Agora Blockchain Solutions

Entity: Name (or first name if applying as a natural person)
Agora Blockchain Solutions

Entity: E-mail address
JoshS0515@gmail.com

Team member introductions
Agora Blockchain Solutions is founded by three people experienced in finance and technology who were all early adopters of both Factom and blockchain technology.

Introduce your Entity/Company
Agora Blockchain Solutions is an early-stage, entrepreneurial, for-profit company registered in France seeking to establish solutions for trust-related issues in emerging and existing markets. The team at Agora is looking to establish solutions that provide tools to parties within a partners vertical to rapidly expand their use of the blockchain. The first solution developed by Agora will addresses the emerging gig economy integrating qualified participants directly into the management and CRM solutions of companies in associated verticals.

How many nodes do you envision to run on the Factom Community Testnet (or other testnets?)
2

What type of legal structure does your team use?
société par actions simplifiée (SAS)

Will you operate as an incorporated company?
No

If yes to the above, where are you/will you incorporate? Are your already incorporated?

Are there any major shareholders (>10%) other than the members in your application?
No

Do you and/or your team members have previous experience running a business or managing large capital? If so, make a short writeup of your experience below.
Mathieu Floc spent 4 years as a head of finance at BNPPARIBAS specifically working as a Financial Analyst in regulatory and financial reporting. Joshua Schwager works with two organizations advising and growing blockchain start ups.

What has your team done to ensure a proactive approach to managing the financial aspects of your business?

We have designed financial plan for the next three years

Clarify your commitment to the Factom protocol? What have you brought to the table already, and what will you bring in the future?

Guillaume Evrat was previously helping HashnStore (current Authority node) with their setup. Guillaume was asked to handle the monitoring of their system/servers. With the addition of his blockchain expertise, he also facilitated setting up the nodes and docker. That is where Guillaume learned and fully began to understand the Factom technology; he understood the benefit of the technology and it motivated him to start a company running an Authority node and built on Factom. Joshua Schwager has been working with a group of Authority Nodes on PR related to the protocol and has submitted an application to become part of the Marketing Committee.

What is your/your entity's motivation for applying for hosting Factom Authority servers?

Expand the use of the Factom protocol and develop solutions that meet the needs of the ecosystem.

What vision do you/your entity have of the future of Factom?

That it will be the backbone of the next digital evolution.

What will your efficiency be with only one node?	**0,25**
What will your efficiency be with two nodes?	0,25

Node #1 Type	**Dedicated server**
Node #1 Location (VPS: Provider, Region // Other: Country, City, Datacenter)	Zurich, Switzerland
Node #1 CPU, Number of cores	8
Node #1 CPU, type & clock-speed	Intel 3.1 GHz
Node #1 RAM, amount in GB	16
Node #1 RAM, scalable if < 24 GB	Yes
Node #1: Storage, RAID type	RAID 10
Node #1: Storage, Disk type	SSD
Node #1: Storage, Free Size in GB for Factom	100
Node #1: Storage, Do you have a separate factom volume/disks?	Docker volume
Node #1: Connection & uplink speed (not just your NIC speed)	1 Gbit

Node #2 Type	**Dedicated server**
Node #2 Location (VPS: Provider, Region // Other: Country, City, Datacenter)	Geneva, Switzerland
Node #2 CPU, Number of cores	8
Node #2 CPU, type & clock-speed	Intel 3.1 GHz
Node #2 RAM, amount in GB	16
Node #2 RAM, scalable if < 24 GB	Yes
Node #2: Storage, RAID type	RAID 10
Node #2: Storage, Disk type	SSD
Node #2: Storage, Free Size in GB for Factom	100
Node #2: Storage, Do you have a separate factom volume/disks?	Docker volume
Node #2: Connection & uplink speed (not just your NIC speed)	1 Gbit

Add any other information relevant to server specifications and hosting, including planned availability of your maintenance team and how you would propose to handle an unscheduled restart.

Connection Down

A monitoring server at CheckMk will proceed with TCP request every thirty seconds on each of Agora's active servers. In case of a down connection, an immediately notification is sent via email.

If there is a missed connection breakdown, a program will be set that ping the servers every one minute to see if the connection is up or down. If one of the main servers is down, Agora will act accordingly to Brain-Transfer the Authority Identity from the defective server onto the backup server, to ensure continuous and smooth Authority Server operation.

The main server will be sync again with the network and left running for at least 6 hours as such. If no network issue occurs in the meantime, another Brain-Transfer will be processed, in order to get the Authority Node hosted back onto the main server dedicated to it.

Server Damage Recovery

If one of the main servers is damaged in any way, it will be instantly spotted through ping-check and swapped with the backup server as mentioned above, in the Connection Down paragraph. The server will be reset and the full node reinstalled using docker or a sh script as soon as practicable. If this action results in a failure due to the damage being too severe, the physical server will be replaced by a brand new one. In the meantime, the Authority Node operations will continue to run on the backup server.

Which date did you join the Factom community testnet (approximate date is ok)?

4/1/2018

How does your team administer the nodes (more options possible)?

By 1 team member

How many people in your team are able to operate the servers (including direct hired personnel, but excluding hired fallback companies)?

2

How many years of combined experience does your team have on running production servers?

Guillaume Evrat has 3 years managing production servers and Joshua Schwager has a year of work related experience.

Could you elaborate on the production servers your team has managed (amounts, OS-types, purpose)?

Ethereum, Grin, Bitcoin on Ubuntu to a total of 6 servers.

Have you run follower nodes outside the qualified-node pool on the testnet? If so to what effect? Other contributions to the testnet?

no

Have you run any mainnet nodes? If yes, please elaborate why, and for how long

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How are you going to make sure your nodes operate securely?

To ensure the most secure access to the server, Agora will set up only ssh connection to the server. This will set up only access to authorized people. We will also set up 2FA to connect to the hosting provider platforms.

There will also be an established firewall to manage access to the server. Rather than using the firewall offered by hosting providers, Agora will use a software called “uncomplicated firewall” also called “ufw”.

It has been decided that this will be fully autonomous from the hosting provider platform. Additionally, there will be a bash script created to automate the launch of firewall with specific rules in case of relaunch. In TCP/UDP connection Agora will only allow access to the port useful by the nodes. This will automatically block IPs that may be spamming the network. Finally, for such firewall to function, there will exist a need to modify docker config files.

How are you going to make sure you are able to respond quickly?

Daily Routine and Network Monitoring

We will use CheckMk as the monitoring and alerting solution. It offers an easy to deploy yet

elegant interface. Signals to be monitored are:

Host resources (processor load, disk usage, network usage, system logs, CPU temperature, and every signal we deem necessary)

Application uptime

Agora has a background using this software and has received feedback from others nodes that will allows for adaptation to the threshold for alert notifications to be instant when necessary.

Furthermore, both the main server and the backup server will be subject to thirty-second ping tests from CheckMk to test their reactivity. Finally,a bash script will be created to redeploy nodes and monitoring servers in case of failure. This will result in the optimal uptime for the nodes.

Agora will also use voice alerts to be called whenever one or more nodes are down. The planned system will be similar to the following: https://github.com/Factoshi/Factomd-alert. This project was deployed in the first batch of election for Authority servers and is a great tool for monitoring.

Our two third party monitoring softwares will be located in different servers. These steps are taken to ensure we receive alerts in nearly any situation. There could be some failure from the hosting providers but with two different monitoring solutions at two different hosting providers, the chance of missing alerts is close to zero.

Monitoring of Docker

Moreover, Agora's monitoring structure will include not only monitor servers but also docker containers. Even if we are alerted when a filesystem is down (docker are considered as filesystem) on CheckMk we will set up a software that's function is to only to monitor docker containers.

We will also setup an instance of https://portainer.io on a server, this software allow us to have fancy UI to monitor our containers, images, swarmId on all of our servers and it also provides alerts. This will add an extra layer of logging, monitoring and security.

Could you provide a picture on how you would see your ideal auth node infrastructure?

The Authority Nodes will be on dedicated servers. The servers will be monitored by a checkmk instance on a different server and a remote phone call alert. There will be an instance of ufw firewall setup on the servers. Finally an other server running an other mainnet node will be set up in case of swap, failure, or update.

Free-text. Add any additional information deemed relevant.

Add any application supporting files here

https://drive.google.com/open?id=1q0xlwytkVnB28CgRGb4qmnnnHWy2KRvw