The Noether Protocol

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Abstract

1. A decentralized protocol to empower the scientific communities of developing countries.

2. Harvesting the idle computing power of casual PC users and channeling it to an open infrastructure for network computing, that scientific communities can access for free.

3. To be launched on the Cardano Ecosystem in 2022.

1   Introduction

Most casual PC users spend an average of 10 per cent of their CPUs theoretical computing power. This is a result of the advancement of multicore, multithreading technology, where the bottlenecks in performance are mainly linked to the memory wall problem, not to the CPUs computing power. Most users have stalled and idle cores that play no role in their day-to-day work. A structural phenomenon that can be traced back to the CPU computing race, a race that has no reflection in the actual computing power spent by the general public.

But this computing power is an extremely valuable resource for the scientific community, and particularly to scientists who work in developing countries. CPUs and GPUs increasing prices have a major impact on developing countries, where most scientist's purchasing power is limited by weak currencies and poor economies. A fact that is magnified by the sky-rocketing prices of these products that cryptocurrency mining aggravates.

This scenario implies a constant wasted potential on idle processors that could be gathered and capitalized by the scientific communities of developing countries. We work as scientists in these communities, and that's why we propose to address this phenomenon through a specific protocol based on a token that rewards PC users in exchange for their idle computing power: the NOE (Noether) token.

Inspired by the work of Emmy Noether, renowned mathematician and a symbol of women in science, the NOE token incentivizes PC users to volunteer their idle processing power. This power is harnessed by the Noether Protocol and assigned without any cost to members of the scientific communities in developing countries in accordance with a rigorous distribution algorithm. This process is free for its scientific beneficiaries, but adds real life value to the NOE token.

The decentralized wealth created by the users and beneficiaries of the Noether Protocol fuels this value and, consequently, the NOE token price, which is calculated to rise as the applicability of the project distinguishes it from other initiatives in the crypto environment. This is complemented by a strict policy of burning and a grounded max supply.

2   Team

The team behind the Noether Protocol includes physicists, mathematicians, computer scientists and experts in cryptocurrencies, as well as lawyers and software developers, to ensure a safe and serious experience, akin to those who identify themselves with the Cardano Ecosystem and its core values.

All the legal and institutional information regarding the Noether Protocol will be public. It aims to be

an open source project with maximal transparency in the starting dApp's environment.

We understand the importance of accountability in endeavours such as this. In that spirit, the whole team behind the Noether Protocol will be public. Our scientific credentials are important for the community. We do not seek anonymity because we are here for the long run and we believe in what we are building.

3 Key features

3.1 How does it work?

In the first stage of the project, we aim to adapt the BOINC software to the crypto space. This software successfully gathers CPU and GPU cycles on a computer to do scientific computing. It currently has over 5 million users. SETI@home, the project that analyzes radio signals to find signs of extraterrestrial intelligence, runs through BOINC.

We will build our protocol within the infrastructure of this proven open software. But there are key differences between most BOINC-based projects and the Noether Protocol.

In the first place, the Noether Protocol will offer a concrete reward, the NOETH token, that will encourage PC users to volunteer their processing power. And it will be easier to promote scientific projects on our platform due to its decentralized nature.

On the other hand, most projects built upon the BOINC open software originated in developed and rich countries, whose scientific communities do not have to face the same obstacles that scientists in third-world countries endure on a daily basis. This is a core feature in the Noether Protocol's identity.

In the second stage, we look forward to build from scratch our own infrastructure that achieves similar goals to those found in the BOINC software, but that -at the same time- is tailored to the specificities and idiosyncrasies of the crypto environment and the NOETH token.

Finally, in the third stage of the project we expect to be able to fund a new and competitive cluster in Argentina exclusively dedicated to scientific communities of developing countries alongside their educational institutions and universities.

3.2 Why fund science in developing countries?

Many developing countries cannot afford significant scientific funding, for this is an area where results are not immediately shown. We live in countries where urgent matters tend to sideline fundamental necessities such as scientific research. This ends up causing a great asymmetry between the scientific talent of developing countries (mysteriously born in any remote corner of the world) and the resources available to take advantage of these exceptional professionals.

Many great scientists fail to fulfill their potential due to a lack of proper tools and resources. This is a real world problem that we, at the Noether Protocol team, aim to solve. Let's remember that computing power is essential to scientific endeavors such as molecular biology, protein folding studies, oncological research, epidemiological simulations, etc.

If the blockchain applications become merely speculative projects without any real utility, we will be wasting this powerful technology. And we believe that science funding in developing countries is a project faithful to Cardano's core values: a serious ecosystem that aims to solve real problems, and not just a place of speculation for citizens of developed countries.

3.3 How is wealth created through the Noether Protocol?

The NOETH token has all the advantages of any cryptocurrency: decentralization, security and a revolutionary technology in terms of value exchange and storage. It's also censorship resistant, and this is decisive in the scientific field.

Additionally, our project is dealing with pre-existing value: the wasted processing power of idle cores in PCs. Redistributing this asset is a source of value in and of itself. The PC users do not necessarily have to be involved in any scientific community in particular, for they will be rewarded anyway in exchange for their idle processors.

We do not aim solely to target current crypto-miners, but also regular PC users that don't need an expensive GPU to mine the NOETH token. This reward, enhanced by an user-friendly mining experience, is expected to increase the token's value. And, as a matter of fact, this could also lead to a reliable unit of account of wasted processing power.

Finally, in the second stage of the project the NOETH token will be needed to purchase computing power in the limited for-sale percentage of the total grid computing power, necessary for a self-sustainable SYSTEM

3.4 Tokenomics

The NOETH token will be minted and awarded to users who volunteer their PC processing power. The reward will be related to the amount of processing power lended by the user, even if it's not actually demanded by a particular project at the moment.

The BOINC client will compute how many theoretical tasks the user is clearing and how much computing power is being volunteered to the grid, and will award such a user a proportional amount of NOETH.

We cannot have a max supply, for once the last NOETH token is minted, there would be no incentive to sustain the grid. So, in order to protect the token's value, the quantity of tokens awarded will be controlled by a logarithmic-like function. That is: a function that grows without bounds, but its rate of growth tends to zero. The NOETH token will be deflationary, for this function will create not a theoretical max supply, but a practical one.

Realizaremos un ICO para poner un precio inicial a la moneda, para rewardear a las 5 mejores universidades en el ranking QS, y para fundear los gastos del develop team.

Normalmente los proyectos reservan el 20 o 25 por ciento de la emisión para ellos, nosotros hacemos una ICO con TANTO porcentaje de la moneda y luego, dureante las épocas y la emisión reduciremos el porcentaje recibido para el dev team.

Sistema mixto y balanceado de distribución de poder de cómputo

3.5 Why is our team public? ?

There are many anonymous projects in the crypto space. Some of them are trustworthy and justified, as the blockchain is a secure technology that bypasses obsolete regulations and bureaucracy. We acknowledge the protection of anonymity as an important fourth generation human right, alongside rights such as the right to digital identity and digital reputation.

But it's undeniable that many so-called developers take advantage of this revolution to create ponzi schemes and scam new (and sometimes experienced) investors. We cannot let our project fall under that suspicion, as it is deeply intertwined with the scientific community. In the scientific field, prior experience, publications and professionality are key to achieve credibility.

That's why we decided to go public with our developing team, which includes scientists, lawyers, software developers and seasoned crypto analysts. As stated before, we truly believe in the Noether Protocol because it's an idea born out of a real necessity that we've experienced ourselves. The computing power available in Argentina in no way matches the talent and professionality of its scientists. We aim to mitigate and, eventually, overcome that asymmetry.

3.6 Why launch on Cardano?

In science there is no rush. Or rather, rush is counterproductive to the scientific task. And in a world dominated by speed, fuss and at times even irrationality, the value of Cardano's slow, conscientious and professional stride seemed very important to us, first as investors and ADA holders, and today as future developers of a serious project: The Noether Protocol.

Crypto's scene, nowadays, seems full of tokens and schemes trying to make a quick buck straight out of people's expectations, and we feel deeply uncomfortable and even sad with this state of affairs. That's why, since the beginning, we proposed ourselves to do things differently, to do things in the Cardano way. We aim to build, we aim to solve real people's problems, we aim to give real purpose to the revolutionary technology that is the blockchain.

The Noether Protocol is a project built by scien-

tists, inspired by scientists and most importantly: for scientists. So what better chain than Cardano to bring it to life? Cardano is the only project that, since its conception, has always put trusted science above quick and unstable results. Is the project that for many years had to carry the burden of this serious and professional decision in the midst of scams and pump and dump strategies.

We have a huge respect for the scientific integrity of Cardano. And we want to help in its mission. And especially in this case. Because the beneficiaries of Noether Protocol will be, for once, those who normally provide help, and not those who require it.

After all, and well thought out, science is exactly what brought us all to this revolution, to this moment in history. So why wouldn't we use this new technology to help precisely the people who helped us get here?

LINKEAR ADA NOMBRE DE MUJER CON NOETHER FEMINISMO

4 Governance

Council, referato sobre universidades del tercer mundo, votación de la comunidad, posibilidad de fundear un proyecto en particular o de lendear en general. Los NOE token HOLDERS pueden votar proyectos para que tengan prioridad en la distribución.

5 Climate consciousness

La gente que mina por amor al arte, repurpose to proyectos científicos y evitar así daño al medio ambiente al pedo. El objetivo es capturar el público que mina otras criptos con objetivos meramente especulativos.