

Blockchain for Recordkeeping

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Blockchain as a “memory transfer system”

- Distributed ledger technology
- Throughout time ledgers have stored memories of transactions as trusted evidence (aka trusted “proof of existence”) of those transactions
- Objects that store memories of transactions as evidence are called records
- Cf. definition of records in ISO 15489: “information created, received, and maintained as evidence and information by an organization or person, in pursuance of legal obligations or in the transaction of business”



Factom

“Blockchains are archival record keepers. Permanent and transparent, they are the perfect solution for an industry-wide problem of transmitting and archiving critical accurate records.” - Brian Deery



Some of the Ways that Blockchain Differs from Other Types of Recordkeeping Systems

- “Financialization” of recordkeeping
- Much higher levels of decentralization
- Distributed consensus mode of establishing trust
- Separation of authentication from originating records (and, in some cases, recordkeeping systems)

Some ISO Recordkeeping Standards that may be useful in designing Blockchain Solutions for Recordkeeping

- ISO 14721
- ISO 15489:2001
- ISO 16175-1:2010
- ISO 16175-2:2011
- ISO 16175-3:2010
- ISO 16363:2012
- ISO 17068: 2012
- ISO 18128: 2014
- ISO 23081
- ISO 26122



Requirements for “Proof”

- **Reliability:** A reliable record is one whose contents can be trusted as a full and accurate representation of the transactions, activities or facts to which they attest and can be depended upon in the course of subsequent transactions or activities (aka Binding to real-world)
- **Authenticity:** Reliant upon establishing and preserving the identity and the integrity of a record from its point of creation and thereafter.
- **Archival bond:** Relations among records necessary to their evidential character (aka Pointers e.g. in the zone file from hashed reference authenticating identity of original record).
- **Persistence**
 - Semantic
 - Representational
 - Technological

Risks

- The **reliability** of records cannot be guaranteed without adherence to recordkeeping principles and standards
- The **authenticity** of records cannot be guaranteed without adherence to recordkeeping principles and standards
- The **long-term utility i.e., persistence** of distributed ledgers as memory transfer systems cannot be guaranteed without adherence to recordkeeping principles

InterPARES TRUST/ TRUSTER Project

The **goal** of the project is to investigate the possibilities of preservation of trustworthiness of the digitally signed, timestamped and/or sealed digital records in the framework of corresponding jurisdiction.

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Opportunity

- Blockchain technology has the potential to achieve broad vision if recordkeeping principles and standards are taken into consideration.
- Ignoring these principles and standards will increase risk and may lead to solution failure.

Thank you

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