eData Management Domain Discussion - 37th UN/CEFACT Forum

Vice Chair
Tahseen Ahmad Khan
Domain Coordinator, eData Management
Kaushik Srinivasan
Date
October 11th and 12th, 2021
### Agenda – October 11, 2021

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## Agenda – October 12, 2021

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eData Management Domain Update
Domain Updates

• Action Items from last virtual forum and Programme of Work for eData Management for 2021-22
  • Ongoing Projects
    • IoT Whitepaper project – Standards whitepaper in Public review, final set of drafts for Trade IoT for TF whitepaper submitted for review
    • UNCEFACT Chain Project
    • Cross Border Inter-ledger exchange for preferential CoO using Blockchain
    • Use of AI in Trade Facilitation
  • Program of Work
    • Digital ID for Trade – focus on case studies and guidance material for developing Digital ID systems that facilitate cross border paperless trade
    • Developing information security guidelines for Trade around trusted third party services and eNotarization (proposed)
    • Data Governance for cross border paperless trade
IoT White Paper Project Discussion

Project Lead
Virginia Cram Martos
Use of AI in Trade Facilitation

Project Lead
Sray Agarwal
Cross border Inter-ledger exchange for Preferential CoO using Blockchain

Project Lead
Steve Capell
UN/CEFACT Chain Project

Project Lead
Nena Dokuzov
Digital ID for Trade
Working Group
Digital ID for Trade

- This project has been discussed over the last few forums where a gap and need for standardization has been identified for digital business identity management in both **B2B and B2G use cases** for facilitating cross border trade.

- Discussions so far have focussed on facilitation of interoperability/standardization with emerging developments in this area (ex: Blockchain, Verifiable Credentials, Decentralized Identifiers etc) to support solving key challenges:
  - Ability to develop trustworthiness between participants in the supply chain.
  - During paper-paperless transition, how does one reliably verify what’s claimed on paper using a digital twin.
  - Managing compliance in a complex world – KYC guidelines, GDPR etc?
  - How does one extend Identity systems with IoT, Blockchain.
Digital ID ecosystem – Stakeholders and Opportunities

- **Issuers**: Organization that issues verifiable credentials about specific subjects
- **Registry**: A mechanism (such as a decentralized identifier blockchain) that is used to register and verify identifiers
- **Holder**: Individual, organization or asset that stores credentials
- **Verifier**: One that requests and verifies credential presentations for a business process

- We expect Digital ID and Verifiable Credentials/Claims to become an important building block in future infrastructures for exchange of trustworthy information
- Current gaps and opportunities
  - Digital Identity systems do not interoperate in facilitating complete visibility across supply chain or to ensure trustworthiness
  - Lack of Standards for verifiable credentials/claims – Individual A as an owner of Company X operating Drone Assets
  - Standards that address legal, cybersecurity, privacy and mutual recognition issues in the context of cross border trade

[https://www.w3.org/TR/vc-data-model/]
Digital ID and Verifiable Credentials – Example - Smart Vaccination Certificates

• How does this work?

Source - https://www.who.int/publications/m/item/interim-guidance-for-developing-a-smart-vaccination-certificate

• Summary

• Certificates are digitally issued as verifiable credentials using digital cryptographic identifiers by which any Member State can trust that medical documents issued by another Member State are authentic and have not been tampered with
• WHO defines standards for issuance and reliance of such certificates
• Focus on Equity, Accessibility, Privacy and Scalability and sustainability

More information can be found at https://www.who.int/groups/smart-vaccination-certificate-working-group
Digital ID – Benefits for Ecosystem

- Harmonization of Digital ID systems can significantly facilitate cross border paperless trade and offer the following benefits:

**Privacy**
Users control who has access to their attributes and how it is shared.

**Security**
Users attributes are encrypted and stored securely.

**Transparency**
Users consent to sharing data and know when data is exposed.

**Ease of Use**
Users can establish identity easily to complete online transactions.

**Risk Mitigation**
Mitigation of user risk through effective mgmt. of credentials.

**Better Compliance**
Better access of user data for regulators strengthening compliance.

**Cost and Revenue**
Opportunities to increase revenue and lower cost as a result of faster acquisition and lesser overheads.

**Service Delivery**
It becomes easier for governments to identify and deliver services to businesses/citizens.

**Data Governance**
Standardization of data collection removing friction from data aggregation.
Digital ID – Way Forward for UN/CEFACT

As part of eData Management domain, we have an approved project to look at this topic with a view to

- Provide guiding principles for adopting Digital ID systems
- Harmonize existing work done so far in the business and IoT identity, Verifiable Credential space with a focus on interoperability. For ex: GLEIF, GS1 etc
- Highlight important issues around cyber security, data privacy, mutual recognition and data governance
- Highlight the role UN/CEFACT standards and/or recommendations can play in solving key challenges around enhancing digital trustworthiness

Whitepaper to look at best practices of Digital ID systems/verifiable credentials in the context of business identities and trade facilitation
Data Governance in Cross Border Paperless Trade
Working Group
Data Governance – Cross Border Paperless Trade

• Cross border data flows are an important component of international trade
• While the adoption of commercial frameworks to the digital environment has been underway for many years, trade agreements are always playing catch up to the rapidly evolving technologies and impacts they have on the economic system. Examples of emerging technologies include
  • New age digital Identity systems
  • Electronic payment systems such as e-Wallets
  • Smart Labels for Products
  • Use of AI, Blockchain and IoT
• Digital Transformation is shifting progressively more economic and social activity into a borderless cyberspace
• In this context, governments are introducing restrictions on cross border personal data transfers and data localization legislation

Data governance standards and policies are crucial to ensuring secure collection, transfer and storage of personal data
Data Localization Measures

- Number of data localization measures have doubled in four years (from 35 countries to 62 countries) and more are under consideration
- Restricting data flows has a statistically significant impact on a nation’s economy and affects volume of trade, productivity and increases prices for downstream industries that rely on data
- Key concerns that drive data localization
  - Data Privacy
  - Financial Oversight
  - Law enforcement
  - Cyber security concerns
- Having said this, CoVID has necessitated sharing of data flows and highlighted its importance in terms of economic and societal responses – for ex: data sharing for medical research, or collaborating on work projects

There is an opportunity for policymakers to update laws to address legitimate concerns while enabling secure cross border data exchange
Types and Rules for Data Localization

• There are 3 kinds of data localization
  • Restriction of transfer of particular types of personal data – Examples include personal and health data
  • Restriction of certain commercial data – examples include financial data such as payments and other non-personal data
  • Defacto Localization – By generally making data transfers complicated, costly, a lot of firms are left with no choice but to store data locally. Further, consent requirements make it complicated for data to be moved cross border

• Rules for data localization also varies between jurisdictions with different
  • Priorities and strategies to protect personal data
  • Definition of frameworks under which data can be shared cross border
  • Approaches to opening and sharing public data

Given the myriad rules around data localization, processing that are emerging, it is becoming complicated and expensive to move data across borders
Rules governing cross border data exchange

- There are multiple factors that influence rules for cross border data exchange
  - Trade Agreements
  - Data Privacy Acts/Laws
  - Maturity in adoption of technologies such as AI, Blockchain, IoT

- Given the rapidly changing landscape, countries are finding it challenging to adopt a framework that can address and accommodate past agreements and future trends

Data is seen as the new oil, data governance frameworks that effectively regulate personal data of their citizens can drive significant economic opportunity
Interoperability is important

- Define mechanisms for the cross border transfer of personal data with a view to provide access to firms of all sizes
- Policy interoperability to allow countries to derive their rules for data exchange from same baseline and enact legislation in broadly similar ways
- Technical interoperability to allow seamless exchange of cross border data (for ex: use of APIs)
- Regulatory interoperability through mutual recognition agreements between countries

Path ahead could be to try and build an open, rules based and innovative digital economy and data governance is the starting point
Data Governance – What is it?

Data Governance is the process, and procedure organizations use to manage, utilize, and protect their data.

Examples include protecting and securing patient data as part of a healthcare application or data exchange or storing/transferring PII data to ensure compliance with GDPR.
Data Governance – Benefits

- Mitigates risks around cyber attacks and security breaches through effective data management and protection
- Reduces data management costs as a result of better data quality
- Breaks down data silos resulting in increased operational efficiency
- Allows easier and faster insights through data analytics
- Makes compliance standards easier to maintain

Lack of data governance standards or best practices in the context of cross border paperless trade and emerging technologies is proving to be a barrier integration of global supply chain
Data Governance – Way Forward for UN/CEFACT

To discuss the role data governance can play in facilitating cross border paperless trade with a view to

• Understand sensitive data exchanged as part of trade flows
• Explore role of standards in supporting secure and streamlined data exchange
• Look at existing guidelines to define baseline for data security, classification, meta data management, consent handling in the context of cross border trade data exchange
• Highlight the role UN/CEFACT standards and/or recommendations can play in solving key challenges around enhancing digital trustworthiness

Evaluate launching a project to highlight role and importance of data governance in trade facilitation
Trusted Third Party Services and eNotarization
Working Group
Trusted Third Party Services

- Cross Border Trade results in exchange of a number of documents such as Shipping documents, electronic bid document in e-Tendering process, Certified copies of incorporation and other documents

- Key Challenges include
  - Establishing authenticity of documents and data
  - Reliably identifying parties to the transaction
  - Mutual recognition of data and documents exchanged

- Trusted Third Party service providers such as Trust Service Providers, Timestamping Authorities and eNotaries act as important enablers in enhancing digital trustworthiness allowing parties to complete transactions within a jurisdiction

- As data and documents get exchanged cross border, standardization and harmonization of above services is required for trade facilitation in cross border scenarios
eNotarization – An Interesting Example

eNotarization is an interesting example of a trusted third party service where the relevant parties come online over a video session and electronically or digitally sign documents in the presence of a Notary Public.

- **Challenges**
  - Although eNotarization is allowed in a few countries, there seems to be limited work by way of standards for supporting adoption of eNotarization globally.
  - Reliably identifying parties as part of an eNotary session and role Digital ID systems can play.
  - Ensuring document authentication and timestamping in conjunction with other trusted third party services.
  - Information archival standards.

UN/CEFACT can play a role in promoting standardization and best practices in this area in the context of cross border trade.
Way Forward for UN/CEFACT

- Trusted Third Party Services including eNotarization present interesting opportunities for the UN/CEFACT expert community to contribute as these are integral to facilitating cross border paperless trade

- Explore launching a project that explores the following areas
  - Trusted trans-boundary electronic interactions with eNotary and Trusted Third Parties
  - Electronic data/document security and privacy in cross border exchange
  - Trust Services, Data retention and Timestamping

- Focus would be to look at select trade documents that are sensitive and explore the role of trusted third party services, eNotarization in facilitating cross border paperless trade

- Discuss with working group to seek interest in launching a project that will aim at highlighting best practices and providing guidance material
Conclusion

Next Steps

• Action Items
  • Work on ongoing projects
    • IoT Whitepaper project
    • Exchange of preferential CoO using Blockchain
    • UNCEFACT Chain project
    • Digital ID for Trade
    • Use of AI in Trade Facilitation
  • Launch new projects
    • Data Governance for Cross Border Data Exchange
    • Trusted Third Party Services and E-Notarization
Thank you