



# NXT

happy 2nd birthday

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# NXT

introduction

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# INTRODUCTION

by apenzl

The people who invested in the Nxt IPO, and the people who bought NXT in late 2013, believed in BCNext's idea, talent and what Nxt could become.

In the early days all you could do with "Nextcoins", as they were then known to most, was send them back and forth between accounts, or trade them on DGEX (at that time the only exchange that accepted them; indeed had been specifically created to do so). This meant that there weren't a lot of fees to be earned from forging (Nxt's equivalent to Bitcoin's "mining" / running a node to support the network).

Nevertheless the large stakeholders wanted to protect their investment and therefore with the others who saw Nxt's potential (despite the early FUD about Nxt's "unfair" distribution) ran nodes to support the network. Their motives may in some cases have been purely business-like (investment protection) and in other cases purely altruistic (e.g. to help democratise financial power worldwide). Or maybe a combination of the two. It didn't matter, all their motives led to action which helped

secure the desired result: time for the code to be refactored and for the development work to start in earnest.

„A world with the money can never be perfect“, BCNext wrote, when the community asked him about his method of distribution. I was not an IPO investor. I joined Nxt around Christmas 2013. Broke as usual. Nxt was experiencing a DDOS attack. Forks all over the place. What was going on in that Nxt thread was definitely out of my league. I was a noob and although I was reading up on Nxt, I didn't have enough knowledge (or stake for that matter) to help. \*Someone\* was trying to kill this new 100% PoS blockchain, which was useless to miners, and dared to announce itself on a Bitcoin forum.

Analysis, discussion, conclusion: More nodes!

People bought VPS's on which to install Nxt (most spending their own money, only a few asking for donations), set up nodes and offered to help those who couldn't set up one (or 5) themselves.

I couldn't leave for one reason: I was blown away by the dialogue, the humour and not least the action that was playing out in real time, as the early Nxt community calmly and efficiently acted to save and secure the fragile Nxt network.

It's all in the thread. And it's why we're here.

*Nexern, on December 23, 2013, 09:33:56 AM*  
sleep is good, round 2 now?

downloading all new files.  
thanks for the zombie list cfb.

I remember someone posting (some Nxt centuries ago), that one day this Nxt-thread would be on bookshelves in the libraries. It should be, imho. Come-from-Beyond liked to call Nxt a social experiment. How many altcoins or 2nd gen Bitcoin forks can beat that. The tech developed has blown my mind more than a few times, but we've somehow gotten used to it, we're damn hard to impress now. But this project is not just about innovation of superior blockchain technology, or about making money or chasing hackers.

When BCNext handed over his code to the Nxt Community and left, we lost our leader, our Santa Claus or Satoshi. There was no other way to launch a leaderless society of Nxters. Most were in shock. What now? Who to turn to? Which way to go? He had a plan, right? What was his plan?

In fact what BCNEXT had bequeathed us with the Nxt source code and his expressed hopes for the future was a starting point and a general direction of travel but it was for the nascent Nxt community in all its seemingly (and at times actually) chaotic creativity and leaderlessness to forge, as it were, a path through an uncharted territory of possibilities.

In NxtVille the core developers listen to the community which has now grown beyond anybody's publicly stated expectations. We have a "Price Speculation" thread, where page after page the subject of price is not

actually mentioned at all having been crowded out by a wide range of other concerns and topics of interest, from the political to the philosophical but all of them somehow related to Nxt the platform.

We have a common goal, the same as the IPO investors: We want to give Nxt to the world.

To some, that means building a business solution. To others, trading on AE. Launching a music store. A secure mobile messaging app. A block-chain based local currency. A trustless, transparent banking solution for third world countries.

I have helped to give birth to a corporate design identity for Nxt. I did so as de facto project manager for a web design company, which I'd never even heard about before they made contact on Facebook: Ideenfrische. What I knew was the nature of our community, and without that knowledge, the outcome had failed to win sufficient community approval to be universally adopted. The designer would not have reached his goal.

It's all here:

<https://nxtforum.org/nxt-promotion/a-global-corporate-design/>

Ideenfrische created a visual identity for Nxt which has been adopted by the global Nxt Community. Built on top of a chain logo, which btw was made by another Nxter, \*hash\*, and which was also selected by vote, from a number of different logo proposals, by the Nxt community.

NXTER.ORG is another embodiment of the Nxt experiment.

What started out as a simple newsletter service which I maintained for Nxters who were too busy with “real life” to follow the development of Nxt closely, soon caught the interest of other Nxters who were looking for ways to contribute to the promotion and development of Nxt.

Today NXTER.ORG is a community-driven project with writers and translators contributing in 7 different languages. All sites are independently controlled, with the minimally necessary coordination being done by a core team, including making general changes or creating partnerships, or helping to launch multilanguage campaigns. Anyone can throw in their skills.

Early contributors (there’s still time!) are rewarded with NxterPoints (NXTP). Every month we send out a NXT reward, which is the revenue made from hosting ads, writing PR material, dividends from assets which have been donated to NXTER.ORG and the revenue made from different partnerships.

The Nxt protocol, the clients and features, the 3rd party services - the Nxt community is making all of that happen. All the impact Nxt is having and will have in the future, you are creating it. The way this decentralised community works together, achieving by doing, members LOL’ing, gaining trust, contributing, brainstorming, launching projects, solving problems in just fragments of time...

We have a disruptive revolutionary tool on our hands, and the key

question is not how to get people interested, but how to emancipate them. As Nxt usage continues to grow, more businesses and communities will need NXT to run their projects and businesses.

"Selfish miners should be removed", BCNext wrote. The distribution continues as whales cash out. Nxt already has a far better distribution than Bitcoin, and don't even start to compare it with USD or other fiat money.

We have more highly skilled core and 3rd party developers now than ever, a development roadmap laid out and a strong community in support, Nxters going to conferences all over the world, making business connections, explaining Nxt, a 1 year fully funded marketing and development project that's just begun and also a wider crypto community which is finally beginning to grasp what is being built here, outside the limelight.

Happy 2nd birthday, Nxt.

This book is the Nxt community speaking. It has been written and set up in just 14 days since I first proposed the idea. It's written in English, Russian, Spanish, French and Chinese. Enjoy the journey.  
The future will not be centralised. It will be you.

/apenzl

<http://nxter.org>

<https://nxtforum.org/nxter-org/>

<http://nxter.org/get-published-get-paid>

# NXT

Что делает NXT криптовалютой  
второго поколения?

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# ЧТО ДЕЛАЕТ NXT КРИПТОПЛАТФОРМОЙ ВТОРОГО ПОКОЛЕНИЯ?

by abctc

короткий ответ на этот вопрос: то, что Nxt – это именно криптовалюта, а не просто монета (как биткоин и его форки). В чём проявился гений Сатоши? далеко не только в том, что он создал собственно биткоин – новаторскую децентрализованную систему “два в одном”: одновременно и платёжную систему, и валюту в ней.

Главное, что он изобрёл – это децентрализованный механизм совместной работы множества анонимных людей по определённым правилам.

Это гигантское, воистину революционное изобретение. По масштабам влияния на человеческую историю оно сравнимо только с изобретением Интернета. Пока ещё далеко не все осознали величие этого события, а между тем оно приведёт к совершенно новому типу организации взаимодействия людей – наряду с обычными предприятиями (которым мы вынуждены доверять – банкам, страховыми компаниям, биржам и т.п.) возникнут децентрализованные виртуальные компании. Которым не нужно доверять – они просто не смогут вас “кинуть”, как вас не может обмануть протокол биткоина.

Небольшое отступление для тех, кто не осознал новаторство Сатоши (децентрализованного механизма совместной работы множества анонимных людей по определённым правилам). Децентрализованную (p2p) совместную работу изобрели раньше (Napster), примером являются торренты. Какова основная проблема торрентов? Он не защищён от читеров. Многие норовят скачать контент, но не раздавать его. В ответ торрент-трекеры вводят рейтинги. Но это централизация. Властям достаточно закрыть торрент-трекер, чтобы дезорганизовать всю совместную работу.

Так вот Сатоши пошёл дальше – он нашёл способ заставить всех участников работать строго по правилам. То есть защититься от читеров и прочих воров. Иными словами, он нашёл техническое решение “Задачи византийских генералов”. Решение это основано на использовании концепции Proof-of-Work, когда читеру для обмана требуется приложить больше усилий, чем он получит выгоды.

Создатель криптовалюты Nxt сделал следующий (next) шаг: используя идеи Сатоши, он создал распределённую криптографическую программную платформу, которая позволяет запускать в ней не только платёжную систему (со своей валютой), но разнообразные децентрализованные сервисы. Вплоть до децентрализованных виртуальных компаний.

Первыми из таких сервисов были Alias System (ex- decentralized DNS), и Arbitrary Messages. Следующей крупной вехой стал запуск 12.05.2014 децентрализованной биржи акций Nxt Asset Exchange. Она основана на концепции Colored Coins, позволяющей выпускать собственные токены (жетоны, монеты, облигации, купоны, квитанции, ...) поверх Nxt, а также свои собственные

активы (например, акции), и предлагать их к продаже за NXT.

Суть децентрализованной биржи состоит в том, что актив (акция) обменивается на NXT в одной транзакции. То есть у покупателей нет необходимости доверять продавцу (или владельцу обычной биржи).

В дальнейшем вышло множество расширений ядра Nxt (Digital Goods Store, Monetary System, Phasing, Voting) и сторонних сервисов поверх Nxt (FreeMarket, MultiGateWay, SuperNET).

Возможность создания подобных сервисов внутри Nxt (в том числе в виде плагинов) и делает его криптовалютой второго поколения, the true descendant of Bitcoin.

Уже сейчас в крипtosистеме Nxt можно разрабатывать децентрализованные, не подверженные DDoS атакам приложения, использующие:

- блокчейн в качестве сверхнадежного хранилища и транспорта (для передачи информации от пользователя к пользователю на основе Arbitrary Messages);
- базу анонимных пользователей (аккаунтов) со встроенной криптографией;

- собственновалюту NXT длярасчётоввнутриприкладного приложения.

Итак, Сатоши Накамото сделал первый шаг, абсолютно революционный: впервые в истории человечества нематериальные, независимые клочки информации получили реальную ценность (стоимость). И этот первый шаг позволил сделать второй, гигантский шаг: опираясь на реальную ценность криптоакций создать на основе “доказательства ценностью акций” (“Proof of Stake”) лёгкую, экологичную, изощрённую криптовалюту Nxt.

Точно также в истории жизни на Земле был первый революционный шаг – возникновение РНК. И только после этого был сделан второй, решающий шаг к тому миру, который мы знаем – миру ДНК (в котором РНК никуда не исчезла, но выполняет вспомогательную, обслуживающую роль в отношении ДНК).

# NXT

the original spirit

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# THE ORIGINAL SPIRIT

by Bas 'Damelon' Wisselink

From 28 September 2013 to 24 November 2013, a developer calling himself „BCNext“ was seen posting on the bitcointalk forums about his new project which would subsequently become NXT. From the start, he made it clear that this project would not be carried by him but that instead, whilst it would embody the original spirit of the Bitcoin project, it should be developed in a decentralised, leaderless way.

After some 8 weeks of posting about the project, he then removed his known persona from the discussion by ceasing to speak via his „BC-Next“ account. Whether or not he is still keeping an eye on the project or otherwise somehow contributing to it under a different name is unknown, but from that moment on the NXT project lost its figurehead.

## Decentralisation

Decentralisation is a hard topic to pin down. It is a historical fact that humans tend to congregate in groups that form clusters and these clusters are as a rule led by a leader or leaders. This is not only a cultural

habit, it is a behaviour that we see all around the animal kingdom, and especially in groups of primates. The behaviour can be very beneficial. Having a smaller group to make decisions for the larger group allows for more efficient decision making and works well in crises. On the other hand, it also means you draw on a smaller pool of knowledge and can lead to marginalisation of individuals and an unhealthy concentration of power. One of the most perilous periods in any monarchy tended to be times of succession, which often led to bloodshed and civil war, before a clear winner emerged and set him or herself up as the sole leader.

For the purposes of this chapter, when I speak about decentralisation I mean a movement that aims to remove the “leader” or “decision-maker” as a bottleneck or Single Point of Failure. Confusion regarding the meaning and use of the term ‘decentralisation’ has been a recurring theme in the history of NXT and crypto-communities in general. Hence the need for clarity.

## Confusion

I also want to distinguish between decentralisation of the Network on the one hand, and decentralisation of the Community on the other.

The decentralisation of the Network solves a very specific problem and is expressed in code. The decentralisation of the Community is an ideological stance that is expressed in explicit and implicit rules and behaviours. It is easy to confuse the two, as indeed has frequently happened.

The NXT community's development can be seen as an exploration of management, grassroots development, open source initiatives, and free software.

## NXT community and development

Over the course of the last two years, NXT has been developed by a group of independent developers working together in a loose partnership. The mainstay of this group has been the developer going by the nickname of "Jean-Luc" in honor of Jean Luc Picard of the USS Enterprise. From the start, having refactored the code written by BCNext, Jean-Luc has been hard at work continuing to develop it.

While developers are vital to NXT, they do not "lead" the project. The NXT project is not led in any conventional sense, but rather functions by virtue of individuals starting initiatives which are either successful or fail. This process is not nearly as hit and miss as you might think. Instead, it favours innovation and creates an ever-open field where anyone can try and only the people with the requisite business and organisation skills will flourish.

This explains why people looking in on the NXT community from the outside often get the impression of a disjointed, disorganised group of people talking at cross purposes. Some may find this off-putting, especially those who take the view that progress can only be made in a linear way where the dots are clearly marked out in advance and always joined by straight lines.

However, a more accurate way of looking at a project like NXT, and for instance also Linux, is that people independently of each other put down their dots and then afterwards look round to see if it's possible to connect them to other dots which have been put down by others. This means that the picture of what is possible is emerging and growing, instead of being predefined and limited.

A case in point is SuperNet, the brainchild of the developer known as "jl777". SuperNet is at its core nothing more than the wish to create together. It started from the observation that cryptocurrency projects were working at cross purposes and would be better served pooling their resources, talent and uniqueness to contribute to a larger system. SuperNet emerged as a large project where several projects then started to work together, rooted in NXT. This, in turn gave NXT development a new injection of creativity: the movement of decentralised development is lateral and oblique rather than linear.

## Leadership and decentralisation

This does not mean that "decentralisation" must necessarily involve the abandoning of leadership. Businesses still need to be founded in common sense. Spending resources, be it money or time, without any plan at all is always of course a bad idea. Decentralisation may mean questioning standard practices, but it does not mean it cannot arrive at answers that have been shown to work.

Projects are still put forward by either small groups or individuals with an idea. Because they hold the blueprint in their minds, they typically assume leadership roles within their projects. Even when they decide to share responsibility in their projects once bootstrapped, they generally still have significant influence over the development of their projects.

The NXT project itself, as a leaderless project, still has no central leadership. From the start, several individuals have taken up responsibility for the general welfare of the community, but no one person, acting on their own, is able to make definitive decisions.

At the time of writing, decisions are in effect being made by a system of market and development pressures. The core developers propose or code NXT to behave in certain ways. In response users and 3rd party developers can and do, often vigorously, voice their assent or displeasure with these changes through various channels including the NXT Forums, Slack, or by publishing articles. Normally, these changes are made via patches, or it is explained why these will not be made or must be postponed.

If such decisions are not accepted, the process usually becomes heated. This is where decentralised decision making can be confusing to people who are used to centralised processes. Decentralised processes are by their nature vocal and not everyone involved is necessarily skilled at expressing themselves. This part of the process can therefore be long and arduous, but the flipside of it is that a lot of knowledge and viewpoints are exchanged, which in turn provide nourishment for future developments. Due to the skill and merit-based nature of decentralised

processes, this is usually the time where individuals with negotiating skills come into their own.

A decentralised organisation often looks like pure chaos when looked at from the outside. Rule-like conformity and sticking to a coherent plan are often seen to be ignored or even absent.

Still, it would be a profound mistake to think that decentralisation is equal to chaos, because while there may not be a concrete blueprint to get from A to B, the fact that decentralised organisations do get the work done, and often quicker than centrally led ones, is proof that there must be some kind of process going on.

Decentralised organisations more often form around ideas than around fully formulated end goals. This allows for quick re-evaluation of objectives and changing plans on the move. Where a fully planned campaign might break down due to changing circumstances, a decentralised organisation takes these in its stride and adjusts.

Again, this looks like chaos to people who are not accustomed to it. At no point is there a fixed plan to get from A to B. The challenge in a decentralised organisation is to keep ones eyes firmly on B, while the route taken is far less important. Offshoots of the organisation will develop along the way, when people stumble on C and D and decide these are more interesting to them than the original goal. But the main drive of the organisation will still be to get to B.

# NXT Foundation

An interesting property of a decentralised organisation is that the “head” of an organisation is just as loosely attached to the main body as all the other parts. An interesting analogy that has been made is between spiders and starfish when comparing centrally led organisations and decentralised ones.

When you cut off the head of a spider, the organism dies. However, in a starfish, there is no head. Instead, if you cut off one of its limbs, both the original organism and the limb will survive.

You can also see this happening in NXT. Its community is made up of several branches that could be cut off without affecting the body as a whole. They could also split off and venture forth without the main body.

The NXT Foundation is an example of how a leaderless project can still have an outward facing section that acts as a leader, while not having the same empowerments that traditional leaders have.

The NXT Foundation was started when a few members of the community saw that there was a need for an organisation that was recognised by the outside world as NXT’s representative. These members, who all have a background in business, saw that mainstream businesses were uncomfortable engaging with a decentralised organisation on its own terms. Their answer: set up a separate registered organisation and act like a centralised business to the outside world, while internally working

in a decentralised manner.

The NXT Foundation took the Linux Foundation as its inspiration. Its stated goal is not management, but facilitation. Like water flows more easily through even channels, the Foundation aims to create those channels for use by both the community and the business world. Its main focus of operation is education about the new platform, both for the outside world and the community itself.

To the outside world, the Foundation fulfils the role of being a recognisable structure with which to interact. The larger part of the NXT community has accepted the need for the Foundation and so, by consensus, it is able to fulfil its self-appointed role. The nature of the decentralised organisation means that as long as the community supports it, it can function. When this support ceases, it will either need to adapt, or die off.

## NXT, past and future

When I was asked to write this chapter, I initially thought of taking a historical approach. However I soon decided this would not do proper justice to what I consider to be the greatest strength of the NXT Project.

When I first entered the world of cryptocurrencies, there were many projects to choose from. NXT stood out for me, because as a project it embodied the things that I have always valued in both my personal and professional life: innovation, daring, fun, entrepreneurship and above all a freedom of spirit.

The fact that NXT has been able to stay true to the original spirit of decentralisation even when developing parts of its organisation that need to interact with businesses is a testament the strength of this model.

During the past year, multiple projects have been started that operate in the same environment, but are centrally led. These, so far, have failed to attract the attention that one would have expected from the big marketing resources that have been spent on them.

NXT meanwhile has stayed under the radar, but has nevertheless managed an impressive speed of development at a fraction of the costs. The community is vibrant and positive, while aware of the many possible pitfalls. There is a willingness to question anything and everyone up to and including the members of the core developers' team. In a centrally led organisation this would be seen as a weakness, in NXT it is a strength.

Whilst interacting on the forums everyone working on NXT will, at some time or another, feel challenged to think about the core values they want to see embodied in their system of choice.

Just a bland synchronic account would not do the project justice. As a decentralised project that is open to people, we can be sure that we will face the same problems over and over again. Developers will never be able to sit on their laurels and merely create what they like. Even if

the senior members of the community accept this, there is bound to be someone without their knowledge of past events that will ask questions and open up the debate once again. And this is good!

A decentralised organisation does not grow towards a perfect configuration: it grows and lives and continues to be emergent. Once it stagnates and solidifies, it dies. With this in the back of my mind, I wish NXT many years of productive conflict and unexpected turns. As long as it can surprise us, it certainly can surprise the world.

# NXT

son histoire et son potentiel

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# NXT SON HISTOIRE ET SON POTENTIEL

by Lionel Jeannerat

*Comme vétéran de la plateforme Nxt et observateur attentif de son écosystème, je pense pouvoir apporter un éclairage intéressant pour les curieux, les investisseurs et les entrepreneurs. A l'occasion de cette publication, je me suis dit qu'il était de mon devoir d'apporter ma pierre à l'édifice. Ce présent témoignage n'est pas exhaustif et encore moins objectif. Ces articles reflètent ma vision de Nxt d'un point de vue forcément subjectif. Elle n'ont pour but que de susciter la curiosité des lecteurs attentifs.*

## Partie 1 :

### Nxt – deux ans déjà

Je commencerai par un rapide tour d'horizon de la « courte » histoire de Nxt. Elle est intéressante mais surtout elle nous éclaire de manière magistrale sur le chemin tortueux déjà parcouru et sur l'évolution probable de l'écosystème sur le court terme.

## La gestation

Tout a commencé le 28 septembre 2013, un certain BCNext a annoncé un nouveau projet sur le forum Bitcoin talk. Je ne vais pas entrer dans le détail des prémisses du projet Nxt car je ne les ai pas vécus personnellement. Il n'empêche que les échanges de cette époque sont très intéressants : il y avait déjà des trolls et il y avait déjà quelques réflexions très intéressantes.

Forcément, on se demande souvent qui est derrière ce personnage mystérieux de BCNext. Pour ma part, je m'en fiche complètement, même si je ne peux m'empêcher d'imaginer son identité. Selon moi, il s'agit d'un très petit groupe de personnes qui ont lancé le projet. Je soupçonne Jean-Luc (l'actuel développeur en chef de Nxt) et Come-from-Beyond de faire partie de ce petit groupe. Leur implication très précoce et « sans conditions » (ou presque) dans le projet me laisse à penser... mais en réalité je n'en sais rien.

Après une souscription de plus de 40 jours, BCNext (par la voix de Come-from-Beyond) annonce que 21 BTC ont été souscrit par une septantaine d'investisseurs anonymes. Que l'on soit clair, la souscription ne cherchait pas à lever beaucoup d'argent. L'objectif était de justifier une distribution initiale. De plus, nous n'avons aucune preuve que ces investisseurs étaient aussi nombreux qu'annoncés, certains ayant pu souscrire plusieurs fois. Mais quelle importance ? Selon moi, BCNext n'a pas de compte à rendre et son choix de distribution ne regarde que lui. Nxt devait être une blockchain 100% Proof-of-Stake, la distribution devait donc se faire dès le premier bloc.

Cet élément est essentiel car le programme Nxt, dans son code, ne permet pas une distribution sur la durée des jetons NXT. Ceux-ci sont créés de manière exclusive dans le premier block, toute génération de jetons supplémentaires est impossible. Souvent montré du doigt, cette spécificité est en réalité l'une des plus grandes forces de Nxt à mes yeux.

Quo qu'il en soit, tout a commencé le 24 novembre 2013 lorsque le bloc de genèse (le premier bloc de Nxt) a été généré.

## Les premiers pas

Très rapidement, Nxt est devenu très populaire. Il s'agissait d'un projet unique en son genre : 100% proof-of-stake et un code totalement nouveau. A cette époque, les BTC avaient fait une envolée pour atteindre 1000\$ l'unité. Les crypto-enthousiastes avaient généralement gagné de l'argent (tout comme moi d'ailleurs). Mais « l'exclusivité de Bitcoin » posait problème à beaucoup. Les altcoins fleurissaient apportant chacun son lot de nouveautés plus ou moins intéressantes. Le marché était très liquide et des investisseurs éclairés (ou chanceux) ou des manipulateurs de marché pouvaient se faire de l'argent facilement.

Nxt ne faisait pas exception, mais la dynamique était différente de toutes les copies de Bitcoin qui fleurissaient à ce moment. La communauté Nxt se cristallisait autour d'un fil de discussion très populaire (son nombre de page en témoigne) sur BitcoinTalk.

Les discussions me semblaient plus « élevées » que dans d'autres fils de discussion qui s'intéressaient à d'autres projets.

Il y avait aussi un forum qui a disparu : nextcoin.com. Il avait été créé par Graviton qui dirigeait le premier site d'échange BTC/NXT, dgex.com, qui va bientôt disparaître également. C'est là que j'ai acheté mes premiers NXT en décembre 2013.

Pour ma part, j'ai été très naturellement attiré par Nxt qui résolvait à mes yeux un problème critique de Bitcoin et des altcoins : le minage et son gaspillage de ressources. De plus, le projet de BCNext était de créer une plateforme et non une cryptomonnaie. Je me suis donc mis à suivre attentivement le fil de discussion. Et j'ai été séduit. Il faut dire que Nxt était le premier projet de crypto 2.0 et cela avait attiré tous les curieux. Ceux qui attendaient plus des cryptos et de l'attentisme de Bitcoin...

J'avais l'impression que les échanges y étaient de qualité. On y discutait de toutes sortes de sujet et les discussions esquissaient déjà toutes les potentialités offertes par une plateforme, une crypto 2.0.

Pendant plus de 4 mois, ce fil de discussion était le point d'échange de toute une communauté. A ce moment déjà, des personnalités émergeaient au côté des « pionniers » Jean-Luc et Come-from-Beyond : jl777, CIYAM, Damelon, allwelder, Salsacz, farl4web, 2Kool4Skewl...

J'en oublie certainement. Certains sont partis, d'autres sont toujours là. Mais une certaine forme de cohésion dans la communauté s'est créée. Mais ce fil unique de discussion était peu commode et la communauté souhaitait migrer vers un nouveau lieu d'échange. Le forum nextcoin.com n'était pas commode car contrôlé par Graviton qui possédait le principal site d'échange NXT<->BTC. Des personnalités charismatiques

de Nxt ont donc pris les choses en main et nous avons migré sur nxtforum.org.

Peu avant cela, le code de Nxt a été publié dans sa totalité. Le projet devenait ainsi Open Source.

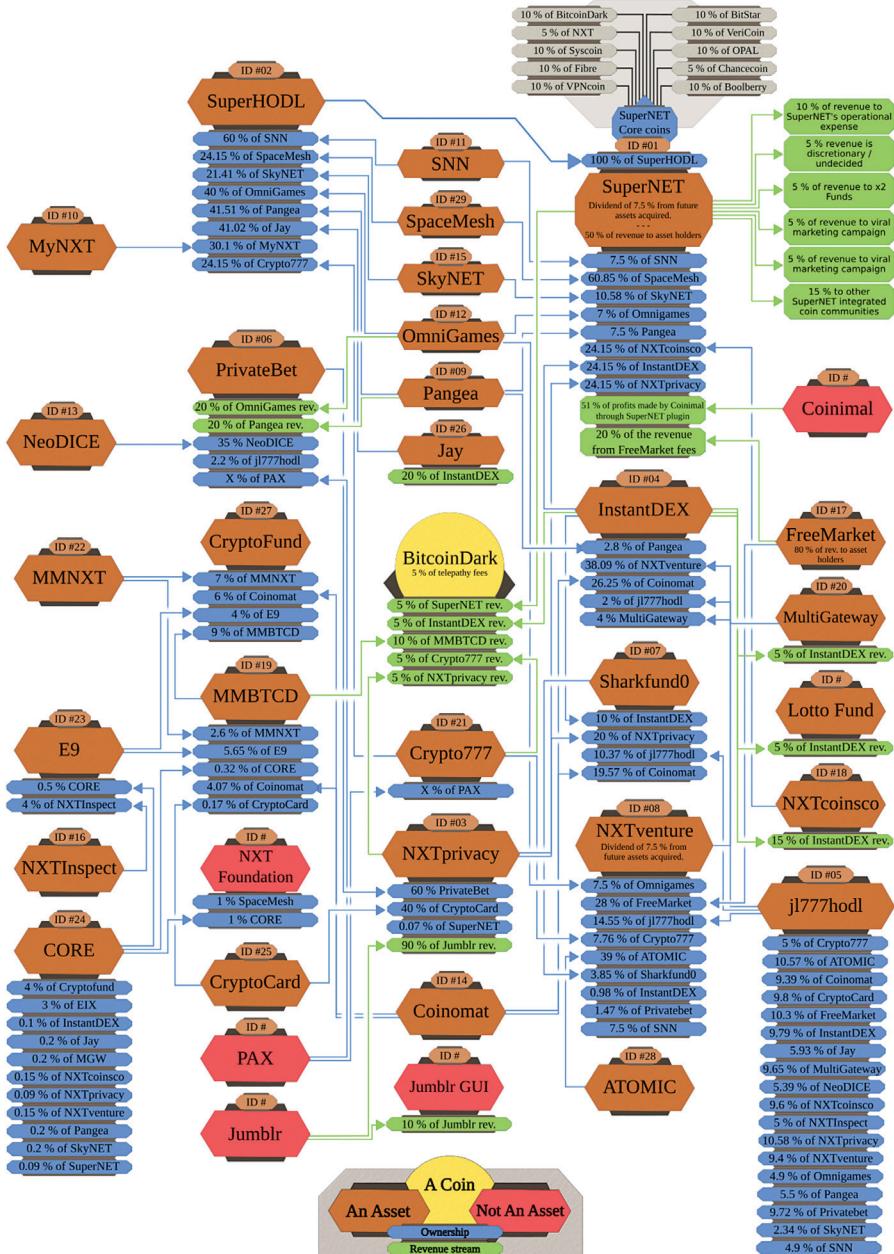
## L'indépendance

S'affranchissant du forum bitcointalk, la communauté a poursuivi ses échanges dynamiques. La transition s'est très bien passée et l'utilisation d'un forum propre a permis d'enrichir les échanges. La communauté passait clairement à la vitesse supérieure. La version 1.0 de Nxt est arrivée et certains projets commençaient à se structurer. Je pense également que c'est durant cette période que la cohésion de la communauté s'est établie.

A mes yeux, Nxt n'était pas encore mûr mais prometteur. La mentalité des gens était encore très marquée par le modèle Bitcoin. Beaucoup de Nxters n'étaient que des spéculateurs et ne voyaient les jetons NXT comme une « nouvelle monnaie du futur ». Mais l'idée des implications « économiques » d'une cryptoplatforme plutôt qu'une cryptomonnaie commençait déjà à infuser. Projets, culture de la communauté, tout était à l'état embryonnaire.

## Le marché des actifs

C'est dans ce bouillon favorable qu'est arrivé l'Asset Exchange (le marché des actifs). Ce fut un succès immédiat. Certains membres de la communauté avaient compris tout le potentiel de cette nouveauté. L'un des premiers fut jl777 (James). Les projets qu'il ruminait depuis les prémisses de Nxt pouvaient enfin se mettre en place. James prétend être « un simple programmeur » mais ses projets dépassaient la simple innovation technologique. Fin trader, il était le seul qui avait compris comment mettre en place une structure financière complexe de manière décentralisée sur Nxt, ses modèles sont les Keiretsu japonaises. Il a créé un grand nombre d'actifs liés à ses projets : MGW (multigateway, un système semi-décentralisé pour faire le pont entre Bitcoin et ses clones), InstantDEX (un système de trading décentralisé). Il a exploré également d'autres types d'actifs qui ne sont pas liés à des projets : jl777hodl (un actif portfolio), Nxtventure (un actif qui distribue des dividendes sous forme d'autres actifs). En entrecroisant ses actifs, son système financier n'a pas arrêté de se complexifier (James s'est tout de même passablement calmé depuis qu'il a lancé le projet SuperNET). Pour apprécier tout ça, une image vaut mieux que des mots :



Il faut dire que James jouait un petit peu à l'apprenti sorcier (et c'est toujours le cas). Nous l'étions tous un petit peu, j'ai moi-même lancé des actifs (MIC ou pvhistoire) ; ne les cherchez pas, ils n'ont plus de valeur. Mais l'euphorie a permis de dynamiser le marché. Le succès était très important. Nxt était la première plateforme de ce genre.

Il y a eu, bien entendu, des arnaques. Mais la plus grande de cette époque était celle de CoinTropolis. Il s'agissait d'un beau parleur qui était parvenu à prendre une forme de leadership dans la promotion de Nxt. Dans la plus pure tradition du vendeur de bagnole, il s'est appliqué à faire monter la sauce et il a créé un enthousiasme autour de Nxt en promettant des « nouvelles grandioses ». Son action, avec le succès de l'Asset Exchange combiné, a fait atteindre un sommet dans la valorisation des NXT lors du salon PayExpo 2014 à Londres. Mais ses promesses n'étaient que du vent, il n'était qu'un spéculateur malhonnête et sans scrupules. Non content de faire du profit sur les cours du NXT, il en a également profité pour lever des fonds avec un actif. Il a même réussi à voler des Bitcoins à un membre de la communauté Nxt qu'il avait mis en confiance à Londres. Le loustic a bien entendu disparu de la circulation peu de temps après.

Cette période qui s'étend de la fin du printemps à l'été 2014 était un vrai El Dorado. Les volumes d'échanges sur Nxt étaient très élevés. Pour ma part, j'en ai profité pour faire fructifier mes petites économies. Étant une personne bien informée, et sans doute l'une des rares à comprendre le fonctionnement des actifs de James, je faisais régulièrement de bonnes affaires. J'ai eu la chance de ne tomber dans aucune arnaque, parfois par flair mais souvent par chance.

## Un retour à la normale

Petit à petit, l'euphorie s'est modérée. Le succès de l'Asset Exchange se confirmait. Les volumes restaient élevés. De plus, la communauté commençait à comprendre le fonctionnement des nouveaux outils à sa disposition et des implications dans le fonctionnement même de l'écosystème de Nxt. La relative folie fit place à une toute aussi relative sagesse.

Il est difficile de résumer cette longue période qui couvre la deuxième moitié de 2014. Il s'est passé de nombreux événements intéressants et je vais en exposer quelques-uns particulièrement intéressants ou caractéristiques.

Le principal site d'échange de cette époque était bter.com. Ces derniers se sont fait voler 51 millions de NXT pendant le mois d'août. Cet événement qui tient plus du roman policier bizarroïde mériterait un article à lui tout seul. Mais l'élément le plus marquant fut la mise à l'épreuve de la communauté Nxt. Jean-Luc avait alors proposé à la communauté d'effacer les transactions de ce vol par un « roll back ». Les Nxters qui le souhaitaient pouvaient faire tourner une version alternative du NRS (le programme de Nxt) qui réorganiserait les blocks et annulerait la transaction du vol. Le débat fut mouvementé. Beaucoup de Nxters possédaient des NXT sur bter.com et risquaient de perdre beaucoup. Mais finalement, après réflexion, peu de Nxters ont adopté le NRS alternatif. Le roll back n'a pas eu lieu et la crédibilité de Nxt n'a pas été mise en danger et la communauté s'en est retrouvée renforcée. Bter.com n'avait

plus qu'à s'en prendre à eux-mêmes et à leur incompétence. Ils ont subit depuis un autre hack, ils n'ont rien appris...

La faiblesse d'un site d'échange centralisé comme bter.com a ouvert les yeux de la communauté. Cela tombait bien car au même moment James finalisait le premier système d'échange semi-décentralisé : le multigateway. Il était à présent possible d'échanger ses NXT avec des BTC directement à l'intérieur de la plateforme. Seule les dépôts et les retraits nécessitent un traitement externe (effectués par trois serveurs indépendants). Une révolution !

Ce multigateway, bien qu'en version beta, était le premier projet fonctionnel qui utilisait intimement la plateforme Nxt. Il légitimait James comme quelqu'un qui tenait ses promesses. Et dans le courant de l'automne, James lança son grand projet : SuperNET. Celui-ci avait des ambitions nouvelles, tout en poursuivant ses projets déjà planifiés. Pour faire simple, SuperNET permettait à James d'unifier tous ses projets (et actifs) sous un seul drapeau, tout en élargissant la collaboration avec d'autres projets et d'autres blockchains. Car oui, James a brisé un véritable tabou à l'époque en proposant l'idée de faire collaborer plusieurs communautés, défendant des cryptomonnaies différentes. Il a levé à cette occasion près de 5800 BTC.

Dans le courant de 2015, les développeurs de Nxt n'ont pas chômés non plus. Le premier marché décentralisé de l'histoire a été lancé. La place de marché de Nxt (Marketplace) n'a connu qu'un succès mitigé. La communauté n'étant pas assez vaste, les vendeurs hésitent à proposer leurs produits sur la plateforme. Je pense que cette fonctionnalité

extraordinaire est venue trop tôt pour connaître le succès qu'elle aurait mérité

## La traversée du désert

L'année 2015 fut une année difficile pour le secteur des cryptomonnaies, Nxt ne fait pas exception. Le prix des jetons NXT n'a pas cessé de baisser. Au début de l'année, le prix symbolique des 5000 satoshi est franchi. Puis, c'est la lente et irrémédiable descente jusqu'à 2500 à l'heure où j'écris. Dans le courant de l'année, Nxt est éjecté du top 10 du marketcap des cryptomonnaies. Nxt n'est à présent plus la seule plate-forme crypto 2.0. Le temps du « hype » est passé.

Je dis souvent que le prix des jetons NXT importe peu, mais il faut admettre que cela inquiète tout de même. Cela a eu également un effet sur la communauté qui a dû s'habituer à une baisse constante de leurs investissements. L'enthousiasme de la première année est retombé.

Plus inquiétant à mes yeux, le nombre de transactions qui n'avait pas cessé d'augmenter en 2014 a irrémédiablement chuté en 2015. Passant d'une moyenne de 6000 transactions par jour début 2015 à environ 1500 ces derniers jours. Mon indicateur préféré est formel : Nxt est moins utilisée en 2015 qu'en 2014...

Cette situation s'explique par une diminution de l'utilisation de l'Asset Exchange. Les bonnes occasions de trader deviennent plus rares. Les actifs changent moins souvent de main. Mais l'Asset Exchange n'a pas perdu de son utilisation pour les levées de fonds. Le nombre de

NXT utilisés dans le système reste stable : 1 million de NXT par jour en moyenne. Mais les NXT ont perdu de la valeur en même temps... donc difficile de trancher.

Selon moi, beaucoup de spéculateurs ont quitté Nxt dans le courant de 2015. Leur activité expliquait les nombreuses transactions de 2014. A présent, il ne reste plus que les investisseurs, ceux qui s'intéressent au long terme. D'ailleurs, la tendance de l'Asset Exchange semble se diriger vers des actifs offrant des dividendes plutôt que des actifs spéculatifs. D'ailleurs, c'est en 2015 que de plus en plus d'actifs sérieux reversent des dividendes substantiels à leur propriétaires.

J'aime beaucoup parler « d'une traversée du désert » car elle induit une expérience forte et transformatrice. Et lorsque l'on survit au désert, on en ressort généralement plus fort.

Car durant l'année 2015, Nxt n'a pas cessé d'avancer. L'équipe de développeurs n'est pas resté les bras croisés : le système monétaire en janvier, le système de vote en juin. Bien entendu, ces deux fonctionnalités n'ont pas connu le même succès que l'Asset Exchange mais Nxt a ajouté constamment de nouvelles cordes à son arc. Le travail des développeurs est primordial même si les résultats ne sont pas toujours immédiatement visibles.

D'autres développeurs externes ont également travaillé constamment pour SuperNET ou d'autres projets. Je n'ai fait aucun recensement mais j'ai l'impression que le nombre de développeurs qui travaillent autour

de Nxt a légèrement augmentée durant l'année. De plus, de nouveaux entrepreneurs se sont joints à la communauté.

Le projet SuperNET n'est pas totalement étranger à ce nouvel afflux. Le projet de James a attiré des développeurs et a permis à certains membres de la communauté de trouver une place « productive ». D'ailleurs, la communauté Nxt a très largement rejoint le slack de SuperNET qui est à présent, au côté de [nxtforum.org](http://nxtforum.org), l'un des principaux moyens d'échange de la communauté.

Je n'irais pas jusqu'à dire que l'année 2015 a été bénéfique pour Nxt mais je constate que la plateforme s'en sort plutôt bien. La communauté s'en est tout cas retrouvée transformée.

## Vers une nouvelle ère ?

Je vais m'arrêter ici dans ce court historique de Nxt. J'ai été succinct, j'ai omis ou oublié plein d'éléments qui auraient été digne d'intérêt. Mais tracer les grandes lignes de l'histoire Nxt me semble suffisant pour comprendre son évolution. Pour plus de précisions, n'hésitez pas à explorer les liens que je donne dans cet article ou ceux de chronologie de [nxt.org](http://nxt.org).

Il est difficile de dire si la traversée du désert est terminée, mais j'ai le sentiment que la situation change. Plusieurs signes le laissent supposer mais la situation reste délicate.

## Partie 2 :

### Nxt – La maturité esquissée

Après ce petit abrégé de la courte histoire de Nxt, il est important de faire un bilan de la situation et d'évaluer le potentiel de Nxt en 2016. Car à mes yeux, la fin 2015 semble être un moment crucial pour la communauté et la plateforme. Je vais vous brosser un portrait critique en reprenant les éléments les plus marquants.

### Les fonctionnalités de Nxt

Annoncée pour janvier 2016, la version 1.7 de Nxt est cruciale à mes yeux. Elle apporte de nouvelles fonctionnalités très intéressantes qui complètent celles déjà existantes (Marketplace, phased transactions, Asset Exchange, Monetary System, etc.). Avec ces nouveautés, Nxt deviendra une plateforme complète pour une administration décentralisée, tant pour les privés et les entreprises.

Pour ma part, je ne crois pas que les fonctionnalités de Nxt aient un potentiel incroyable prises isolément. D'ailleurs, à l'exception de la bourse aux actifs, les autres fonctionnalités peinent à trouver un succès immédiat et il en sera sans doute de même avec nouvelles fonctionnalités :

- Les transactions anonymes (Coin shuffling) ;
- Le paramétrage des comptes qui permettra d'avoir une gestion collective des transactions (comptes nécessitant plusieurs signatures des transactions) ;
- Les actifs uniques (fonctionnalité mineur mais intéressante).

D'autres améliorations de Nxt seront également implémentées comme l'adaptation des frais de transaction et une génération des blocs plus régulière à la minute.

Nxt est en constante évolution et chaque nouvelle version apporte son lot de nouveautés. La régularité du travail des développeurs est surprenante. Grâce à elle, Nxt conserve (voir creuse) son avance technique comme plateforme décentralisée.

Mais cette évolution régulière peut troubler l'écosystème de Nxt qui doit constamment mettre à jour ses serveurs et adapter ses programmes informatiques au changement. Fin octobre, début novembre, des entreprises et des développeurs s'en sont plaint des changements apportés par le NRS 1.62, causant de grands troubles dans la communauté, sur du marché et dans les services utilisant Nxt. Bien qu'il s'agisse en réalité d'un problème de dialogue entre les développeurs du NRS et les développeurs externes, cet épisode prouve que l'évolution technique de Nxt doit être mieux gérée à l'avenir sinon elle peut devenir contreproductive.

## Les développeurs externes

Les projets externes au NRS sont nombreux et arrivent à maturité. L'année 2016 verra de nombreux projets aboutir. On pense à Super-NET, le plus prometteur de tous, mais d'autres outils de payement ou de finance se construisent sur Nxt : cryptoasset.fund (coinomat) et Nautiluscoin par exemple.

L'utilisation de la plateforme Nxt par des entreprises (décentralisées ou non) est essentielle pour multiplier le nombre des transactions. Le potentiel est très important mais a nécessité un temps « d'adoption » qui se termine avec l'année 2015.

Les développeurs externes sont nombreux : SuperNET s'est entouré de développeurs de qualité et les entreprises centralisées utilisant Nxt possèdent leurs propres développeurs. Tous ces informaticiens savent à présent créer des outils externes qui utilisent Nxt. Ce savoir-faire est essentiel pour développer de futurs outils informatiques connectés à Nxt. Il s'agit d'un investissement invisible non-négligeable que d'autres cryptos pourraient nous envier.

Il est essentiel de développer le cercle des développeurs gravitant autour de Nxt par tous les moyens.

## Un écosystème en plein développement

De manière plus discrète pour le public externe que dans les premiers mois de la bourse aux actifs, l'écosystème de Nxt évolue et grandit. Le

potentiel de levée de fonds de la plateforme se confirme. Les projets sérieux et prometteurs trouvent les investissements qu'ils cherchent. Cryptoasset.fund de Coinomat est devenu un acteur important en ce domaine grâce à son projet « 1000assets » en parrainant des projets de crowdfunding. Un autre exemple intéressant et récent a démontré l'énorme potentiel de la plateforme : Farla webmedia, une entreprise hollandaise de création de sites web, a levé 1.35 million de NXT en quelques heures, pour engager du personnel. Bien qu'exceptionnelle, cette campagne réussie n'est pas isolée.

Autre chose intéressante, l'écosystème de Nxt a vu apparaitre des fonds d'investissements et/ou de trading (essentiellement des robots d'arbitrage des marchés). Cette évolution est intéressante car permet à des personnes extérieures d'investir dans l'écosystème sans nécessairement suivre toutes les actualités. Ces fonds d'investissements favorisent également l'adoption de Nxt comme plateforme à de nouveaux projets externes. James et SuperNET ont été précurseurs dans ce domaine mais Coinomat et LibertyNow (LQD), par une approche différente, font figure de proue ces derniers mois. A des échelles plus petites, des projets comme SecFund (d'un Français expatrié) montrent que de tels fonds d'investissements peuvent être construits pas à pas. Inutile de risquer beaucoup d'argent, il est possible de participer à l'écosystème simplement avec quelques NXT ou actifs. Avec du sérieux et des idées, il est possible de participer à l'écosystème sans investissement financier personnel.

## Le projet Tennessee

Il y a quelques semaines, deux Nxters sérieux et compétents (Damelon et EvilDave) ont lancé une levée de fonds ambitieuse : le projet Tennessee. Ils proposaient de se mettre professionnellement à disposition de la communauté Nxt. Ils demandaient 10 million de NXT pour un engagement d'une année. Damelon et EvilDave travaillent bénévolement pour la communauté Nxt depuis début 2014. Leurs compétences sont connues et appréciées.

Ils reçoivent un soutien unanime de toute la communauté mais le projet Tennessee relève plus du mécénat que de l'investissement proprement dit. 10 million de NXT était une sacrée somme dans un écosystème qui n'était pas dans les bonnes conditions : baisse constante de la valeur des NXT et revenus des actifs encore marginaux.

Pourtant, ils y sont parvenus. A présent, Nxt bénéficie de deux « employés-freelance » pour gérer et coordonner les efforts de la communauté. Le travail de Damelon et EvilDave est intéressant à plusieurs titres : ils sont d'excellents médiateurs dans les conflits qui surgissent au sein de la communauté et de l'écosystème ; très au courant de l'écosystème Nxt, ils faciliteront les collaborations entre les différents acteurs ; ils coordonneront également la promotion de la plateforme auprès des entreprises.

En un mot, le projet Tennessee palie aux imperfections liées à l'organisation décentralisée de l'écosystème. Il est à mes yeux l'huile nécessaire aux rouages de l'écosystème Nxt.

## Partie 3 :

### Nxt – Mes vœux pour l'avenir

Les bases sont donc saines, mais cela ne suffit pas. Les prochains mois seront sans aucun doute déterminants pour le succès ou l'échec de Nxt. Donc voici certaines interrogations en suspens.

### Créer des revenus

L'écosystème possède des bases solides mais il souffre d'un manque chronique de liquidité. Ce manque de liquidité est particulièrement visible dans le nombre de transactions. Les Nxters ont déjà beaucoup investi dans l'écosystème et attendent un retour d'investissement pour « dépenser/investir à nouveau ».

En l'état actuel des choses, les revenus les plus « naturels » devraient provenir des actifs sous forme de plus-value ou de dividendes. Mais il ne s'agit pas de compter sur des ponzi's, le revenu doivent être des revenus réels issus d'une activité économique profitable. Certaines entreprises de Nxt commencent déjà à dégager des profits intéressants mais cela reste fragile. Beaucoup d'investissements sont engagés dans les projets de James et SuperNET, il est donc nécessaire que SuperNET lance ses services rapidement afin de fluidifier l'économie de Nxt.

L'autre revenu essentiel doit provenir du forgeage (la sécurisation de Nxt par le Proof-of-Stake). Jusqu'à présent, ce revenu était négligeable

mais il est essentiel qu'il augmente ces prochains mois. Les frais de transactions ne sont pas perdus et peuvent être réinjectés dans l'écosystème. Il est nécessaire d'augmenter le revenu et la diversité des transactions. Cela aura pour effet d'augmenter la valeur des jetons NXT mais également de stabiliser leur prix sur les marchés.

Je pense que lorsque ces premiers revenus atteindront des volumes suffisants. Il est probable que d'autres formes de revenu se développeront : salaires et vente. Dès la version 1.7 du NRS, la plateforme possèdera déjà tous les outils pour mettre en place de manière sécurisé de tels types de revenu (phased transactions et Marketplace). Il faut que les échanges de valeur augmentent au sein de la plateforme, car c'est sa fonction principale.

Mais une telle évolution n'est pas garantie, elle dépendra des résultats des actifs déjà existants et de l'adoption de la plateforme par de nouveaux projets, générant des transactions.

## Des transitions moins tendues

Le programme informatique Nxt est en plein développement. De nouvelles fonctionnalités s'ajoutent en permanence au NRS. Cela n'est pas sans conséquences négatives pour tous les projets externes. La version 1.7 et les nombreux changements qu'elle induit ont créé de nombreux problèmes de compatibilités avec des projets externes. James et d'autres se sont levés contre ces modifications qui ralentissent leurs propres projets.

Je pense que cette question n'est pas réglée à ce jour et le problème se posera en permanence. Il est donc nécessaire d'améliorer ces transitions pour attirer et intégrer de nouveaux projets. Cela demande une réorganisation profonde de la manière dont le NRS est développé. Cette question délicate risque d'être le marronnier de 2016 et je compte sur les gars de Tennessee pour trouver une solution acceptable pour les développeurs internes et externes. La clé est dans le dialogue entre les parties prenantes.

Les transitions sont délicates et il faudra veiller pour qu'elles se fassent au bénéfice de l'écosystème. Le succès de Nxt ne tient plus uniquement sur sa technologie mais également sur l'écosystème qu'elle rend possible.

## Gagner en visibilité

Nxt est une plateforme unique qui héberge un écosystème encore plus exceptionnel. Mais sa visibilité est petite à l'échelle du monde. Je ne pense pas que Nxt doit être connu par le monde entier comme Bitcoin mais il est nécessaire de se démarquer. Le marketing doit se concentrer sur « ce que l'on peut faire avec Nxt » plutôt que « ce que l'on peut gagner avec des jetons NXT ».

L'approche du Projet Tennessee me semble très intéressante à ce propos mais elle est insuffisante. Une large mobilisation de la communauté Nxt est essentielle pour attirer des projets, des entreprises, d'expérimenter de nouvelles manières d'utiliser la plateforme. Tout le

monde peut aider à son échelle. Nxt ne vend pas des devises, Nxt doit vendre ses services. C'est ainsi que Nxt grandira et deviendra visible, incontournable.

Et dans ce domaine, Nxt doit se démarquer clairement de ses concurrents. Un véritable travail de fond doit être lancé pour mettre en avant ce que Nxt fait de mieux (ou est la seule à faire). Cela nécessite un travail intellectuel et pédagogique : inventer des utilisations efficaces et originales, puis rédiger des tutoriels pour les mettre en place. Des médias comme Nxter.org ont ici un rôle crucial à jouer.

## Conclusion

Nxt a déjà 2 ans, mais cela est encore très jeune. Nous sommes encore aux prémices de l'aventure et les nouveaux arrivants peuvent investir à meilleur compte que les pionniers des premiers mois. Les bases sont établies et solides, mais tout reste à construire. L'incertitude reste importante malgré tout.

Pour ma part, j'y crois. Les défis qui nous attendent sont nombreux et délicats mais les premières années de Nxt témoignent de la capacité de Nxt à surmonter les difficultés et à rebondir. A mes yeux, la destination importe moins que le voyage. J'invite donc tous les lecteurs à monter dans « le train Nxt » pour participer à l'une des aventures les plus passionnantes qu'il m'a été donné de vivre. Que vous soyez riche ou pauvre, pas besoin d'acheter quoi que ce soit, les idées et les projets suffisent dans une économie décentralisée.



Et si vous n'avez pas encore de projet, laissez-vous inspirer par un éco-système dynamique et surprenant. Vous ne serez pas au bout de vos surprises.

# NXT

three unappreciated NXT services

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# THREE UNAPPRECIATED NXT SERVICES

by Cassius

Nxt is a hugely versatile and powerful platform, with a massive range of functionality. Nxt's current and upcoming releases have already incorporated capabilities that are each a sole or major focus for other coins - shuffling, decentralised asset exchange, voting, messaging and more. Few other platforms have anything like Nxt's sheer number of tools.

However, this extensive toolbox is both a strength and a weakness for Nxt. There are the killer services, like the AE, which has seen massive use since its launch 18 months ago. Then there are other functions such as Voting, which have seen some use. Others, like Aliasing, have attracted some interest but have yet to find a widespread use-case.

Then there are other features, each impressive in their own right, which have become all but lost under the other tools that are taken out and used on a daily basis. Three of these are the MS (Monetary System), Digital Marketplace, and Tokens.

# Monetary System

The MS is a fantastic innovation that aims to simplify the creation and administration of new coins. It allows anyone to design and issue a new, off-the-peg cryptocurrency on top of Nxt - choosing from a list of features and using the Nxt blockchain to secure it, rather than bootstrapping a whole new network.

In theory, this should have been far more popular. After all, new coins are created every day, mostly by cloning bitcoin and tweaking one or other parameter. But it hasn't happened with Nxt MS.

There are at least two reasons for this. One is that the MS has a clunky and somewhat user-unfriendly interface, which makes it hard to engage with the process, whether as an issuer or user. Secondly, these coins are not independent. They are based on Nxt and require NXT transaction fees, rather than fees being paid in their own currencies. NautilusCoin (NAUT), which was ported to Nxt, deals with this issue through a dedicated wallet that deducts fees in NAUT automatically, taking care of the conversion to NXT behind the scenes.

It may be wrong to think of these as truly independent new cryptocurrencies, but that doesn't mean MS lacks use cases. One of the most obvious and powerful lies in crowdfunding - as recently proved by the Tennessee marketing campaign. TNSSE (the coin code) collected 10 million NXT for marketing activities. Two built-in properties made this a safe process. Firstly, if the 10m target was not met, all pledged funds would be returned to the senders automatically. Secondly, TNSSE to-

kens cannot be transferred or sold, except back to the issuing account. This ensures that no fraudulent secondary market develops.

## Digital Marketplace

The Marketplace - originally titled the Digital Goods Store - is the true Cinderella of Nxt. It's a great service, but it's all but unused. It enables users to buy and sell digital files - music, ebooks, images, software and apps - trustlessly.

The Marketplace has seen almost no adoption. At first, a few people used it to sell physical goods, despite the fact that it wasn't designed for this - there is no way of trustlessly ensuring that a physical object has been delivered, whereas delivering a file is a different matter. A few people also sold music on it. There was a significant project, Melodius, which aimed to use DGS to power a platform for independent artists. Coupled with a seamless fiat gateway provided by an exchange, the idea was to keep Nxt very firmly in the background, using the platform to make it easy to upload and sell music without the assistance of a major label. The project was unfortunately mired in complications and delays, and has not (yet) made it to completion.

The marketplace remains under-used and almost unused. Once again, the reason may be the friction of converting funds into NXT, as well as a lack of visibility outside of Nxt circles, let alone crypto circles. With a proper interface and fiat gateway, and the right marketing, it remains a powerful proposition.

# Tokens

One last function that deserves a mention is tokenisation. This is a rather obscure process, but it has far-reaching applications.

A token is a string of characters that encapsulates a given piece of text (a name, phrase, URL - it doesn't matter) and the public key of the user providing the token. Tokens can be created easily within the NRS, simply by providing your passphrase and the required text. This can be decoded by any other user, again using the NRS. There is no charge for this.

What this means is that users can provide cryptographically verifiable proof of ownership. Anyone can, for free, create a token which proves they own a particular address - without needing to show anyone their passphrase.

This may sound mundane but the implications are profound. Tokenisation could be used for signing into websites, for example; submitting a token consisting of the website's URL and encapsulating the user's Nxt address could allow them to log into their account without worrying about passwords or usernames. The username would effectively be the Nxt address, and there would be no concerns about passwords being hacked from the site, because a password would never be submitted - ownership of the Nxt account would be confirmed from the token.

This could be combined with further services. For example, in connection with the Marketplace, it could be used to subscribe to an online

journal or media service. Files could be made available to the recipient's Nxt account on submission of a token that proved their ownership of the account in question. If a Nxt account is also used for payment of a subscription, a token could be used to establish that the user had paid their fees - and access cancelled once the period covered by the fees expired.

Nxt's toolbox enables a vast, thriving system of trustless e-commerce. Going into its third year, we hope to see more of these being realised.

# NXT

financiación colectiva

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# NXT FINANCIACIÓN COLECTIVA

by Rubén BC

Importantes novedades se han presentado durante este 2015 en la plataforma Nxt.

Nxt es un avanzado sistema de banca online descentralizada que asegura tus depósitos a través de criptografía de última generación. Además, hace posible la negociación de valores privados para el público en general y permite vender tu inversión a modo de acción, una sustancial mejora que las plataformas convencionales no ofrecen.

Cuando pretendemos financiar un proyecto o lanzar un producto, por lo general podemos optar por unas determinadas opciones genéricas:

- Utilizar nuestros ahorros o vender algún bien de nuestra propiedad
- Pedir un préstamo a amigos o familiares
- Pedir un préstamo a una institución financiera

En muchos casos, la única opción posible era acudir a un banco y solicitar un crédito. En España, tradicionalmente la banca ha sido muy

conservadora en este aspecto, rechazando buenos proyectos y centrándose en inversiones más “convencionales”. Sin ir más lejos, en el año 2012 (cuando la burbuja inmobiliaria había explotado ya en 2007), los créditos a la vivienda representaban todavía el 43% del total. De la porción restante, una parte considerable se sigue asignando para otras inversiones “seguras”, tales como la compra de deuda pública de diferentes estados, etc, olvidándose de buenos e innovadores proyectos que, de llevarse a cabo, podrían incentivar la actividad económica y el desarrollo.

En los últimos tiempos ha tenido un notable impulso: el “crowdfunding” o financiación colectiva, que básicamente es una aplicación masiva del concepto de pedir dinero a familiares o amigos, pero contando a favor con el efecto amplificador que puede proporcionar internet.

A rasgos generales, consiste en plataformas que establecen una cooperación entre personas que disponen de una pequeña cantidad de dinero para invertir, y personas que tienen un proyecto que requiere financiación.

Cada vez existen más proyectos financiados por esta vía, aunque en España todavía no estamos al nivel de otros países más avanzados. Pese a todo, la tendencia es imparable y se crece exponencialmente año tras año. Se calcula que en España en 2014 la cifra alcanzó los 62 millones de euros, lo que supone duplicar los 29 millones de euros de 2013.

Sin embargo, estas plataformas privadas y centralizadas, pese a su aparente sencillez, presentan numerosos inconvenientes, fruto de la presencia e intervención de numerosos intermediarios y empresas:

- Tanto el promotor como los pequeños inversores deben estar registrados en estas plataformas. El perfil del promotor debe además ser aceptado por la plataforma, así como los proyectos, que deben cumplir los términos de servicios.
- Las donaciones no son anónimas, puesto que el que entrega el dinero tiene que estar registrado en esa plataforma y, además, generalmente el pago se realiza a través de otra plataforma diferente. Por este mismo motivo, el promotor del proyecto también debe estar identificado y registrado en esta plataforma de pago.
- La plataforma que gestiona los pagos ( $\neq$  plataforma de crowdfunding) se encarga de gestionar el dinero que la gente va entregando y, en su caso, de realizar las devoluciones pertinentes, si no se alcanzase el objetivo total de financiación. Durante este tiempo, el dinero lo tiene en posesión esta empresa privada. No lo tienen en depósito ni el promotor, ni los pequeños inversores. Si finalmente se consigue el objetivo de recaudación, el dinero será entregado a la empresa impulsora del proyecto, descontando la comisión de la web de crowdfunding. A modo de ejemplo, en el momento de escribir este artículo la comisión de Kickstarter (quizá la plataforma de crowdfunding más popular) es del 5% del total de los fondos recaudados más un 3%+0,20€ por cada contribución.

Además, las plataformas tienen sus propias condiciones particulares para el emprendedor: en algunos casos exigen exclusividad a la hora fi-

nanciar un proyecto; en otras trabajar con bancos de una determinada nacionalidad; o incluso utilizar en exclusiva con un determinado banco, etc

Posiblemente, el crowdfunding será en el futuro un método muy eficaz para la financiación de proyectos, ante la dificultad para una pequeña empresa de convencer al banco de que crea en el producto sin pedirle miles de avales y todo tipo de requisitos inalcanzables.

El crowdfunding no siempre busca la obtención de un rendimiento económico (requisito básico exigido por cualquier entidad bancaria), sino que en ocasiones es suficiente beneficio para el inversor saber que el proyectos se va a realizar. Es por esto que este sistema es utilizado por ONGs, proyectos solidarios, etc.

Frente a los problemas ya mencionados de las páginas web convencionales de crowdfunding centralizado, la plataforma Nxt cuenta con un Sistema Monetario integrado que permite a los usuarios crear nuevas monedas descentralizadas, con la garantía de su blockchain. Este sistema, unido al Mercado de Activos, hace que Nxt sea el sistema de crédito financiero descentralizado más completo, liberándonos así del control centralizado del dinero fiduciario y separando el poder de la economía.

Las nuevas monedas son ampliamente configurables, con una completa gama de parámetros que se pueden definir, estableciendo sus propiedades y su forma de uso. El Sistema Monetario se lanzó el 15 de enero de 2015, a partir del bloque 330,000 de la red Nxt.

Al crear una moneda, si combinamos las opciones RESERVABLE y CANJEABLE, podemos iniciar fácilmente nuestra propia campaña de crowdfunding dentro de la plataforma. Esta configuración permite a los participantes en la campaña reservar una cantidad arbitraria de NXT en la adquisición de la moneda creada, quedando así registrados como donantes en la blockchain. Pueden hacerlo además con la tranquilidad de que, si finalizada la campaña el objetivo de recaudación fijado no se hubiera cumplido, recuperarían inmediatamente su depósito. Pero si el objetivo marcado por el emisor son alcanzados, los NXT depositados pasarán a la cuenta del emisor, que puede entonces utilizarlos para sus operaciones de forma inmediata, y las monedas serán automáticamente distribuidas entre los donantes de forma proporcional a su participación. A partir de ese momento, el emisor no pueden reclamar la devolución de la moneda; solamente intercambiarla en base a las ofertas de canje publicadas en el mercado correspondiente.

Un claro ejemplo de financiación colectiva dentro del Sistema Monetario (MS) es el Proyecto Tennessee:

“El proyecto pretende recaudar 10.000.000 de NXT para asegurar su funcionamiento durante los próximos 12 meses. Se utilizará el Sistema Monetario (Monetary System) para recaudar los fondos. El líder de la fundación, EvilDave, ha lanzado la moneda TNSSE bajo la cuenta NXT-P439-YVBD-VUEQ-A3S2T”

“La campaña estará activa hasta el lunes 26 de octubre de 2015. Si se alcanzan los 10 millones de NXT, todos los fondos serán transferidos a la cuenta de Tennessee. Si no se alcanza la cifra, todos los fondos se

devolverán a las cuentas de origen”

### **¡El coste de las comisiones para crear la campaña dentro del MS fue de 40 NXT! (0.28€)**

Además de seguir el método descrito con el Sistema Monetario, también es posible financiar un proyecto a través del Mercado de Activos de Nxt. Usando la opción “Emitir Activo” puedes crear rápidamente un activo relacionado con tu producto o servicio, que otros pueden comprar para demostrar su apoyo o participación en tu empresa. De este modo recibes la financiación necesaria para el proyecto, pudiendo usar las numerosas herramientas y ventajas ya descritas - más las que aún están por llegar.

Si tienes un producto o servicio ya disponible para su entrega, el Mercado de Activos es tu herramienta. Se adapta a tu empresa haciendo posible su monetización y la comercialización de tu producto, y proporciona todas las herramientas necesarias para interactuar con el accionista.

Esta característica incluye un Sistema de Dividendos encargado de repartir los beneficios de manera automática en forma de NXT, o en forma de activos en el mercado (lo que incluye activos que son canjeables por criptomonedas tradicionales como Bitcoin). Además Nxt proporciona también un Sistema de Votación descentralizado.

Para usarlo, basta con crear una nueva encuesta para tu próximo proyecto o producto y enviarla a la red Nxt. Al ser una plataforma segura,

cifrada y basada en el consenso, los resultados se agregan, analizan y presentan listos para su uso, de manera que se garantiza la integridad y fiabilidad de la votación.

**Emitir un activo y beneficiarse de todas sus ventajas en la red NXT solo tiene un coste de 1000NXT (6.5€ al cambio actual).**

Todas estas virtudes que acabamos de ver han sido aprovechadas por primera vez por una hedge fund en España, concretamente la empresa BITCOIN TRUST SL, para lanzar su campaña en forma de activo dentro del Mercado de Activos.

Le hemos hecho una breve entrevista a la persona encargada de administrar el activo dentro de la plataforma. A continuación nos cuenta su experiencia y nos narra su testimonio:

*PREGUNTA: ¿A qué se dedica la empresa a la que representas? ¿Cuál es su modelo de negocio? ¿Cómo obtiene beneficios?*

*RESPUESTA: La empresa en la que se invierte está compuesta por varias empresas más pequeñas, de las cuales posee porcentajes distintos.*

*Las principales son ATMs Bitcoin Exchange, SLU , una empresa dedicada a la venta de cajeros Bitcoin, la cual es 100% propiedad de la BitcoinInvestorsTrust y es una de las principales fuentes de ingresos, por una parte la comisión obtenida del mantenimiento de los cajeros y sus operaciones y otra por la venta directa de los cajeros. Actualmente disponemos de dos tipos de cajeros, uno pequeño y otro recientemente construido por el equi-*

*po de BTCFácil “empresa de la cual poseemos el 40%”, el cual es capaz de albergar un número mucho mayor de billetes y con un funcionamiento aún más fluido y seguro.*

*También poseemos el 100% de BitPhone, web desde la que recargar tu móvil de muchas operadoras alrededor del mundo usando Bitcoins, un 40% de Cryptobit, empresa que ha desarrollado una aplicación para empezar a aceptar Bitcoins en cualquier comercio de una forma fácil y dando la opción de recibir euros o Bitcoins al comerciante, un 15% de bit2me, la cual permite compraventa de Bitcoins online en todos los cajeros de la red Halchash, un 16.67% de HashingWorld “web dedicada a la minería Scrypt y sha-256” y el control de la plataforma de inversiones litecoininvest.com*

*También se obtiene un buen beneficio con la sección de trading, la cual aprovecha cualquier exceso de liquidez del fondo y lo convierte en beneficios.*

P: *¿Para qué necesita financiación?*

R: *La financiación es necesaria para agilizar el crecimiento de la empresa, bien para la construcción de nuevos cajeros “ya que actualmente hay un buen número de clientes interesados”, inversiones en equipo de minería, y especialmente, compraventa de Bitcoins con clientes privados de los cuales se obtiene un buen beneficio por cada transacción.*

P: *¿Eres nuevo en la plataforma Nxt o ya la conocías? ¿Conocías anteriormente Bitcoin? ¿Proporciona Bitcoin las ventajas en este sentido que ofrece Nxt?*

R: Como encargado de la gestión del fondo, sí que conocía NXT, ha sido una plataforma que conocí desde su lanzamiento y siempre he estado muy pendiente de su increíble desarrollo.

Está claro que NXT ofrece posibilidades que Bitcoin no ofrece "hay algunas alternativas como Counterparty y Mastercoin que funcionan sobre la cadena de Bitcoin, pero no son tan manejables ni polivalentes como lo es NXT, por lo que no, Bitcoin no puede competir con NXT en aspecto de "Plataforma económica descentralizada", a mí me gusta ver a Bitcoin como una moneda para almacenar valor, pero es eso, una moneda, mientras que NXT ofrece un abanico mucho más amplio de posibilidades.

P: ¿Qué es lo que os llevó a utilizar Nxt como plataforma de crowdfunding para vuestro proyecto? ¿Barajasteis otras posibilidades de financiación más tradicionales y/o las usáis conjuntamente con Nxt? ¿Otras plataformas de crowdfunding?

R: En realidad, NXT no ha sido la primera vía de crowdfunding utilizada por la empresa, ya venía usado financiación de inversores privados y otros inversores a través de la plataforma litecoinvest.com donde hay fondos que funcionan con Bitcoins y Litecoins desde hace algo más de un año.

El uso de NXT se debe básicamente a mi propuesta hacia el dueño de la empresa "Miquel" quien accedió encantado a dejarme gestionar el fondo, ya que tenía alguna noción sobre NXT pero no lo seguía activamente, a poco que le explique sobre la plataforma le pareció una buena idea ya que encaja perfectamente con el perfil de la empresa de trabajo con las nuevas tecnologías potenciadas por las blockchains.

P: ¿Cómo puede una empresa ofrecer credibilidad para que personas inviertan dinero en una empresa utilizando este sistema de crowdfunding?

R: Eso es una tema difícil, como todas las cosas novedosas, pueden asustar y generar incertidumbre, pero el tema de la credibilidad solo se consigue de una forma, generando confianza a base de demostrar resultados, lo cual es precisamente lo que viene haciendo la empresa desde sus orígenes hace más de un año. Esta credibilidad no debería depender del sistema de crowdfunding, sino de la gente que hay detrás de la empresa, yo siempre he sido muy cauto a la hora de invertir en cualquier proyecto del que no se sabe gran cosa acerca de quien lo maneja.

P: ¿Ha cumplido la plataforma Nxt vuestros objetivos? ¿Qué tal ha sido la experiencia? ¿A resultado fácil/difícil de gestionar? ¿Algún tipo de problema o contratiempo?

R: Por el momento la plataforma cumple perfectamente con las expectativas, la experiencia está siendo muy satisfactoria, aunque me gustaría atraer a más inversores al fondo usando NXT.

En cuanto al manejo del fondo, está siendo muy sencillo, básicamente lo que hago es vender las NXT con las que los usuarios compran los assets en el AE de NXT por Bitcoins, con las que otros miembros de la empresa trabajan para sacar los beneficios y me pagan un dividendo semanal en Bitcoins, con el que compro NXT de nuevo y se lo pago a los inversores. Estoy mirando la posibilidad de pagar dividendos directamente en Bitcoins, Litecoins, USD o EUR a través de assets como superBTC "respaldado por Bitcoins reales a través de MultiGateway" o coinUSD, respaldado por dólares reales

*de la empresa Coinomat. Todo ello a través del AE de NXT, de una forma mucho más descentralizada que cualquier otra alternativa actual.*

P: *¿Qué feedback habéis tenido de los usuarios?*

R: *Por el momento todos los inversores parecen contentos, aunque apenas llevamos un mes funcionando sobre NXT, pero todo pinta muy prometedor a medida que se vayan sumando nuevos inversores.*

P: *Os estáis planteando utilizar de nuevo esta plataforma para otras ideas o proyectos? ¿Lo aconsejaríais a nuestros lectores?*

R: *Ideas para usarla hay bastantes, aunque de momento, la empresa no dispone de recursos para dedicarse activamente a ello, sumado a la escasa popularidad de NXT actualmente, por lo que el invertir valiosos recursos en una plataforma con un futuro aún incierto "que aunque a mi punto de vista puede ser muy prometedor, los negocios son negocios, y con los recursos de la empresa hay que tomar decisiones con la mente fría" no es muy apropiado. Pero no se descarta por completo que no vaya a ser utilizada en mayor medida en un futuro.*

P: *¿Crees que el crowdfunding descentralización será el camino a seguir en el futuro?*

R: *Yo creo que sí, aunque para que tenga éxito, necesitamos más proyectos reales, con gente que dé la cara públicamente, no como la mayoría de proyectos actuales en el mundo de las criptomonedas y criptoplataformas, que acaban siendo engaños perpetrados por entidades desconocidas, que*

*lo único que consiguen es dar mala imagen a estos nuevos sistemas que en realidad, de ser usados de forma honrada, tienen un potencial y facilidades increíbles respecto a los métodos más convencionales de crowdfunding, con comisiones excesivas y otras dificultades.*

*Una forma aún mejor para financiarse en NXT dando más seguridad a los usuarios, es a través del Monetary System, el cual solo dará dinero a la empresa si se alcanza la cantidad establecida, de lo contrario, el dinero es devuelto a los inversores, forzando a que se cumplan los objetivos de financiación. Pero debido a que nuestro objetivo no es alcanzar un nivel concreto de financiación, sino un flujo continuo de dinero, optamos por el método más tradicional, los assets, con los cuales podemos pagar dividendos fácilmente a cualquier inversor además de permitir a estos comerciar con sus acciones libremente en el AE.*

Tras este testimonio, concluiremos a modo de resumen que en general las páginas tradicionales de mecenazgo cargan comisiones que oscilan entre el 5%-10% de la recaudación total, y cada transferencia bancaria añade otro costo importante. Además, los fondos los “salvaguarda” una empresa hasta finalizar la campaña, en la que tanto el proyecto como todos sus participantes deben de estar debidamente registrados y aprobados.

Concretamente Kickstarter reclama el 5% del dinero recaudado como comisión y las gestiones por procesar ese dinero pueden suponer otro 5%, lo que eleva los gastos mínimos a un total del 10%. En la era de la tecnología blockchain esto es difícil de justificar. Y además de ser bastante inflexible, no permite retirarse de un proyecto intercambiando

los tokens con otros usuarios. En su página web describen todos sus derechos reservados:

*“Podemos realizar cambios en el sitio y los servicios de Kickstarter sin avisar y sin incurrir en ningún tipo de responsabilidad, tenemos derecho a decidir quién puede utilizar Kickstarter. Podemos cancelar cuentas o rehusar ofrecer nuestros Servicios, especialmente si se está haciendo mal uso de ellos. Podemos modificar nuestros criterios de aceptación en cualquier momento. Si estas prácticas están prohibidas por ley en su lugar de residencia, revocaremos su derecho a usar Kickstarter en su jurisdicción. Tenemos derecho a cancelar cualquier contribución a cualquier proyecto, en cualquier momento y por cualquier motivo. Tenemos derecho a rechazar, cancelar, interrumpir, eliminar o suspender cualquier proyecto, en cualquier momento y por cualquier motivo”*

Nxt ofrece una serie de ventajas directas para el consumidor que las alternativas tradicionales no pueden ofrecer y, además lo hace sin restricciones:

1. Ofrece la posibilidad a los inversores de salir del proyecto siempre que lo deseen, intercambiando los tokens en el intercambio de activos. No es solo crowdfunding, Nxt es una plataforma de negocios completa e independiente.
2. Ofrece la posibilidad de depósito o retirada. Te ahorraras las dolorosas comisiones bancarias, permite hacer lo mismo que con los bancos, pero con las ventajas de operar sin ellos, la comisión está fijada a 1 NXT por cada operación.
3. Tiene todas las funciones necesarias para poder administrar tu

empresa de manera real, desde el propio cliente Nxt. Permite comprar/vender/intercambiar con cualquier persona o entidad de cualquier parte del mundo sin costes adicionales ni intervenciones externas.

Todas las personas de negocios sabemos que depender de un tercero como parte fundamental del negocio puede ser perjudicial. Nxt ha albergado decenas de exitosas campañas de crowdfunding, solo necesitas 3 pasos:

1. Escoger la idea sobre la cual trabajar o invertir
2. Escoger si queremos realizar la campaña mediante el Sistema Monetario o mediante el Intercambio de Activos
3. Descargar el cliente Nxt.

# NXT

NXT foundation:  
how to market a decentralised,  
open source organisation

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# NXT FOUNDATION: HOW TO MARKET A DECENTRALISED, OPEN SOURCE ORGANISATION

by Dave 'EvilDave' Pearce

## Origins of the Nxt Foundation

One of the great strengths of Nxt, and of the wider Nxt community is that it has always been intended, from the initial Nxt concept onwards, that Nxt would be a strongly decentralised community, as outlined elsewhere in this book in a piece by Bas Wisselink, so go read that if you haven't already.....

A very useful guide to the basic principles of decentralised organisation can be found in 'The Starfish and the Spider' by Ori Brafman:  
[https://en.wikipedia.org/wiki/The\\_Starfish\\_and\\_the\\_Spider](https://en.wikipedia.org/wiki/The_Starfish_and_the_Spider)

A decentralised organisation may be fine for certain applications (such as an activist movement) but for a software system that needs to interface with the wider business community, how can decentralisation work effectively ?

This issue cropped up very early on in Nxt development, giving rise to further questions:

- Nxt is a brilliant system to build business applications on, but how does a business get in touch with a decentralised movement like the Nxt community?
- How does a business enter into a legal agreement with Nxt, or receive support ?
- How can Nxt be promoted to businesses, or carry out PR ?

The answers to all of the above led to the set-up of the Nxt Foundation, which (if we go back to the 'Starfish' analogy) can be seen as a specialised organ for Nxt, like an extra leg for the starfish.

The Foundation was created to act as a sub-section of the Nxt eco-system that is responsible for linking the decentralised, open-source community of Nxt with the very much centralised mainstream business and finance world. In effect acting as a gateway between the decentralised crypto world and the centralised mainstream worlds of business, finance and governance.

The Foundation was initially (informally) set up in mid 2014, by a group of veterans of the fledgling Nxt community. The main personnel involved are: Tai 'Tai Zen' Duong, David 'EvilDave' Pearce , Bas 'Damelon' Wisselink, Dirk 'LocoMB' Reuter and Ian 'Chanc3r' Ravenscroft. As befits a decentralised organisation, the initial founding members represented a wide range of viewpoints and possessed a very wide range of skills.

This group first met in real life as representatives for Nxt at the ground-breaking BitCoin2014 conference, held in Amsterdam, and worked so well together that they decided to carry on under the then informal banner of the Nxt Foundation.

Initially simply a loose group intended as a contact point for businesses, the Nxt Foundation proved themselves to be very useful to Nxt, and began to evolve into a fully fledged business unit with wider ranging responsibilities.

The Foundation was registered and incorporated at the start of 2015 as a non-profit business in the Netherlands, under the title of 'Stichting Nxt/Nxt Foundation' with the goal of supporting Nxt development and expansion.

Since then, the Nxt Foundation has continued to function as a contact point for businesses who wish to work with Nxt , and has also taken on other responsibilities: the purchase and maintenance of essential software, such as SSL and code signing certificates, developer licenses and hosting for Nxt-core related sites. Most recently, the Foundation identified some areas that needed to be improved within Nxt, and set up the Tennessee project to address those areas.

## Entering Tennessee

Towards mid-2015, it became increasingly obvious that Nxt needed to change to meet the demands of a rapidly changing crypto-currency

market: many mainstream players were entering the market, bringing with them from the mainstream business/finance world a more professional approach to project management and a much more aggressive approach to PR and marketing.

A decentralised (and somewhat under-funded) project that relied on volunteer work, like Nxt, could not compete on an equal footing with the professional marketing and PR employed by this new wave of crypto projects.

Individual projects based on Nxt, usually with a defined project leader or a small group of leaders, could easily choose for themselves whether or not to follow this trend, or how to respond to the changes in the market, but for the Nxt core (and the wider Nxt community) a solution had to be found to address this situation.

Thus the Tennessee project was proposed : the Nxt Foundation analysed and explained the current market situation to the community, and asked them to donate to a Foundation administered fund set up purely to professionalise and improve two basic elements of the Nxt core project : Marketing/PR and the user experience. The estimated budget to run Tennessee for a year (on the basis of two part-time employees) was approximately \$70,000 or 10 million NXT. This sum was raised via crowdfunding (using the Nxt Monetary System) inside 2 weeks, and Tennessee went live at the start of November 2015.

TNSSE has now been officially in existence for just under 4 weeks and has, so far:

Organised salary payouts for the 2 main (part-time) Tennessee personnel for the following 12 months, ensuring that there will be a coherent marketing/PR presence for Nxt over that time.

Hired a media contact consultant, the UK-based John Mcleod, on a contract basis, initially for 3 months with the possibility to extend that period. Johns function is to pro-actively seek out and cultivate both mainstream and crypto media contacts for Tennessee and Nxt. With Johns help, Tennessee has created and published 2 stories on aspects of Nxt over the last week:

<https://news.bitcoin.com/interview-nxt-foundations-dave-pearce/>  
<http://allcoinsnews.com/2015/11/21/nxt-foundation-positions-platform-to-entirely-replace-legacy-banking-systems/>

And one radio interview:

<https://www.mixcloud.com/Resonance/password-18-11-15/>

These three pieces are just the start of the media campaign. TNSSE allows Nxt to build up longer term relationships with media outlets, and these relationships will lead to more regular information about Nxt appearing in crypto (and more mainstream) media.

Tennessee has also began the process of overhauling the Nxt web presence, with [www.nxt.org](http://www.nxt.org) as the first site to be updated, using Farla Webmedia as an external contractor.

An important feature of the new [www.nxt.org](http://www.nxt.org) site will be an easy to use helpdesk system, which will give Nxt a unique advantage over other crypto-currency projects.

The Nxt Foundation / Tennessee has also begun to work out a conference attendance strategy for the following year, with a proposed Nxt-centred conference in the first half of 2016, and a Nxt presence at the upcoming d10e event in Amsterdam:

<http://www.d10e.org/#amsterdam>

So, coming back to the original question: how does a decentralised community promote itself to the outside world ?

Nxt has shown, with the creation of the Nxt Foundation and subsequently the Tennessee project, that organically created specialised systems can be set up to fulfil this specific function, without sacrificing any of the openness and decentralisation that give the Nxt community a great degree of both flexibility and strength.

# NXT

the value of 10 NXTs

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# THE VALUE OF 10 NXTS

by ChuckOne

What is the value of 10 NXTs?, you may ask. This article might give you an answer. Let's start off with a short dialog though.

*"What is the value of \$10?", the teacher asked his class. "\$10, of course", a student responded quickly.*

*"Try to explain it without using \$10", so the student rethinks and replies with a grin: "10 times \$1, right?" But the teacher is still not satisfied: "Well, what is the value of \$1 then?"*

*Another student joins in the discussion: "\$10 is worth whatever you can buy with them".*

For one thing, this short conversation illustrates the fallacy which many people fall for when they try to understand what the value of their assets and disposable income is; for another, it succinctly shows the way in which people commonly understand the value of a monetary unit, for example the US Dollar: the value of \$1 simply being the amount of

goods and services one can get in exchange for \$1 (in other words: its purchasing power).

One might then ask: how do you measure the value of a dollar? The simple but unsatisfying answer is: it's the amount of goods and services you can buy with it. A more complicated, but equally unsatisfying answer (because of its reliance on other artificial constructs), involves exchange rates, Treasury notes and foreign exchange reserves. The value of the US Dollar, like any fiat currency, therefore depends on factors seemingly far removed from people's lives. For the reasons put forward in the next section, it remains difficult to understand the real everyday value represented by the US Dollar even if one uses it many times each day.

## Goods and Services

One big problem with using goods and services to demonstrate the value of a fiat currency is their lack of interchangeability: whereas one dollar bill is entirely interchangeable with any other dollar bill, different goods and services (although they may cost the same) are not of course interchangeable. This lack of interchangeability makes it impossible to ascertain whether, say, 10 bottles of beer (purchased for \$10) is a better or worse measure of fiat value than, say, 5 loaves of bread (also purchased for \$10). In effect this is the same issue facing government statisticians who have to choose which items to include in the average consumer's notional shopping basket for the purpose of measuring changes in a country's consumer prices index.

A related problem is that the precise nature of numbers gives an appearance of certainty to things which don't actually possess it. Thus, people fail to understand either the real value of \$10 or the real value of '5 loaves of bread' which are in practice both as imprecise as each other: dollar bills, although they are interchangeable, have no intrinsic value in themselves, only in terms of what they can buy; however, the things that can be bought with dollar bills, although they do of course have intrinsic value in themselves, are not interchangeable and therefore have no dependable utility as a measure of value.

The lack of preciseness can be ascribed to the lack of a measuring tool which serves in a replicable way to measure the value of something no matter where, when and by whom it is bought and sold. The nearest thing available is the market price expressed in units of fiat currency. However, the market price of something is not necessarily the same as its value. Although an important indicator of value, the market price only tells us the minimum amount that people are prepared to pay, but not the maximum amount (i.e. their willingness to pay). Moreover, due to external factors, under- or overvaluation might occur – i.e. short term prices may be too low or too high compared with the long term average.

The need for a measuring tool, as described above, would quickly become evident were you to go into a grocery shop and ask the price of something. Such a question would definitely produce different answers depending on whether the shop was located in North America or in Asia (leaving aside the question of conversion rates). Repeating this experiment 10 years from now would also result in different outcomes.

Furthermore, businesses adjust the prices of their products to better meet the requirements of their trading partners or customers on a deal to deal basis.

Given that observation, we can ask the question how are prices created and how do they change? That is a field of ongoing study which is outside of the scope of this article. Prices are the result of complex social interactions, political considerations, emotions and even the technological progress. In the remaining part of this article, we will discuss what the value of a NXT is.

## Transactions

When using the Nxt platform, all you need are NXTs. You can buy goods and services on the Nxt Marketplace, you can buy assets on the Asset Exchange, you can buy brands, cast votes and much more and all you need to have are NXTs. Those tokens are the default currency unit of the economy platform: Nxt. With them, you can buy a variety of native Nxt objects as well as user-generated content, products and services. However, we still have the same imprecise definition of the value of 10 NXTs as we have with \$10.

There is, though, another element that plays an important part in helping to determine the value of one NXT. NXTs are not only relevant to pricing goods and services but also to paying for transactions. Transactions are the most basic native objects you can buy with your NXTs. They are and will be omnipresent in the Nxt platform. At the time of

writing, 1 NXT is worth 1 transaction (in most cases). Thus, the value of 10 NXTs is the ability to buy 10 standard transactions, like those described above. That basically means if you have n NXTs in your wallet, you can buy n transactions from the network.

We can describe an experiment to measure the price of a transaction in Nxt. The price for a transaction – also called a fee – has a minimum at which the network accepts the transaction. It is encoded in the social contract enforced by the Nxt network and its current implementation can be found at the repository. This experiment can be repeated irrespective of who you are or where you are. It can only change over time if the network agrees to change. From this point of view, the minimum transaction fee is the most equal and transparent price we have; independent of your location and yourself.

Given that tool, we can now measure how much a good or a service on the Nxt Marketplace is worth in terms of transactions. When we pay somebody 25 NXTs for his service, we are in effect enabling him to perform 25 further transactions and we can do 25 transactions less than we could before.

When analyzing the calculation of the minimum transaction fee, one can recognize a correlation between the minimum fee and the size of the transaction. However, the correlation does not apply whilst, as is currently the case, the relevant coefficient is set to zero. It is assumed that in future versions of the Nxt protocol, the network will decide to raise this coefficient in order to better reflect the actual expenditure of verifying and propagating transactions of a specific type through the

network. Still, the process of price setting is visible and verifiable and equal among all people using Nxt. There are many possibilities regarding how to agree on these coefficients and other constants which make up the minimum fee. However, this is a problem which needs to be addressed in another article.

## Conclusion

Each NXT represents the ability to buy exactly one standard transaction which gives us a precise tool to measure how much worth a good or a service would be. Instead of asking how many NXTs does it cost, you might equally well ask: if I buy this good or service how many fewer transactions will I be able to carry out (i.e. how many transaction performances will it cost me)? Similarly, the seller, instead of asking how much NXT can I get for this good or service can just as well ask: if I sell this good or service, how many more transactions will I be able to carry out (i.e. how many transaction performances is my good or service worth)?

Thus, 10 NXTs are worth 10 transaction performances or the goods and services you can get for them in exchange.

# NXT

NXTinside: supernet

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# SUPERNET

by Cassius and apenzl

jl777:

*My idea is to treat Nxt like OS/CPU for computers.*

*Think back to before the IBM PC. Reading the history, there were dozens or maybe more different OS, but each was incompatible, isolated. Very similar to crypto today. They are all doing pretty much the same things (gen1 coins I am talking about), but they are not compatible at all. Using this OS analogy, it is like skipping past the stage where DOS took over the market and straight to Windows type of graphical interface and uniting all computers (gen1 cryptos) under the same OS. Different computers use different graphics, so you get Compaq desktop, Dell whatnot, etc.*

*Nxt Inside is something I am reaching out to other coins to do. Each new coin with Nxt Inside is a totally new community that instantly becomes NXT users. Their coin gets the advantage of all the NXT 2.0 features, NXT gets more nodes and users for AE, Marketplace, InstantDEX, etc.*

*The first step is to get the coin traded in MGW, then there is a direct reason for them to want reskinned NXT GUI. Maybe they strip out everything but the AE for their coin, or maybe they keep all of NXT. Now people are hesitant to be the first, so I make BTCD do this as an example and then other coins will copy, especially if BTCD does well.*

*The coins that are added will each have to pass some threshold of value that they add to the Supernetwork and also the coin's community needs to have a positive cooperation based mentality.*

*The zero sum dog-eat-dog competitive world is probably needed in the mature fiat world, but it has no place in crypto. We need to join together to create a giant Supernetwork that will be a magnet to pull as much fiat into crypto as possible.*

On 30 August 2014 the idea of a SuperNETWORK to connect the most innovative, useful and actively developed crypto 1.0 altcoins was officially announced. The SuperNET ICO (Initial Crowdfunding Campaign) took place on the bitcointalk.org forums and resulted in a total of 5,737.1589 BTC equivalent being raised for the project – a great vote of trust in the project and in the skills of the anonymous developer behind the plan, jl777, aka ‘James Lee’. Ever since then, the SuperNET – comprising the core TECH, the core SERVICES, the core COINS, the ASSET and the PARTNERSHIP PROJECTS – has been in constant development.

# SuperNET is cutting-edge tech

SuperNET is an immense and far-reaching project.

It arose from the realisation that there was a huge amount of very promising technology in the cryptosphere, offering enormous benefits over fiat money and related systems, but that different coin communities were often inward-looking and very tribal.

SuperNET, which trades under the ticker symbol UNITY, was created to unite the best of this technology. With a strong emphasis on privacy and decentralisation, it comprises a vast range of different initiatives, from 'InstantDEX', its realtime decentralised exchange, through various trading tools, decentralised gaming and gambling projects, crypto commerce, fiat pegged crypto and more.

# SuperNET is the best Crypto UNITED

The crypto world is full of remarkable technology, but coin communities tend to isolate themselves from each other. There is a pervasive zero sum mentality that holds that for one coin to succeed, others must fail. Whilst this may be true for the current global 'system' of (more or less) free-floating fiat currencies that came into existence, effectively by default, in August 1971 when Nixon unilaterally cancelled the direct convertibility of the US dollar into gold, crypto is of course still in its infancy and relatively small. There is enormous room for growth but it is only through collaboration that crypto's potential can be fully realized.

SuperNET does not aim to replace Bitcoin but rather to leverage its network effect, bringing new tech and services together in order to draw in more users. Altcoins are more agile than BTC and can innovate on a rapid timeframe, but cannot compete with Bitcoin in terms of userbase size.

The name given to the SuperNET token for the ICO on BTer reflects the aim of bringing together coin communities and sharing the benefits of that result: UNITY. In the SuperNET Slack channels talented people are working closely together, who would never normally ever have met. The SuperNET CORE coins have been chosen with great care. No copycats, no simple clones of Bitcoin, no scam coins pumped by a huge marketing budget: only truly innovative, useful coins with active developers. The core coins are: BitcoinDark, Nxt, VeriCoin, Fibre, Opal, Syscoin, Bitstarcoin, Boolberry, VPNcoin.

It goes without saying that SuperNET would not be possible without the vision, talent and sheer hard work of many developers and other supporters, and none more so of course than jl777 himself.

However, to those of us who have been following the project in SuperNET Slack, where (this being a global project) some 1100 active SuperNET supporters and developers are currently working on it 24/7, it's obvious that the currently released and stable SuperNET Client is only just the beginning of something much bigger. SuperNET is in its essence more than just a collection of tech – it's a vision and a movement that will ultimately lead to an alternative economic system which is not only able to compete effectively with the fiat economy but one which is so

advanced and comprehensive that, together with Bitcoin, it would even have the capacity to replace fiat altogether, should that ever become necessary.

## The Client

The first SuperNET Client release appears as a multiwallet. You can fund it – and you can send coins from it. The first coin deposit you make to your wallet will automatically include 10 NXT which can be used for paying transaction fees. The client represents working implementations of core tech and concepts, such as MGW and Ramchains.

Further functionality will be added on a rolling basis, ensuring a stable client with an ever-increasing feature set. Some main features are already visible in the GUI, including the funding of your wallet directly from USD or EUR, sending coins by mail, and the links to projects and services in the top bar. The client is where you will find InstantDEX, the instant p2p crypto exchange, and later: Tradingbots, the privacy-features from BTCD, and decentralized games like NeoDICE, Pangea Poker and Sportsbetting. For now, additional features can only be accessed using the client's "advanced mode", a gateway to the NXT NRS which itself is packed with useful 2.0 features.

## NXT MGW

The Multigateway is SuperNET's automated 1.0 crypto < > Nxt blockchain gateway.

Once coins have been deposited, they are held on MGW's secure servers and converted to tokens (superBTC, superDOGE, etc) that can then be traded on Nxt's decentralized Asset Exchange. The coin-backed tokens can be withdrawn using the same multi-sig process and returned to a regular coin wallet.

Each coin is handled by three servers. Multi-sig is used to ensure that all three servers agree before transactions are made, so there is no single point of failure unlike with a traditional exchange. It's a distributed gateway – the least centralized crypto-to-crypto exchange service in existence.

Any 1.0 crypto coin can enhance their wallet's functionality with SuperNET. This will give them access to trading on SuperNET's distributed exchange, as well as all of Nxt's 2.0 features and SuperNET's other fully decentralized services.

## InstantDEX [IN BETA]

InstantDEX offers trading 2.0. InstantDEX is a decentralized exchange that is currency agnostic. It connects to exchange APIs and gives a single unified view of all exchanges – automatically detecting arbitrage opportunities.

Instantly updated orderbooks and trades being instantly cleared as they are matched is possible due to a p2p messaging protocol, which

also includes methods for private currency transactions and messaging via the BTCD components of teleport and telepathy.

InstantDEX allows cross coin trading of both BTC and altcoins without the need for any centralized exchange – thus keeping your assets safe and secure. Also asset trading though the decentralised Nxt Asset Exchange is supported, as well as all Nxt Monetary System currencies.

## NeoDICE

NeoDICE is a fair betting game running on NXT blockchain.

The neoDice gameplay is similar to that of the legendary satoshiDice, with a few differences, the most important one been the near realtime processing of the wagers.

To determine winning or losing bets, neoDICE calculates SHA-3 hash of a combination of the transaction ID and a daily secret — a number unknown to the player. The previous day's secret as well as the hash of the current day's secret is published, providing for an easy way to verify wagers outcomes.

The entire betting history is stored on the NXT blockchain ensuring the game's integrity and fairness. NeoDICE is as anonymous as the players's NXT account number. It does not require any additional registration or authentication.

## NXT Freemarket

SuperNET gets 20% of NXT Freemarket fees, of which 50% is passed on to investors. NXT Freemarket is a decentralised Marketplace built on top of Nxt's Arbitrary Messaging system. Freemarket offers a fully fledged storefront, low fees, encrypted messaging, upload of photos, buyer selectable shipping options, goods paid for in CoinoUSD (\$USD pegged asset) with no 3rd party payment processor + a lot more. The NXT blockchain makes FreeMarket resistant to takedown.

## Core tech

The SuperNET core tech currently being coded by jl777 deserves a chapter in itself or even a book, as it is too extensive to be described in full in this publication. However, in summary: SuperNET is a collection of several "agents". Agents, being flexible, can do anything, including combining into a decentralized network. It's envisaged that SuperNET will ultimately comprise many thousands of different decentralized networks, making it in effect an internet of services. The agents' system gets the inputs from the entire SuperNET and returns the output to where it needs to go. Agents run locally, so there is no risk of some sort of bug being propagated to all the nodes, which is a key difference between this approach and that of Ethereum's.

You can choose to run whatever agents you want. Some creators of agents share revenues with people that run them. The agents themselves are only a few MB in size, so you could easily run dozens, if not hundreds of agents on a normal computer, and thousands on a server.

InstantDEX is just one specific use case of the SuperNET agents' system. So are Ramchains, Lchains, MGW, tradebots, crypto777, Jumblr, the 2.0 passthrough agents to the 2.0 coins, like Nxt, and many more.

## Core assets, portfolio, services and partners

SuperNET's core services can be divided into 4 categories, these categories are represented by 4 assets that can be bought separately on Nxt AE. SuperNET also holds a wide range of revenue-sharing assets from its partner projects, as well as a stake in each coin represented in the core.

The SuperNET/UNITY asset (asset ID 12071612744977229797) is traded on the Nxt Asset Exchange, [secureae.com](http://secureae.com), and also on BTER.com and Poloniex.com.

NXT

中国正在觉醒

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# 中国正在觉醒

by NxtChina

回顾这两年多来（2013~2015）密码学货币在中国的发展状况，可谓是跌宕起伏，尤其是以比特币为首的密码学货币，在受到大量的关注及报道后，也产生了很多基于比特币原理的替代币，这极大地繁荣了整个密码学货币市场。

Nxt也是其中的一个全新的区块链项目，它诞生于2013年9月底，自发布以来，由于其新颖的POS设计理念、强大的功能特征和强有力的开发团队，赢得了很好的口碑和大量的追随者；当然也有不同的声音，例如其POS分发模式、只有73人参与的IPO模式都一直被人所诟病。

这段时间，纵观整个密码学货币界，各种主流媒体和新闻对比特币进行大肆报道，极大地增加了比特币的曝光率，使其价格达到了历史顶峰，8000 CNY/个，然而，随之出现的是在2013年12月5日，中国人民银行等五部委联合印发了《关于防范比特币风险的通知》。预料之中，价格暴跌，漫漫熊市开启。而且加之些期货交易所（Okcoin.com,bitvc.com,796.com）的出现，加剧了这种下跌的势头。



图片来源：<https://bitcoinwisdom.com/markets/btcchina/btccny>

很多参与者将价格的下跌归因于政府的禁令，认为政府已经禁止比特币了，对这份通知有很多误解之处。

最大的误解之一是，认为买卖比特币是非法的。其实该《通知》明确了比特币作为虚拟商品的性质：“从性质上看，比特币是一种特定的虚拟商品”。《通知》限制了金融机构和支付机构对于比特币相关活动的参与。但是《通知》也认为，“比特币交易作为一种互联网上的商品买卖行为，普通民众在自担风险的前提下拥有参与的自由”。

中国人民银行 工业和信息化部 中国银行业监督管理委员会  
中国证券监督管理委员会 中国保险监督管理委员会

关于防范比特币风险的通知

近期，一种通过特定计算机程序计算出来的所谓“比特币”（Bitcoin）在国际上引起了广泛关注，国内也有一些机构和个人借机炒作比特币及与比特币相关的产品。为保护社会公众的财产权益，保障人民币的法定货币地位，防范洗钱风险，维护金融稳定，依据《中华人民共和国中国人民银行法》、《中华人民共和国反洗钱法》、《中华人民共和国商业银行法》、《中华人民共和国电信条例》等有关法律法规，现将有关事项通知如下：

**一、正确认识比特币的属性**

比特币具有没有集中发行方、总量有限、使用不受地域限制和匿名性等四个主要特点。虽然比特币被称为“货币”，但由于其不是由货币当局发行，不具有法偿性与强制性等货币属性，并不是真正意义的货币。从性质上看，比特币应当是一种特定的虚拟商品，不具有与货币等同的法律地位，不能且不应作为货币在市场上流通使用。

图片来源：[http://www.gov.cn/gzdt/2013-12/05/content\\_2542751.htm](http://www.gov.cn/gzdt/2013-12/05/content_2542751.htm)

显然，国家并未禁止普通用户参与的权利。而且全世界最大的交易量来自中国的三大比特币交易所（比特币中国，okcoin和火币），这显然说明中国政府并未真正禁止比特币，而仅仅限制了金融机构参与，以避免对现有的金融体系形成骤然破坏。

我想中国政府对比特币以及其它金融创新的态度是明确的，即支持其发展，但不能对现有的金融体系造成严重冲撞和破坏。从政府支持股市的融资融券业务的发展，都可以看出，政府是支持金融创新的。对于比特币亦如此。如果真要是禁止，也很容易，三大交易所早已关门。

同时，参与者也意识到了比特币想要在一个主权国家取得合法货币权利几乎无望。因此利用其背后的核心区块链技术为金融业和其它行业提供服务成为

必然。

在今年9月份，中国汽车零部件产业企业万向集团牵头举办了第一届区块链峰会，并成立了区块链实验室以投资和支持全球范围内的区块链项目。



图片来源：<http://blockchainlabs.org/>

这也反映出了区块链科技已经得到了中国企业的高度重视，并付诸了真实的投资行动，尽管真正实际的应用尚未形成，但这些投资行为是对区块链科技发展潜力最有力的支持。

回到NXT的发展，NXT是基于POS机理的区块链项目，与比特币所采用的POW机制不同，POS能极大地减少对能源的浪费，同时减少了区块间隔，提升了软件效率。在NXT发布近两年的时间中，NXT的社区不断发展壮大，国内的社区讨论主要集中在NxtChina和巴比特。

从NXT项目的实际开发情况来看，NXT确实取得了十足的发展，包括自身的功能，比如任意信息、资产交易、货币系统等等，尤其是资产交易系统，目前基于NXT区块链发行的资产数目高达600多个。而且其中不乏理念新颖的

优秀项目，例如SuperNET，正如其发明者所言，“SuperNET对密码学货币来讲，就如同互联网对于网站一样”，它是一个整合了交易所/孵化器/软件/广告的实体，它有非常有前景的商业计划来聚集用户并通过内外流量资源来赚钱。

从价格和市值的角度来看，NXT的市值在Coinmarketcap上长期徘徊在第10位左右，尽管发布后的一段时间内由于其获得的大量关注及筹码集中的因素，曾冲高至第4位。同样，NXT的价格也从那时候开始一直下滑，不及顶峰时的1/10。

造成价格下跌的原因很多，我认为的几个主要原因如下：

第一，由于投资者投资了大量的资产，资产发行者势必会出售NXT以获得支持项目发展的资金，从而导致了NXT的应用和发展在壮大，但单价却持续下跌的状况；

第二，整个密码学货币市场的低迷，包括比特币在内的所有货币都缩水严重。随着密码学货币及其核心技术-区块链-得到了前所未有的关注，国内也举办了多次相关的研讨会，包括11月14日，由中国互联网金融创新研究院和中国人民银行金融研究所等主办的《全球区块链技术及应用闭门研讨会》。



图片来源：<http://weibo.com/p/1001603909768254238290>

随着国家政府及金融机构对区块链技术和应用潜力的日益关注，区块链得到广泛应用的时间也在邻近。这对于NXT区块链项目来说也是难得的机遇，可以预期的一些应用范畴：

1. 支付和货币兑换，例如比特币作为货币等等的应用；
2. 物联网，例如IBM基于Ethereum区块链的项目Adept；
3. 分布式去中心化存储，例如Storj；
4. 数字资产管理与交易，例如NXT的资产交易系统；
5. 去中心化域名系统，例如NameCoin和NXT的别名系统；
6. 身份验证与管理，例如NXT的token功能；
7. 公开投票，例如NXT的投票功能。

机遇与风险并存；对于NXT来讲，由于其新颖的功能很多，可扩展性非常好，而且是基于java编写的，这对于企业级的应用是非常有利的。

#### 功能特征-Features

|  |  |  |
|--|--|--|
|  基本功能-General<br>主题: 178, 帖数: 421           |  任意信息-Arbitrary Message<br>主题: 3, 帖数: 3     |  资产交易系统-Asset Exchange<br>主题: 17, 帖数: 18      |
|  域名系统-Alias<br>主题: 8, 帖数: 27                |  市场系统-Marketplace<br>主题: 3, 帖数: 3           |  账户租赁-Account Leasing<br>主题: 4, 帖数: 10        |
|  货币系统-Monetary System<br>主题: 3, 帖数: 3       |  插件系统-Plugin System<br>主题: 5, 帖数: 5         |  投票系统-Voting System<br>主题: 1, 帖数: 1           |
|  分阶段交易-Phased Transaction<br>主题: 2, 帖数: 2 |  账户控制-Account Control<br>主题: 0, 帖数: 0     |  上传文件-File Upload<br>主题: 1, 帖数: 1           |
|  混币-Coin Shuffle<br>主题: 3, 帖数: 3          |  离线交易-Offline Transaction<br>主题: 1, 帖数: 1 |  透明锻造-Transparent Forging<br>主题: 11, 帖数: 19 |

图片来源：<http://nxtchina.org/>

当然了，NXT需要改善和强化的地方也很多，例如，稳定区块间隔（开发者已经证实在2016年1月份发布的1.7版本中会实现区块间隔不超过10分钟）在1分钟左右、优化和改善API、继续增加用户预期的功能、成立专门的基金会（NxtFoundation），强化与外界的沟通（由于NXT是匿名项目，缺乏与外界的沟通）、加强推广（已经成立tennessee项目），提高其曝光率，扩大用户群、提供应用场景分析和技术指导；

最后，NXTChina也会一如既往地关注和支持NXT的发展，并联合NXTer.org分享关于NXT区块链、社区和应用的最新资讯，推动NXT在中国的获得大力应用。

# NXT

the regulatory process: if you're not at  
the table, you're on the menu

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# THE REGULATORY PROCESS: IF YOU'RE NOT AT THE TABLE, YOU'RE ON THE MENU

by Robert Bold, Kushti, Jean-Luc and Riker. Many thanks to mthcl and ChuckOne who reviewed and commented on the article.

On 22 April 2015 The European Securities and Markets Authority (ESMA)<sup>1</sup>, the equivalent of the US Securities and Exchange Commission, issued a call for evidence regarding "Investment using virtual currency or distributed ledger technology".

Nxt is the example of the digital currency platform ESMA used in its "Call for evidence" to illustrate how distributed ledger technology works.

ESMA has now published the 18 responses it received, only two of which were made on behalf of cryptocurrencies: Nxt<sup>2</sup> and FIMK<sup>3</sup> (which is based on the Nxt blockchain). No response was made on behalf of Bitcoin, although one was made in support of it by an exchange called Paymium.<sup>4</sup>

No response to the ESMA call for evidence was made on behalf of (or even in support of) Ethereum, Counterparty, MaidSafe etc.

One can of course understand the lack of engagement on the part of the majority of cryptocurrencies (being, as they mostly are, opportunistic Bitcoin clones), but for Bitcoin itself and other serious players such as those mentioned above not to have responded is surprising.

The cryptocurrency industry needs to fully engage in the regulatory process to make sure that the potential for independent, genuinely decentralised, blockchain technology to democratize financial power is not compromised by a failure to challenge incompleteness or other inaccuracy in the information relied on by the regulators.

Some examples of incompleteness and other inaccuracies can be found in the following extract of the ESMA response from Intesa Sanpaolo (a banking group based in Italy):

*"We would like to point out that, unlike Bitcoin's Proof of Work method (which, as stated in O1, we regard as the only effective one, at least at the moment, because of the computational power dedicated to it), other decentralized double-spending prevention algorithms, like NXT's Proof of Stake (PoS) presented in paragraph n. 17, are still not validated from both a theoretical and an empirical point of view:*

- *There is an ongoing debate over the "Nothing at Stake" problem affecting every system which doesn't use any consumption of resources*

- *external to the system for the validation;*
- *Every single existing PoS scheme, NXT included, is actually relying on some kind of centralization in validation checkpoints, in “currency” ownership or in nodes distribution.”*

It would not of course be reasonable to expect a mainstream commercial banking group to argue in favour of a genuinely independent decentralised financial ecosystem.

Rather, it is for the proponents of that technology to correct any inaccuracies or supply any omissions in how others (doubtless unintentionally) represent it, but to do that they need to get involved in the consultation process.

Thus, by way of correcting certain inaccuracies and otherwise filling in the gaps, we shall deal with each of Intesa's three claims in turn.

**Intesa Sanpaolo claims that Bitcoin's Proof of Work (PoW) method has been empirically and theoretically validated and that Nxt's Proof of Stake (PoS) method has not.**

Theoretically, the PoW and PoS consensus mechanisms are neither better nor worse than each other, merely different. For a description of Nxt's Proof of Stake model, see pages 5/6 of Nxt's Response to ESMA.

As regards, the respective theoretical formalizations of PoW and PoS, the following points should be noted:

## PoW formalization

The initial Satoshi Nakamoto paper (Bitcoin: A Peer-to-Peer Electronic Cash System) only investigated the consensus algorithm security against private branch attack.

Since then other potential attack vectors, like selfish mining have been discovered.

The selfish mining strategy provides unfair profit for the 33% adversary and that's dangerous in the long-term, but not critical for consensus itself.

Most recently, in November 2014, the formal model (of a more or less appropriate quality) was published: The Bitcoin Backbone Protocol: Analysis and Applications.

<http://courses.cs.washington.edu/courses/cse454/15wi/papers/bitcoin-765.pdf>

## PoS formalization

Whilst Proof-of-Stake formalization is currently still behind that of PoW it's now developing faster than PoW's formalization and therefore catching up quickly.

The first implementations of pure PoS appeared in the second half of 2013, with the first investigations started in the first half of 2014 (Math of Nxt Forging by mthcl) following which Consensus Research made

simulations<sup>5</sup> and wrote articles<sup>6</sup> about the few types of known attacks.

Consensus Research are currently in the process of discussing deeper formalization with colleagues from mathematics and theoretical computer science.

Turning next to Intesa Sanpaolo's claim that Bitcoin's PoW method has been "empirically validated" and that Nxt's PoS method has not.

We assume „empirically validated“, as applied to Bitcoin's PoW and Nxt's PoS technologies, is intended to mean: proven to work in practice in accordance with their objectives.

Since both technologies demonstrably do work in practice in accordance with their objectives, at least up until now, they can therefore both be said to have been empirically validated: Bitcoin as a payment system and Nxt as a financial ecosystem which includes a payment system (see: Nxt Core Features, as described on pages 15/16 of Nxt's response to ESMA).

But blockchain technology in general is still in its infancy and faces a number of significant practical challenges, including that of blockchain bloat and scalability – a problem which, at some stage, will have to be addressed and resolved (if they are to remain viable) by all blockchain technologies, including of course Nxt itself.

However, due to the large and (as currently anticipated) increasing number of transactions being processed through its network, Bitcoin

now needs to address that problem as a matter of urgency and it is running out of time in which to do so.

According to Bitcoin Foundation Chief Scientist Gavin Andresen speaking in an interview in June 2015, Bitcoin will be reaching its 1 MB block size limit “some time in the next 6 to 12 to 18 months....”. In the interview Mr Andresen goes on to warn of what could happen if the problem isn’t resolved.<sup>7</sup>

In an attempt to force the pace as regards tackling the block size issue, a patch to the Bitcoin Core was released on August 4 and is now available to download here: <https://bitcoinxt.software/>

It remains to be seen whether the Bitcoin network as a whole will accept or reject what in effect is a hard fork or indeed whether the network will split, resulting in the creation of two versions of Bitcoin, thereby crashing the value of one, if not both.

What is certainly clear is that the Bitcoin XT debate (whether or not to replace the current hard-coded block size limit of 1mb with a patch that, amongst other things, supports larger blocks) has polarized opinion.<sup>8</sup>

And it is doing so for the reason explained in The Wall Street Technologist:

*“What we have here is an ideological schism in Bitcoin. Most people fail to realize that this is what the block debate is really about. On*

*one hand you have folks who believe Bitcoin should be the new VISA system. They believe that Bitcoin should be able to handle all the transactions on planet earth, from everyone's daily coffee purchase, to everyone's house purchase, to how Google cars should be paid for their services. On the other hand, you have those who believe Bitcoin's core value is the fact that it is a hedge against fiat currencies, and by extension, governments (in the case they decide to infringe upon your liberties). Bitcoin CANNOT be both. It's just not possible."*

Whilst, as already mentioned, the scalability problem is common to all blockchain technologies, the following empirically observed problems are exclusive to Bitcoin and should also be borne in mind when reassessing the accuracy of any claim that Bitcoin is empirically valid:

- the inherent tendency of the underlying economics of the Bitcoin network to create a vicious circle whereby increasingly sophisticated mining rigs generate increased hash output resulting in increased difficulty which in turn drives the need for evermore powerful rigs thereby making it uneconomic for any but the biggest miners and pools to operate. The end result: increasing centralisation of mining power; i.e. a shrinking network of nodes, making it less secure.<sup>9</sup>
- over-dependency on a few manufacturers of the prohibitively expensive ASIC mining equipment.
- high energy consumption involved in miners competing for blocks to validate, making the process environmentally very unfriendly.

**Intesa Sanpaolo claims that „there is an ongoing debate over the “Nothing at Stake” problem affecting every system which doesn’t use any consumption of resources external to the system for the validation.“**

The bald, unqualified use of the word „problem“ in the above claim might suggest to the uninformed reader that Nxt, as a PoS system, has actually been subject to a Nothing-at-Stake attack. In fact, it has not.

Like Bitcoin’s PoW, the Nxt PoS consensus algorithm is a work in progress; the current state of thinking and research regarding any theoretical vulnerability to a N@S attack can be summarised as follows:

A. The first more or less formal definition (at least in the form of computer code) has been produced by Consensus Research:

<https://github.com/ConsensusResearch/articles-papers/blob/master/multistrategy/multistrategy.pdf>

B. The number of possible forks grows exponentially over time. A Nothing-at-Stake attack could therefore only be made by a multi-branch forger contributing to N best forks and since it’s impossible to predict whether 2 forks will be within N best forks from the exponentially growing set for k confirmations (a significant imponderable), this attack vector is inherently unpredictable making it very difficult to enforce in theory, let alone in practice.

C. The correlation with stake size is still the open question but it’s nearly impossible to attack a proof-of-stake currency with „1% stake even“ as

stated by Vitalik Buterin.<sup>10</sup>

D. A solution to make the PoS consensus algorithmically enforced (as in PoW) is theoretically possible.

E. The N@S simulation tool is published here: <https://github.com/ConsensusResearch/MultiBranch> for people to carry out their own experiments. Unfortunately, there is not currently any easy-to-understand (i.e. non-technical) visualization of the non-feasibility of a Nothing-at-Stake attack.

In practice, the Nxt forging algorithm provides a defence against a Nothing-at-Stake attack in the form of what has been termed Transparent Forging (TF), the main feature of which is the ability to predict which account will generate the next block.

Other TF aspects of the Nxt forging algorithm are:

- account balance having to be older than 1440 blocks;
- the ability to lease account balance for forging;
- requiring the forging account to have had its public key announced for 1440 blocks before being able to forge; and,
- not accepting a forged block if its timestamp is more than 1 second after the predicted time to forge.

Improvements to take effect in release 1.7 are a minimum effective balance requirement of 1000 NXT for an account to be eligible to forge, and preventing very long blocks by an improved base target adjustment

algorithm.

Elements of the TF concept which have not yet been implemented include: achieving higher transaction processing speeds by sending transactions directly to the node expected to generate the next block, and reducing the time interval between blocks based on the knowledge of the next few predicted block generator accounts.

Further protection against any “Nothing at Stake” attack can be achieved by temporarily reducing to zero the forging power of accounts which should have generated a block but skipped their turn.

At present though, the currently implemented components of TF are considered sufficient to protect against such an attack.

Those TF elements mentioned above which are designed to increase the possible transaction throughput will only be implemented once the need for it appears, and certainly not until blockchain pruning has first been implemented.

**Intesa Sanpaolo claims that „Every single existing PoS scheme, NXT included, is actually relying on some kind of centralization in validation checkpoints, in “currency” ownership or in nodes distribution.”**

At their current level of technological development, no blockchain (arguably Bitcoin least of all) is 100% decentralised.

## Nxt validation checkpoints

The Nxt protocol includes a rolling checkpoint whereby any block submitted at a height more than 720 blocks behind the current block height is automatically rejected. This in effect limits chain reorganization to the most recent 720 blocks.

The Nxt protocol also includes some hard-coded checkpoints (e.g. at Block 333,000). Their purpose is to prevent any possibility of a so-called „history rewriting attack“ in which somebody buys redundant early stakeholder accounts in order to try to build a complete alternative blockchain.

Another reason for the hard-coded checkpoints is performance optimization, specifically: improved blockchain download speeds for peers downloading the blockchain from scratch, the improved speed being due to the fact that they don't need to check with multiple peers in respect of the blockchain before the latest hard-coded checkpoint whether or not the current fork they are on is the best one. Most importantly, such hard-coded checkpoints are only added at blocks more than 720 blocks before the current (at the time of adding the checkpoint) last block. At this point, the consensus has already been reached and set in stone by the rolling 720 block checkpoint limit, therefore the hardcoded checkpoint does not influence the decentralized consensus.

Whether or not these validation features can be regarded as „cent-

ralised" is debatable and in any case neither are critically needed for blockchain survival.

Bitcoin, of course, has its own hard-coded checkpoints (see further: <https://github.com/bitcoin/bitcoin/blob/master/src/chainparams.cpp> )

## Nxt currency ownership and node distribution

Nxt does not rely, as a matter of technical design, on centralisation of currency ownership or node distribution and the authors of this article are unaware of any PoS model (or indeed any other blockchain consensus mechanism) that does.

Proof-of-stake must have a way of defining the next valid block in any blockchain. Selection by account balance would result in (undesirable) centralization, as the single richest member would have a permanent advantage. Instead, several different methods of selection have been devised.

## Randomized Block Selection

Nxt uses a pseudo-random algorithm to predict the next block generator i.e. forger, by calculating a hash value which should be lower than a target value using the combination of the account stake, time since last block, signature of the previous block and the forger account public key. Since all these parameters are publicly available, each node can predict, with reasonable accuracy which account will forge the next block.

It might be that what Intesa Sanpaolo meant to say in its ESMA response was that in certain PoS models a relatively small number of accounts are in practice currently responsible for the majority of the work of validating blocks and earning the transaction fees for doing so.

In the case of Nxt the original distribution of the currency was made to the 73 subscribers who participated at the start and as a continuing, albeit slowly improving, legacy effect of that relatively small distribution, it is true to say that a large percentage of the Nxt currency has been owned by a relatively small number of account-holders.

Nxt critics have long sought to portray this as an inherent irremediable weakness of the system. It is not and over time, as more people get involved in Nxt, the number of accounts will continue to increase and ownership become more diffuse.

In the meantime, having a large percentage of the currency concentrated in a relatively few hands has had some advantages for the system, not least of which is the relative absence of speculative manipulation (i.e. pump and dump) and the funding of development and marketing that would not have happened but for the generous bounties made available by large Nxt account holders.

Meanwhile, Proof of Stake blockchain technology, of which Nxt is the leading example, continues to innovate and improve.

The features planned for the next hard fork (Release 1.7) are coin shuffling, account control for phased transactions (whereby an account is only allowed to submit phased transactions that require the approval of one or more other accounts), more stable block times and various usability enhancements. A security enhancement, 2FA using hash chains, will be added in Release 1.8.

Nxt core developers will also be adding features that make it easier to use the platform in regulated financial environments, for example “account properties” which can be used to endorse accounts as having been verified or authorized by third parties (to be implemented in Release 1.7) and “controllable assets”, designed to satisfy legal requirements that only authorized accounts can purchase certain types of asset (planned for Release 1.8).

# FOOTNOTES

## 1. ESMA states on its website that it:

...is interested in how different virtual currencies and the associated blockchain, or distributed ledger, can be used in investments. There are now facilities available to use the blockchain infrastructure as a means of issuing, transacting in and transferring ownership of securities in a way that bypasses the traditional infrastructure for public offer and issuance of securities, trading venues like exchanges and central securities depositaries or other typical means of recording ownership. ESMA would like to find out more about these market developments and in particular to know to what extent the use of the blockchain could enter the financial mainstream, and how it could be used.'

Source: <https://www.esma.europa.eu/news/ESMA-seeking-information-new-developments-virtual-currency-investment?t=326&o=home>

## 2. Response to ESMA on behalf of Nxt by The-Lawyer-of-NXT:

[http://www.esma.europa.eu/system/files/esma\\_report.\\_mr\\_lopez.\\_spain.\\_0.pdf](http://www.esma.europa.eu/system/files/esma_report._mr_lopez._spain._0.pdf)

## 3. Response to ESMA on behalf of FIMK by Krypto FIN ry:

[http://www.esma.europa.eu/system/files/esma\\_answers\\_fimk.pdf](http://www.esma.europa.eu/system/files/esma_answers_fimk.pdf)

## 4. Response to ESMA by Paymium: [http://www.esma.europa.eu/system/files/150717\\_-\\_esma\\_call\\_for\\_evidence.pdf](http://www.esma.europa.eu/system/files/150717_-_esma_call_for_evidence.pdf)

## 5. [https://github.com/ConsensusResearch/ForgingSimulation.](https://github.com/ConsensusResearch/ForgingSimulation)

## 6. [https://github.com/ConsensusResearch/articles-papers.](https://github.com/ConsensusResearch/articles-papers)

Kushti is currently discussing joint papers possibilities with colleagues and preparing a

paper to be published in a peer-reviewed journal.

7. In the interview (<https://www.youtube.com/watch?v=KYWhShzzELg>, at 6:43 mins), Bitcoin Foundation Chief Scientist Mr Andresen, who has a less apocalyptic vision than his colleague Mike Hearn as to what might happen to Bitcoin in a worst case scenario, nevertheless warns that:

“...people will just stop sending transactions if they notice that their transactions are not getting confirmed in a day or two or three or a week. The nature of transaction confirmation and the nature of how blocks are found softens that a little bit so every once in a while we'll get a period of time when transactions really pile up because blocks are found more slowly than normal and every once in a while we'll have a period of time where lots of transactions get confirmed because we're finding lots of blocks.

It's just the nature of the randomness of mining that we get this natural variation in how many transactions are confirmed in any given period of time and so I think that that natural variation plus people react so if you're sending transactions with very low fees that aren't getting confirmed well then you'll bump up your fees if you can and if you can't bump up your fees because transactions get more expensive then you find some alternative and that alternative may be: well I won't use Bitcoin, I'll find some other way of doing what I want to do.

So I don't think we'll have a crash. It won't be a disaster. I think what we will see is people turning away from Bitcoin and using other things and I think we'll see transaction fees rising. Both of these things I think are bad.”

8. Bitcoin XT vs Core, Blocksize limit, the schism that divides us all:

<http://wallstreettechnologist.com/2015/08/19/bitcoin-xt-vs-core-blocksize-limit-the-schism-that-divides-us-all/>

„The news recently is all abuzz about the Gavin Andresen and Mike Hearn's fork of Bitcoin called Bitcoin XT. For the first time in the history of Bitcoin, its very existence has been

put into peril by way of what is termed a 'Hard Fork' of the protocol. I have watched the situation develop, and I feel that I must comment on this topic as the amount of FUD coming from both sides of the camps is reaching alarming levels, and frankly I think this is hurting Bitcoin."

As at 24 November 2015, there were 410 Bitcoin XT nodes (supporting bigger blocks) out of a total of 5018 nodes in the Bitcoin network. Source: <http://www.xtnodes.com/> Accessed 24.11.2015.

9. „As a Proof of Work network becomes stronger, there is less incentive for an individual peer to support the network, because their potential reward is split among a greater number of peers. In search of profitability, miners keep adding resources in the form of specialized, proprietary hardware that requires significant capital investment and high ongoing energy demands. As time progresses, the network becomes more and more centralized as smaller peers (those who can do less work) drop out or combine their resources into pools.“

[http://wiki.nxtcrypto.org/wiki/Whitepaper:Nxt#Proof\\_of\\_Stake\\_Attacks](http://wiki.nxtcrypto.org/wiki/Whitepaper:Nxt#Proof_of_Stake_Attacks).

See also:

“The risk is that the trend will claim too much obsolete hardware and put many miners out of business, resulting in even more centralisation and fewer incentives to invest in the mining space.” <http://www.coindesk.com/bitcoin-mining-can-longer-ignore-moores-law/>

And:

“The problem is that there is little incentive to run a node anymore. That's because powerful machines built specifically for bitcoin's SHA-256 proof-of-work algorithm have changed its decentralized and more open nature.” <http://www.coindesk.com/five-biggest-threats-facing-bitcoin/>

10. The „Nothing at Stake“ attack is described by Vitalik Buterin here:

„However, this algorithm has one important flaw: there is “nothing at stake”. In the event of a fork, whether the fork is accidental or a malicious attempt to rewrite history and reverse a transaction, the optimal strategy for any miner is to mine on every chain, so that the miner gets their reward no matter which fork wins. Thus, assuming a large number of economically interested miners, an attacker may be able to send a transaction in exchange for some digital good (usually another cryptocurrency), receive the good, then start a fork of the blockchain from one block behind the transaction and send the money to themselves instead, and even with 1% of the total stake the attacker’s fork would win because everyone else is mining on both.“

Extract from <https://blog.ethereum.org/2014/11/25/proof-stake-learned-love-weak-subjectivity/>

In the following two papers, the authors also seek to prove the feasibility of a „Nothing at Stake“ attack

„It Will Cost You Nothing to ‘Kill’ a Proof-of-Stake Crypto-Currency“ Nicolas Houy, University of Lyon, January 2014:

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2393940](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2393940)

„On Stake and Consensus“, Andrew Poleta, March 2015:

<https://download.wpsoftware.net/bitcoin/pos.pdf>

By contrast, here’s a detailed description, written in layman’s terms, on the practical impossibility of N@S attack by JordanLee

<http://www.peercointalk.org/index.php?topic=2976.msg27303#msg27303>

Discussion threads regarding the theoretical possibility of a Nothing-at-Stake attack include:

BitCoin Talk: Nothing-at-Stake & Long Range Attack on Proof-of-Stake (Consensus Rese-

arch): <https://bitcointalk.org/index.php?topic=897488.msg10152632#msg10152632>

Nxt Forum: The Paper on Long-Range attack & Nothing-at-Stake:  
<https://nxtforum.org/index.php?topic=7057.msg141517#msg141517>

NXT Sub-Forum: Consensus Research:  
<https://nxtforum.org/consensus-research/>

Reddit: Proof of Work, Proof of Stake and the Consensus Debate:  
<http://cointelegraph.com/news/113157/proof-of-work-proof-of-stake-and-the-consensus-debate>

See also:

<http://consensusresearch.org/>  
<https://nxtforum.org/general-discussion/nxt-papers-whitepapers-academic-and-economic/20/>



[www.nxter.org](http://www.nxter.org)

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