

MAPPING PROTOCOL – DRAFT NOTES Date 16 December 2015 Thinkers: Joseph Hentz, Gregorio Reid, James Littlejohn, dsensor@dsensor.org

Introduction

A gaiablock is a bitcoin blockchain / MAIDEsafe inspired immutable ledger that secures the reproducibility of science. Each node providing a transaction audit trail combining sensor data, computation and consensus entries. Each node provides cryptographic proof of stake numbers unique to each science theory.

Self Authorized Science

Before sensor data or a MNM(Mapping Network Method) is added to the gaiablock network a user has to self register themselves. The Peer to Peer Network Randomiser module will select network nodes to provide multiple records of the registration.

Multiple genesis blocks

With registration completed each node will produce its own genesis block and use the PtoP randomiser to seed it across the network.

Time-Stamping Sensor Data

New sensors connections and data collected will be recorded on a locally generated gaiablock, that has first got its block headers from a network randomly chosen nodes that also validates the time stamp of the local block.

Registering a MNM(mapping network method)

A scientific theory will be registered at the authoring node, combining the sensors, reference to blocks that contain hashes of the data used and hashes of the code used in performing computations. Lastly, the prediction path data and scoring hashed results gained from running the code the local node.

Consensus networked blocks

When consensus is established on MNM, a new block will be created by a randomly chosen node on the network. This will provide an audit trail that will link together all the data and computations standing behind the truth of the results. The block will then be randomly copied across the network.

Network Reproducibility

Each node has the right to demand network reproducibility of any MNM before it decides to make a MNM computationally active.