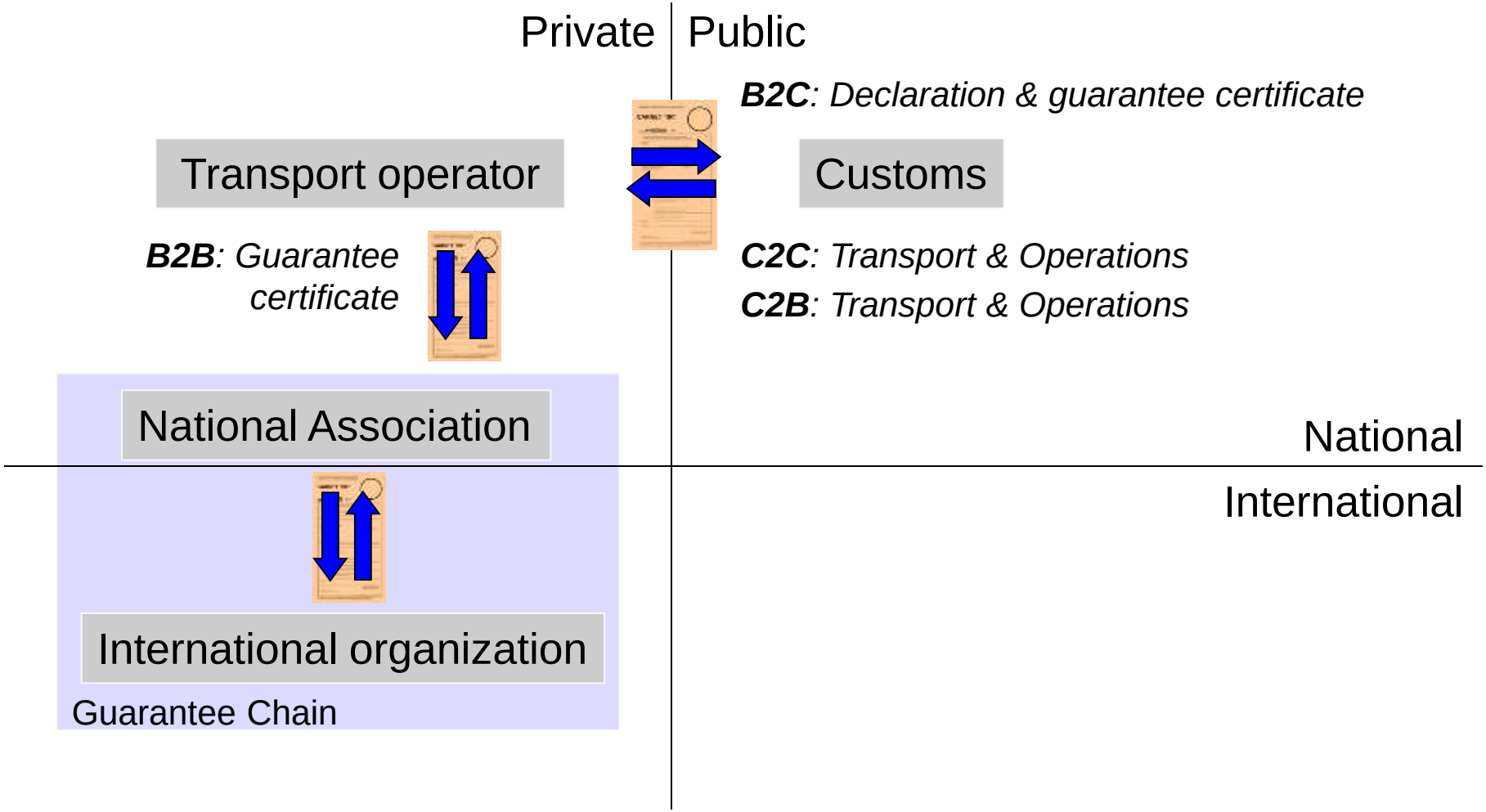
The eTIR Reference Model

Group of Experts on the legal aspects of the computerization of the TIR procedure (WP.30/GE.2) – Second session – Geneva

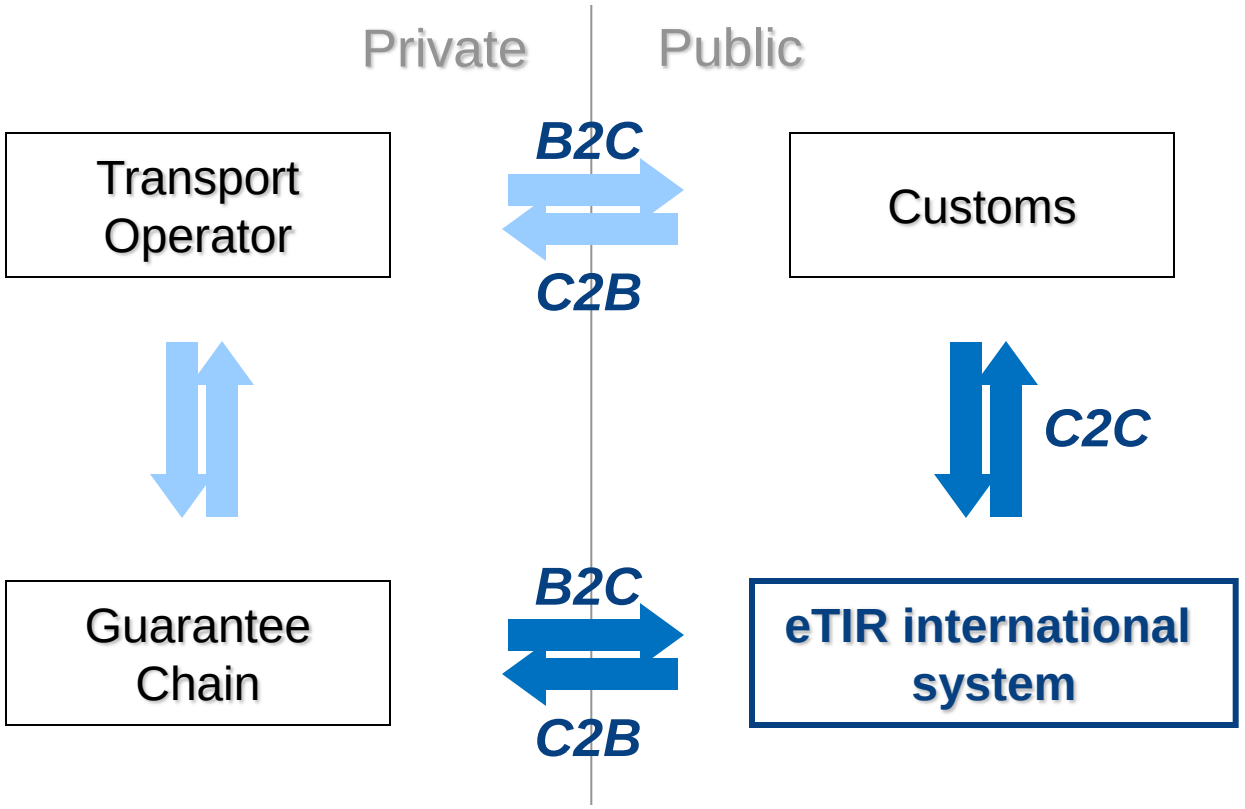
André Sceia / April 2-4, 2015

UNECE

Rationale for the eTIR project

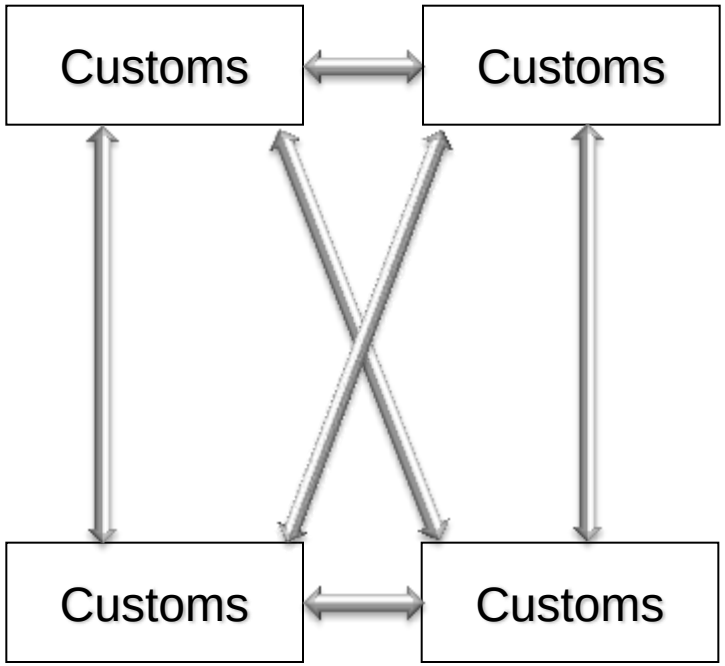


The eTIR system: a public private partnership

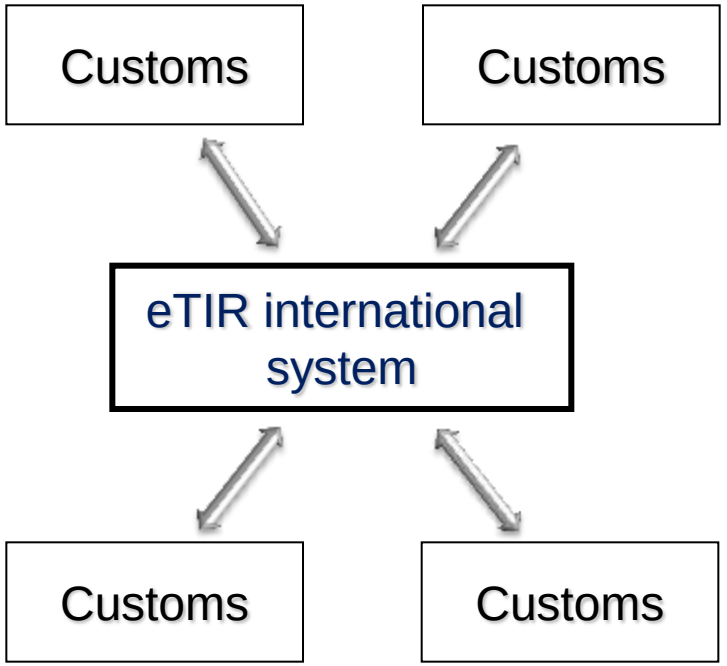


Why a centralized system

Decentralized approach (bilateral)

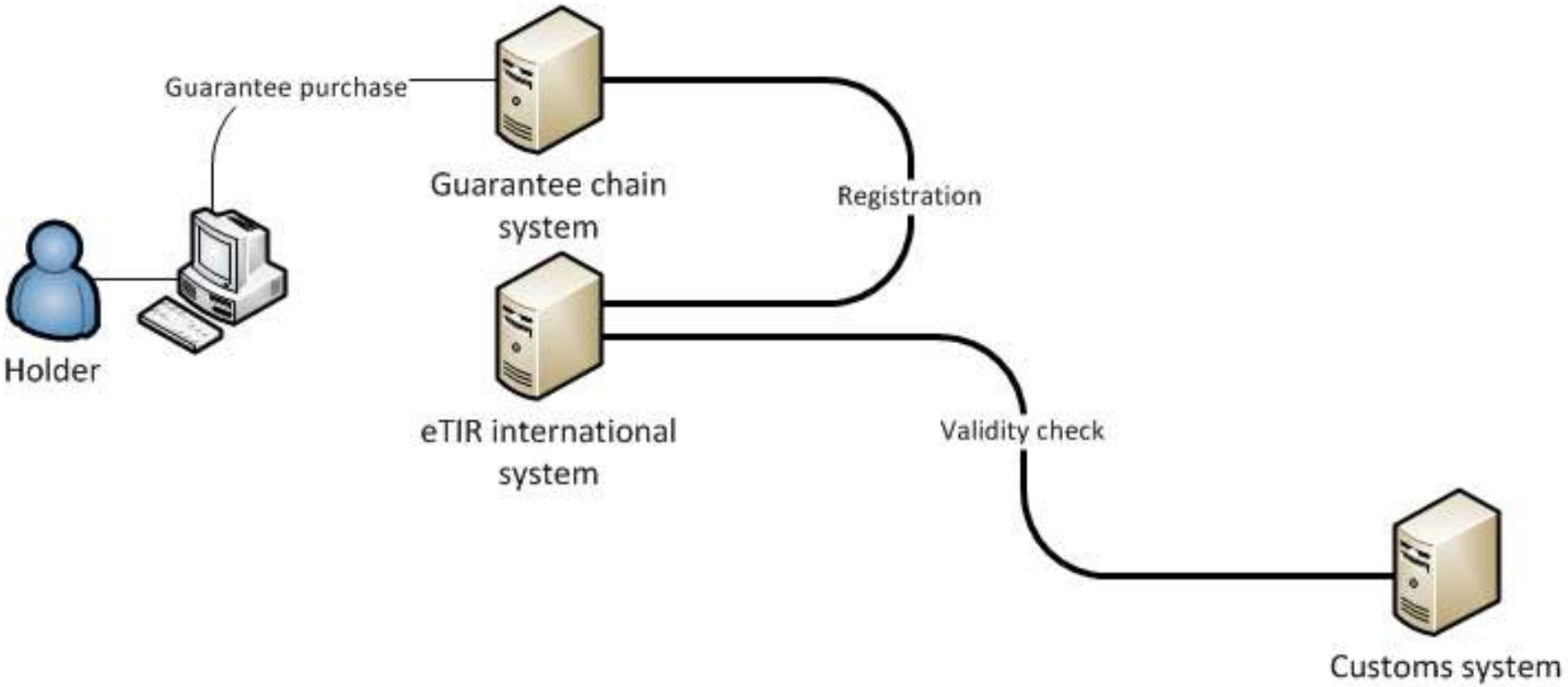


Centralized approach (multilateral)



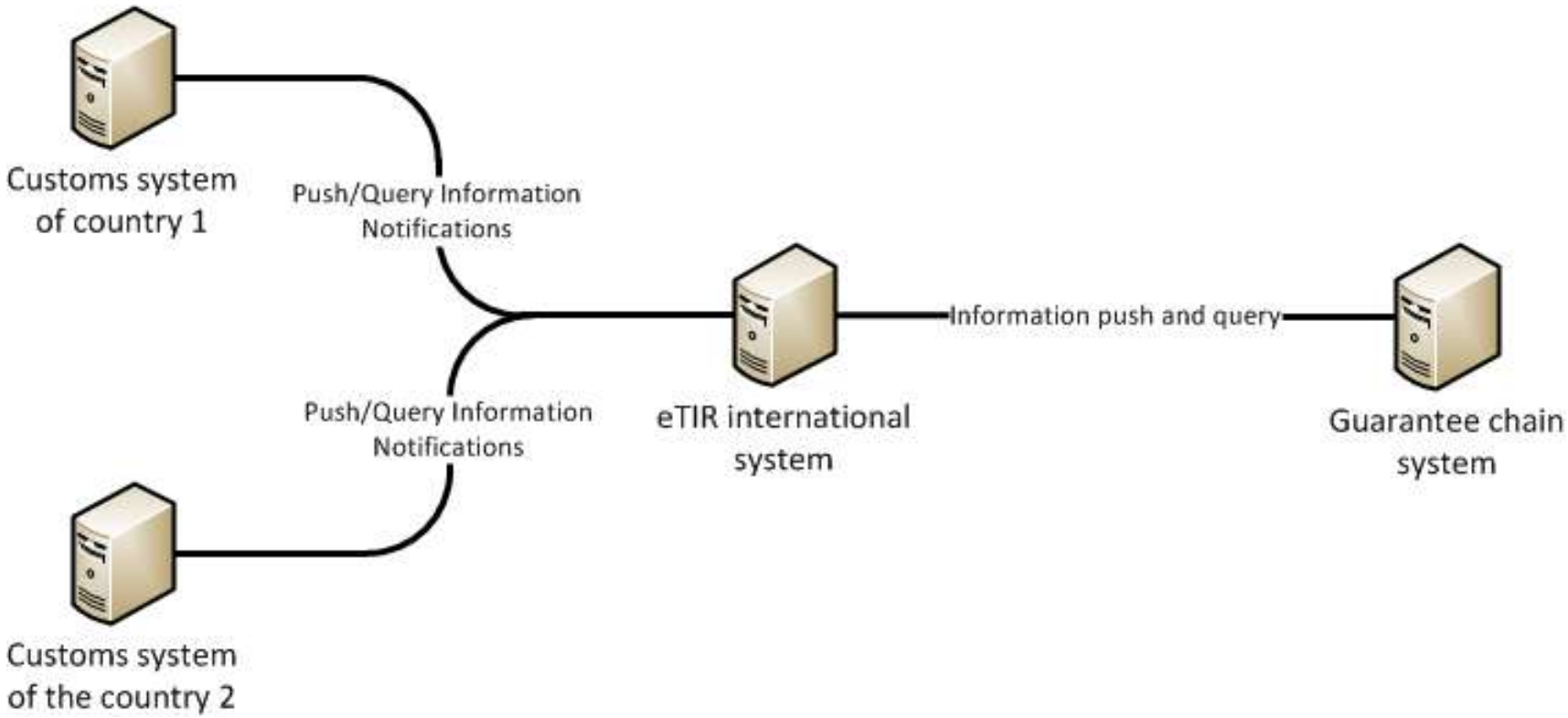
eTIR main principles

Management of guarantee data by customs

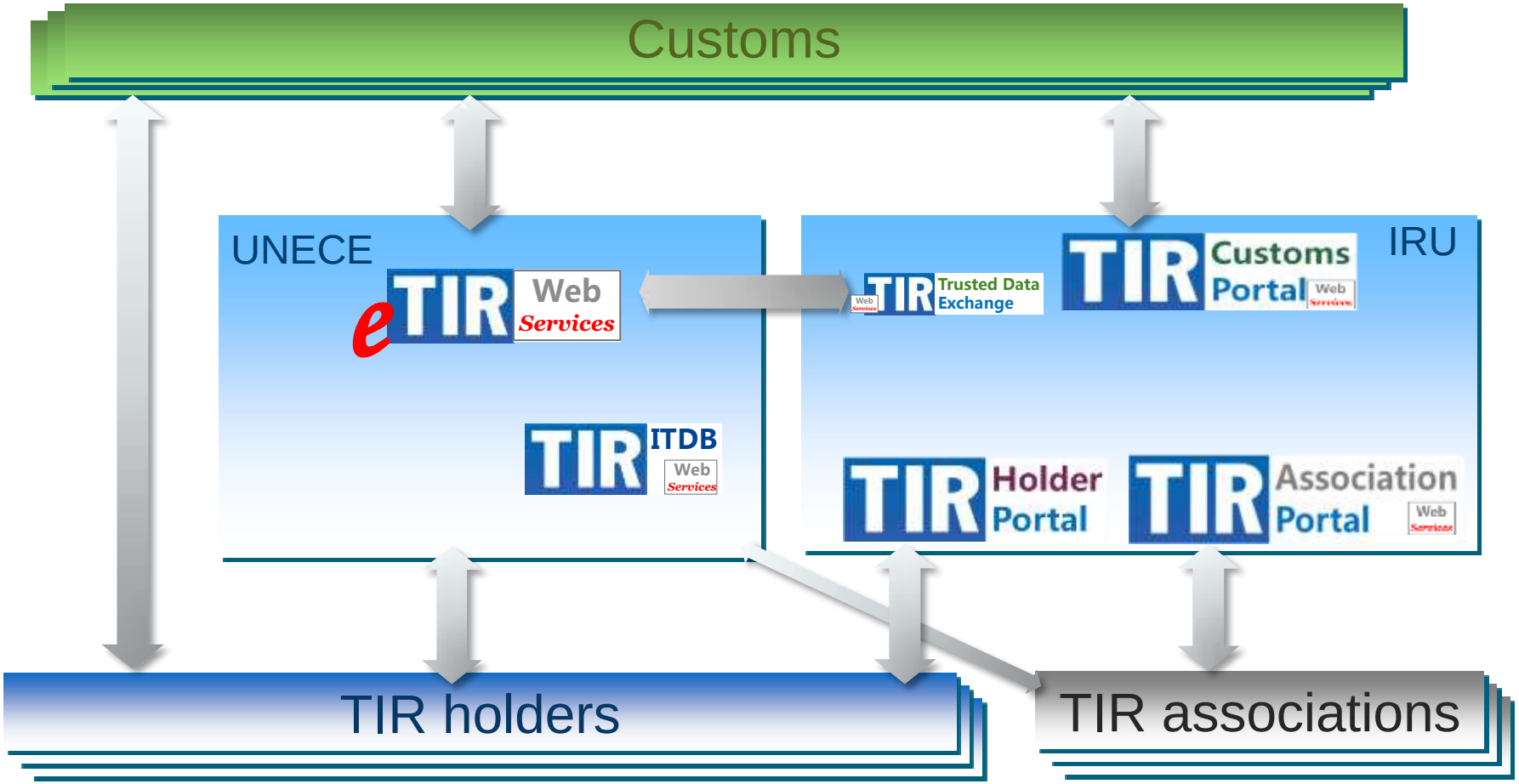


eTIR main principles

Customs to customs data exchange



eTIR high-level architecture



eTIR project – main activities and results

- Analysed the current TIR process
- Identified present and future requirements
- Analysed and designed the future system
- Divided the current document in messages
  - B2C (e.g. declaration)
  - C2B
  - C2C
- Identified and contributed to the development of the relevant standards
- eTIR Reference Model (775 pages), including activity diagrams, data model and XML schemas (available at etir.unece.org)

eTIR Reference Model – Version 4.1a (EN / FR / RU)

The reference Model contains the full description of the TIR Procedure Computerization Project. This document is intended to facilitate the work of the Informal ad hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure and to provide modelling support.

eTIR Reference Model - Structure

The eTIR Reference Model follows the UN/CEFACT Modelling Methodology (UMM) and is structured as follows:

- Introduction
- Chapter 1 – Business domain modelling
- Chapter 2 - e-Business requirements
- Chapter 3 - Analysis workflow
- Chapter 4 - Design workflow
- Annexes

Introduction

- Background and mandate
  - Presents the history of the eTIR project and reflects all decisions taken by the relevant bodies.
- Introduction to the eTIR Reference Model
  - Presents the eTIR project phases and workflows, the eTIR Reference Model structure and review status.

Chapter 1
Business domain modelling

- Vision
  - Defines the objectives, the business needs and the scope of the business domain
- TIR procedure domain
  - Describes the dependencies between the eTIR project domain and other systems/procedures used to ensure the propper functioning of the TIR procedure
- TIR Carnet life cycle use cases
  - Describes the actors and the procedures of the whole TIR Carnet life cycle
- Entry classes & high-level class diagram
  - High level description of the TIR Canet data

Chapter 2
e-Business requirements

- High-level description of the eTIR project
  - Description of the functioning of the eTIR system
- Step-by-step implementation
  - Description of the step-by-step transition from TIR to eTIR
- Use cases analysis
  - Describes the actors and the procedures of the eTIR system (use cases and activity diagrams)
- Class diagram
  - Decribes at high level the structure of the data used for eTIR

Chapter 3
Analysis workflow

- Activity analyisis
  - Detailed functional description of the sequence of procedures and data flows between the actors/systems involved in eTIR (sequence diagrams) and general description of the fall-back scenarios
- Data analysis
  - Detailed decription of the data used in the eTIR system, including a functional decription of all messages (class diagrams, message descriptions, code lists, …)

Chapter 4
Design workflow

- Class diagrams
  - Detailed technical description of the objects/classes used in eTIR (TBC)
- Activity
  - Detailed technical description of the eTIR procedures and fall-backs (TBC)
  - Technical implementation of the eTIR messages in XML and UN/EDIFACT, inlcuding cross references between the functional message description and the technical implementations.
- System architecture
  - Description of the components and interfaces (web services) (TBC)

Annexes

- Annex 1 : Requirements list
- Annex 2 : Glossary
- Annex 3 : Data elements records (analysis of the data contained in the TIR Carnet and its usage)
- Annex 4 : UML Symbols Glossary (description of the UML symbols)
- Annex 5 : UMM/UML Glossary (description of the terms used in the UMM methodology)
- Annex 6 : eTIR declaration mechanisms
- Annex 7 : Cost-benefit analysis (CBA)summary, assessment of the CBA and recommendations
- Annexes 8 and 9 : Functional and technical fall-backs (TBC)
- Annexes 10 and 11 : Lists of figures and tables
- Annex 12 : References

Annex 6 : eTIR declaration mechanisms

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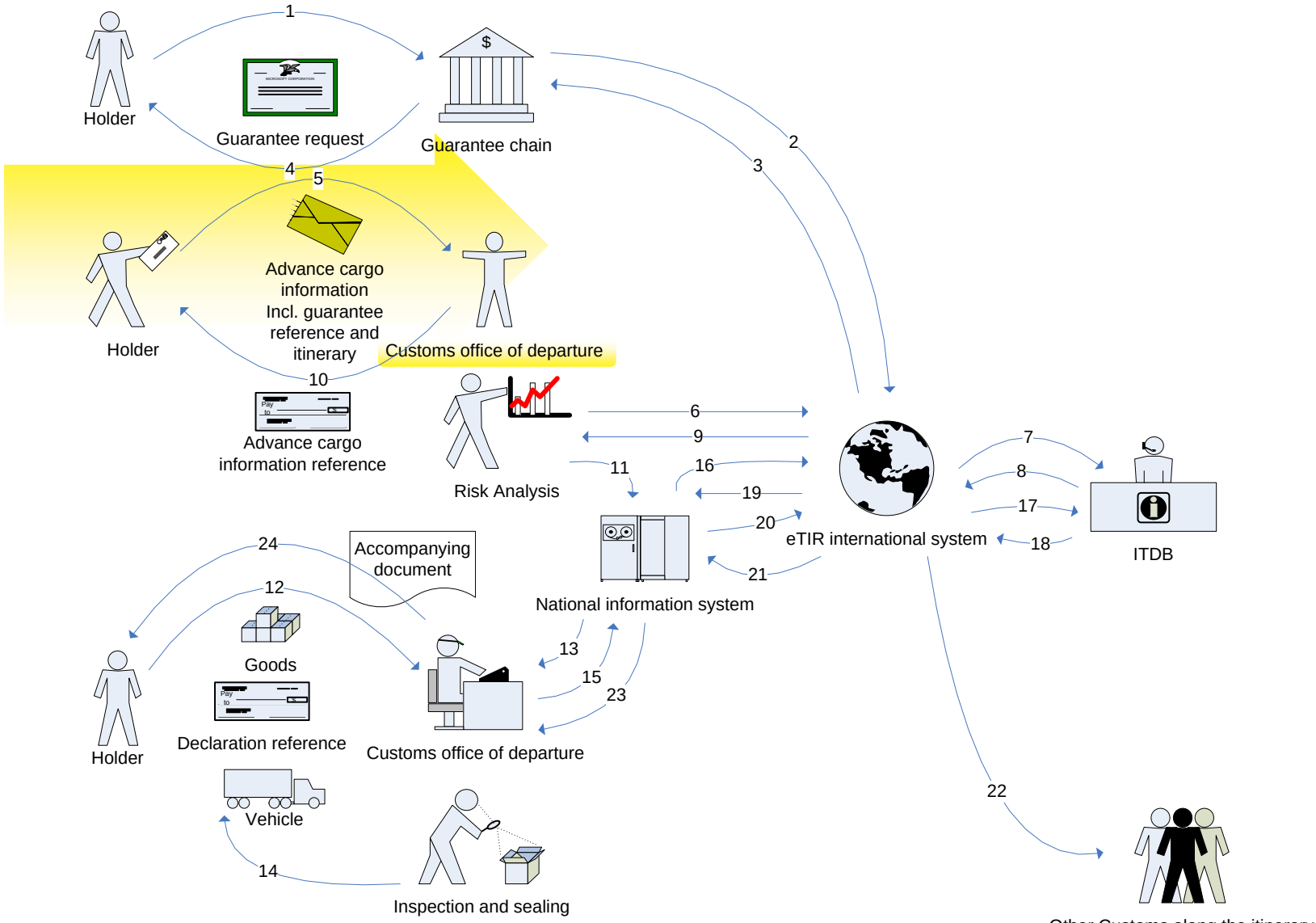

Annex 6 : eTIR declaration mechanisms

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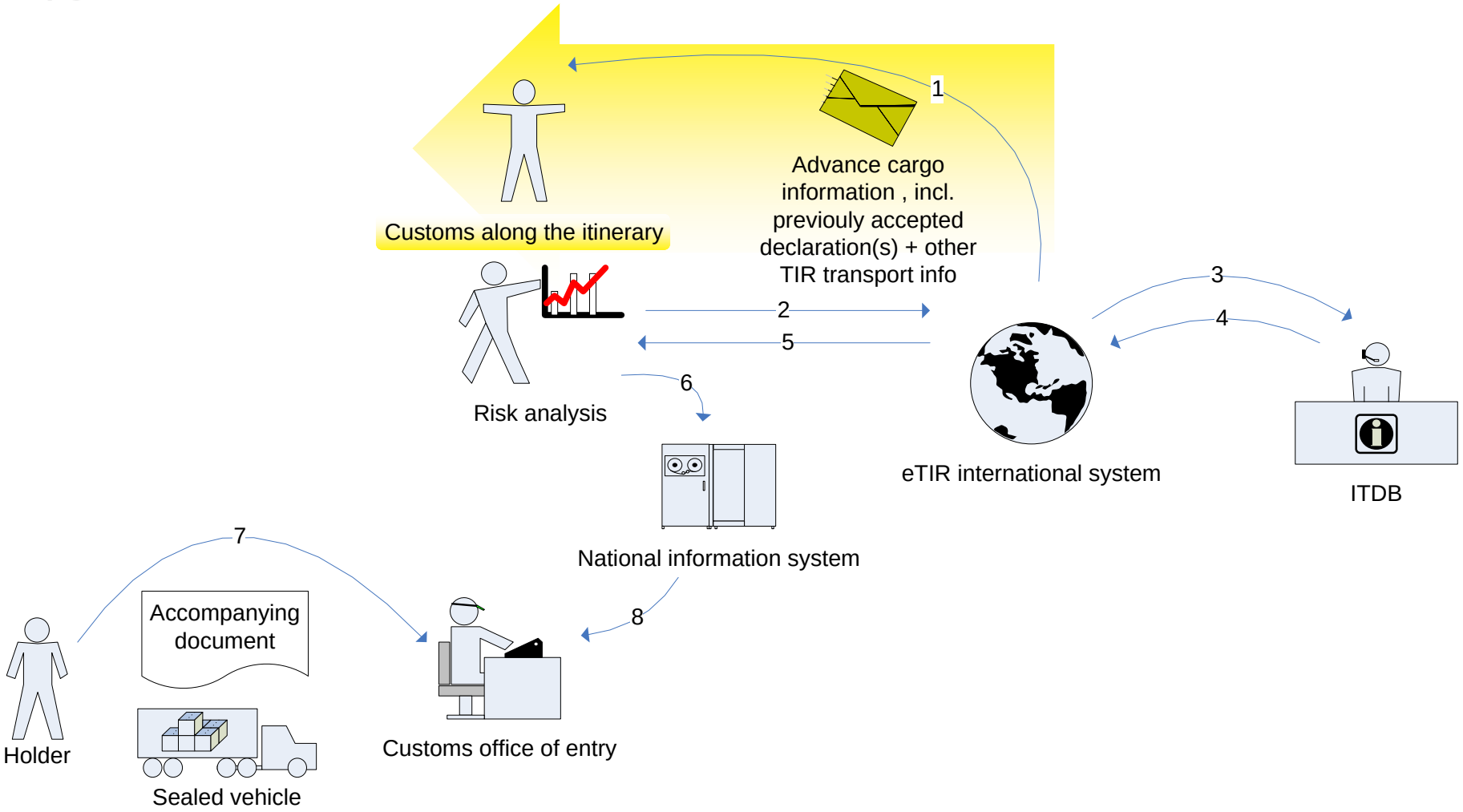
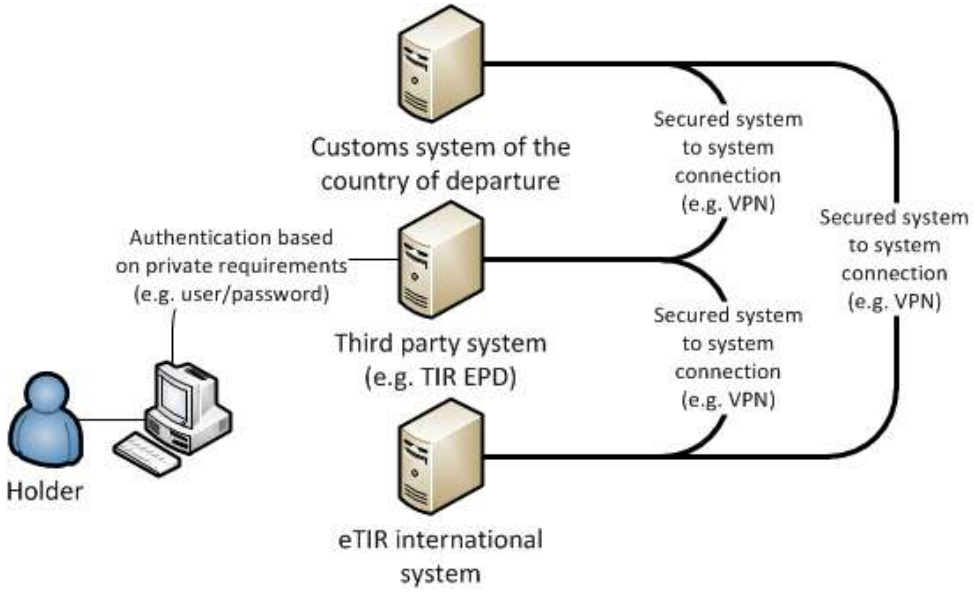
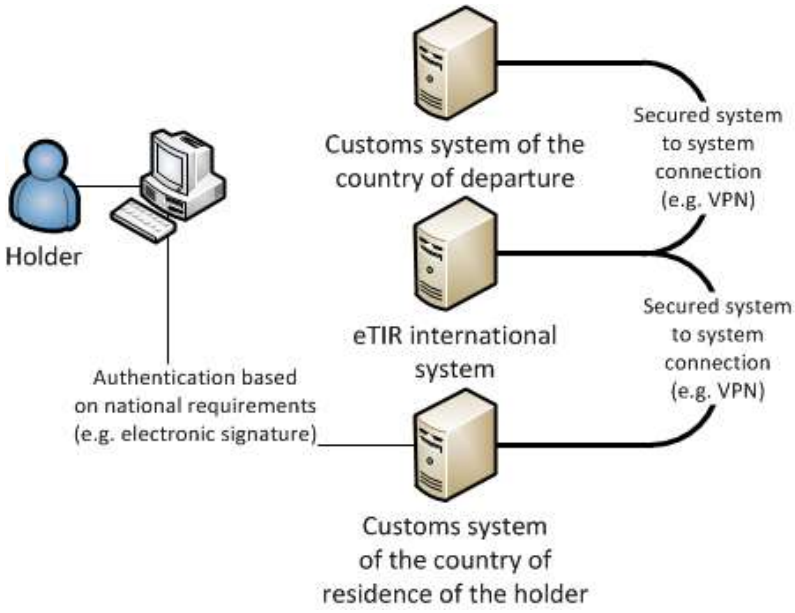
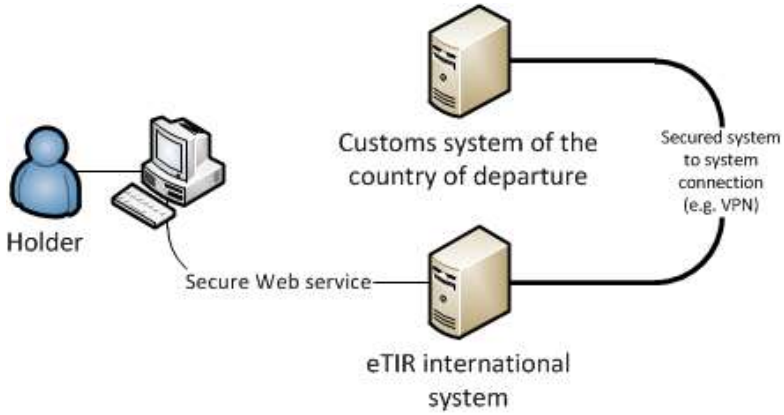


Annex 6 : eTIR declaration mechanisms

3/3 Declaration options

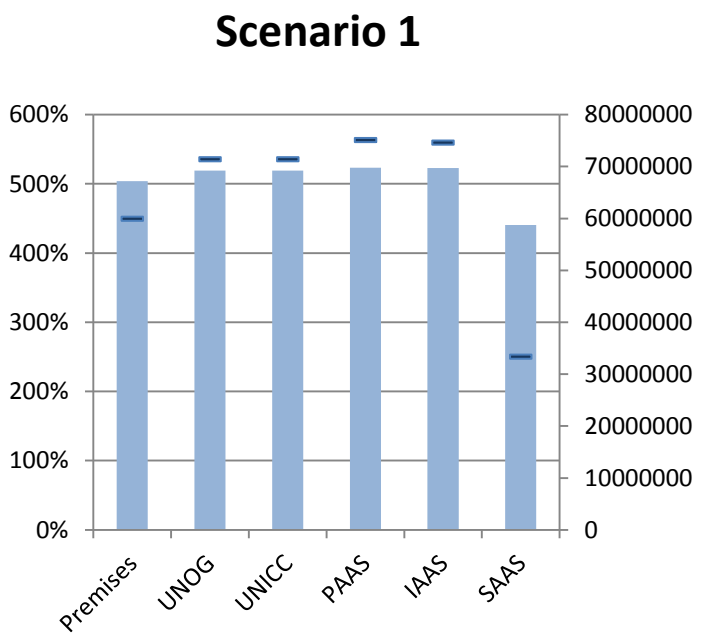


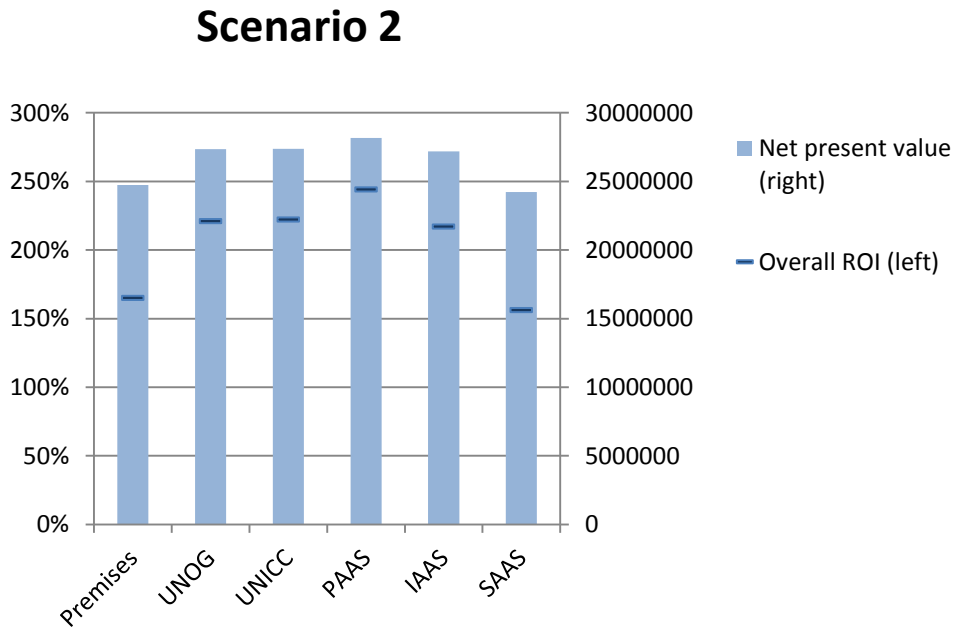




Annex 7 : Cost-benefit analysis

Results





Annex 7 : Cost-benefit analysis

Assessment

Scope

- ↑ Good assumptions (eTIR RM), tech. options
- ➢ Simple scenarios
- ↓ Missing indirect benefits
- ↓ Missing costs for holders and guarantee chain
- ↓ Missing “off-the-shelf” technological option
- ↓ Labour costs too low for Geneva

Methodology

- ↑ Function point analysis
- ↑ Detailed cost analysis (incl. risk factors)
- ↑ ROI and NPV (5% discout rate)
- ↓ CBA based on unit costs

Annex 7 : Cost-benefit analysis

Recommendations by GE.1

- The eTIR system should be implemented, including at national level, as soon as the legal provisions would be prepared and ratified, the technical specification completed and a project road map agreed on;
- A potential avenue to explore for the financing of the eTIR international system seems to be through a contributory system per TIR transport/guarantee, similar to the one used for TIRExB;
- The eTIR international system should be hosted at UNICC or UNOG data centres;
- The use of “off-the-shelf” solutions, including open source, should be considered for the development of the eTIR international system.

Thank you

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