DPI for EUDR Compliance - DRAFT architecture

Document purpose

The objective of this document is to provide a draft, high-level description of the major components of the new Linux Foundation Agstack project for “Digital Public Infrastructure for EUDR compliance”.

This is a DRAFT working document.

This document is initially intended for discussion purposes, and will be fleshed out so it can be used in the short term to describe the overall intent of the project in public communications, and later as a framework for marketing and technical requirements for the project.

DPI for EUDR Compliance - Project Scope and Objectives

In Scope

Field data capture of geo-located data

- Developing minimum data requirements and simple, practical demonstration tools for collecting producer points and polygons for EUDR compliance.
- Developing minimum data requirements and simple, practical demonstration tools for uploading points and polygons.

Support deduplication / nesting / management of polygons from multiple sources (e.g. databases, in-field capture solutions) .

- Mapping points and polygons to an existing global asset registry of points and polygons (e.g. LF Agstack GeoID). Creating unique hashed GeoIDs where they do not exist for each. In compliance with international standards for Issuing Agencies for such unique IDs.

Deforestation risk assessment for geo-located producer farms

- Using remote multiple sources of sensing data and open models, support a convergence of evidence approach to to make an initial determination of whether a particular polygon is in a deforested area or not supporting generation of a ‘deforestation risk’ score.
- Provide data to enable supply chain traceability and decrease redundant risk assessments, by providing an offline registry of polygons and checking against an on-device copy of the registry in-context.
- Generation of a unique knowledge object including the GeoID, deforestation risk score, some static data on (e.g. commodity description, origin, entity) and dynamic data (e.g. time, location) related to each unit that will be consumable by chain of custody systems.
- Support QR code / device / NFC card mechanisms for linking these data to specific product units entering the supply chain.

Due-diligence follow-up

- Developing minimum standards for metadata and simple, practical tools to record metadata for due diligence follow up in areas identified as potentially at risk of deforestation.
- Mapping metadata to asset registry IDs, and integrating metadata to refine/improve the deforestation status assessment above.
- Developing ACL rules and transaction logging for recording and changing metadata.

Legality status assessment

- Creating flexible minimum standards for legal metadata, organized based on jurisdictional boundaries.

- Developing tools (perhaps using AI) to record baseline legal requirements based on jurisdictional boundaries.
- Developing ACL rules and transaction logging for recording and changing legal status metadata.

Generate EUDR due diligence statements

- Implement web/mobile application for generating due diligence statements including GeoIDs, deforestation risk, and supply chain data or submission to the EUDR compliance database.

Integration

- **EU Information System interoperability**
  - Provide downloads in required formats for submission to competent authorities via the Information System, or APIs to do this directly.
  - Data formats are determined by EU Information System specs
- **Supply chain system integration**
  - Provide APIs that allow access to data for integration with supply chain traceability solutions by referencing the GeoID. These would include systems such as INAtrace.

Out of scope

- **Supply chain traceability** - Systems tracking supply chain buy/sell transactions are NOT in scope, though the EUDR DPI will include methods for integration with supply chain traceability systems.
- **Country-level benchmarking** - solutions that aggregate deforestation information at a jurisdictional or national level to determine relative country deforestation risk.

Code Governance

A charter will be created that outlines the technical governance structure for the Linux AgStack “Digital Public Infrastructure (DPI) for EUDR Compliance open-source project. The charter will follow standard Linux Foundation open-source project guidelines. Key aspects of the include:

- **Technical Steering Committee (TSC):** The TSC, initially composed of the project's Committers, oversees the project's technical direction, manages contributions, and sets community norms.
- **Decision-Making:** Decisions are made through consensus or voting, requiring a majority for approval. The Series Manager can assist in resolving disputes.
- **Openness and Collaboration:** The project emphasizes open participation, transparency, and ethical behavior.
- **Intellectual Property:** Contributions are primarily licensed under the Apache License 2.0 and Creative Commons Attribution 4.0 International License, with exceptions possible through TSC approval.
- **Amendments:** The Charter can be amended by a two-thirds TSC vote and approval from LF Projects.

Data Governance

Below is a proposed governance structure for ***data*** required for EUDR compliance. This follows feedback received at the recent Costa Rica conference and other convening meetings.

Data Category	Governance Jurisdiction	Responsible Party

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Data standards (including for locally captured due-diligence metadata)	Global	Linux AgStack SAFE project
Asset registry	Global	Linux AgStack
Deforestation map(s)	Global	WRI or EU
Field data (points/polygons) collected by farmers	Local	Farmers, cooperatives, processors, traders
Metadata from due-diligence follow up	National	National government or public trade association
Legal status data	National	National government or public trade association

Data Flows

High level data flows for the process are shown below, including data governance highlighted in blue. Phase 1 will include the four boxes at left: data capture, deforestation risk assessment, deforestation maps, and the global asset registry.