Vice Chair

Tahseen Ahmad Khan

Domain Coordinator, eData Management

Kaushik Srinivasan

Date

May 3rd and 4th, 2021
## Agenda – May 3, 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
    • UNCEFACT Chain Project
    • Cross Border Inter-ledger exchange for preferential CoO using Blockchain
    • IoT Whitepaper project – final set of drafts ready for review
  • Program of Work
    • Use of AI in Trade Facilitation – proposal prepared for new project with Sray Agarwal as project lead
    • 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)
UN/CEFACT Chain Project

Project Lead
Nena Dokuzov
Cross border Inter-ledger exchange for Preferential CoO using Blockchain

Project Lead

Steve Capell
IoT Whitepaper Project Discussion

Project Lead
Virginia Cram Martos
Use of AI in Trade Facilitation

Project Lead
Sray Agarwal
Digital ID for Trade
Digital ID for Trade

- This proposed project has been discussed over a couple of 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

- The idea behind this project is NOT to create another identity or replicate an existing business identity but to facilitate interoperability/standardization with support for emerging developments in this area (ex: Blockchain, Verifiable Credentials, Decentralized Identifiers etc)

- As cross border trade becomes paperless, the key questions include
  - 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 support for IoT, Blockchain?

- Findings from a recent GLEIF research report for business identities-
  - Businesses on average use 4 identifiers
  - Onboarding takes an average of 6-7 weeks
  - Reliability of reference data is a challenge
  - Resources required for managing onboarding is a challenge
Digital ID – Ongoing Initiatives

Individual Identities
- Number of initiatives in this area as countries are trying to put in place Digital ID systems that are either primary identities (AADHAAR in India) or based on existing physical/smart card-based ID systems (Digital iD in Australia etc.)
- ePassports are an example of interoperable ID system where a central directory of issuer countries trust anchors are maintained by ICAO
- ISO SC17 WG10 - Task Force 14 "Mobile Driving License" started to work on verification standards for Mobile DL and defined the scope of off-line verification

Business Identities
- There are several national ID systems to identify businesses (Tax ID, Incorporation Number etc.) but these do not extend cross border
- The Legal Entity Identifier is probably a first of its kind initiative to assign identities to businesses with a current scope of identifying counterparties to transactions in financial services/regulatory reporting

Product/Asset/Other Identities
- GS1 Digital Link is an initiative in enabling digital identities for products by linking the unique symbology on the product with an intelligent digital identity on the cloud allowing consumers to get access to product information, provenance and other brand information
- Initiatives by private sector (in collaboration with standardization organizations) to manage other identities such as locations etc.
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

- WHO has developed guidance and technical specifications to facilitate the issuance of Smart Vaccination Certificates (SVC) where individuals can present documentation that claims they have received a CoVID-19 vaccine and this claim can be cryptographically verified by an interested party.

- SVC’s can take many forms that include a combination of physical and digital but even physical claims are verifiable through the use of QR codes that map to a digital record.

Source - https://www.who.int/groups/smarty-verify-vaccination-certificate-working-group
Digital ID and Verifiable Credentials – Example - Smart Vaccination Certificates

• How does this work?

• Key design principles
  • Based on a WHO trust framework that leverages Cryptography by which any Member State can trust that medical documents issued by another Member State are authentic and have not been tampered with
  • 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

Source - https://www.who.int/publications/m/item/interim-guidance-for-developing-a-smart-vaccination-certificate
Digital ID and Verifiable Claims – Example – FIATA Bill of Lading

- How does this work?

- Key design principles
  - Based on FIATA IT-solution, FIATA legal framework, FIATA verification that members comply with agreed minimum rules set for the federation
  - **All Supply Chain stakeholders** may rely on the FIATA eFBL validity

- More information can be found at
  - [https://www.youtube.com/watch?v=OEBlJq3v1AM](https://www.youtube.com/watch?v=OEBlJq3v1AM)
Scope of Digital ID Project – Some thoughts

Identification and Credentials/Claims
- Interoperability
- Verifiable Credentials / Claims
- Functional Equivalence
- Establishing Trustworthiness
- Blockchain as enabler

Standards
- Process Standards
- Data Standards
- Message Standards
- Legal Issues
- Authentication / Authorization

Other Issues
- Regulatory
- Data Privacy
- Mutual Recognition
- Cyber Security
- Interoperability

Green paper to look at various use cases to identify how digital ID systems and verifiable credentials/claims are being used in B2B or B2G scenarios to facilitate cross border paperless trade which can then lead to a Whitepaper and/or Guidance material
Next Steps

• eData Management domain has been working towards launching a project in this area

• Given that this is an evolving area, UN/CEFACT can play an important role in addressing some of the gaps and there is a lot to gain for the UN/CEFACT community through this proposed project

• Project Approach

  • Collaborative and iterative

  • Study existing implementations, highlight real world implementations through case studies and study interoperability with Blockchain

  • Highlight UN/CEFACT standards and their importance

  • Collaborate with other organizations such as GS1, ISO

• E-Data Management domain is seeking interest from experts with prior experience in the implementation or use of ID systems / Blockchain for trade facilitation to lead this project or be part of the team
eNotarization and Trusted Third Party Services
Given that global trade systems are more integrated through API’s, Cloud and Blockchain there is a necessity to define standards for facilitating secure electronic data and document exchange cross border
Trusted Third Party Services and eNotarization

- Cross Border Trade results in exchange of a number of documents many of which are sensitive and require the need to establish trustworthiness. Examples include Shipping documents, electronic bid document in e-Tendering process, Certified copies of incorporation and other documents.

- Going from paper to paperless requires REMOTE identification and existence of participants, establishing authenticity of documents and use of verifiable credentials. This need has been more pronounce during CoVID-19 where many transactions have come to a standstill.

- Gaps in enabling remote transactions
  - Necessary legislation supporting e-Notary technology and process still evolving.
  - Cross border acceptance of documents and mutual recognition issues.
  - Legal issues to tackle potential claims from incorrect execution of documents or cases where contract may have been executed under duress.
  - Standardization of trade documents that require attestation/notarization.
  - Many countries lack trusted third party service providers for private sector use (for ex: digital certificate providers).
eNotarization and Trusted Third Party Services – How it works?

In an e-Notary process, the relevant parties come online over a video session and electronically or digitally sign documents in the presence of a Notary Public.

All parties use electronic signatures or digital signatures obtained from Trusted Third Parties as the case may be.

**Benefits**

- The process is fully digital for everyone involved – senders, signers and notaries.
- E-Notarization provides an irrevocable proof to establish an information object’s authenticity and signature.
- Document authentication or signature occurred no later than time and date appended by Notary through the use of digital certificates and signatures.
- Ability to archive information object.

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

- 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
  - 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 and 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
  • Complete ongoing projects
    • IoT Whitepaper project
    • Exchange of preferential CoO using Blockchain
    • UNCEFACT Chain project
  • Launch new projects
    • Use of AI in Trade Facilitation – Proposed
    • Digital ID for Trade
    • Trusted Third Party Services and E-Notarization
Thank you