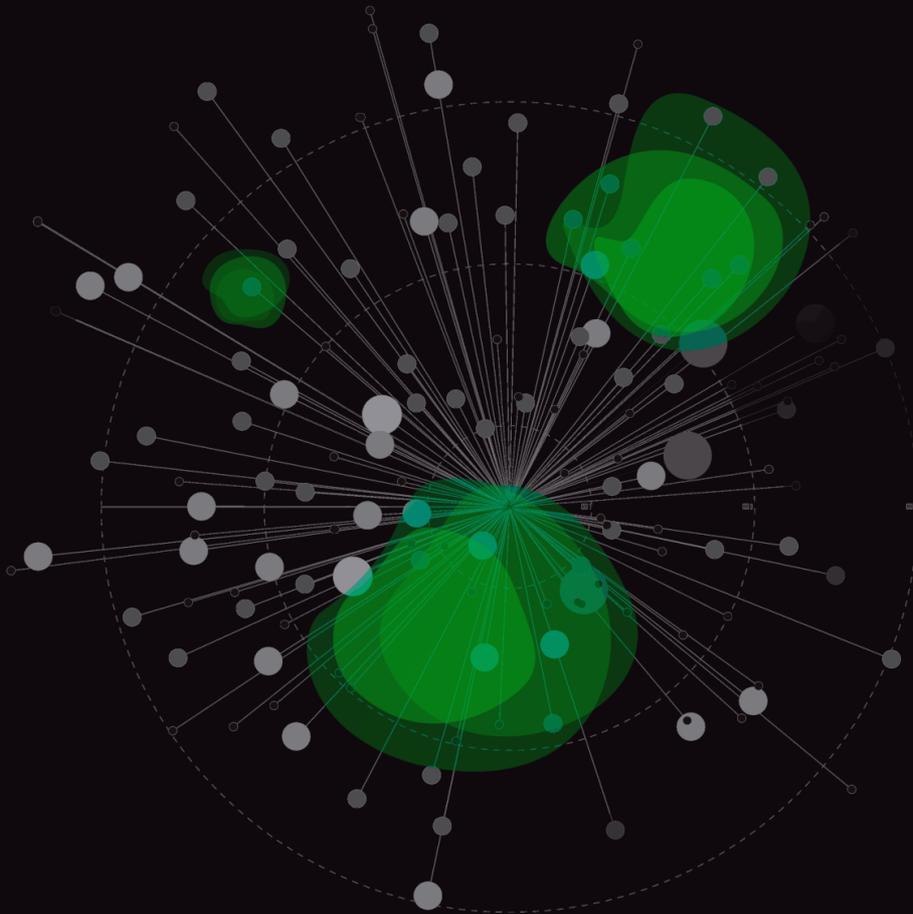




_more than just ratings

How to find exchange's wallets in practice (even for newbies)



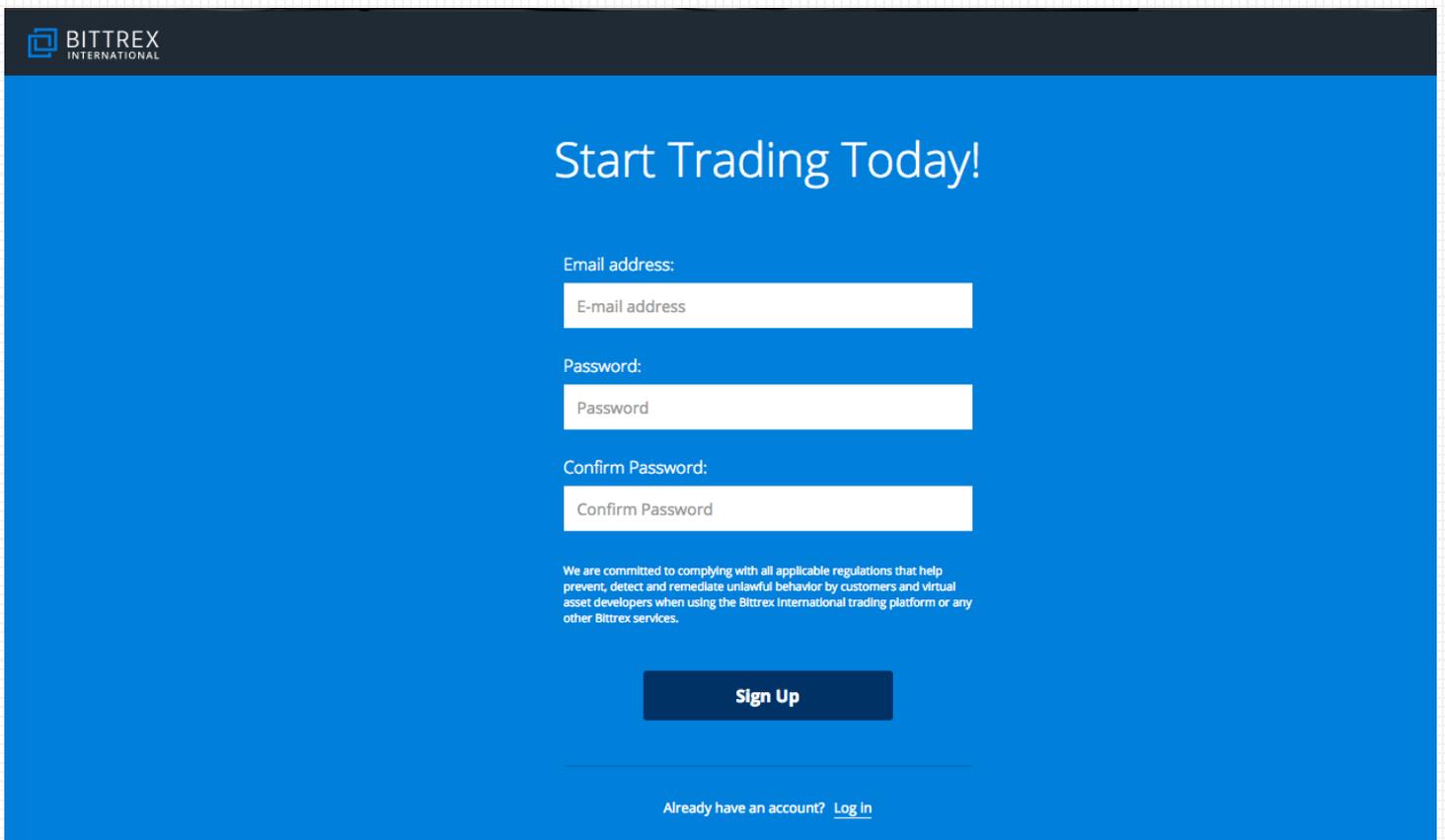
It is high time for us to move from words to actions and find out whether it is possible for an ordinary user to discover an exchange's hot (and ideally cold) wallets.

In this experiment, we will move together from the first transaction made on a particular exchange until the last step of our "treasure hunt".

To begin with, we've chosen two famous exchanges, Bittrex and Poloniex, and have thus transferred our funds from Bittrex to Poloniex accordingly. Acting in such a way will help us to investigate the wallets from both exchanges simultaneously.

Let's review the actions step-by-step:

1. To use the exchange services, it is necessary to create an account providing all the required details. In our case, we already have two accounts on the mentioned exchanges: Bittrex and Poloniex. If you do not have an account on a preferred exchange yet, you will need to create it.



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Start Trading Today!

Email address:
E-mail address

Password:
Password

Confirm Password:
Confirm Password

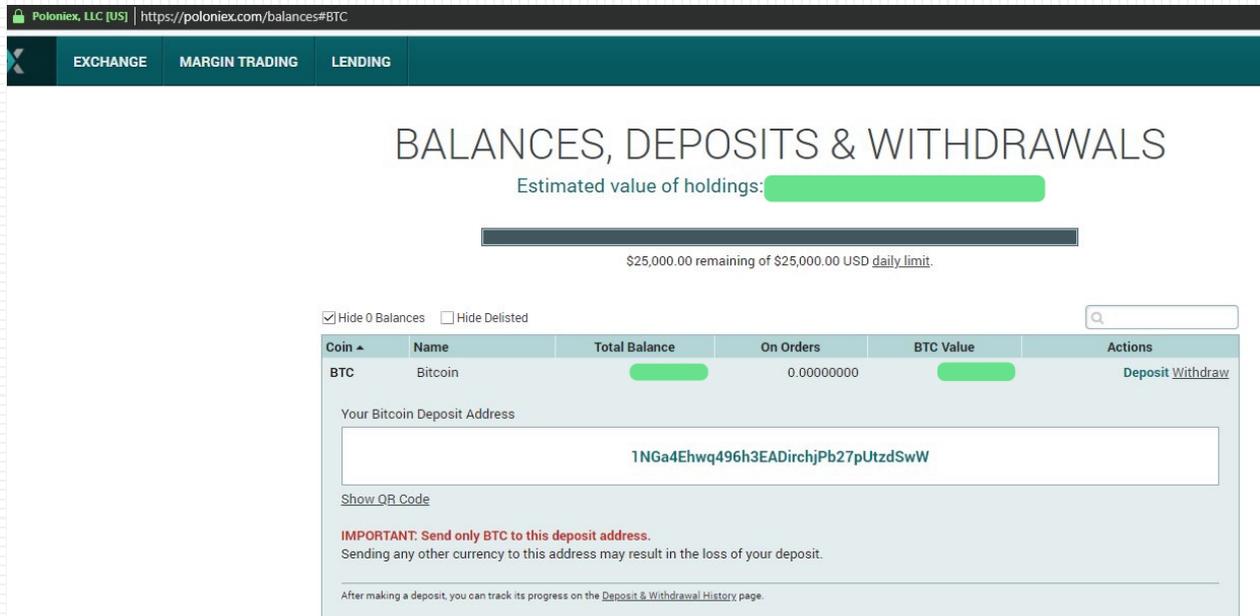
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Sign Up

Already have an account? [Log In](#)

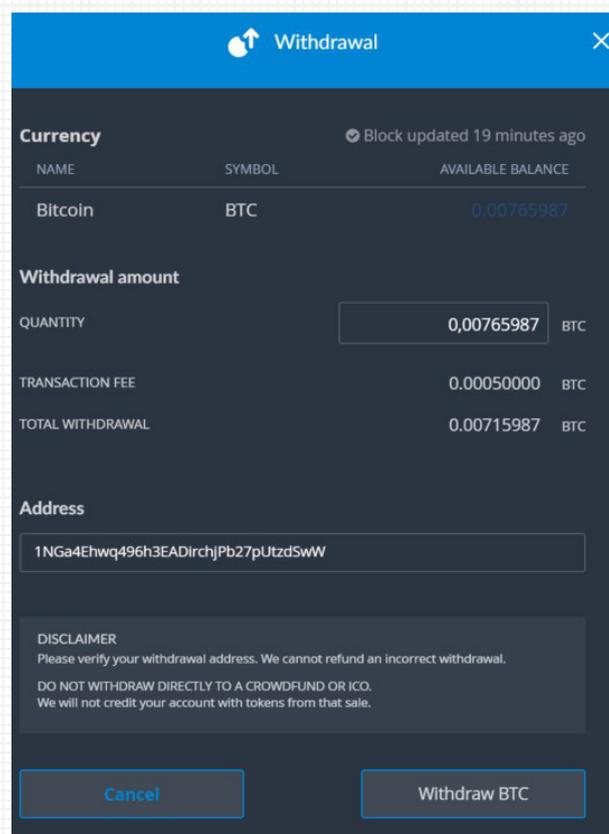
Pic. 1 Bittrex Sign Up Page

2. Poloniex provides us with our personal exchange wallet address:
1NGa4Ehwq496h3EADirchjPb27pUtzdSwW



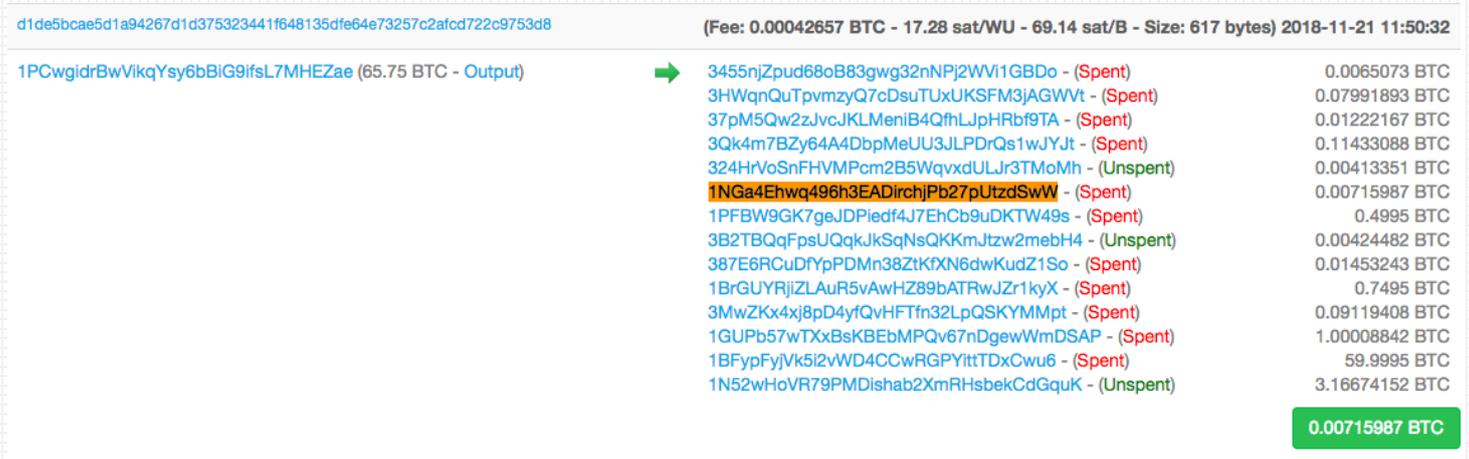
Pic. 2 Pre-hot Wallet provided by Poloniex

3. As a test case operation, we request the transfer of funds from Bittrex exchange to our Poloniex exchange account.



Pic. 3 Withdrawal Request in Bittrex Account

4. After a few minutes, we go to <https://www.blockchain.com/explorer> to check our transaction.



d1de5bcae5d1a94267d1d375323441f648135dfe64e73257c2afcd722c9753d8 (Fee: 0.00042657 BTC - 17.28 sat/WU - 69.14 sat/B - Size: 617 bytes) 2018-11-21 11:50:32

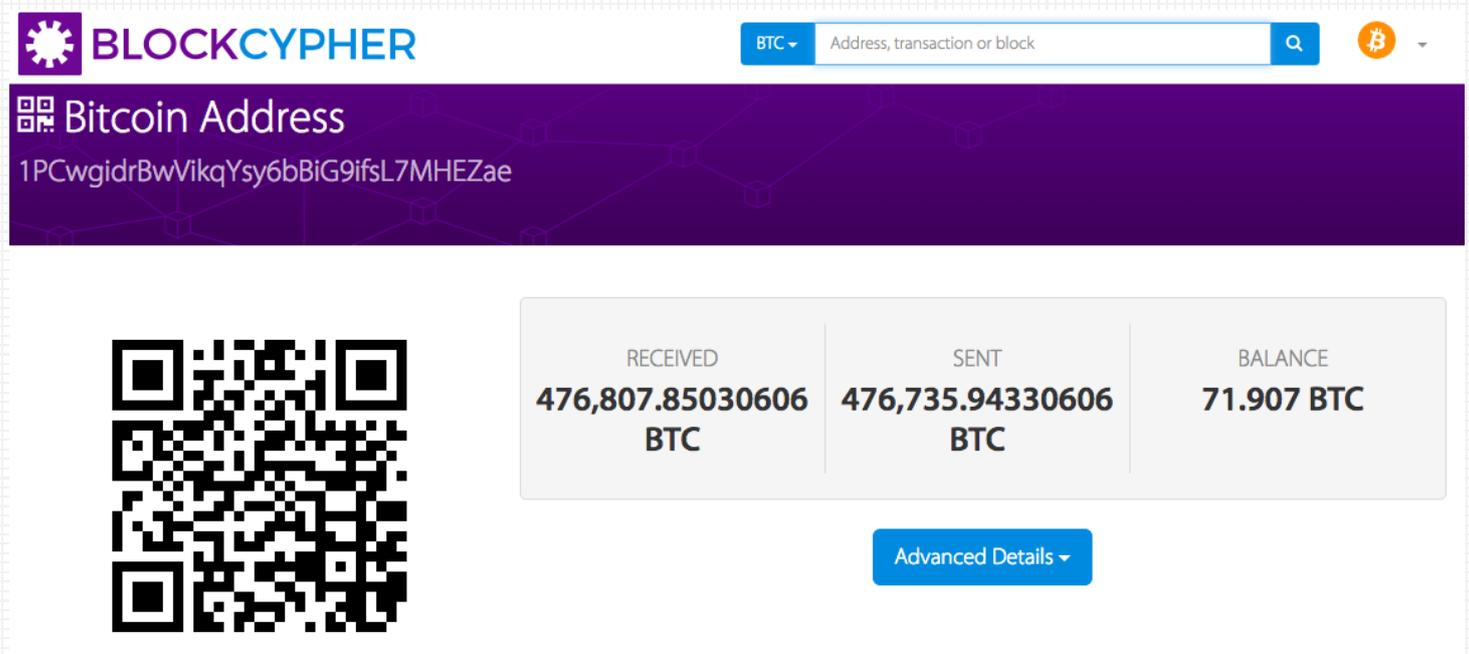
1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae (65.75 BTC - Output) →

3455njZpud68oB83gwg32nNPj2WwI1GBDo - (Spent)	0.0065073 BTC
3HWqnQuTpvmyzQ7cDsuTUxUKSFM3jAGWVt - (Spent)	0.07991893 BTC
37pM5Qw2zJvcJKLMeniB4QfhLjPHRbf9TA - (Spent)	0.01222167 BTC
3Qk4m7BZy64A4DbpMeUU3JLPDrQs1wJYJt - (Spent)	0.11433088 BTC
324HrVoSnFHVMPcm2B5WqvxdULJr3TMOh - (Unspent)	0.00413351 BTC
1NGa4Ehwq496h3EADirchjPb27pUtzdSwW - (Spent)	0.00715987 BTC
1PFBW9GK7geJDPiedf4J7EhCb9uDKTW49s - (Spent)	0.4995 BTC
3B2TBQqFpsUQqkJKSqNsQKKmJtzW2mebH4 - (Unspent)	0.00424482 BTC
387E6RCuDFypPDMn38ZtKfXN6dwKudZ1So - (Spent)	0.01453243 BTC
1BrGUYRjZLAuR5vAwHZ89bATRwJZr1kyX - (Spent)	0.7495 BTC
3MwZKx4xj8pD4yfQvHFTfn32LpQSKYMMpt - (Spent)	0.09119408 BTC
1GUPb57wTXxBsKBEbMPQv67nDgewWmDSAP - (Spent)	1.0008842 BTC
1BFypFyjVks5i2vWD4CCwRGPYittDXCwu6 - (Spent)	59.9995 BTC
1N52wHoVR79PMDishab2XmRHsbekCdGquK - (Unspent)	3.16674152 BTC

0.00715987 BTC

Pic. 4 Blockchain Explorer

5. In the previous screenshot, we see that the funds have been sent from [1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae](#). Let's check the balance on this wallet:



BLOCKCYPHER BTC Address

1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae

RECEIVED: 476,807.85030606 BTC

SENT: 476,735.94330606 BTC

BALANCE: 71.907 BTC

Advanced Details

Pic. 5 Checking Wallet Balance on <https://live.blockcypther.com/>

As we know from our theoretical investigation ([Hot&Cold Wallets search guide V.1](#)), usually the exchanges send the withdrawals either from their hot wallets or their pre-cold wallets. Direct interaction with a client's pre-hot wallet (usually referred to as an exchange account wallet) constitutes the main feature of hot wallets. According to the wallet balance, we can assume that it is one of the exchange's hot wallets. Now, let's proceed with analyzing the transactions sent from the [1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae](#) hot wallet:

Bitcoin Address

Addresses are identifiers which you use to send bitcoins to another person.

Summary		Transactions	
Address	1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae	No. Transactions	15718
Hash 160	f394f474c2dd217bbfc2ead288c9f9aec533a9dd460d354babb7a9d49e3b580b1	Total Received	483,861.79780606 BTC
		Final Balance	771.837 BTC



Request Payment Donation Button

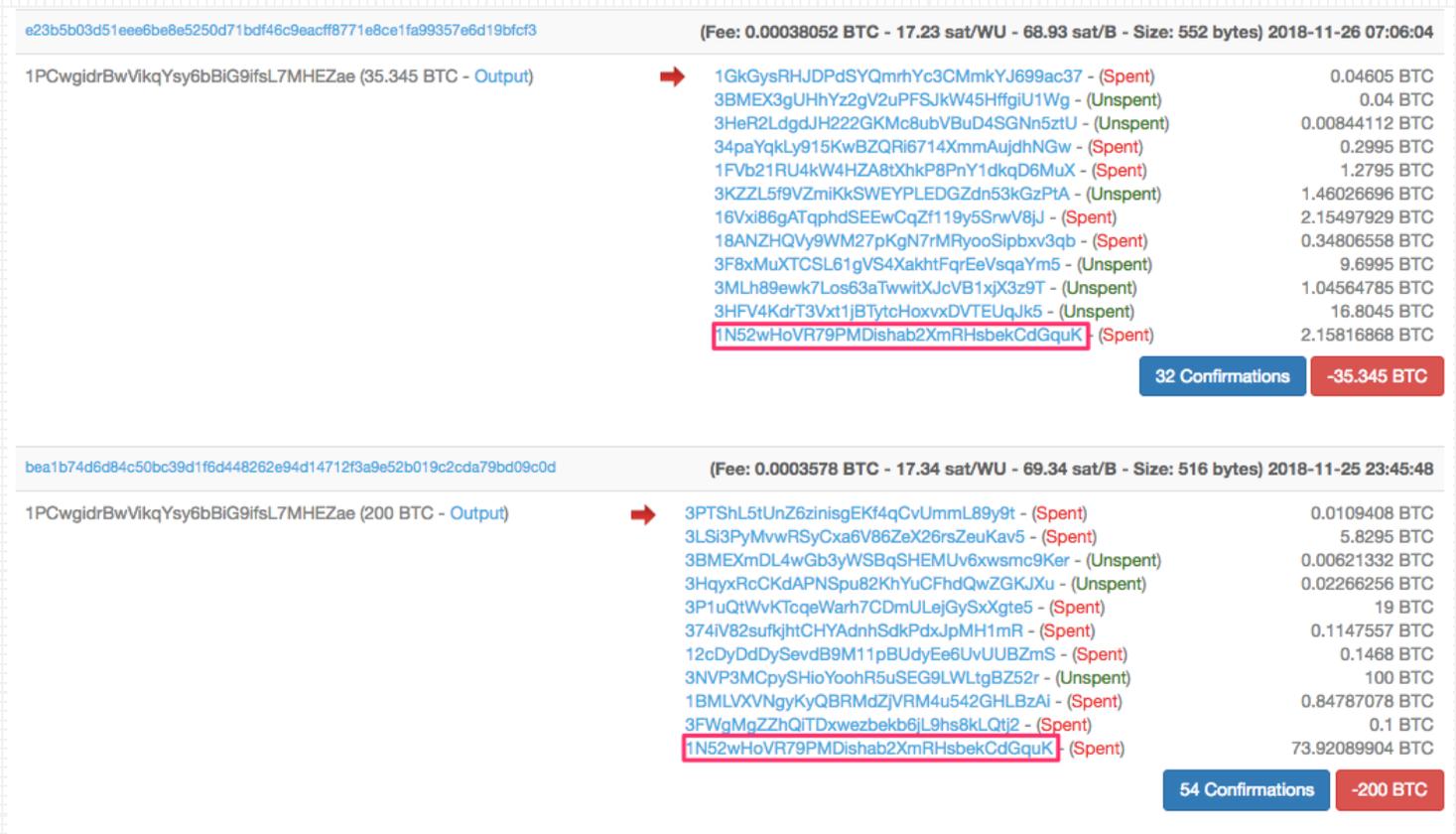
[6f4f474c2dd217bbfc2ead288c9f9aec533a9dd460d354babb7a9d49e3b580b1](#) (Fee: 0.00051821 BTC - 17.39 sat/WU - 69.56 sat/B - Size: 745 bytes) 2018-11-25 10:27:47

Address	Amount
1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae (18.262 BTC - Output)	-18.262 BTC
3BMEXWf8y4xVh5WSCM69yMbZ1iiGexct96 - (Spent)	2.04029209 BTC
3BMEXCq6etmznsGVoiNkgfjUGM48EDwbq2 - (Unspent)	0.03544193 BTC
3Mfx3Rd4g6LARtsAT3v7DdgnWJ3tMhezks - (Unspent)	0.6988 BTC
3J82EwvDNaotWAh7NDiuz3D5dbf8Aug6Ec - (Unspent)	0.03292879 BTC
3PhFc4EzwLK82ejZXXcDtqinyGVKb4f4C - (Unspent)	0.02272505 BTC
3ByQtyR4z2vp7cMceiy4jZjxCxaD4fecSt - (Spent)	0.16596213 BTC
1KR4LCi1YYSQfH5QtBeseMG7ST29wwSsup - (Spent)	0.2555 BTC
3Nj7gxnrFHRiNGgNihe7u6waYxcstPdJsC - (Spent)	0.34166226 BTC
3D51NUTekrGxLVTNgsB8CAZSC98qUvEryR - (Unspent)	8.68979457 BTC
1KFfQeUGtNVApsR9jZ9dFuCUdiqzsyDdXQ - (Spent)	0.25 BTC
1667MkPwjHxCUAeL32phmybvLxr7cLYUSH - (Spent)	0.10062 BTC
1P9vwj85RDawy8vj8TZCW4XMf4FfdUGeUR - (Unspent)	0.00152349 BTC
3PYhniHfu39ACrBzmE4jPaWTYmUZtjdHWh - (Spent)	0.006517 BTC
3HfR9bEzgX622VJsGtKLGXT4ESgpdxem36 - (Spent)	0.01118405 BTC
3MDoRYKgNgPNrJSa8xGLHFe59BkrewUPYP - (Spent)	0.20905869 BTC
1MUMSRaadVwDgHsraHd5qYD5KZ3c9FFbBo - (Spent)	0.08056716 BTC
3BMEX7VABJhVbcJAz7FcP6WazHPhyh35MM - (Unspent)	0.0048 BTC
1N52wHoVR79PMDishab2XmRHsbekCdGquK - (Spent)	5.31410458 BTC

Pic. 6, 7 Analyzing Transactions on <https://www.blockchain.com/explorer>

As we can see above, there are numerous incoming and outgoing transactions connected with [1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae](#) hot wallet. When analyzing, we paid a particular attention to the largest and the most frequent transactions. We also carefully checked the wallets which were frequently repeated, as it is the most likely way to determine Bittrex cold wallets.

6. While checking the list of the transactions sent from the **1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae** wallet, we ran into the same wallet address most often:



Transaction 1: e23b5b03d51eee6be8e5250d71bdf46c9eacff8771e8ce1fa99357e6d19bfcf3 (Fee: 0.00038052 BTC - 17.23 sat/WU - 68.93 sat/B - Size: 552 bytes) 2018-11-26 07:06:04

1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae (35.345 BTC - Output) →

1GkGysRRHJDPdSYQmrhYc3CMmkYJ699ac37 - (Spent)	0.04605 BTC
3BMEX3gUHhYz2gV2uPFSJkW45HffgiU1Wg - (Unspent)	0.04 BTC
3HeR2LdgdJH222GKMc8ubVBuD4SGNn5ztU - (Unspent)	0.00844112 BTC
34paYqkLy915KwBZQRi6714XmmAujdhNGw - (Spent)	0.2995 BTC
1FVb21RU4kW4HA8tXhkP8PnY1dkqD6MuX - (Spent)	1.2795 BTC
3KZL5f9VZmikKsWEYPLEDGZdn53kGzPtA - (Unspent)	1.46026696 BTC
16Vxi86gATqphdSEewCqZf119y5SrwV8jJ - (Spent)	2.15497929 BTC
18ANZHQVY9WM27pKgN7rMRyooSipbxv3qb - (Spent)	0.34806558 BTC
3F8xMuXTCSL61gVS4XakhtFqrEeVsqaYm5 - (Unspent)	9.6995 BTC
3MLh89ewk7Los63aTwwitXJcVB1xjX3z9T - (Unspent)	1.04564785 BTC
3HFV4KdrT3Vxt1jBTytcHoxvxDVTEUqJk5 - (Unspent)	16.8045 BTC
1N52wHoVR79PMDishab2XmRHsbekCdGquK - (Spent)	2.15816868 BTC

32 Confirmations -35.345 BTC

Transaction 2: bea1b74d6d84c50bc39d1f6d448262e94d14712f3a9e52b019c2cda79bd09c0d (Fee: 0.0003578 BTC - 17.34 sat/WU - 69.34 sat/B - Size: 516 bytes) 2018-11-25 23:45:48

1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae (200 BTC - Output) →

3PTShL5tUnZ6zinisgEKf4qCvUmmL89y9t - (Spent)	0.0109408 BTC
3LSi3PyMvwRSyCxa6V86ZeX26rsZeuKav5 - (Spent)	5.8295 BTC
3BMEXmDL4wGb3yWSBqSHEMUv6xwsmc9Ker - (Unspent)	0.00621332 BTC
3HqyxRcCKdAPNSpu82KhYuCFhdQwZGKJXu - (Unspent)	0.02266256 BTC
3P1uQtWvKtqceWarh7CDmULejGySxXgte5 - (Spent)	19 BTC
374iV82sufkjhtCHYAdnhSdkPdxJpMH1mR - (Spent)	0.1147557 BTC
12cDyDdDySevdB9M11pBUdyEe6UvUUBZmS - (Spent)	0.1468 BTC
3NVP3MCpySHioYooR5uSEG9LWLtgBZ52r - (Unspent)	100 BTC
1BMLVXVNgYKyQBRMdZjVRM4u542GHLBzAi - (Spent)	0.84787078 BTC
3FWgMgZzhQITDxwezbebk6jL9hs8kLQtj2 - (Spent)	0.1 BTC
1N52wHoVR79PMDishab2XmRHsbekCdGquK - (Spent)	73.92089904 BTC

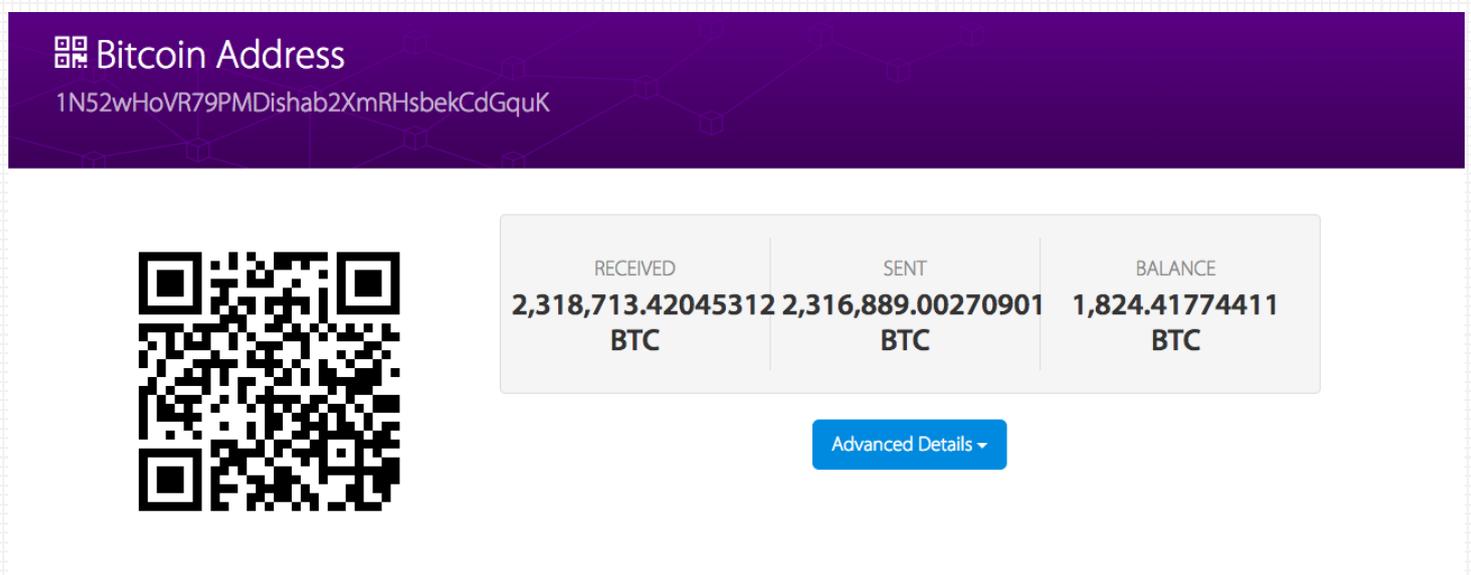
54 Confirmations -200 BTC

Pic. 8, 9 Analyzing Transactions on <https://www.blockchain.com/explorer>

Pay particular attention to the next point. In practice, we found out that the transactions sent to hot and even cold wallets can differ widely in amounts starting at (roughly speaking) 0.00001 BTC to hundreds of BitCoins. It is nearly impossible to define the wallet type according to the amount of money sent from one wallet to another.

7. We checked **1N52wHoVR79PMDishab2XmRHsbekCdGquK** wallet address and came to the conclusion that this is another Bittrex hot wallet due to several factors:

- It contains a moderate amount of funds in storage, compared to the total turnover of BTC on this wallet;
- It has participated in a large total number of transactions;
- It has conducted an almost equal number of inbound and outbound transactions.



The screenshot displays a Bitcoin address checker interface. At the top, it shows the Bitcoin address **1N52wHoVR79PMDishab2XmRHsbekCdGquK** next to a QR code. Below the QR code, a table summarizes the wallet's activity:

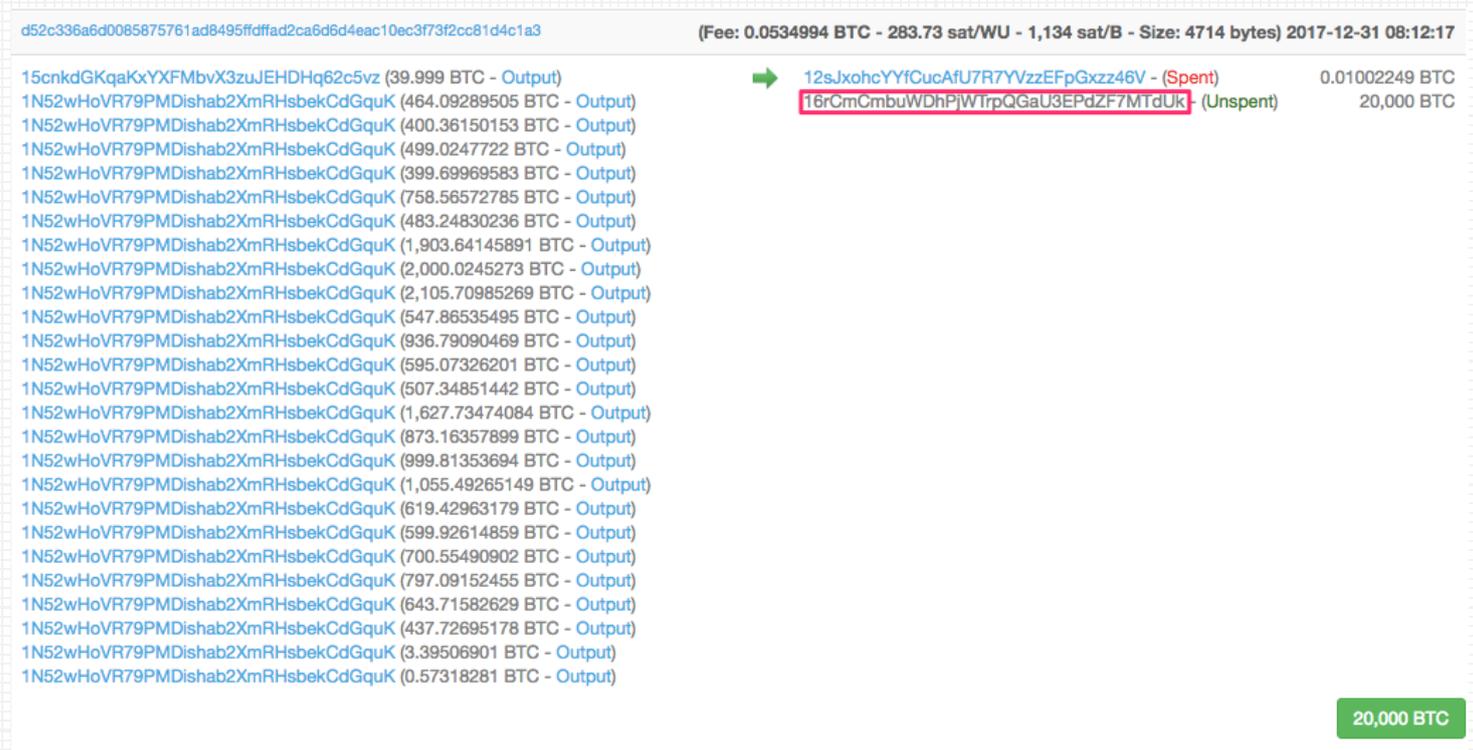
RECEIVED	SENT	BALANCE
2,318,713.42045312 BTC	2,316,889.00270901 BTC	1,824.41774411 BTC

Below the table, there is a blue button labeled "Advanced Details" with a downward arrow.

Pic. 10 Checking Wallet Balance on <https://live.blockcypher.com/>

Because **1N52wHoVR79PMDishab2XmRHsbekCdGquK** hot wallet has a larger balance than **1PCwgidrBwVikqYsy6bBiG9ifsL7MHEZae**, we decided to investigate it further.

8. We analyzed the huge amount of its inbound and outbound transactions. This part is the most time-consuming and complicated: an exchange's hot wallet has a significant number of incoming and outgoing transactions. It took our team several days to analyze the huge amount of the transactions manually. We had to get back to the transactions which were held almost 1 year ago to find the exchange's cold wallet.

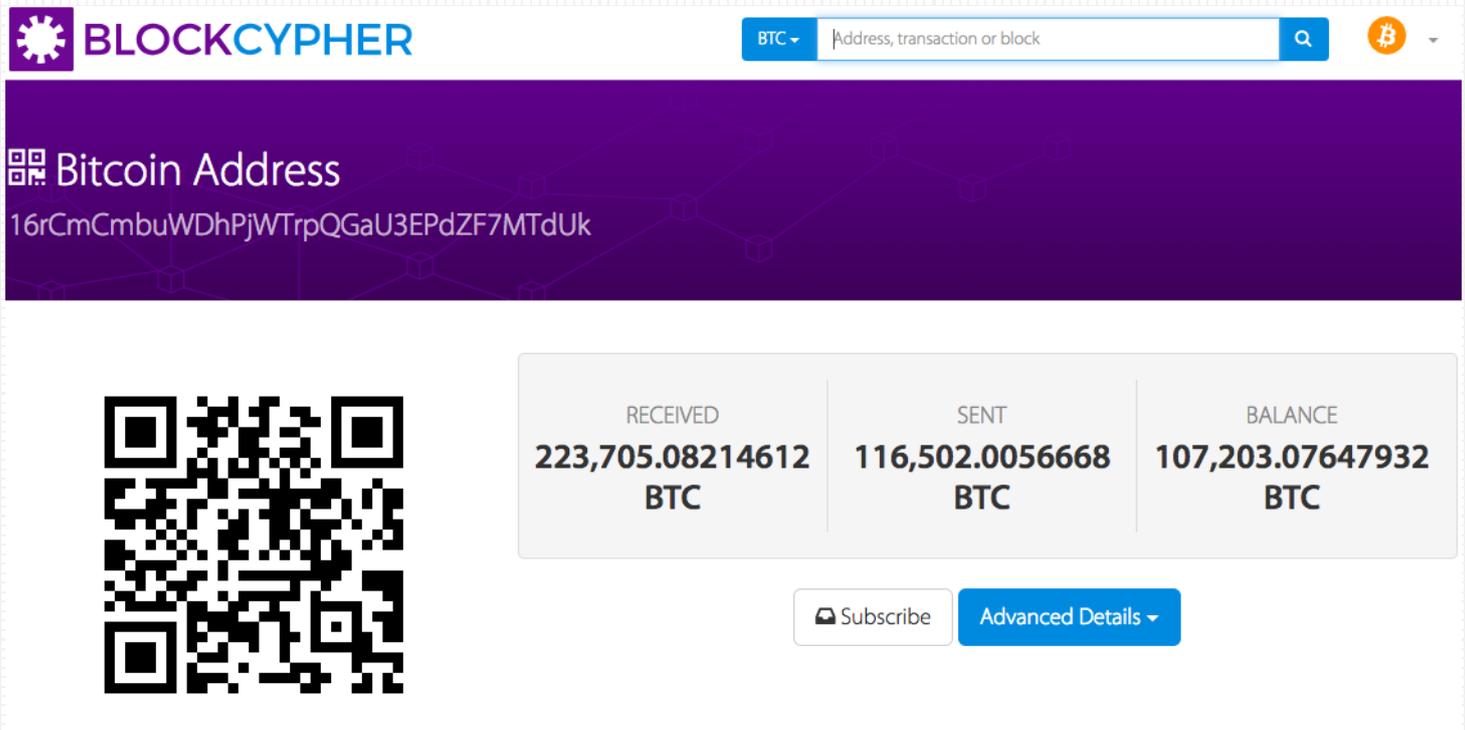


The screenshot shows a list of transactions on a blockchain explorer. At the top, there is a summary: (Fee: 0.0534994 BTC - 283.73 sat/WU - 1,134 sat/B - Size: 4714 bytes) 2017-12-31 08:12:17. Below this, a list of transactions is shown, each with a unique ID and a value in BTC. A green arrow points to a transaction ID: 12sJxohcYfCucAfU7R7YVzzEFpGxzz46V - (Spent) 0.01002249 BTC. Below this, another transaction ID is highlighted with a red box: 16rCmCmbuWDhPjWTrpQGau3EPdZF7MTdUk - (Unspent) 20,000 BTC. A green box at the bottom right indicates 20,000 BTC.

Pic. 11 Analyzing Transactions on <https://www.blockchain.com/explorer>

We assume that such a long pause in the interaction between these two wallets may be explained by the fact that the exchange may have lots of hot and cold wallets that interact with each other in different periods.

9. As a result, we found **16rCmCmbuWDhPjWTrpQGaU3EPdZF7MTdUk** wallet, which we assume to be one of the Bittrex cold wallets:



The screenshot shows the BlockCypher interface for a Bitcoin address. The address is **16rCmCmbuWDhPjWTrpQGaU3EPdZF7MTdUk**. The statistics are as follows:

RECEIVED	SENT	BALANCE
223,705.08214612 BTC	116,502.0056668 BTC	107,203.07647932 BTC

Additional features include a QR code, a 'Subscribe' button, and an 'Advanced Details' button.

Pic. 12 Checking Bittrex Cold Wallet on <https://live.blockcypher.com/>

This conclusion was made according to the two main parameters:

- Wallet Balance (107,203.07647932 BTC which is approximately \$426541744.76)
- The number of the received and sent transactions: as we can see, the Bittrex cold wallet received almost twice as many transactions as the amount of sent BitCoins. This fact completely confirms our theory that cold wallets are being mainly used for cryptocurrency storage, thus, the number of sent transactions should be less than the number of the received ones.

DRAWING CONCLUSIONS

In this short 8-step experiment, we managed to prove that it is absolutely possible (even for a newbie) to conduct personal investigation and find exchange's wallets without any special instruments, algorithms, and calculating machines.

You only need to have your laptop at hand, a bit of time, and a strong wish to become a part of a huge movement which will change the crypto industry for the best.

In the next guide, we will go deeper and consider more complicated technical methods of finding an exchange's cold wallets.

Doesn't it feel like we're on the threshold of great new advance?

To be continued...

<The 3rd Part will be published soon. Please stay tuned!>

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