
Consensus Networks

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

Consensus Networks

Entity: E-mail address

info@consensusnetworks.com

Team member introductions

Shane holds a Ph.D. in Neuroscience from the University of Notre Dame, where he was a Reilly Fellow. He has significant expertise in developing and operating high-growth companies. As the co-founder and Chief Executive Officer of a cloud services provider, he developed the company into one of the leading Amazon Web Services Advanced Partners. Previously, Shane led the growth of data center, cloud infrastructure, and fiber optic networks in the Midwest closing debt, equity, and tax incentive transactions of over \$35M and built operations achieving consistent annual revenue growth of 40-50%. Shane held leadership roles at the Purdue Research Foundation, where he was responsible for technology assessment, patent strategy, valuation, negotiation, and licensing innovations within Purdue's Intellectual Property portfolio in the Life Sciences and Biotech space. A graduate of Wabash College, Shane serves on the founding Board for the Center for Innovation, Business, and Entrepreneurship.

Nick is an experienced Information Technology professional with over 15 years in the industry. He has held numerous technical and managerial positions in a wide range of industries. He started his career in IT on the service desk 15 years ago and through hard work, training and dedication progressed his way to managing teams of experienced system and network engineers. Locally, Nick has been a key member of the technology leadership teams of Netarx Inc., Schurz Communications, and Thor Industries. He has designed, implemented and supported industry standard technologies including those from Cisco, VMWare, Microsoft and EMC as well as implementing innovative solutions using commodity hardware. Nick has expertise designing complex IT solutions, Private and Public Cloud environments, Project Management and Capacity/Business Continuity Planning. In addition

Prior to joining Consensus Networks, Nate served for over seven years in the U.S. Navy as a submarine warfare officer. He is a 2011 graduate of the United States Naval Academy with a bachelor's of science in systems engineering. He attended the U.S. Navy's nuclear power and submarine officer training before being assigned to an Ohio-class ballistic missile submarine. Nate qualified as a submarine warfare officer and completed four strategic deterrent patrols while serving as a division officer aboard the Maine. From 2016 to May 2018, he taught Physics, Thermodynamics, and Cyber Security to ROTC students at Notre Dame. Nate earned a Masters of Science from the University of Notre Dame and holds a CompTIA Security+ certification. He maintains a federal security clearance and advises companies seeking to secure government contracts as they relate to OPSEC and sensitive information. He is a member and contributor to the National Institute of Standards and Technology (NIST) working group on Blockchain for Industrial Applications. He also is an adjunct professor at the University of Notre Dame where he teaches an introductory blockchain course.

Connor completed his undergraduate education at Wabash College. While at Wabash, he double majored in computational mathematics and chemistry and has experience in healthcare and clinical trials, software/algorithm development, and small stage biotechnology startups. Connor is working towards a Master's in Science from the University of Notre Dame. A native Hoosier from Valparaiso, IN, Connor is excited to be working with Consensus Networks, where he will be focusing his efforts on leading R&D and Innovation.

He hopes to leverage his diverse background to explore new avenues for Consensus Networks to consider moving forward as blockchain begins to transform a wide variety of industries.

[Introduce your Entity/Company](#)

Consensus Networks is an Indiana based LLC focused primarily on offering blockchain infrastructure and nodes as a service. Consensus is deploying and operating a dedicated distributed ledger network across the United States consisting of high-capacity (minimum 10-40 GB backplane), low-latency (2-40 ms) network interconnects between 25 carrier hotels. Consensus currently has authorization and clearing for peak demands of 10,000 - 15,000 transactions per second (tps). Utilizing proven cyber-security methods and a proprietary technology stack within standard network systems, we provide clients with low latency and secure interconnections that enable world-class transactional settlement. Consensus is designing its network to be FedRAMP compliant, ensuring it meets federal requirements for security assessment, authorization, and continuous monitoring. The Consensus Network is ledger agnostic, meaning that Consensus is optimized to provide backbone network and infrastructure services to any emerging distributed ledger. Consensus' central location in the United States allows it to effectively and efficiently expand its network. Multiple distributed ledgers curated by the Consensus Networks team enable clients to build applications serving a variety of sectors, including government, healthcare, financial, and industrial.

Consensus is not focused on developing its own ledger but rather as a supporting mechanism for existing ledgers to help spur adoption by providing a stable platform for both developers and enterprise clients to use. We are in the process of onboarding our first major enterprise clients including two healthcare companies as well as a Fortune 500 chemical company.

[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?](#)

LLC

[Will you operate as an incorporated company?](#)

No

[If yes to the above, where are you/will you incorporate? Are you already incorporated?](#)

We are not currently incorporated with no foreseeable plans to do so.

[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.](#)

Shane has worked as an active investor since 2008 by engaging over a dozen high-growth companies in a business foundry, board level, or leadership roles during the formative stages of corporate development through his firm. To date, these companies have raised over \$80M in venture financing. With nearly 15 years of new venture experience, Shane has served as an Adjunct Professor, where he was responsible for the

Technology Realization Program, a multi-disciplinary graduate-level program focused on the fundamentals of entrepreneurship and venture finance.

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

Our team is well funded through various means, including backing from institutions as well as financing through grants.

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

We'll be the first to admit we're new on the scene with Factom, but we will be quick learners and active members. As an infrastructure provider, we not only want but need the ledgers we host to succeed and as such will ensure we maintain maximum uptime on our servers to ensure users can always access the ledger. Additionally we will actively work to create a community for our users to build use cases that will attract additional enterprise clients. We've partnered with SIMBA Chain, a blockchain company making an API for developers and Enterprise to use to connect their existing applications onto the blockchain and we'd love to see what we can do to connect SIMBA Chain's API to Factom.

An additional project we're working on for potential Factom integration entails using Consensus Network's proprietary technology to facilitate medical information data transfer. This project will explore using distributed ledger technology and blockchain to improve population health outcomes by using Consensus Networks infrastructure to allow health data sharing and utilization between physicians, patients, and insurers in a secure, high-speed, and HIPAA compliant manner. Blockchain will enable more secure data sharing between these parties to occur, and as physicians can obtain greater access to patient's health data, they will be able to provide more personalized care and improve patient outcomes. Another secondary benefit from this is that insurers will be able to decrease premiums due to the increased security and lack of accessibility to malicious actors that blockchain and distributed ledger technology brings to the storage and transfer of this information. Due to the incredibly strict FDA regulations surrounding the transmission of personal health information, Factom's smart contract technology provides an attractive avenue through which this data could be transferred. Seeing as entries are stored in chains, the FDA rules and guidelines surrounding patient data transfer, access, and storage could essentially be defined as the set of rules in the first entry of the chain, and any attempt to access, manipulate, or transfer this data in a manner not in compliance with these rules would be rejected, but still recorded as having been attempted. This would allow for improved transparency into such transactions, as well as the ease with which such data could be audited by an external third-party. Such a secure and transparent system would be beneficial to healthcare systems from an administrative and regulatory standpoint for these reasons, and something uniquely suited to Factom's platform. We recently received notification of funding for a federal SBIR grant through the NIH - although not finalized yet, once awarded we would love to utilize this grant to thoroughly examine what Factom can do for healthcare.

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

Our motivation for applying to host is twofold. First, as an infrastructure company, we are always looking for new ledgers to host. Many are not production ready while others do not have an understandable or obvious use case that would require a production level server. As such, we try our best to ensure the ledgers we host are ready for enterprise use. (Currently we are hosting Ethereum and Hyperledger Fabric). Factom's blockchain and products (Harmony and dLoc) are perfect for our platform and highlight our other motivation, adoption. In order for our platform to succeed we need mainstream blockchain adoption. So, we are very interested in Distributed Ledgers with a variety of interesting use cases to test. Indiana is a manufacturing and supply chain hub so it is a natural fit to try many of the proposed blockchain use cases. Additionally, we have developed

partnerships with the local government and healthcare providers to build proof of concepts for further blockchain technologies. In short, we want to host Factom because that's what we do at Consensus, host blockchains and build adoption with our partners for said blockchain.

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

We would love to see Factom become the standard chain for industrial, government, and healthcare applications like supply chain management, auditing, IoT security, identity management, and securely sharing health records.

What will your efficiency be with only one node?	0,5
What will your efficiency be with two nodes?	0,5

Node #1 Type	Dedicated server
<i>Node #1 Location (VPS: Provider, Region // Other: Country, City, Datacenter)</i>	506 W South St. South Bend, IN 46601
<i>Node #1 CPU, Number of cores</i>	4
<i>Node #1 CPU, type & clock-speed</i>	Xeon 3Ghz
<i>Node #1 RAM, amount in GB</i>	16
<i>Node #1 RAM, scalable if < 24 GB</i>	Yes
<i>Node #1: Storage, RAID type</i>	RAID 5/6
<i>Node #1: Storage, Disk type</i>	SSD
<i>Node #1: Storage, Free Size in GB for Factom</i>	250
<i>Node #1: Storage, Do you have a separate factom volume/disks?</i>	Separate volume(s)
<i>Node #1: Connection & uplink speed (not just your NIC speed)</i>	100 Mbit

Node #2 Type	Dedicated server
<i>Node #2 Location (VPS: Provider, Region // Other: Country, City, Datacenter)</i>	800 Oliver Ave, Indianapolis, IN 46225
<i>Node #2 CPU, Number of cores</i>	4
<i>Node #2 CPU, type & clock-speed</i>	Xeon 3 Ghz
<i>Node #2 RAM, amount in GB</i>	16
<i>Node #2 RAM, scalable if < 24 GB</i>	Yes
<i>Node #2: Storage, RAID type</i>	RAID 5/6
<i>Node #2: Storage, Disk type</i>	SSD
<i>Node #2: Storage, Free Size in GB for Factom</i>	250
<i>Node #2: Storage, Do you have a separate factom volume/disks?</i>	Separate volume(s)
<i>Node #2: Connection & uplink speed (not just your NIC speed)</i>	100 Mbit

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.

We'll have cloud backup for our servers - 1TB of backup data. We can backup as frequently as every 15min but will work within the community to determine the optimal backup frequency. We'll also be able to utilize our cloud servers as backup/guard nodes to assist in maintaining server uptime and disaster recovery. Our maintenance team is available 24/7; we pride ourselves on LedgerOps. We utilize LogicMonitor to automatically monitor our servers at all times. Faults (or an unscheduled restart) will proceed through an escalation chain and be dealt with quickly and appropriately (no matter what time).

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

7/30/2018

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

By more than 1 team member, By known and non constantly rotating directly hired personnel

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

3

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

25

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

Shane - 10 years of full data center management. Built and operated one of the top 40 data centers/carrier hotels in the United States. Built multiple data center environments for multiple Fortune 500 companies including some of the largest cloud players.

Nick - 15 years, utilized Cisco, VMWare, Microsoft and EMC as well as implemented innovative solutions using commodity hardware, Private, Public, Hybrid Cloud environments (Azure/AWS), Linux Systems

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

No

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

We practice all pillars of Cyber Security including concepts of least privilege, ensuring Biometric Access Security, and 24/7 security monitoring at data centers where we host. Our System Security Plan is designed for FedRAMP compliance. Additionally, we will be using a powerful Network Security Firewall Appliance for each of our servers to ensure maximum protection.

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

As stated above, we utilize an automated escalation chain to ensure appropriate and rapid response. One team member will be able to respond if needed at all times.

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

We believe that currently, too much of the blockchain is being hosted by cloud providers, introducing additional centralized infrastructure. While the cloud is an inexpensive, reliable, and short-term solution; we would like to see a network of independent, dedicated server hosts around the world, which would maintain true ledger distribution, securing the network and providing democratic governance.

Free-text. Add any additional information deemed relevant.

Add any application supporting files here