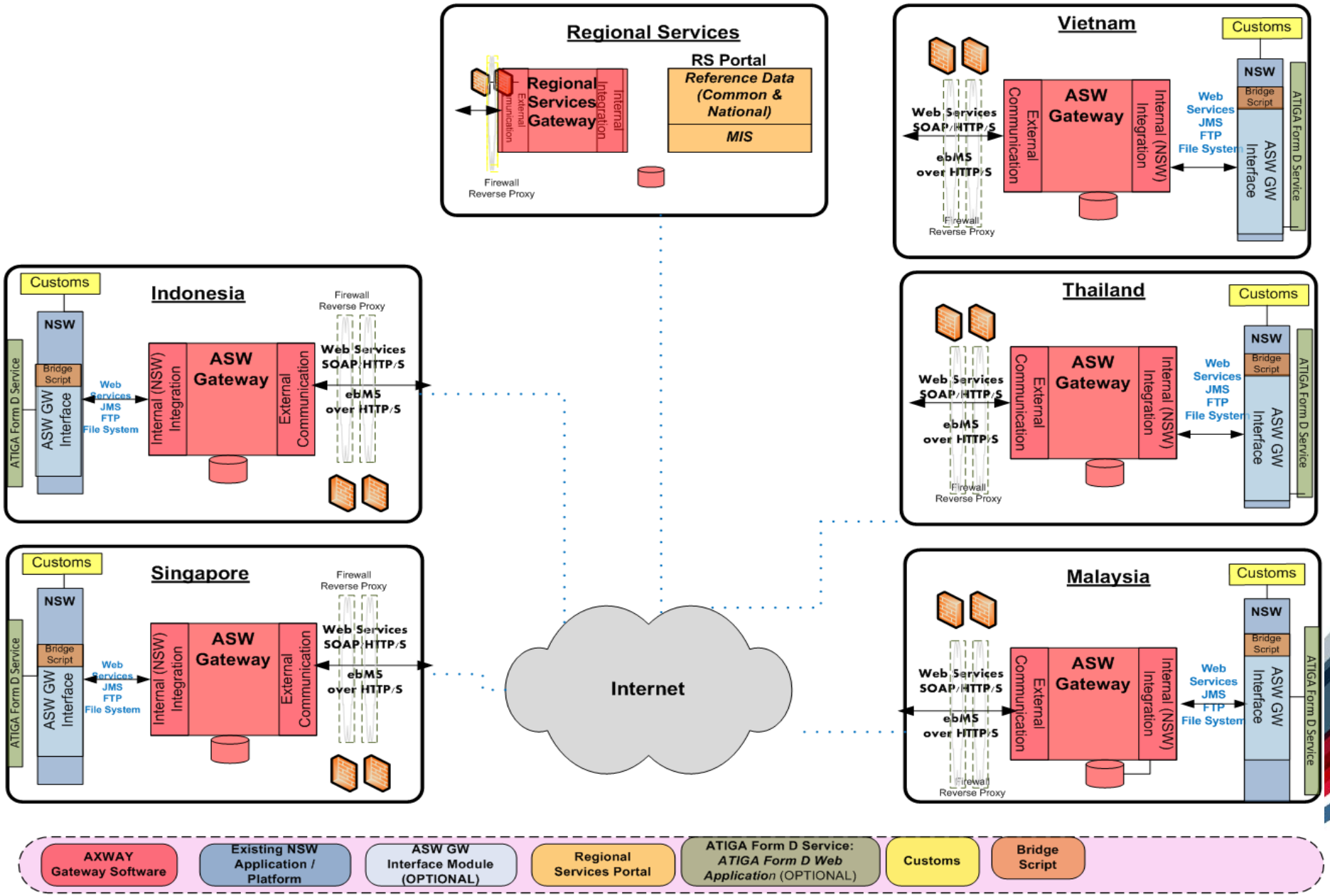
End-to-End Security with ASW Gateway



ASEAN Certificate of Origin Flow



ASW Schematic



Thank you