

Blockchain – proof of concept

SUMMARY OF LEARNINGS | 12 FEBRUARY 2018



Leading for change in
humanitarian aid

Heading

Lessons from proof of concept 1 - Blockchain pilot - Dorcas Aid Netherlands/ Disberse/ Start Network

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What has taken place so far?

The Start Network is a humanitarian network leading for change. Made up of 42 national and international NGOs, the network works as one to address systemic challenges that the world is facing in delivering humanitarian assistance to people affected by crises. As such, the Start Network works in three main areas: new financing mechanisms, collective innovation and localisation of aid.

In 2015, the Start Network [recognised the parallels](#) between the systemic failure in the financial sector, which had as a result triggered new developments such as blockchain technology, and the humanitarian system. Since the challenges in the humanitarian sector included systemic inefficiencies, over-centralisation and lack of transparency and trust, the Start Network decided to explore the use of blockchain technology as a means of potentially addressing those challenges.



Start Network's theory of change for blockchain work

What was this proof of concept about?

Concept

With the aim of testing the technology in a practical way, the Start Network starts its blockchain journey in the space of humanitarian financing. In 2017, Start partnered with [Disberse](#), a for-profit social enterprise that is building a new blockchain-based financial infrastructure for humanitarian aid.

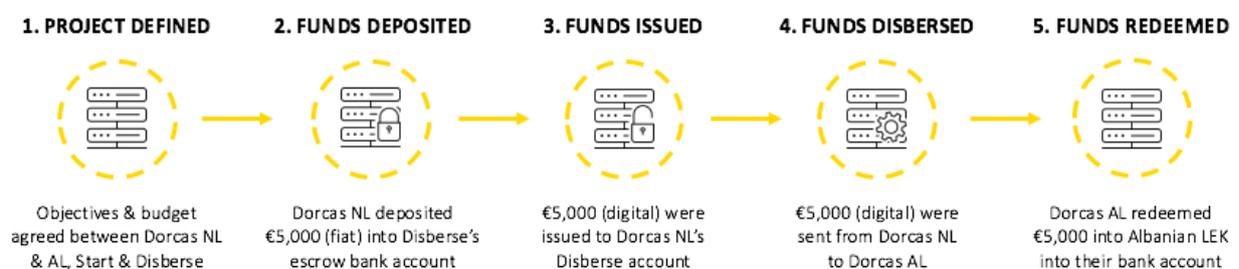
Start and Disberse agreed to work together on a series of proof of concept pilots using Disberse infrastructure, to get organisations, donors and individuals in the humanitarian space more comfortable with the technology. Disberse received its FCA authorisation as an electronic money institution, making it one of the few UK blockchain companies to combine blockchain development and e-money management.

Dorcas Aid was the first trailblazing Start Network NGO that agreed to test the technology. The main purpose of the proof of concept was to test the functionality of Disberse platform, and to get feedback from Dorcas Headquarters and Field office as users. The proof of concept took place on the 2nd of February 2018.

Technology and Process

All parties preferred to start small for the first proof of concept, and it was agreed that Dorcas Netherlands would transfer €5000 to Dorcas Albania via the Disberse platform. Nico, Dorcas' Director of Finance, transferred €5000 from Dorcas Netherlands' bank account to a Disberse segregated escrow account. Nico created a wallet on the Disberse platform, and Disberse then issued €5000 in digital currency into his wallet. Mira, Dorcas Albania's Financial Administrator, created her own wallet on the platform, and Nico was then able to transfer €5000 directly to her. Mira then immediately redeemed the €5000 on the platform, and Disberse authorised their FX partner to release the funds to Dorcas Albania's bank account.

The entire test was carried out through participants' web browsers, with Disberse accounts secured by two-stage authentication. Each wallet was identified as a node on the Ethereum blockchain, and all the transactions were recorded on the Ethereum test net. It is important to note that the money being distributed on the platform is not itself cryptocurrency, but digital currency issued by Disberse against the fiat currency deposit by the client (in this case Dorcas). This ensures the stability of the funds, since existing cryptocurrencies are extremely volatile.



What did we learn from this proof of concept?

In a reflection session, all participants came together: Dorcas Netherlands, Dorcas Albania, Disberse and the Start Network. The main purpose of the session was for Dorcas colleagues to provide feedback on their experience of using the Disberse platform specifically and using blockchain technology more generally.

Motives for participation

Dorcas' Institutional Relations Manager (Ruben Mulder) came across blockchain at the Start Network conference in May 2016, and immediately recognised the value this could have for the sector. In discussion with Nico, they agreed to seek participation in Start's piloting series. Nico had also come across blockchain in his capacity as registered accountant, and this only added to his wish for Dorcas to be involved in the testing. In addition to the direct benefits blockchain could have for their humanitarian work, Dorcas colleagues were also interested to be involved in an initiative that would challenge the hegemony of the current banking system. When identified their previous banking costs to inform the baseline for this pilot, for example, Dorcas discovered a previously unknown intermediary that charged €11.29 somewhere in the chain.

Mira had never come across blockchain, especially since there is no real coverage of blockchain developments in Albanian news media. She was happy to participate though, as HQ convinced her that this would be in their interest. Coincidentally, Dorcas Albania received its first Start Network funding (for response to severe flooding in Albania) in the lead up of the proof concept; this meant that she was already familiar with how the Start Network operates, which sparked her interest further. It was clear from this conversation that trust within Dorcas - and between Dorcas and Start - played a significant role in testing this new technology.

Organisational hurdles/Risk Management

Since Dorcas is a smaller INGO (compared to some other Start Network members), there were less layers of sign off required, and Ruben and Nico were able to get internal approval very quickly. Nico sent an e-mail to their Management Team to ask for any concerns, of which there were none. Dorcas felt reassured that the Start Network was leading on the pilot, and saw this as a sufficient level of due diligence. Interestingly Dorcas recognised the leading role they could play in this work as a smaller NGO, specifically because they didn't have to go through many approval processes.

Expectations

Nico and Mira both managed their expectations for this proof of concept, due to the limited amount of funds involved and the specific location of transfer.

Dorcas has been working with e-banking for years now, and Nico noted that banks in Albania - in contrast to almost all other locations Dorcas works in - provide very competitive exchange rates. In addition, the speed of transfer to Albania through the conventional banking system is excellent - in some cases same day transfers are possible - in sharp contrast to locations such as Tanzania, where a transfer could take a week or more to reach its destination. This proof of concept only involved a short chain (from Dorcas HQ to Albania), and Nico did not expect much larger gains until the testing chain could involve more organisations.

As a result, Dorcas' expectations mainly centred around the transparency and traceability of the Disberse platform. Both Nico and Mira felt well prepared for the proof of concept, mainly as a result of the work that Disberse had done to introduce them to the interface and functionality. Ruben had been given a demonstration of the platform at the Start Network General Assembly meeting; Nico and Ruben participated in an online demonstration with Disberse and Start; and finally, Nico and Mira took part in a second online demonstration shortly before the pilot.

Experience/Results/Feedback

The Disberse platform functioned as planned (by Disberse and Start) and hoped (by Dorcas). Both Dorcas Netherlands and Albania were able to create an account easily on the Disberse platform, and secure their transactions with a double verification layer of password and pin code. They found it simple to make transfers - all of which were confirmed within 10 to 20 seconds - and they could see those transactions logged in a transparent and time-stamped funding chain on the platform.

Redemption of funds - the other half of the process - still requires further development. During the test, Disberse secured comparison rates from three different FX brokers, with the best rate on offer being ALL128.2 (Albanian LEK) to the Euro. However, Dorcas' own bank (Raiffeisen) was able to offer ALL132.8, partly due to the larger number of transfers moving from the Netherlands to Albania. Disberse recognised that it is a priority to expand their network of FX partners and increase the volume of funds moving through the platform to secure better rates.

However, there was a saving in banking fees. Dorcas reported that their last bank transfer to Albania cost them €57.29 in miscellaneous bank charges, while the transfer via the Disberse platform cost them €0. Nico noted that, even though there would be lower costs when transferring on Disberse's system vs the traditional banking system, those would not create massive cost savings; however more financial savings are expected in later pilots, particularly with transfers to countries with higher banking charges. Disberse also emphasised that part of the pilot phase was to develop their business model as well as the platform.

There was an unanticipated time delay in the transfer due to an error by the selected FX partner, and so a meaningful comparison of time savings was not possible in this pilot. Disberse is further

investigating how to mitigate such risk for the future. Also, Disberse plan to automate the exchange rate inquiry and comparison process within the platform, which both Nico and Mira welcomed as a priority. Dorcas also flagged that any financial system for NGOs should have a dual-signature (and in some cases, triple-signature!) approval process. This was very useful feedback for Disberse, who saw the potential of integrating this feature with a “pre-approval” option to ensure rapid response in a crisis.

Everyone agreed that the interesting results are to be expected in a future test which should involve a longer funding chain (i.e. more entities), a larger disbursement level, and a destination with a less well-developed banking system.

What are the next steps?

Dorcas colleagues unanimously agreed that they would like to be part of the next testing phase. Nico mentioned that blockchain developments are inevitable, and that this is a good opportunity for Dorcas to get more comfortable with the technology. Both Nico and Mira would be keen to see an expanded test next time to find out what the benefits are at a larger scale (in terms of level of funding, number of participants and challenge of location). Disberse and the Start Network plan to continue the testing phase with other network members and other locations, and to examine the opportunities and obstacles to scaling the platform.

