

Future Directions for Standardization in Fintech

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ICT Security Today



Financial companies and Fintech applications are high-profile targets for data breaches and other forms of cyber crime

And there is a large and increasing number of security incidents and compromised records globally (4.5 billion records were compromised in the first half of 2018, a 133% increase over the first half of 2017*)

As awareness of the need for ICT security is also rising, this seems to indicate that **enterprises, data collectors and data processors are missing needed tools or understanding.**

* <https://www.thalesecurity.com/2019/data-threat-report#download-popup>
<https://techjury.net/stats-about/data-breach/#Data Breach Statistics 2019>

Many ICT Security Standards Already Exist

The majority are referenced in the existing ITU ICT Security Standards Roadmap which SG17 is updating*

Currently 4982 ICT Security Standards are listed of which only 445 are labelled as sector specific

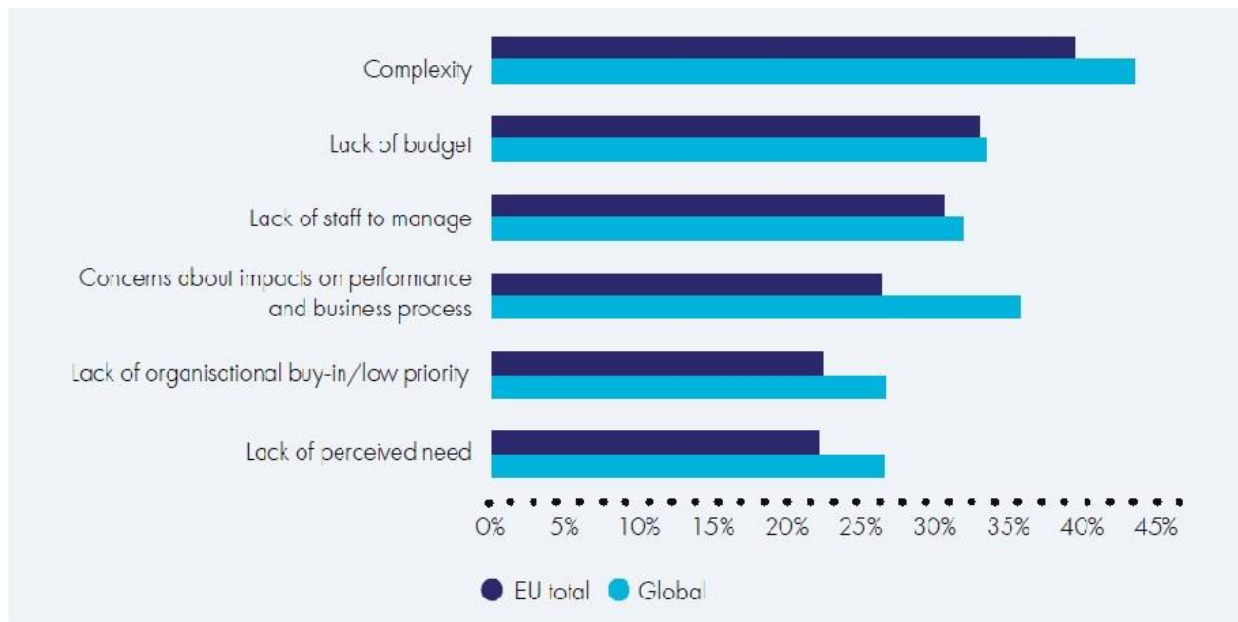
Perhaps, this is part of the problem...

* <https://www.itu.int/net4/ITU-T/landscape#?topic=0.1&workgroup=1&searchValue=&page=1&sort=Revelance>
And <https://www.itu.int/en/ITU-T/studygroups/com17/ict/Pages/default.aspx>



Complexity

#1 Barrier to Implementation



Perceived barriers to implementing data security

Source: 2019 Hales Data Threat Report Survey, IDC, November, 2018

<https://www.thalesecurity.com/2019/data-threat-report#download-popup>

Standards and Tools to Support Implementation Are Needed



In the light of this situation, perhaps more focus is needed on tools to support the organizations (public and private) who are implementing ICT

- 1) Frameworks and tools for IT managers to help them pinpoint the ICT security standards they need for any one system (for example, 10 to 20 out of the currently identified 4982)
- 2) Frameworks and tools for auditors that allow them to better assess the security and “good functioning” of systems – and, very importantly, provide good advice to their clients on how to improve.
- 3) Best management guidance for CIOs and Boards of Directors on minimum ICT Security Measures (Taking into account ISO/IEC 27001)
- 4) On-line training materials



Returning to Data Privacy



Guidelines could be useful for implementing systems that respect both Anti Money Laundering and Data Privacy Rules. Particularly in the context of blockchain (DLT) Technology

AML rules require the collection, processing and use of personal data for

- Customer due diligence (KYC)
- Transaction monitoring
- Behavioural monitoring
- Internal data sharing (including within a group);
- External data sharing (including with regulators and other financial institutions)
- Data sharing for outsourced arrangements; and
- Cross-border processing of data (especially for international payments).
- The EU Fifth AML Directive is expected, in Europe, to broaden the scope to include virtual and digital currencies



1) And for New Technologies?

Technical standards are also needed to support security for Fintech in the use of emerging and evolving technologies



- 1) **AI** – Guidelines for data sets used for machine learning, in particular to avoid the introduction of bias
- 2) **Blockchain (DLT)** – Standards for testing smart contracts; Security standards for Oracles; Security standards for APIs and for other interfaces with blockchains



2) And for New Technologies?

Technical standards are also needed to support security for Fintech in the use of emerging and evolving technologies

- 1) **IoT (for insurable incident data)**, Security standards to ensure the veracity of IoT data
- 2) **Quantum Cryptography** – Guidelines for designing today's systems so that they can, later, easily implement post-quantum cryptography
- 3) **Etc.**



United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT)



EXCERPT FROM Liaison Report to ITU-T FG- DLT Mtg of 2019-08-01

**For ITU-T SG17 Security
2019-08-26**

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UN / CEFACT



Blockchain Whitepaper Project Deliverable 1



White Paper

Technical Applications of Blockchain to UN/CEFACT deliverables

**A gap analysis of technical aspects of blockchain
and its relation to UN/CEFACT deliverables**

Published as ECE/TRADE/C/CEFACT/2019/8, available online at:

http://www.unece.org/fileadmin/DAM/cefact/GuidanceMaterials/WhitePaperBlockchain_TechApplication.pdf

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Blockchain Whitepaper Project Deliverable 2, 3 and Future



2) An introduction to blockchain technology for trade policy makers

Published as ECE/TRADE/C/CEFACT/2019/9, available online at:
http://www.unece.org/fileadmin/DAM/cefact/GuidanceMaterials/WhitePaperBlockchain_TechApplication.pdf

3) Blockchain in Trade Facilitation: Sectoral Challenges and Examples

Published as ECE/TRADE/C/CEFACT/2019/INF.3, available online at:
http://www.unece.org/fileadmin/DAM/cefact/cf_plenary/2019_plenary/CEFACT_2019_INF03.pdf

Future) Blockchain in Trade Facilitation: Sectoral Challenges and Examples

Sectors being finalized: Finance, Healthcare and Government Services



Cross border Inter-ledger Exchange for Preferential Certificates of Origin (CoO) Using Blockchain Project



Will define how blockchain could be used to create a platform to facilitate the B2G and G2G exchange of digital CoOs + related documents

AND

- **How existing UN/CEFACT deliverables could be used by such a platform**
- **Possible changes to existing UN/CEFACT deliverables, or new deliverables needed to support the creation of such a platform**
- **Key issues to consider when creating, administering and using such a platform**

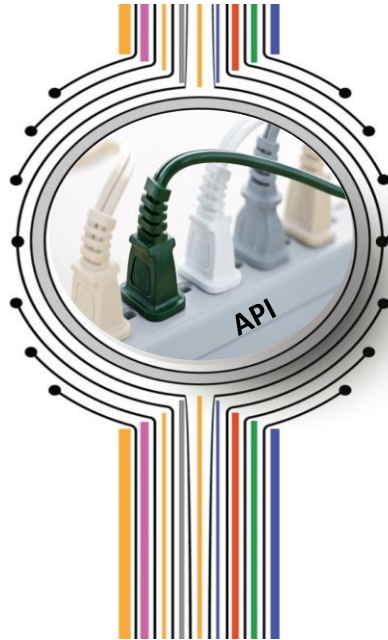
Project Details:

<https://uncefact.unece.org/display/uncefactpublic/Cross+border+Inter-ledger+exchange+for+Preferential+CoO+using+Blockchain>

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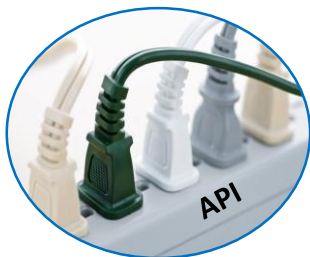
APIs for Interoperability



One way to create greater interoperability is to use Application Programming Interfaces. An API is part of a server (which may host a blockchain or a website or a web application) that receives requests and sends responses.

To create an environment conducive to the development of open APIs that are based on standards and can be shared, UN/CEFACT has launched 2 projects.

The RDM2API Project



This technical project's objective is to **define a standard methodology** for producing OpenAPI specifications and JSON-LD dictionaries from existing UN/CEFACT semantic (core-component) library subsets known as Reference Data Models (RDMs)

This methodology will allow users to:

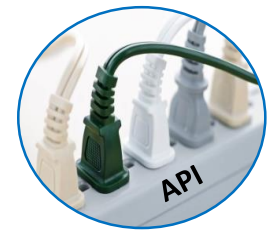
- **Re-use UN/CEFACT semantics:** i.e. UN/CEFACT library subsets (Reference Data Models (RDMs)) can be imported into any conformant modelling tool or semantic tool
- **Model consistently:** API Resource / Event models and JSON-LD dictionaries can be created in any conformant modelling tool and easily mapped to the imported RDM definitions.
- **Publish specifications:** API reference specifications (Including Open API3.0 and JSON-LD) can be generated from the modelling tool and published to open platforms such as GitHub
- **Test conformance of their implementations.** Actual API implementations can be tested against the reference specifications and a conformance report generated

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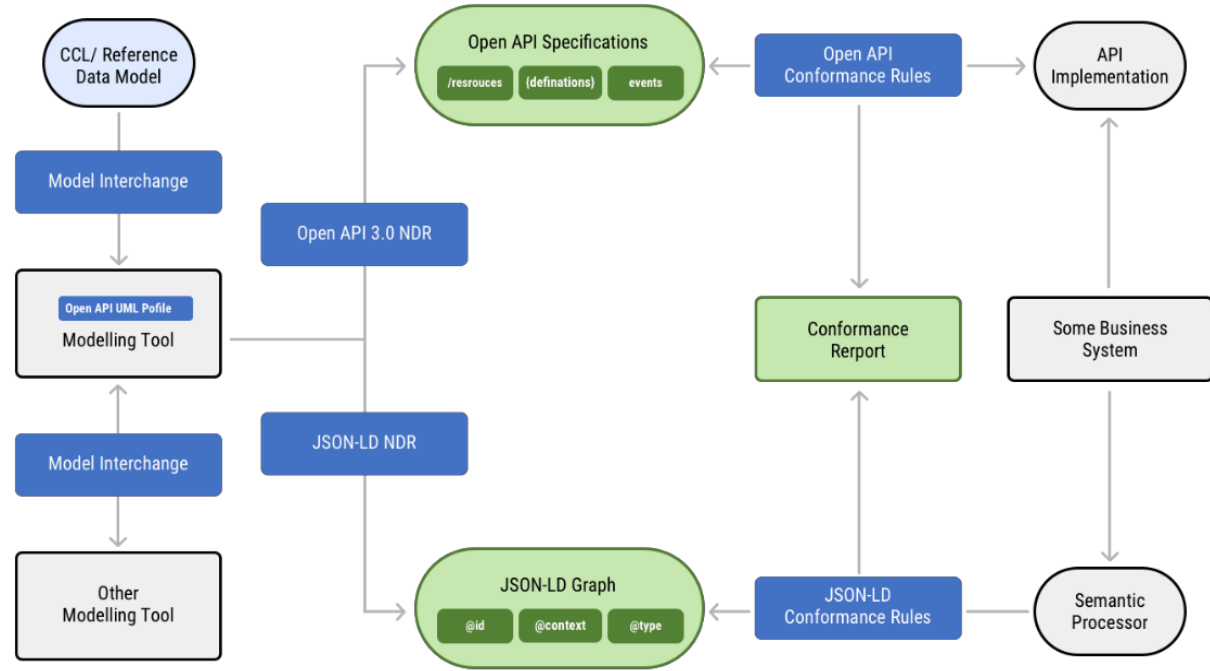




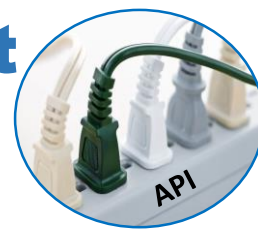
The RDM2API Project



The deliverables from this project will be the specifications in the dark (blue)

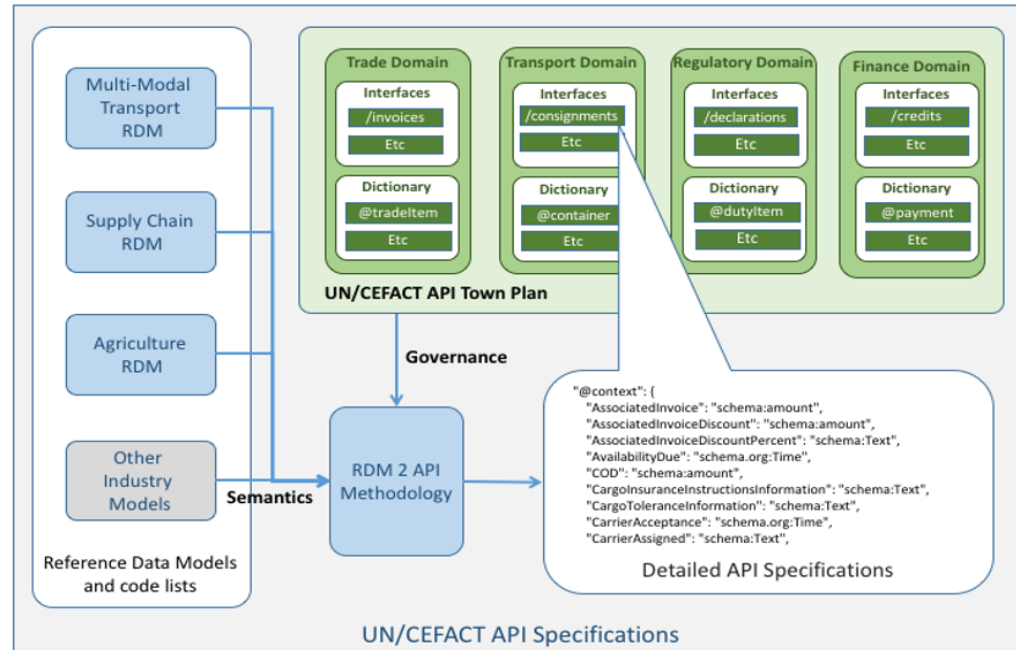


The API Town Plan Project



This is an internal project which seeks to **create a well-managed architecture** for storing APIs from UN/CEFACT business domains where

- Every domain knows where they fit
- All users can easily navigate the plan to find the APIs they need

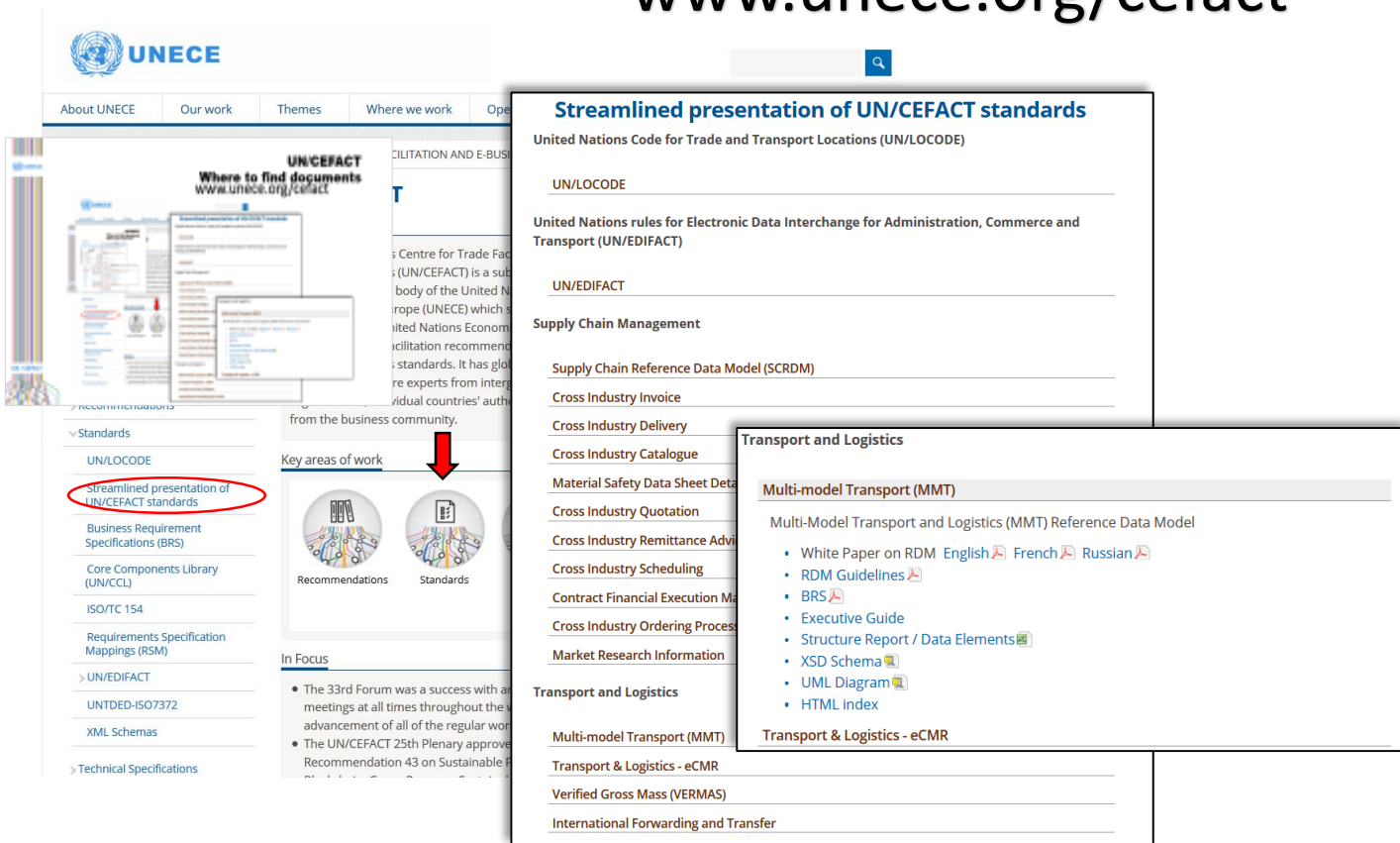


Project details: <https://uncefact.unece.org/display/uncefactpublic/API+Town+Plan>

UN/CEFACT

Where to find documents

www.unece.org/cefact



The image shows a screenshot of the UN/CEFACT website with several callouts highlighting key areas:

- Streamlined presentation of UN/CEFACT standards**: A callout box pointing to the "Streamlined presentation of UN/CEFACT standards" link in the left sidebar.
- Key areas of work**: A callout box pointing to the "Key areas of work" section, which includes "Recommendations" and "Standards".
- Transport and Logistics**: A callout box pointing to the "Transport and Logistics" section, which includes "Multi-modal Transport (MMT)" and "Transport & Logistics - eCMR".

The website header includes the UNECE logo and navigation links: About UNECE, Our work, Themes, Where we work, Open Access, and Publications. The main content area features a search bar and a list of standards, including:

- United Nations Code for Trade and Transport Locations (UN/LOCODE)
- United Nations rules for Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT)
- Supply Chain Management
 - Supply Chain Reference Data Model (SCRDM)
 - Cross Industry Invoice
 - Cross Industry Delivery
 - Cross Industry Catalogue
 - Material Safety Data Sheet Data Model
 - Cross Industry Quotation
 - Cross Industry Remittance Advice
 - Cross Industry Scheduling
 - Contract Financial Execution Model
 - Cross Industry Ordering Process
 - Market Research Information
- Transport and Logistics
 - Multi-modal Transport (MMT)
 - Multi-Model Transport and Logistics (MMT) Reference Data Model
 - White Paper on RDM [English](#) [French](#) [Russian](#)
 - RDM Guidelines [↗](#)
 - BRS [↗](#)
 - Executive Guide
 - Structure Report / Data Elements [↗](#)
 - XSD Schema [↗](#)
 - UML Diagram [↗](#)
 - HTML index
 - Transport & Logistics - eCMR
 - Verified Gross Mass (VERMAS)
 - International Forwarding and Transfer

UN/CEFACT

Where to find documents

tfig.unece.org



The screenshot shows the homepage of the Trade Facilitation Implementation Guide (tfig.unece.org). The page features a header with the title "TRADE FACILITATION IMPLEMENTATION GUIDE" and the UNECE logo. A navigation menu includes links for Home, About, Intro, Domains, Itineraries, Instruments, Organizations, Case Stories, and Training, along with a language dropdown set to "English". The main content area is titled "Welcome to the Trade Facilitation Implementation Guide" and describes it as "A tool for simplifying cross-border trade". A prominent orange button labeled "Introduction to Trade Facilitation" is visible. Below this, four categories are presented with icons: Domains (a network diagram), Itineraries (a path diagram), Instruments (gears), and Organizations (people icons). A "WTO TF Agreement" button is also present. The footer contains the text "Trade Facilitation Implementation Guide" and the UNECE logo.

TRADE FACILITATION IMPLEMENTATION GUIDE

UNECE
United Nations Economic Commission for Europe

Home About Intro Domains Itineraries Instruments Organizations Case Stories Training English

Welcome to the **Trade Facilitation Implementation Guide**
A tool for simplifying cross-border trade

WTO TF Agreement

Introduction to Trade Facilitation

Domains Itineraries Instruments Organizations

Trade Facilitation Implementation Guide

UNECE
United Nations Economic Commission for Europe

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UN/CEFACT more information & contacts

All UNECE and UN/CEFACT Recommendations, codes, standards and publications are available for free on our website at:

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 - tfig.unece.org
-
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Triangularity

Un Grand Merci!
Many Thanks!
Muchas Gracias!

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