

Introducing:

# **TNS Blockchain Development**

## **1 Background**

Having followed Factom since spring of 2017, being strongly interested in blockchain technology and wanting to help push the Factom protocol forward, we are applying for being part of the Authority set. We believe we have the necessary experience and skillset to successfully run a node and continuously deliver valuable projects that will help further Factom.

## **2 Team**

### **2.1 Tony Adams**

Tony has a degree in IT and Business from Birmingham University and has 5+ years of experience operating and maintaining IT infrastructure for a UK transportation company. His work has exposed him to updating and implementing security policies, scaling solutions due to additional users and moving systems to an external sourcing provider. The systems that Tony has worked with has been mission critical to the company, so he know what it takes to work with systems that cannot be allowed to fail. In his free time he continues to program as a hobby, using his C# skills to contribute to the open source train simulator game SteamTrain.

### **2.2 Nigel Winterburn**

Nigel has a degree in Computer Science from Birmingham University and has spent the last 3 years doing as a developer at a major financial institution. His work mainly focuses on database optimization and implementing automatic fraud solutions. He has deep knowledge of SQL as well as C++ and using various proprietary API solutions. Before taking on his current position he was working as CTO for the startup Swoblr, which built digital marketing solutions for real time analysis of customer behaviors.

### **2.3 Steve Bould**

Steve has a degree in International Relations from Birmingham City University and is currently doing a part time MBA at the University of Westminster. When not being busy with his studies he works as a business analyst and project planner at a telecommunications company, where he has been for the last 3 years. He is involved in planning and measuring the impact of new customer offerings. Steve acted as the CMO of Swoblr, where he engaged with enterprise clients and managed the sales pipeline and process.

## **3 Server operations**

### **3.1 Hosting**

If selected for the Authority Set we will utilize the enterprise cloud offering provided by Vodafone. We believe that using cloud services gives benefits that are highly valuable for the Factom protocol, including physical security and redundancy that can only be obtained in a large scale setup as well as the ability to scale quickly and easily when the usage of the protocol increases. Our servers will be hosted in the Dublin cloud data center and we plan to offer the following initial specs per server:

- 2 high speed vCPU
- 16 GB of RAM
- 100 GB high speed SSD disks
- 100 mbit best effort network connection
- Ubuntu 16.04 LTS operating system

For each server we are awarded we will run an additional node with the same specs to allow for minimum downtime for planned maintenance. Additionally we will place a backup node in Vodafone's Reykjavik cloud data center, so we can offer immediate recovery in case a severe issue means the Dublin data center goes down for some time.

### **3.2 Monitoring**

As we are three team members we can take shift in being on call so we can react swiftly if any issues requires our immediate presence. We will make sure to make handovers for each "shift" so any information about unusual patterns or problem is shared with the whole team. In this way we also hope to increase our understanding of operating Authority Nodes on an ongoing basis.

## **4 Community pledge**

We will defer 40% of our received tokens to the grant pool to fund the continuous development of the protocol. This amount will be kept for at least 6 months. Afterwards we hope to be able increase the deferred amount, as we believe the Factom token will increase in amount as usage of the protocol increases.

For each server we are awarded we will run 2 nodes on the testnet (if possible as part of the Testnet authority set)

All our software will be open source and free for the community to use.

## **5 Development projects**

### **5.1 Factom MS Office plugin**

MS Office is used by millions of people daily, both in businesses and by private individuals. Many of these will have a need for proving the provenance of their documents on an irregular basis. Such users might not need something like Factom's Harmony solution. On the other hand, it would be of benefit for them to have an easy way to prove they saved a certain document a certain point in time. In response to this, we aim to develop an MS Office extension that will allow users to do a "Factom Save". When doing so the users will save their document to their own hard drive as usual, while also saving a hashed version to the Factom blockchain as well as writing a to a log file of all "Factom Saves", so it is easy for users to go back a see exactly what document hashes they have committed to the blockchain and when.

Building such a solution will also include building a web interface for users to easily set up addresses on the blockchain as well as running a shop to sell entry credits to users. All entry credits will be sold at the standard conversion price of the protocol (i.e. not for profit, currently 0.001 USD)

Having a freeware Factom MS Office plugin will drive adoption of the protocol and also help spread awareness, as users that would normally not come in contact with Factom will get to know the potential of blockchain technology.

### **5.2 Factom Windows Shell extension**

Based on building the MS Office plugin and the infrastructure around it, we plan to extend the offering to cover all Windows files through an MS Shell extension. This basically works by having the option of doing a "Factom Save" when right clicking any file in the system. This includes for example photographs, videos or audio recordings. This feature can be used by a large number of professionals across industries from journalists over content creators to artists.