Chaîne PoC – Completed

Objective
We performed a minimal Proof of Concept of the process described here: https://www.chaine.io/single-post/2017/11/06/Cha%C3%AEne-Process-Flow.

Outcome
We realized the goal of the PoC by successfully proving that files containing metrics used for reporting climate action (or any other SDG action) can be stored securely on Chaîne and can be accessed by authorized reporting organizations in a secure and fail-proof manner, without loss of data integrity.

Here is an example. This is the URL of a Shapefile stored in Chaîne:
https://ipfs.io/ipfs/QmTVxTSRHdAfwKohaHH7PUvaDVSuVTm9eKGHfJRxKiaYXE
After it downloads it can be renamed with a .shp extension and opened with mapping software.

Actors
- User 1 - Countries
- User 2 - UN / SDG Insights Challenge Participant / authorized reporting organization
- System - Chaine

Prerequisites
User 1:
- IPFS node
- Node on the private (Ethereum) blockchain
- Input file
- Storage space for hosting the files

User 2:
- IPFS node
- Node on the private (Ethereum) blockchain
- File viewer/processor

Files
For the purposes of the PoC we've tested a shapefile, an Excel file, and a zip archive. We can store any file type on IPFS and can also create our own directory structure.

Procedure
1. User 1: Save a file on IPFS and upload it to the network
    - We followed the steps described here: https://mlgblockchain.com/intro-ipfs.html
    - We used an AWS EC2 instance for running the IPFS daemon and storing the file
2. System: Return the hash for the file stored by the user
3. User 1: Store the hash returned by IPFS on Ethereum (as data within a transaction)
4. User 1: Send the link that points to the Ethereum transaction to User 2
5. User 2: Get the hash from the Ethereum transaction
6. User 2: Access the file using the hash (from their own IPFS node)
7. User 2: Open and view the file
    - We viewed the Shapefile using: http://mapshaper.org/