

Private Communication Network Protocol

A strategy for full controlling your own privacy



June 15, 2021

Executive Summary

PCN Protocol is an open source messaging platform and All in one mobile interface to interact with decentralized applications that run on the Ethereum Network.

This document presents a utility network token for PCN protocol, one of the first mobile Ethereum client built entirely on peer-to-peer and blockchain technologies.

The messenger form-factor is chosen to make Ethereum feel as familiar as possible to the average smartphone user, while providing a flexible platform for DApp developers, aimed to maximise the amount of daily use of Ethereum's public blockchain.

PCNP token is a modular utility token that fuels the PCNP network. This includes a web3 browser with inbuilt VPN service, Governance of the PCNP client, Community Curation of content, along with social and secure communication tools such as Tribute to Talk with voice changer and option to spoof your number but also Detection & prevention.

We also propose a fiat-to-crypto 'Teller Network', DApp Directory, NFT Market, and demonstrate our research on a User Acquisition Engine to grow the Network.

PCN Protocol Token ('PCNP') will be distributed at a rate of 10,000 PCNP per 1 ETH to participants in the Contribution Period, and is expected to begin on July 30th. The Contribution Period will run for 14 days, or within 24 hours of the first ceiling of 12M EUR (EURO) having been reached (outlined on [Page 27](#)).

Background

Prevalent on the internet today are social bots, a type of automated software that controls a social media account, designed to advocate certain ideas, support campaigns, and sway public relations. These bots pollute online discussion by lending false credibility to their messages and influence of real users ([Ferrara et al. 2016a](#), [Aiello et al. 2012](#)). Recent studies quantify the extent to which automated systems can dominate discussions on Twitter about topics ranging from electronic cigarettes ([Clark et al. 2015](#)) to elections ([Bessi and Ferrara 2016](#)). Recent conservative estimates claim 15% of all Twitter users are said to be bots ([Varol and Ferrara 2017](#)). Twitter has 319 million monthly active users as of 2021, suggesting that 47.8 million users are bots. This poses a threat to the legitimacy of the media we consume.

The problem of social bots and media manipulation serves as a catalyst in re-evaluating how we design our social networks and is just one symptom that is systemic in the user-as-product business model. In this paper we will present our ideas for the next generation social network, the **socio-economic network**.

David and Adriaan, the co-founders of PCN Protocol, have had a working relationship for 7 years on various projects, and 2 of those years were spent operating a software distribution network and blockchain technology, driving over million installs to various software offerings, the profits of which were used to fund PCN Protocol and our team of 12 until this point. During the operation of this business we were uniquely positioned to see firsthand how personal data on the internet is bought and sold and how users are acquired and retained.

Legacy Social Networks

Everyone-as-a-stakeholder

Social networks today consist of three parties: the owner, the advertiser, and the user. Each party serves a role that sustains the growth and development of the platform. Despite each playing a critical function, these parties operate with vastly different goals in mind and current models fail to provide a means by which their incentives can coexist and be aligned.

The Owner

The owning entity is typically the creator of the network. Their role is to attract and retain users to their platform. Their goal has historically been to create a walled garden around a user base and extract value from it. They rely on algorithms to keep the user engaged with the platform, but do not necessarily operate with the interest of the user in mind. The Owner's priority is value extraction from the user, followed by user retention.

The argument for the aforementioned incentive mechanism, is that by presenting the user with more relevant advertisements that the user wants will ultimately lead to more value creation. However, this is not always the case. The owner can instead use the data collected on users to do the inverse and intentionally elicit consumer behaviours or sway public opinion. Facebook has published non-consensual social experiments that have demonstrated that by manipulating the information the user consumed while engaged with the network, they could effectively manipulate what that user thinks, feels, and believes ([Kramer et al. 2014](#)).

To make this point more concrete, consider how a beauty product might actually convert better, given that users insecurities could be made more severe via a small change in the networks content ranking system, and ultimately drive their purchasing action.

The Advertiser

The Advertiser, or Data Broker, enables the Owner to extract value from the network, ultimately sustaining the platform. This is done by purchasing the user's data, purchasing qualified leads to their products or services, or by purchasing targeted advertising inventory based on user profiling performed by the Network Owner.

The Users

The user's perspective in the network is quite different. Often users do not approach these networks with the explicit intention of buying products, but rather to connect with friends and loved ones or to reach communities who share their own special interests. Often they are powerless to control the information they consume, or how the network is developed. They have no choice but rely on the Owners and Advertisers to behave ethically, or stop using the network entirely.

Socio-economic Networks

Everyone-as-a-stakeholder

What if we could flatten these roles? What if users of social networks possessed a real stake in the networks they participate in? What if we could align incentives for all parties and create a network that naturally promotes behaviours that benefit all participants?



With the issuance of the PCN Protocol Token ('PCNP'), we create a Users-as-Stakeholders network, allowing the behaviour of the network and its software, to become aligned with the interests of its Users.

The PCN Protocol Token is required for certain features of the client. In addition, it enables users to steer the direction of development and influence how the network evolves over time.

A benefit of this model is the network effects it creates. Just as Facebook shifted our social attention to build network effects on its closed platform, the PCN Protocol Token will leverage our economic attention to build the network effect of an open platform.

We believe that cryptoeconomic systems will have even stronger pull than the social ones. Our survival instincts, which heavily influence our economic interests, are stronger than purely social ones, thus leading to faster adoption of Ethereum and tokens as technologies.

Why Ethereum?

Before stakeholders can communicate and transact with one another they require a medium in which to do so. Traditionally this has always been done by a trusted intermediary (the Owner). With the advent of the Ethereum public blockchain and its related sub-protocols forming the backbone of Web 3.0 (Swarm; for decentralized file storage [[Trón, Fischer, Nagy, Felföldi 2016](#)], and Whisper, for peer-to-peer communication [[Wood 2015](#)]), we can now provide users a medium of agreements that is decentralized, permissionless, trustless, with fair access and is cryptographically verifiable. A medium that maintains an 'immutable' transaction record as long as the majority of the Ethereum network collectively agrees.

With Ethereum, the world possesses the technology necessary to build a better model for the Internet. We believe the Ethereum public blockchain will continue to permeate all matters of financial technologies, legal systems, the internet of things and decentralized applications.

Ethereum is ultimately a social technology, and for its realized impact to equal its perceived potential we need to maximise its utility for non-technical users, it needs to be ubiquitous and always accessible, and it needs to become part of our daily lives - without compromising on decentralization.

The PCN Protocol Ethereum Client

To introduce the next part of the infrastructure we need to work back from people, we need to understand how they interact with technology and how they live their daily lives.

Smartphones are the new personal computer and are increasingly the access point to the digital world for citizens of both developing and developed nations alike. As of 2014, smartphone usage surpassed desktop usage and continues to trend upwards ([Comscore 2020](#)).

Amongst the growing populations with access to smartphones and mobile internet, messengers have become the primary means of digital communication, and are poised to surface as the new gatekeepers to economic trade.

Messengers as an application category now boast more users than web 2.0 social networks ([BI Intelligence 2020](#)), the highest retention rates ([Flurry 2020](#)), and are where smartphone users are spending an increasing amount of their time ([iResearch 2020](#)).

In China, WeChat now boasts 889m active users with 90%+ penetration rates in China's largest cities. WeChat Pay is also now used by 93% of WeChat users for offline purchases in China's largest cities ([Penguin Intelligence 2020](#), [CNTechInsights 2020](#)). On average WeChat users spend 66 minutes per day within the application. WeChat has become tightly integrated into all aspects of daily life in China. One can arrange social life, banking, business activities, transport and payments directly from within it. However, WeChat is a closed-source, proprietary interface, and its centralized architecture leaves it open to coercion and corruption.

The trend towards messaging-as-a-platform epitomized by WeChat has not yet reached most of the West or the developing world. PCN Protocol aims to be the first messaging platform to achieve this, using a decentralized and community governed approach.

Utilizing the messaging-as-a-platform user experience, the PCNP mobile Ethereum client presents a familiar feel that's convenient and well suited for mass adoption. PCNP respects the Users rights by being open source and free, and unlike its centralized counterparts, it puts users in complete control of their own personal data. PCNP acts as a node that connects directly to the Ethereum network, adhering to our guiding principles of fair and permissionless access, decentralization and trustlessness.

PCNP is an open source messaging platform and web 3.0 browser with inbuilt VPN service, designed to interact with decentralized applications that run on the Ethereum Network. Built using decentralized technologies, PCNP provides a window into the emerging decentralized web. As an ecosystem of decentralized applications, PCNP becomes a gateway to undeniable free trade, peer-to-peer payments, and encrypted p2p communication for anyone with a smartphone and internet access.

PCNP and Ethereum provide the foundation necessary to give all stakeholders in a socioeconomic network equal footing. The PCNP application, which is currently in beta-testing will be available for Android & iOS, allows users to:

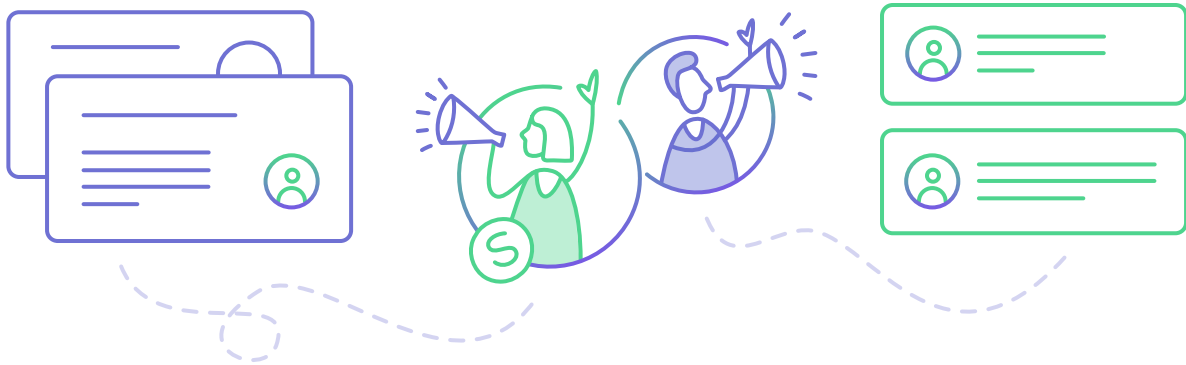
- Send and receive encrypted messages, smart contracts, and payments.
- Browse, chat, and interact with decentralized applications and decentralized chatbots.
- Store and control crypto-assets with the built-in PCNP Wallet.

By introducing the PCN Protocol Token, we can not only provide use-cases that were previously impossible in web 2.0 environments, but also address some of the core problems created by incentive misalignment and sock puppet bot creation that plague social networks today.

This begins at a Governance level, by empowering stakeholders in the PCNP Network; giving them a real voice and ability to influence the direction of the software as it develops.

Decentralized Push Notification Market

Taking a hard stance on decentralization in the client isn't without its challenges. Due to the peer-to-peer nature of the Ethereum communication subprotocol, Whisper (SHH), simple expected user experiences, such as being notified when a friend has responded to your messages, have to be themselves redesigned in a decentralized context.



With the new Whisper V5 protocol, we can now delegate nodes to do offline inboxing (storing messages while clients are offline) and we will extend this ability to support push notifications.

This allows us to establish a market for push notification providers. For service, stakeholders will deposit SNT with a provider, who may charge microtransactions for notification and storage.

This affords stakeholders the right to choose which nodes in the network will provide the service for them, and what kind of push notification providers they would like to use, perhaps choosing Deepstream over Google or opting completely out of the service to maximize their privacy.

We recognize that in a model where the User is no longer the Product, paying for push notifications may initially seem like a hurdle, as Users in existing platforms currently get this 'for free'. Instead we make the costs explicit to the User and don't exclude possibilities where a push notification node could build a business on top of the infrastructure, ie. offer the service 'for free' by the User viewing ads to pay for push notifications. The end result is that we give the User a choice.

Status implements an application protocol for message re-delivery, so as soon as both parties are online in the network, messages are exchanged and history is updated. Technical details of the implementation can be found [on our website](#).

PCNP Utility

- PCNP is required by Stakeholders to select and receive push notifications.

Example use-cases

- Stakeholder A, a casual user, wants to receive Push Notifications and pays a microtransaction in PCNP to do so.
- Stakeholder B, an early adopter in Cuba, has been paying for Push Notifications, but Google's Firebase has just been blocked in his country. He seamlessly changes to a different provider from within PCN Protocol.
- Stakeholder C, a Push Notification provider, wants to generate PCNP, so they participate in the market to offer their services.

Governance

One major drawback in legacy social networks is the lack of influence their users possess over the networks themselves. They are often powerless in having a say on how the platform evolves. We aim to democratise this power, giving stakeholders a direct influence over all decisions within the network, including how the software is developed.

A core part of the PCNP Token is giving stakeholders the ability to choose the direction that the software is developed. The token is used to make decisions on proposals, which can be made by any Stakeholder. For each decision, the token is cloned into a separate decision token. The amount of tokens you hold at that time becomes your voting power for that decision and it does not cost PCNP to vote.

Initially, key decisions will be put towards software development. We have already created a Github Bounty bot, [Commiteth](#), which allows us to decentralize and incentivise open source software development, by enabling anyone to create bounties for any Github Issue. These can then be paid to the developer upon submitting code that is successfully merged into the codebase by the Project Maintainer.

Decentralizing additional components of PCNP' governance needs to happen over time, given the sheer complexity of the task. We have been closely monitoring the progress of decentralized governance projects in the space including Aragon, Boardroom, and Colony.

Username on Ethereum Name Service

By default PCNP is free to use and communicate with. You are identified by a [SECP256k1](#) public key. Since the Ethereum Foundation's Ethereum Name Service is specifically designed to map string to DApps and addresses, it is a natural fit for Whisper-based identities. We are willing to working with Nick Johnson, co-creator of the Ehereum Name Service, to create a username-to-SECP256k1 public key resolver on ENS that allows stakeholders to register usernames on a first-in, first-out basis, with a social recovery mechanism. This gives stakeholders a human-readable and recoverable access point should phone or private keys be lost.

Rather than delegating other addresses to recover, we instead abstract the recovery process by allowing the stakeholder to create 5 signed messages, that can then be shared out-of-band with friends or stored in a safe location. A default of 3 of 5 signed messages will be required to change the username owner, but can be optionally changed by the stakeholder.

An account must be holding The PCNP Token in order to reserve a username. This username is used to identify themselves within the greater PCNP community, and signal participation in the network. Should a stakeholder wish to leave the network they can withdraw their tokens and the username will be unreserved and claimable by any other stakeholder.

This system will then depend on uPort for KYC/AML requirements where required, as a completely optional step, for users who wish to interact with regulated financial tools and DApps within the application.

PCNP Utility

- PCNP is required to register a username on the PCNP Network.

Example use-cases

- Stakeholder A, a casual user, wishes to register the username @david inside of PCNP so his friends can easily find him, and more easily recover his account should he lose his mobile device.
- Stakeholder B, a DApp developer, mandates only registered PCNP users to post on his discussion board DApp, in order to mitigate sockpuppet accounts using his decentralized application and increase the quality of content.

Indicators of Trust

In many social networks, Platform Owners offer attestations on User accounts to signal that their account is reputable. Often this requires revealing government issued documents and is represented as a simple badge that says “verified account”.



With the PCNP Token, we intend to implement a non-exploitable online reputation system based on TrustDavis ([DeFigueiredo and Barr 2005](#), [DeFigueiredo and Barr 2009](#)). Stakeholders can deposit PCNP against usernames at a premium, creating a badge indicating a level of value that username holds and the amount of backers they have.

This will allow us to establish a base Web of Trust, which will give an indication of how reputable a username is within the network and this can be further developed in the future, for example, with the integration of Trustlines.

This value may be used as insurance in escrow based transactions on Ethereum, in the PCNP Teller Network or wherever reputation can be put at stake.

This sets the foundation for moderation tools in Public Group Chats, enabling users to create environments for communication based upon economic stake in a digital asset or token.

In this model, PCNP users have to prove they have a minimum economic stake in a token, or set of tokens, in order to qualify as a participant to join the online discussion, thus significantly raising the costs of sockpuppet actors. There will be a micro-deposit in PCNP required for creating a group chat with these moderation tools.

PCNP Utility

- PCNP is required to deploy a semi-public token-based group chats.

Example use-cases

- Stakeholder A, an asset manager, wishes to create a community of other PCNP users, who each hold a minimum of 3 MLN, Melonport token ([Trinkler, El Isa 2017](#)), to discuss the future of the project.
- Stakeholder B, an economist, wishes to create a group discussion where users have to hold both MKR, Maker token ([Christensen, Muschegian 2017](#)), and DGD, Digix token, ([Eufemio, Chng, Djie 2016](#)) so he can have an educated discussion about stable coins.
- Stakeholder C, an event organizer, has issued a token as a ticket for a music festival using Bancor ([Hertzog, Benartzi 2017](#)) inside of PCNP, and allows attendees to join a Public Group Chat.

Tribute to Talk

Inspired by one of Satoshi Nakamoto's original suggested use cases for Bitcoin, we will be introducing an economics-based anti-spam filter, in our case for receiving messages and "cold" contact requests from users.



This enables stakeholders to set a minimum amount of PCNP that a PCNP stakeholder must deposit in order for someone outside of their network to contact him directly. If the recipient replies the deposit is forfeited to the recipient.

PCNP Utility

- PCNP is deposited, and transferred from stakeholders to recipients upon receiving a reply from the recipient.

Example use-cases

- Stakeholder A, a professional, would like to reach out to a high profile figure in the same industry, but would otherwise have no means of receiving a response.
- Stakeholder B, an artist and celebrity wishes to spend some time chatting with fans, and also desires a means of monetizing their fan base.
- Stakeholder C, a freelancer, provides photography tutorials, and has a means of generating revenue.

Community Curation & Attention-based Signalling

In legacy social networks, ranking of information is typically done by the platform owner, often with the intent of driving up profits. In this model, content discovery algorithms are opaque, prone to censorship, monopolistic in nature, and possess high switching costs should users of the network become dissatisfied with the quality of content discovery.

Within the PCNP Network, stakeholders will be able to opt-in to curate the content that is displayed by producing signatures on events (i.e. by upvoting or downvoting content or ideas), referred to as signals, in which the stakeholders' token backing is weighted in ranking.

The aggregate signals generated from stakeholders form an open graph that content rankers can use. Should a stakeholder be dissatisfied with the content ranking by their current provider, they can choose between a market of search algorithm providers, keeping algorithm providers honest and removing the monopoly web 2.0 solutions have on the way we consume information.

PCNP has formed a partnership with [Userfeeds.io](https://userfeeds.io) to lead this effort.

PCNP Utility

- PCNP is required to opt-in for curation mechanisms.

Example use-cases

- Stakeholder A, an early adopter, has moderate stake in the network, and has an economic incentive to see the content ranking remain high, and opts in for Community Curation.
- Stakeholder B, a data scientist, believes he can improve upon a content algorithm and thus the value of the network, so purchases a larger stake in the Network and submits a new algorithm.

Private Communication Network Protocol with Teller Network

One of the core hurdles to the adoption of cryptocurrency is the difficulty in obtaining it. Ease of access is necessary to transition our economies from fiat to digital currency.

In order to solve this problem, we propose the implementation of the PCNP Teller Network, a DApp inside of PCNP, which provides borderless, peer-to-peer fiat-to-crypto 'Teller Network'.

The Teller Network allows Stakeholders in the Network to find nearby users to exchange their cash for digital assets and currency, giving any smartphone owner in the world the ability to take control of their personal wealth.

In this sense, PCNP becomes a piece of a "Web 3.0" banking infrastructure and creates a global people-as-ATM network. This has particular utility in developing markets where cash-based economies are prevalent and credit card penetration remains low, tackling the famous 'last-mile' of the remittance market.

The growing trade volumes observed on LocalBitcoins, ~30M USD per week ([CoinDance 2020](#)), coupled with the rise of remittance startups built on legacy systems like TransferWise ([Crunchbase 2020](#)), serve as a testament to the viability of this model.

PCNP Utility

- PCNP is required to become a seller.
- Research case: PCNP required for arbitration.

Example use-cases

- Stakeholder A, a street vendor in India, becomes a Seller on the PCNP Teller Network as a means of generating additional revenue.
- Stakeholder B, a father in Argentina, is concerned with the volatility of the Argentine Peso, and finds a nearby Seller to purchase some Gold-backed tokens (DGX) to provide greater security for his family.
- Stakeholder C, a migrant worker in Thailand, is fed up with the high cost of remittance to send money back to her family in Myanmar, and both herself and her partner use the PCNP Teller Network.

DApp Directory

While the Ethereum network is still in its infancy, the rate of decentralized applications on the platform is already growing drastically. The PCNP DApp Directory provides a way for stakeholders in the network to discover the most useful DApps, as curated by other community members.

Much like the Apple App Store or the Google Play Store, the PCNP DApp directory will provide a way to navigate by category and rating, enabling users to find exactly what they are looking for.

PCNP Utility

- Required for curation and signaling in the Teller Network.
- Research case: Required as a deposit by DApp Developers who wish to attain greater attention to their DApp.

Example use-cases

- Stakeholder A, opts-in to send curation signals to improve the quality of the DApp Directory listings, these signals help improve the quality of content ranking.
- Research Case: Stakeholder B, a DApp developer, has launched a new decentralized application, and wants to receive more users and exposure.

Sticker Market

Stickers offer a fun way for users to visually interact with their friends and family, and have been shown to increase engagement levels within messaging apps, particularly among millennials. The messaging app Line for instance derives about a quarter of its yearly revenues from sticker sales, or about \$268m USD ([Line Corporation IPO Filing](#)).



We propose the implementation of a Sticker Market within PCNP, allowing anyone to create and begin selling their own designs to users all over the world, and to begin using stickers within any PCNP chat.

You can read about Simon de la Rouviere's Meme Market Alpha Protocol paper that inspired this idea ([Rouviere 2017](#)). The objective is the creation of a mechanism for the algorithmic minting of tokenized stickers, which aims to capture the natural interest in a sticker or meme propagating itself through the network at any given time.

PCNP Utility

- Required for Curation & Signalling in the Sticker Market.
- Required by Sellers to participate in the Sticker Market.
- Required by Traders to participate in the Sticker Market.

Example use-cases

- Stakeholder A, a casual user, sends Stakeholder B a sticker as a birthday present. The sticker is backed by 5 DGX, representing 5 grams of gold.
- Stakeholder C, an artist, submits work to the PCNP Sticker Market as a means of generating revenue.
- Stakeholder D, a trader, trades derivatives and futures on meme markets based on a trading algorithm that incorporates data inputs from current events.

User Acquisition Engine

Achieving our mission ultimately requires one thing: widespread end-user adoption. Using the PCNP Token, we can design mechanisms for growth that have been tried and tested in Web 2.0, whilst providing greater transparency and better alignment of incentives for participants.

The PCNP Acquisition Engine provides a cryptographically provable and transparent means of growing the user base. The PCNP Acquisition Engine functions as a network level acquisition model and Lifetime Value (henceforth known as LTV) claims market, based on the PCNP Team's experience in user acquisition strategy. This is an area with many moving parts, so it remains a research topic and is subject to change.

The PCNP Acquisition Engine is based on the referral design in the paid user acquisition business model. In this model an Advertiser asks a Publisher to drive traffic to their offering, paying the Publisher on a cost-per-action basis (for example, a payout on install). While effective in driving large volumes of traffic, the Advertiser is left with the burden of verifying the integrity of the user acquisition whilst at the same time the Publisher has no immediate disincentives for providing low quality users. Additionally, the Advertiser often wants to drive free traffic to their offering without fully considering the costs associated with unproductive users.

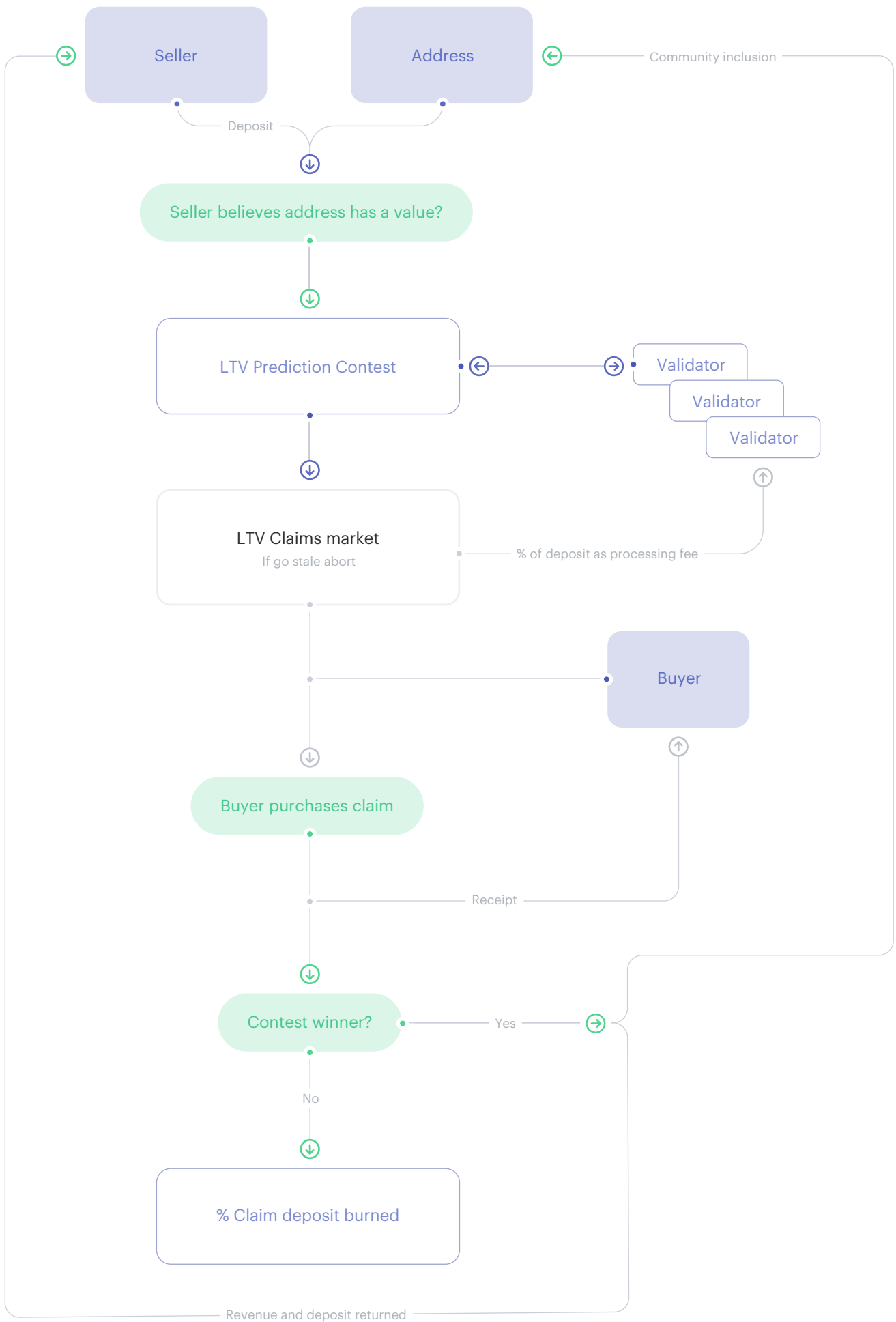
The Advertiser in this scenario is primarily interested in determining the LTV of an acquisition and therefore makes a risk-based assessment which can be refined by accurately predicting the LTV at time of acquisition.

During our operation of this business model we had the opportunity to participate as both Advertiser (henceforth known as Buyer) and Publisher (henceforth known as Seller), which helped us develop an intimate understanding of both perspectives.

It is our belief the incentive structures of this business model can be improved.

We aim to introduce a "Jellybean guessing contest" into the business model, where a Seller deposits the cost of an acquisition and bonded Predictors play to predict the LTV of a Candidate Address. We adapt the original model by:

- 1 Shifting the cost-per-action event from user acquisition to a deposit-backed Claim on an Acquisition, giving a Seller "skin in the game".
- 2 Introducing a contest to determine the LTV of an Address.
- 3 Making it permissionless, requiring no prior agreement between Buyer and Seller.



This allows us to import future and past information into a single event for the Buyer to decide upon, in which he receives a Receipt on the candidate address that can be used as a claim on that Address. The Claims are yet to be defined but could include, for example, a claim on fee's accrued in a Receipt-honouring DApp.

PCNP Utility

- Required to become a Seller in the Acquisition Engine.
- Required to become a Buyer in the Acquisition Engine.
- Deposits are made in PCNP.

Example use-cases

- Stakeholder A, owns a demand-side-platform (DSP), and sees an arbitrage opportunity to drive new stakeholders to the Network, and becomes a Seller. She downloads PCNP' media kit, and begins buying inventory, and has a real-time LTV calculation to instantly determine return on ad spend. She further increases personal stake in the Network, given the scarcity of PCNP created by new members joining the network.
- Stakeholder B, a data analyst, wants to generate a side income, begins a Validator, and begins validating claims based on public data inputs.
- Stakeholder C, a mathematician, begins purchasing claims upon observing an arbitrage opportunity based on a public data set.

Referral Program

In addition to an LTV claims market, we are exploring the possibility of a mechanism for a two-way PCNP referral program. Solving the problem of fraudulent sign ups requires the integration of more advanced reputation and identity systems such as, uPort.

Additional PCNP Properties & Upgradability

Based on the work of smart contract developer Jordi Baylina, the PCNP token possesses an interesting attribute - the ability to easily spawn new tokens that have the same balance distribution as the parent token at any given block number. We're strong believers in a culture of experimentation, and this model preserves fair contribution for early backers, without imposing rigid restrictions on the ability to test new PCNP utility as the project evolves over time.

The core team and the PCNP community are committed to ensuring that the PCNP token adds value to the platform and drives network effects. Given the Ethereum ecosystem is still in its infancy and token models are still being researched and developed, we also plan to introduce the ability to propose new functionality to the PCNP community. Thus, PCNP may be assigned a number of additional functions in the network beyond those defined in the scope above. Due to its complexity, future rights of the PCNP are not guaranteed and remain a research topic.

Development Progress

The project initially started with a DEVGrant from the Ethereum Foundation to port EthereumJ to Android. With the exception of the initial Development Grant received from the Ethereum Foundation - PCNP has been entirely self-funded by the founders of the project.

Since then, PCNP' first public alpha was released in January 4th 2021 for Android & iOS. We have been operating on the Ropsten Testnet and our Alpha release has drawn over 6,000 Alpha testers, and another 3,000 are in queue for iOS Testflight.

Over the course of Q1 2021 - Q2 2021, we have introduced a user interface refresh and have been working on the stability of go-ethereum on resource-restricted devices, and have developed out the base system for Whisper-based push notifications.

Moving into Q3 2021 we aim to start DApp development and begin security audits of the software.

Contribution Period Details

The launch of the PCNP, and the corresponding token creation process, are organized around smart contracts running on Ethereum.

- The Contribution Period will begin June 20th, 2021. Instructions on how Contributors can participate will be made available closer to the date of the event.
- Participants willing to contribute to and support the development of the PCN Protocol can do so by sending ether to the designated address. By doing so contributors create PCNP Tokens (PCNP) at the rate of 10,000 PCNP per ETH.
- The PCNP creation rate per ETH is fixed, and will remain constant for the duration of the Contribution Period.
- The number of PCNP created depends on the amount of contributions received by the smart contract.
- The Contribution Period will run for a period of 14 days, or within 24 hours of reaching the first ceiling, of 12M EUR (EURO) equivalent in ETH, having been reached.
- PCNP Research & Development GmbH controls the contract and the address to which gathered ether will be sent (implemented as a multisig address).
- PCNP received by Contributors will be transferrable 7 days after the end of the Contribution Period.

Dynamic Ceiling and the Importance of Distribution

Because PCN Protocol Token holders will ultimately be using PCNP to govern the direction of PCNP' development, along with its daily use within PCNP, achieving a fair distribution of tokens is a goal we need to work towards. To achieve this we aim to encourage many smaller participants while discouraging larger participants from taking up the majority of supply.

Other projects have tried to tackle this problem by introducing a 'soft cap', where there is a time-based closing period after a limit has been achieved, allowing smaller participants to enter during a time window after the allocation has been fulfilled. Another approach has been introducing a 'hidden cap', where participants do not know when the allocation is finalized, and will be revealed during the event - thereby making it more difficult for larger participants to know how much to contribute in order to control the supply.

Both of these approaches have some shortcomings, in the 'soft cap' approach there is nothing that stops a larger participant from acquiring more tokens, and with a 'hidden cap' it's entirely possible to raise more funds than intended.

In our model we aim to achieve the benefits of these approaches while avoiding the shortcomings by the following:

- Introducing PCN Protocol Tokens, which are issued to community members who can contribute to PCNP in non-monetary ways, such as code contributions and helping the community grow.
- Introducing a Dynamic Ceiling during the Contribution Period.

The easiest way to understand the Dynamic Ceiling is as a series of 'hidden hard caps'. A fixed upper limit that restricts further contributions until the next upper limit is revealed.

The first ceiling is public and begins the moment 12M EUR (EURO) equivalent has been reached. It signifies that the Contribution Period will end within 24 hours, or sooner if the hidden hard ceiling has been met.

The moment the first ceiling has been triggered there will be a series of additional hidden ceilings that begin after a given number of blocks has been reached. Each hidden ceiling decreases in size and has to be revealed publicly before accepting further contributions.

This allows contributors to continue to participate after the first ceiling has been reached, but reduces the maximum contribution size per ceiling, and solves the problem of run-away 'soft caps'.

Contributions will be accepted for a maximum period of 24 hours after the first ceiling has been triggered, or sooner if all ceilings have been revealed. The curve of the ceilings, the number of blocks between ceilings, and the hard ceiling amount will not be revealed to participants until the Contribution Period begins in an attempt to discourage big money investors, whales, from consuming the entire PCNP allocation.

PCN Protocol Core Development

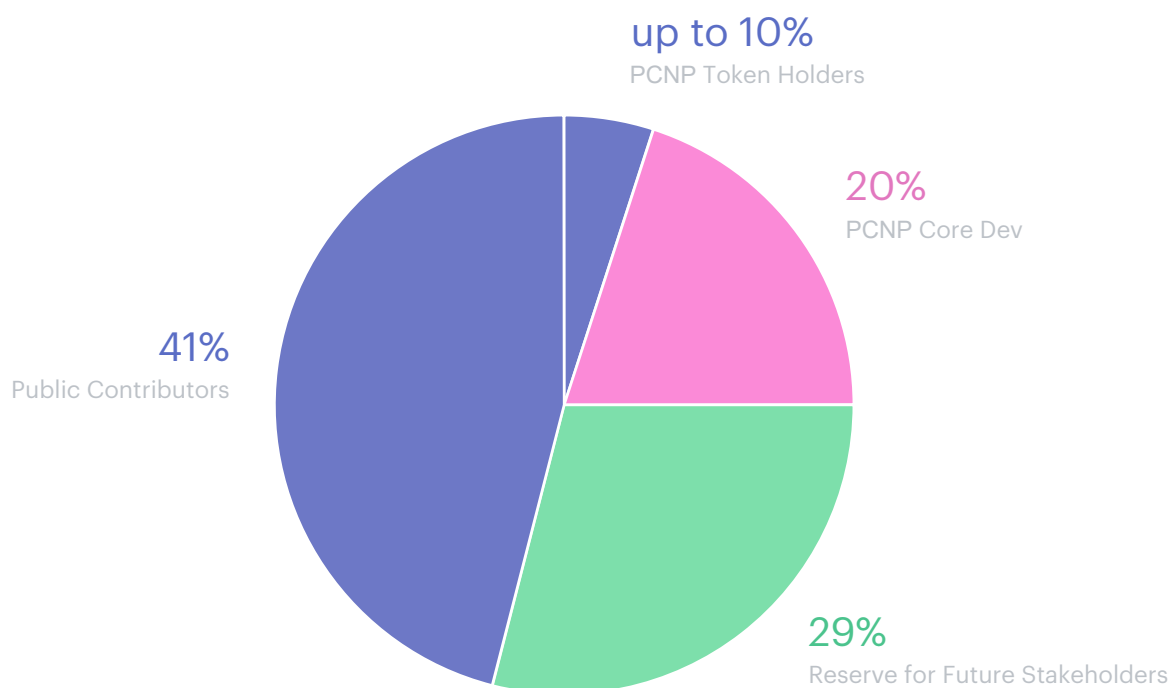
20% of PCNP created during the Contribution Period will be allocated to PCNP Core Dev; the founders and team, over a 24 month vesting period, with a 6 month cliff. This means Founder tokens will not be immediately tradable, further aligning the Founders interests with executing upon the long term goals for the project.

Reserve PCNP Tokens

We believe we can improve upon the fundraising structures used by other projects to ensure long-term sustainability of PCNP. A common model of 80% token allocation to contributors during the first token distribution event is useful in achieving a more decentralized issuance of tokens, but leaves little room for additional fundraising efforts required to attain further resources.

The lessons learned from more traditional technology startups would strongly advise the ability to raise growth capital if needed, and put longevity of the project before short-term gain. Therefore 29% of all PCNP minted will be held in a multisig and are intended to be slowly offered to future contributors and stakeholders in the network periodically at a later date to foster growth. The Reserve will not be accessed for a minimum of 4 quarters (12 months), and will be re-locked or burned if deemed unnecessary for the growth of the network. The signature of an advisor is required before the core team can distribute any of the reserve to new contributors or stakeholders that join the network.

PCNP Allocation Summary



- 41% of PCNP created during the Contribution Period will be allocated to the Public Contributors who send ETH to the smart contract address.
- Up to 10% of PCNP created during the Contribution Period will be allocated to PCNP Genesis Token Holders.
- 20% of PCNP created during the Contribution Period will be allocated to PCNP Core Dev; the Founders and Team, locked in a smart contract with a 24 month vesting period, and 6 month cliff.
- A 29% PCNP Reserve, locked for a minimum of 12 months. The reserve will be periodically offered to new contributors at a later date, but only used if deemed necessary for the growth of the network, or burned if proven otherwise.

Project Budget

Funds raised during the Contribution Period will be used solely for the development and benefit of the PCNP Network. The level of funding received dictates the distribution of funds, however, our PCNP reserve structure allows us to reduce the volatility along the way towards achieving our long term objectives.

PCNP is the first ever mobile Ethereum client built entirely on peer-to-peer technologies, and should be considered an R&D project involving bleeding-edge protocols. The progress we have already made reaching our alpha suggests the viability of these technologies reaching widespread mobile use, but we are keenly aware of the tremendous amount of work ahead of us. A budget has been outlined below, representing a scenario where our first ceiling of 12M EUR has been reached. In this scenario, given the volatility of ETH, and Stablecoins still being in their infancy, PCNP will be hedging up to 40% of the funds raised into CHF/USD/EUR to provide a 18 month runway in a less volatile currency.



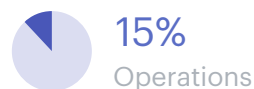
Core development includes both our Core Contributors, and Community-Driven development model fostered via Commiteth. A large part of this budget will be used to continue improving the end-user experience of client itself, implementing new features along with the creation of the Teller Network and Sticker Market.



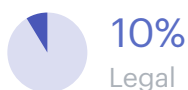
The foundation of what we're building rests upon security of the Status client. We are commencing the first of a series of security audits beginning in Q3, and each new major feature introduced will require an additional audit, before considering Mainnet deployment.



Given the Status Acquisition Engine design, we anticipate our marketing budget to be smaller than many technology companies. This will cover ongoing community building events and reaching the general public via traditional marketing channels.

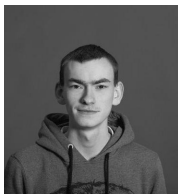


To ensure that day-to-day operations continue running smoothly as the organization expands, a greater focus will be placed upon processes, and the hiring of additional operations managers will be required.



Compliance is key to the long term success of the Status Network, and our budget allocated to legal costs ensures that we fit within regulatory parameters in any new market we enter.

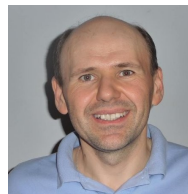
Team



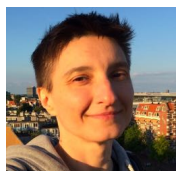
Geman
Grudanov



David
Shergilashvili



Oleg
Dudnyk



Anna
Danchenko



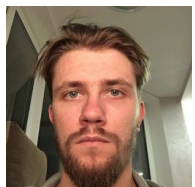
Ivan
Tolstov



George
Kiknadze



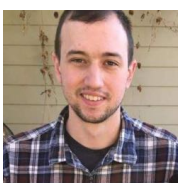
Vladimir
Stolyarov



Roman
Volosovskyi



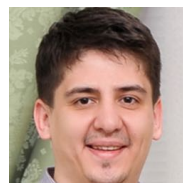
Ricardo Guilherme
Schmidt



Chris
Hutchinson



Teemu
Patja



Victor
Farazdagi

Advisors



Viktor Trón

Core Developer and
Creator of Swarm
Ethereum Foundation



Zsolt Felföldi

Go Ethereum Core
Developer (Light Client)
Ethereum Foundation



Bo Shen

General Partner
of Fenbushi

Organization Chart

Current Team (Q3 2021)



PCNP Research & Development
GmbH



David Shergilashvili
CEO of Research & Development

Engineering



Georgie Kiknadze
Clojure Lead and
Blockchain Lead



German Grudanov
Python Lead



Andrey Shovkoplyas
Clojure



Gustavo Nunes Clojure



Victor Farazdagi
Go Lead



Teemu Patja
CommitEth



Ricardo Schmidt
CommitEth

Communications and Marketing



Carl Bennetts
CCO



Chris Hutchinson
Community manager

Quality assurance



Anna Danchenko
Head of QA

Administration & Legal



Patrick Storchenegger
Legal

Design



Andrei Mironov
Head of Design

Supporting Documents & Links

Important Information

- [Status Homepage](#)
- [Status Wiki](#)
- [Status Github](#)

Community Channels

- [Slack](#)
- [Twitter](#)
- [Reddit](#)
- [Facebook](#)