

# Regulatory Reporting Blockchain

## PROOF OF CONCEPT FACTSHEET

### SHORT DESCRIPTION

Irish Funds, in collaboration with its members and Deloitte, advanced “Project Lighthouse” to assess blockchain technology’s ability to service regulatory reporting requirements.

The project tested the ability for a platform to provide individual nodes for fund administrators to store and analyse fund data whilst coding regulatory reporting requirements into smart contracts for execution and data validation. A regulator node was also facilitated allowing the safe and secure exchange of data between firms and the regulator, as well as to increase overall reporting efficiency and market transparency. In addition to technical design and development a comparative business analysis was undertaken to review the cost benefit analysis of the proposed To-Be blockchain solution.

### CHALLENGES



#### OPERATIONAL INEFFICIENCY

- Manual keying from core systems to reporting tools
- Reliance on MS Excel as reporting tool
- Quarterly and month-end workload pressures
- High-cost, low value and non differentiating process



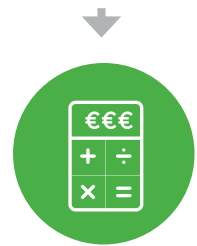
#### DATA MANAGEMENT

- Questionable data quality
- Potential for data manipulations
- Data errors due to manual keying
- Time consuming extraction, reconciliation, and report generation



#### COMPLEXITY & CHANGE

- Increasing requirement for granularity with look through and advanced analytics
- Changing requirements of domestic and regional regulators
- High cost of change with legacy applications



#### COST CHALLENGES

- Increasing FTE cost burden on fund administrators due to new regulations
- Large scale IT costs relating to improving existing legacy systems
- Adverse affect on the cost: income ratio

## WHY BLOCKCHAIN TECHNOLOGY?

**Blockchain technology was utilised due to a number of its features and characteristics which can enhance the overall ability to meet reporting requirements.**

Benefits include:

**Data integrity** - Due to blockchain hashing capability, data that is entered on the blockchain is extremely difficult to alter. Once approved by consensus it is immutable. Any change to data can be tracked in the chain reducing the possibilities for fraud or malpractice.

**Reliability** - Blockchain does not have a central point of failure and is better able to withstand malicious attacks. Disaster recovery is inherently built into a blockchain as standard due to all parties having a copy of the ledger.

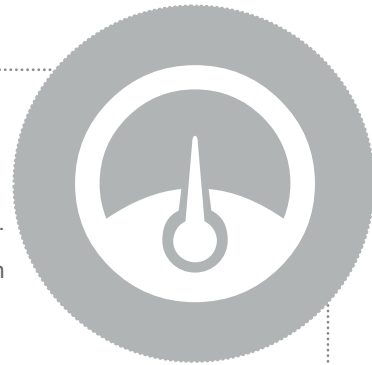
**Storage & Speed** - The blockchain provides for near real time updates of data across nodes. This facilitates faster sharing and access to data with entities such as a regulator. Utilising IPFS, a P2P hypermedia protocol sitting on top of blockchain, it allows for safe and immutable file sharing and facilitates large data transfer with high efficiency.

**Analytics** - By providing a single source of accurate and immutable data the blockchain, a repository of transactional and fund data, can be used to develop greater analytics. A singular view of each participants positions across all asset classes can be made available assisting in overall management efforts and MIS collation.



## PoC PARAMETERS

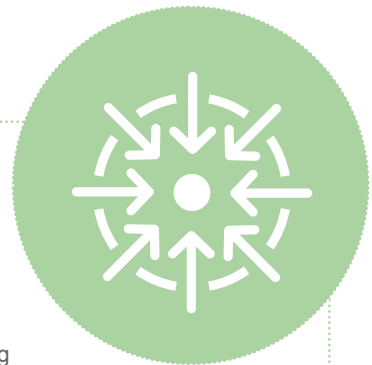
- This Proof of Concept (PoC) is focused on assessing the application of blockchain technology to meet regulatory reporting requirements, within the funds industry, in a more efficient and effective manner than existing technologies and processes.
- The development of the PoC ran for a 10 week period, commencing December 2016.
- Money Market and Investment Funds Reporting (MMIF) returns, applicable to all Irish domiciled funds, was selected as an applicable test case.
- Ease of transitioning the outcome of the MMIF PoC for other regulatory reports e.g. AIFMD Annex IV.
- Determine the cost benefit impact of blockchain.
- Identify the critical success factors to take a solution forward to production.



## APPROACH AND DEVELOPMENT

**"RegChain" was developed using Deloitte's rapid prototyping process which uses an experiment-driven agile methodology.**

Key phases included solution visioning, definition of design and test parameters, development sprints and on-going reviews with an industry sub-committee with participants from across the fund administrator and fund management world. A key consideration and cornerstone for this project was to ensure collaboration among technologists and industry representatives from operations, regulatory teams and senior management. This was deemed critical in order to have a comprehensive PoC design and to help define how a future production solution could be realised.



## A REGCHAIN WITH SMART CONTRACTS

“RegChain”, a blockchain based platform which streamlines the traditional regulatory reporting processes by acting as a central repository for the safe storage and review of large volumes of regulatory data.

RegChain enables the logging and recording of transactional and positional data securely using the blockchain to ensure data integrity with smart contracts executing reporting requirements and auditing any changes made to the data by authorised parties. Internal control and regulatory checks (e.g. beta checks) are performed within the platform to ensure the participant is compliant. This solves many of today’s operational challenges whilst ensuring the integrity of data and removing post submission engagement by the CBI. Additionally, it creates a single source of truth which any authorised party can use as a basis for statistical analysis and to provide actionable insights.

The technologies chosen for RegChain were Ethereum and IPFS (InterPlanetary File System).



## FINDINGS



- Blockchain can act as a **secure store of data, improve data quality and integrity**, and **increase efficiency** surrounding the regulatory reporting process through the application of smart contract capability.
- Blockchain can **help in the overall management** of regulatory change requests and the addition of new reporting requirements, in that, a change is coded once and then progressed across the network to all participants.
- Ancillary benefits of blockchain technology include the **provision of a safe network for data sharing and transmission**, the creation of a **rich and trusted data set** which analytics can be applied to, **built-in disaster recovery** and the ability to **develop new capabilities** such as automated compliance.
- The MMIF PoC solution can be **adopted to incorporate other regulatory reports** e.g. AIFMD Annex IV.
- Blockchain projects require a **multi-disciplinary approach**. If new solutions are to be successful they must be cognisant of existing industry requirements and built for varying needs across the operational world. Such an approach is needed for solutions to advance to pilots and production in the short to medium term.

## NEXT STEPS



The next steps for the project team and industry group will be to review the proof of concept and the practical production questions it raised and then make a business decision as to whether or not to advance to a pilot phase.

...we have proved that we can create a “black box” for the funds industry which can log all transactions, end of day positions and other vital information and be used as a basis for industry analytics and reporting.

in conjunction with

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