Digital Identity with LEIs

LEI Digital Strategy
Introducing the verifiable LEI (vLEI)

(Date)
GLEIF
Agenda

1. Overview of the Global LEI System
2. LEI and Digital Identity Use Cases
3. Delivering the vLEI with an interoperable and technically agnostic solution.
Overview of the Global LEI System
Who is Global Legal Entity Identifier Foundation?

- GLEIF is a not-for-profit Swiss foundation, founded by the Financial Stability Board (FSB).
- GLEIF is overseen by 65 regulators and 19 observers in the Regulatory Oversight Committee (ROC) from more than 50 countries.
- GLEIF Board has 15 independent directors.

**Partners for LEI issuing (LOUs)**

- 38 and growing

**Issued LEIs to date**

- > 2,075,867
Introducing the Global LEI System

In 2011, the G-20 leaders supported “the creation of a global legal entity identifier (LEI) which uniquely identifies parties to financial transactions.”
The LEI is a life-long identifier owned by the respective legal entity.

It points to the associated reference data.

The LEI is an ISO standard ISO 17442.
Distribution of the LEIs across jurisdictions

- **15%** North America
- **68%** Europe
- **12%** Asia Pacific
LEI and Digital Identity – Use Cases
LEIs in a digital World
Making LEIs verifiable

- When presenting an LEI, it is not clear if
  - The LEI is valid
  - the presenter is the LEI owner or an affiliate
  - the presenter has the right to use it
- As a result
  - the recipient of the LEI must still check and verify,
  - background checks are often done manually at a high cost

Use case for the vLEI:
- Decentralized identification and verification for organizations as well as the persons who represent their organizations either in official or functional roles

Solving the common problem of lack of trust and the costs involved in creating trust
The LEI has a critical role to play in today’s digital world through its ability to provide organizations with unique, permanent identification globally. This especially is important in the context of identifying legal entities involved in digital transactions.

LEI delivers value to both the more mature product - Digital Certificates - and the more recent innovation of Verifiable Credentials.
Embedding the LEI in digital tools
Representing Organizations, Persons and Roles

Cryptographically bound to the owner of the keys
The LEI as a Verifiable Credential – the vLEI Trust Chain

- GLEIF is the Root of Trust
  - Root AID (Autonomic Identifier) to establish the Root of Trust
  - Delegated AIDs to issue Credentials
- GLEIF will establish a trusted network of Qualified vLEI Issuers (QVIs)
- QVIs are qualified to issue Entity and Role Credentials:
  - to Legal Entities
  - to Persons who represent Legal Entities either in official or functional roles
The vLEI Ecosystem Chain of Trust and vLEI Credentials

**GLEIF**
- Issues Qualified vLEI Issuer vLEI

**Qualified vLEI Issuer**
- Issues Legal Entity vLEI
  - Elements: Legal Entity LEI (GLEIF will have one too!)
- Issues Legal Entity Official Organizational Role vLEI
  - Elements: Legal Entity LEI, Person’s name, Official Organizational Role

**Legal Entity**
- Issues Legal Entity Engagement Context Role vLEI
  - Elements: Legal Entity LEI, Person’s name, Engagement Context Role

Entity Credentials
Role Credentials
Broader application of the vLEI Role Credential

vLEI Role Credentials issued by Legal Entities to Persons whose **Official Organizational Roles** (ISO 5009 standard) that can be verified both by the Legal Entity as well as against one or more public sources.

- Examples:
  - Legal Entity – CEO
  - Legal Entity – Board Chair

vLEI Role Credential issued by Legal Entities to Persons in the context of the engagement of those Persons with the Legal Entities which can be verified by the Legal Entity.

- Examples:
  - Legal Entity – Employees in Functional Roles
  - Legal Entity – Authorized Suppliers
  - Financial Institutions - Clients
Digital transformation, e.g., Platform Economy, Artificial Intelligence, Distributed and federated Networks etc., is changing the way we interact with each other.

Digital Identity and Strong Authentication become vital for distributed systems spanning many actors.

vLEIs are going to address many business needs in all industries.
- Supply chain/trade/trade finance
- Telecom
- National identity solutions
- Financial sector services (payments, AML,CFT, sanctions screening, cryptocurrencies)
- Private sector reporting to the public sector
Delivering the vLEI with an interoperable and technically agnostic solution
The vLEI ecosystem is in full accordance with ToIP standards

- Launched May 2020
- Grew from 27 to 125 member companies in less than six months
- Founding Members include Mastercard, IBM, Accenture, Government of British Columbia, LG, GS1, Mitre, SICPA, R3, Kiva, and 4 universities
- GLEIF joined ToIP as Contributor Member
- Hosted by the non-profit Linus Foundation
  - Home to over 250 the world’s leading open source/open standard projects including Cloud Native Computing, Hyperledger, Automotive Grade Linus, Hyperledger, and the Decentralized Identity Foundation
vLEI Governance Frameworks

- vLEIs will be issued by vLEI Issuers of two types:
  - Existing LEI issuers who elect to issue vLEIs
  - New issuers who will issue vLEIs by calling APIs provided by GLEIF and current LEI issuers

- All vLEI Issuers will be qualified under the GLEIF vLEI Ecosystem Governance Framework
  - A ToIP-compliant Layer 4 governance framework

- The vLEI family of Verifiable Credentials will be defined by the GLEIF vLEI Credential Governance Framework
  - A ToIP-compliant Layer 3 governance framework
Network-of-networks True interoperability and portability

- Development of the capabilities needed for issuance, verification and revocation of vLEIs do not need to operate on blockchain or distributed ledger technology.
- This would allow GLEIF to connect to any blockchain or distributed ledger technology SSI network or cloud infrastructure without the need for custom implementation, cost and overhead of operation.
GLEIF’s vLEI approach

Agnostic to any network

- Development of the capabilities needed for GLEIF to issue and verify vLEI does not need to operate on blockchain or distributed ledger technology.
- GLEIF can implement KER (Key Event Receipt Infrastructure) to support fully decentralized portable secure key management operations on self-certifying identifiers.
- GLEIF has developed the capabilities for vLEI based on KERI during 2021. Preparations for pilots have begun for execution in 2Q 2022.

Interoperability

- This would allow GLEIF to connect to any blockchain or distributed ledger technology SSI network without the need for custom implementation, cost and overhead of operation.
- KERI is Quantum Safe. It is resistant to attacks by both classical and quantum computers.

http://github.com/webOfTrust/keri
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