

Mobilné výpočty

Ing. Maroš Čavojský, PhD.



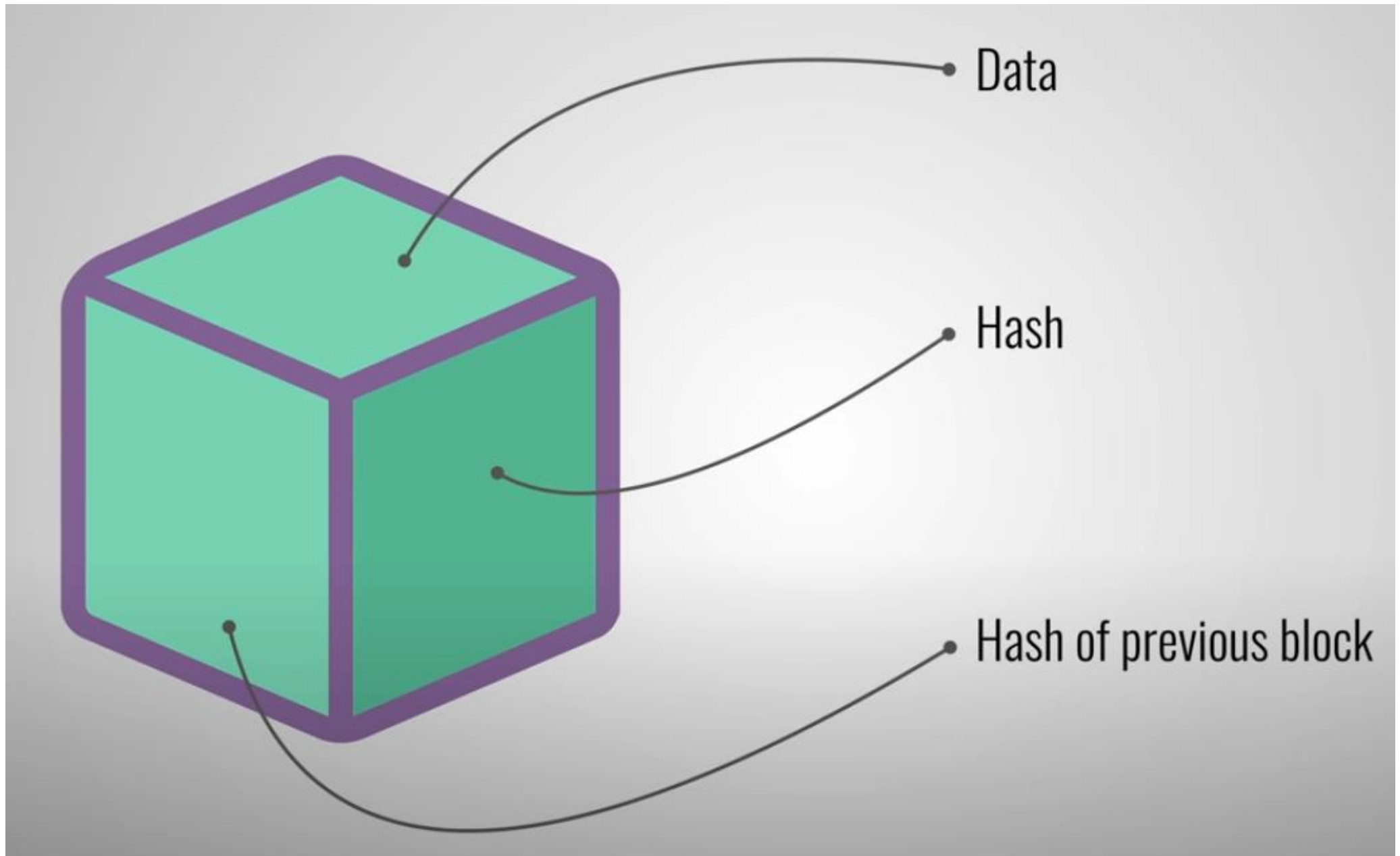
Blockchain

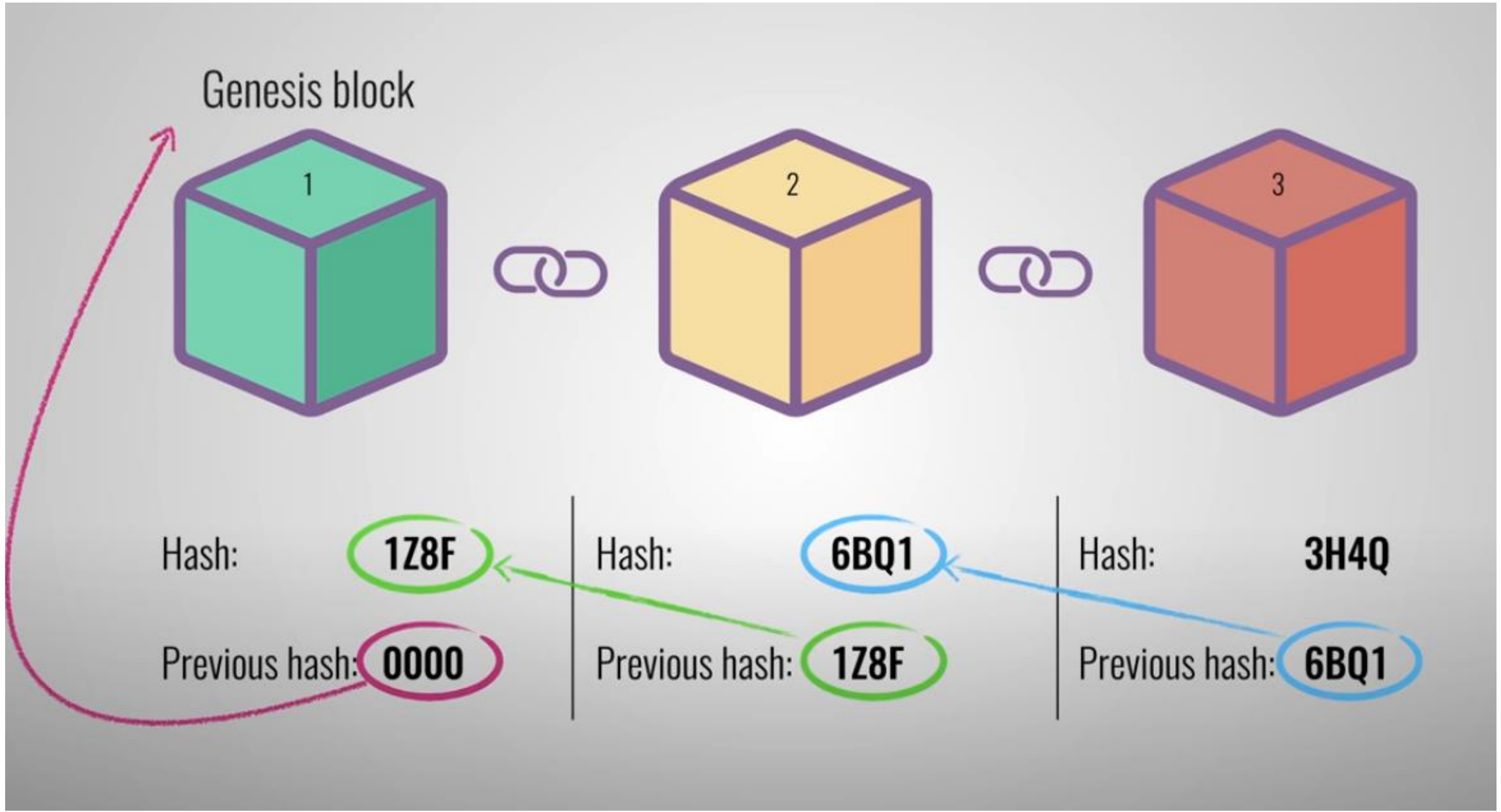
— *Simply explained* —

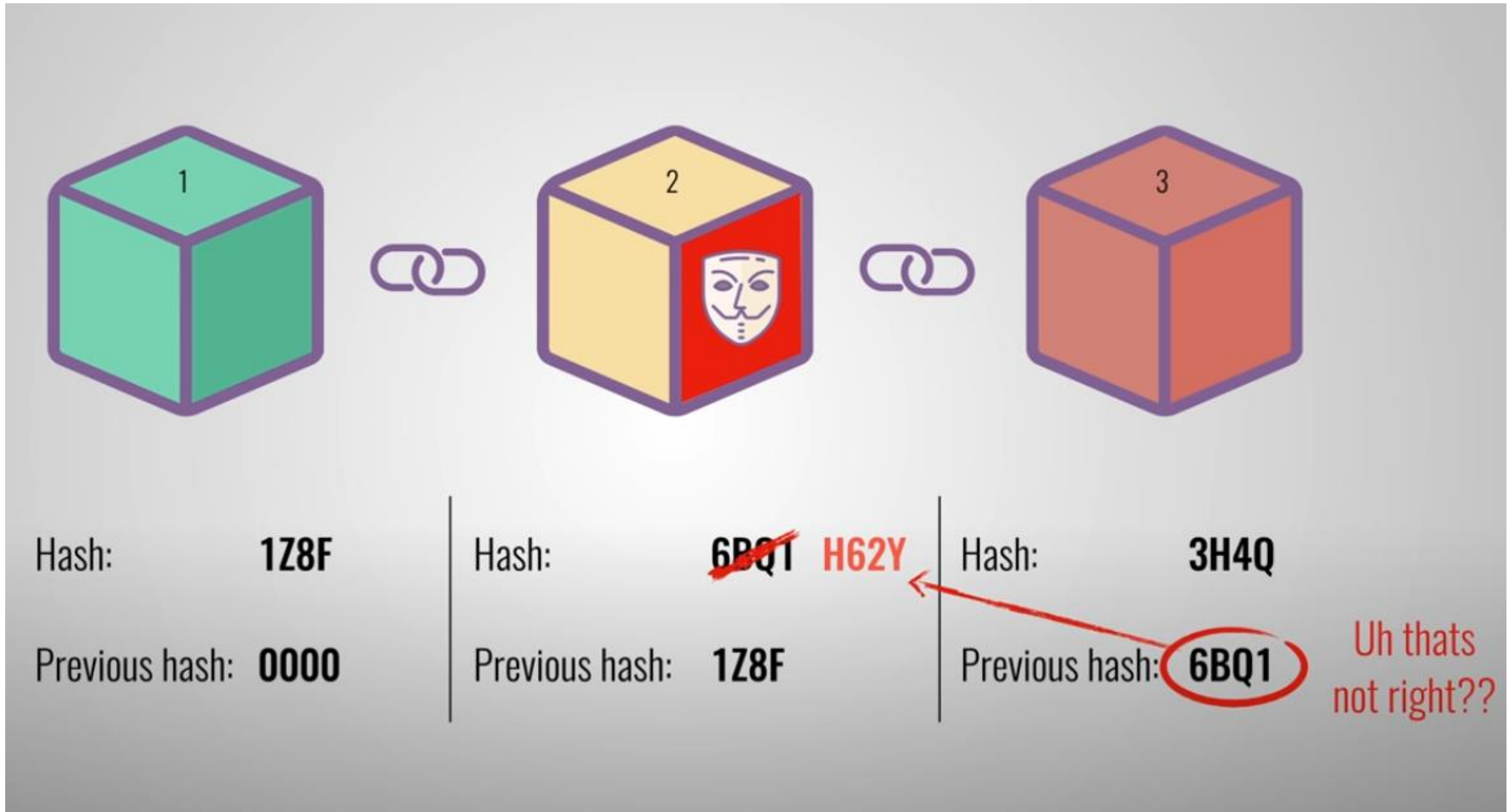
Bitcoin

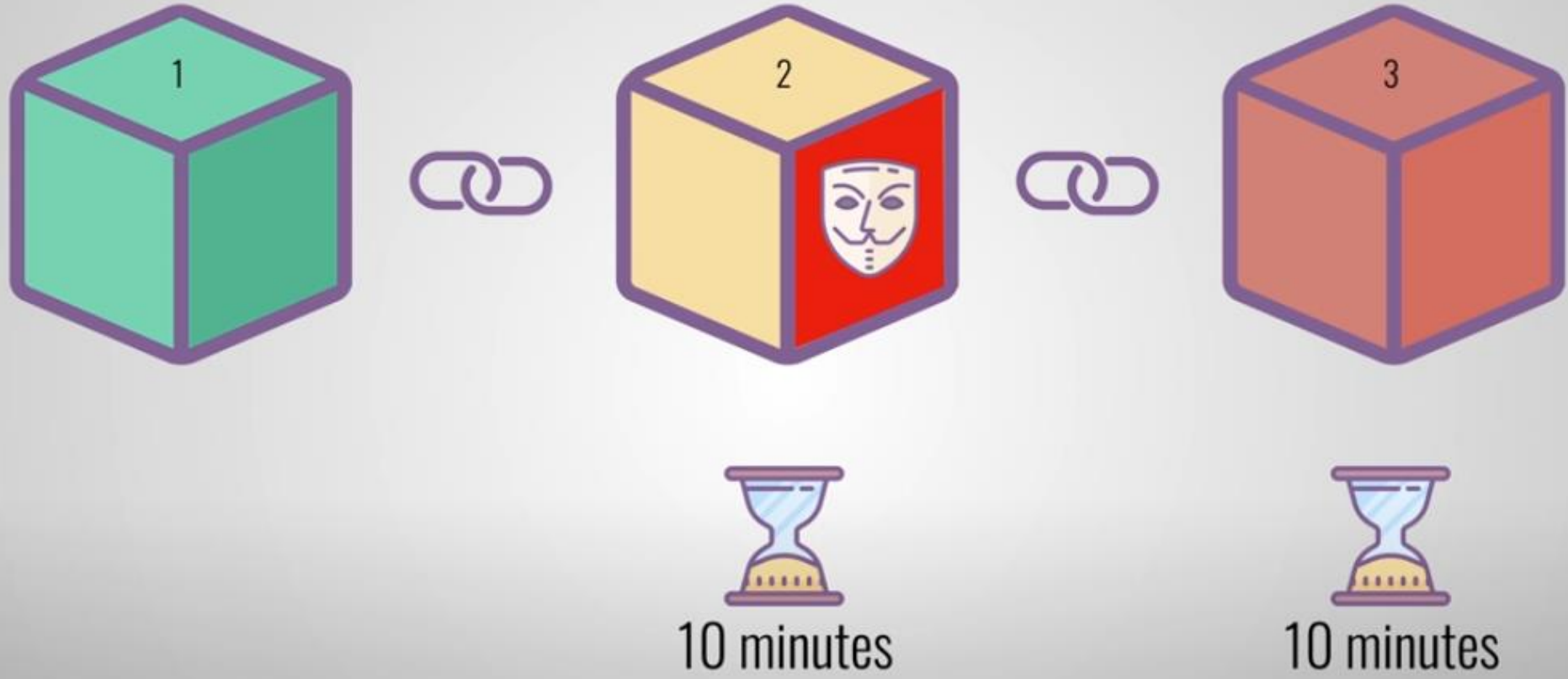
By “Satoshi Nakamoto”

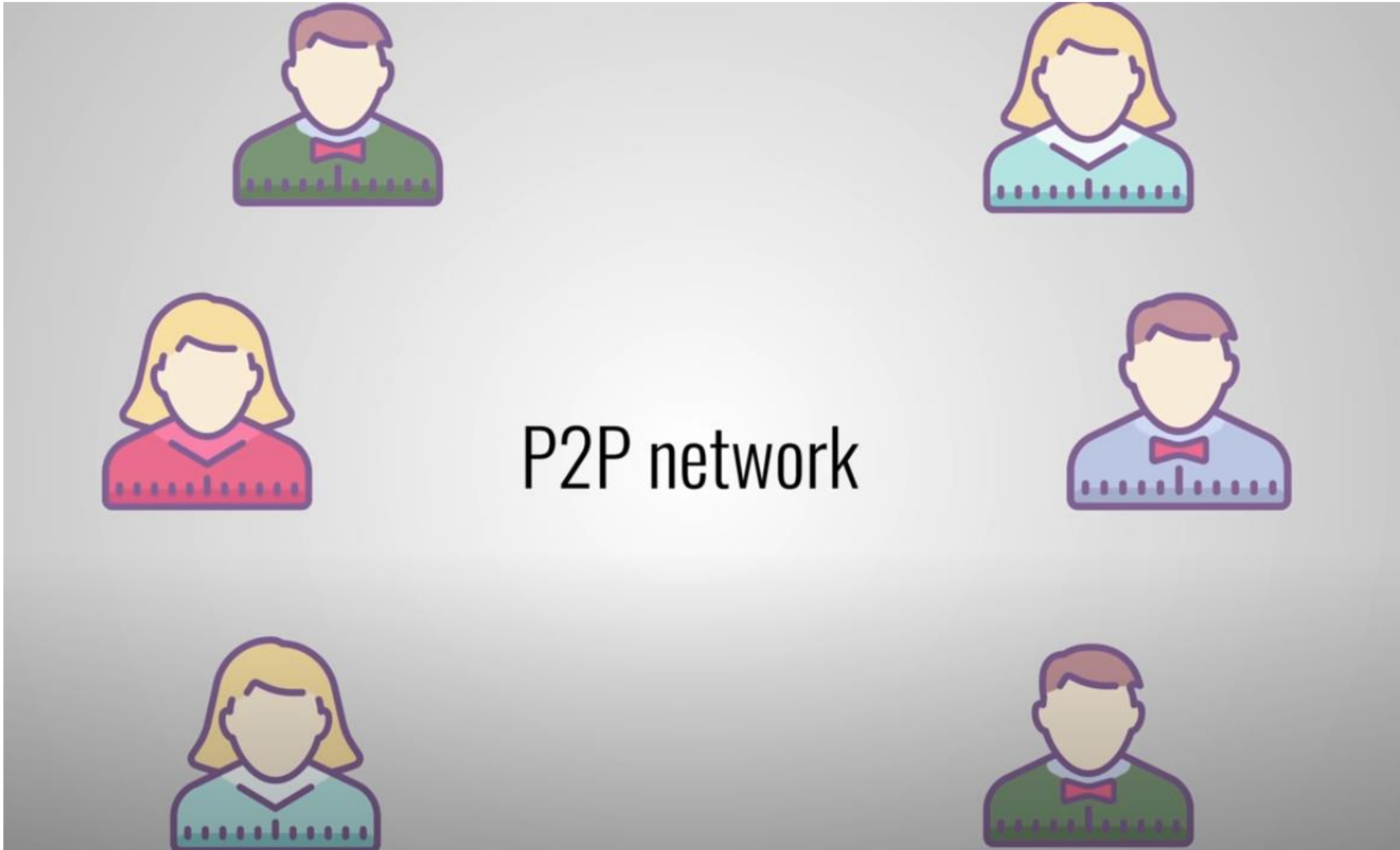


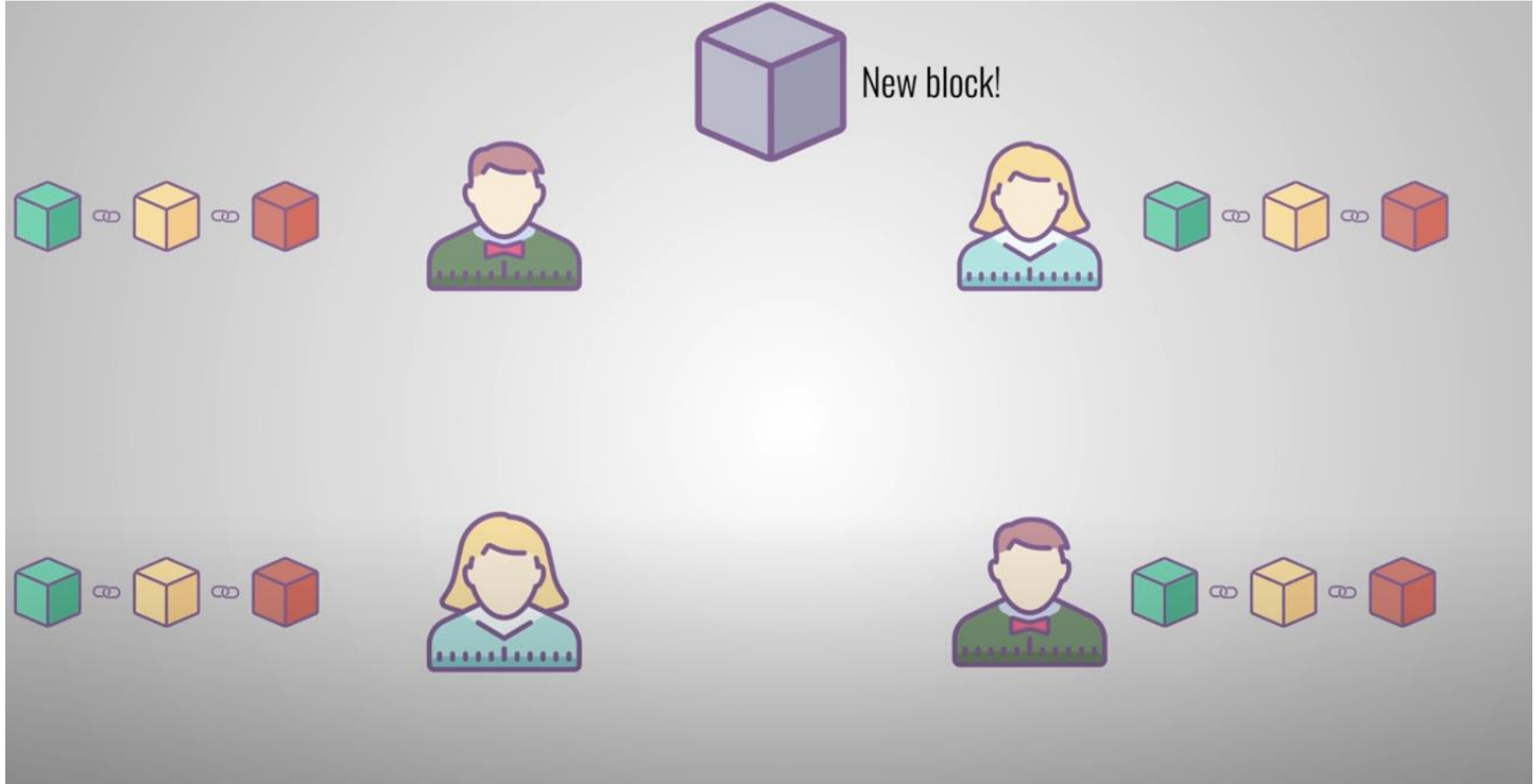


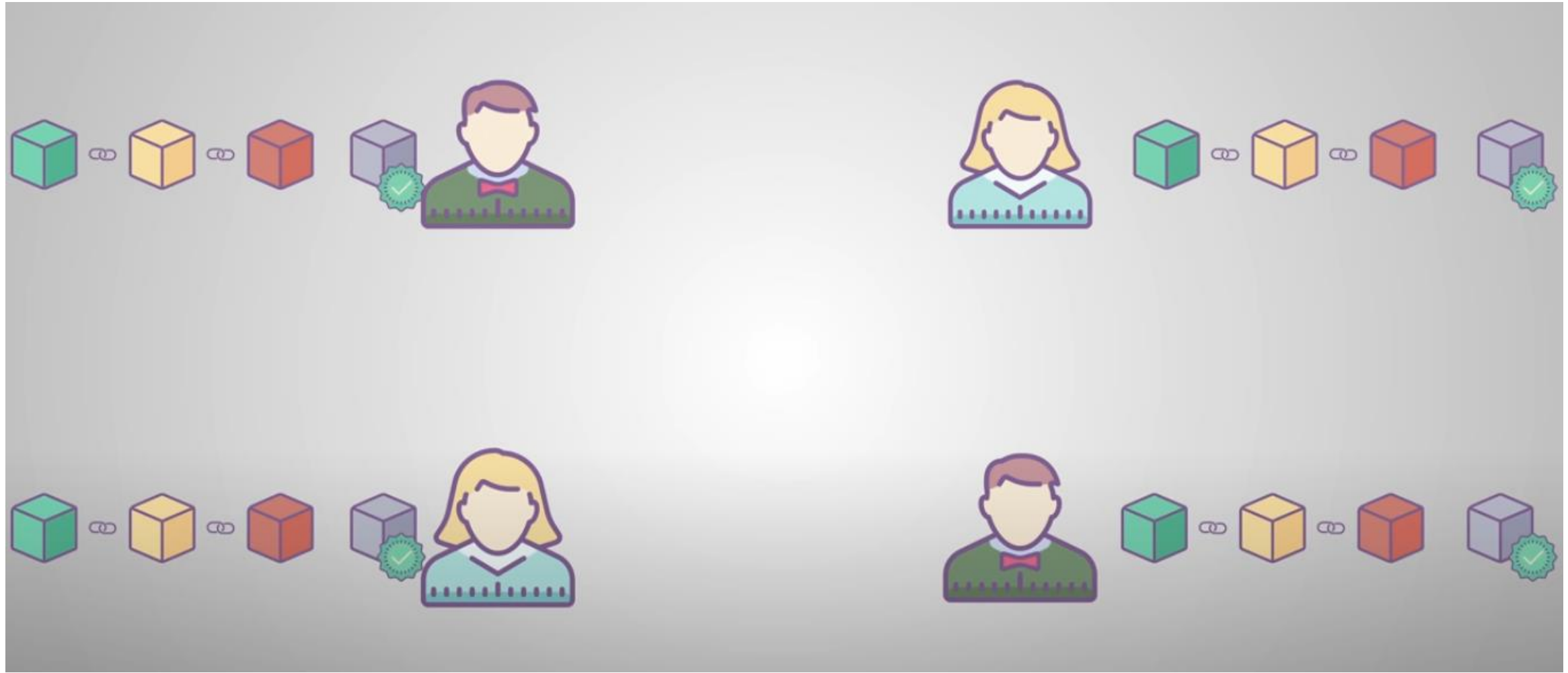














Stellar – Semestrálne zadanie

Vytvorenie „účtu“

```
1 // create a completely new and unique pair of keys.
2 // see more about KeyPair objects: https://stellar.github.io/java-stellar-sdk/org/stellar/sdk/KeyPair.html
3 import org.stellar.sdk.KeyPair;
4 KeyPair pair = KeyPair.random();
5
6 System.out.println(new String(pair.getSecretSeed()));
7 // SAV76USXIJOBMEQXPANU0QM6F5LI0TLPDIDVRJBBFFE2MDJXG24TAPUU7
8 System.out.println(pair.getAccountId());
9 // GCFXHS4GXL6BVUCXBWXGTITROWLVYXQKQLF4YH505JT3YZXCYPAFBJZB
```

- Verejný kľúč
- Privátny kľúč

Registrácia - naplnenie „účtu“

```
1 // The SDK does not have tools for creating test accounts, so you'll have to
2 // make your own HTTP request.
3 import java.net.*;
4 import java.io.*;
5 import java.util.*;
6
7 String friendbotUrl = String.format(
8     "https://friendbot.stellar.org/?addr=%s",
9     pair.getAccountId());
10 InputStream response = new URL(friendbotUrl).openStream();
11 String body = new Scanner(response, "UTF-8").useDelimiter("\\A").next();
12 System.out.println("SUCCESS! You have a new account :)\n" + body);
```

Zistenie zostatku na „účte“

```
1  import org.stellar.sdk.Server;
2  import org.stellar.sdk.responses.AccountResponse;
3
4  Server server = new Server("https://horizon-testnet.stellar.org");
5  AccountResponse account = server.accounts().account(pair.getAccountId());
6  System.out.println("Balances for account " + pair.getAccountId());
7  for (AccountResponse.Balance balance : account.getBalances()) {
8      System.out.printf(
9          "Type: %s, Code: %s, Balance: %s%n",
10         balance.getAssetType(),
11         balance.getAssetCode(),
12         balance.getBalance()
13     );
14 }
```

Odoslanie Lumenov (XLM)

```
1 Server server = new Server("https://horizon-testnet.stellar.org");
2
3 KeyPair source = KeyPair.fromSecretSeed("SCZANGBA5YHTNYVVV4C3U252E2B6P6F5T3U6MM63WBSBZATAQI3EBTQ4");
4 KeyPair destination = KeyPair.fromAccountId("GA2C5RFPE6GCKMY3US5PAB6UZLKIGSPIUKSLRB6Q723BM20ARMDUYEJ5");
5
6 // First, check to make sure that the destination account exists.
7 // You could skip this, but if the account does not exist, you will be charged
8 // the transaction fee when the transaction fails.
9 // It will throw HttpResponseException if account does not exist or there was another error.
10 server.accounts().account(destination.getAccountId());
11
12 // If there was no error, load up-to-date information on your account.
13 AccountResponse sourceAccount = server.accounts().account(source.getAccountId());
14
15 // Start building the transaction.
16 Transaction transaction = new Transaction.Builder(sourceAccount, Network.TESTNET)
17     .addOperation(new PaymentOperation.Builder(destination.getAccountId(), new AssetTypeNative(), "10"
18         // A memo allows you to add your own metadata to a transaction. It's
19         // optional and does not affect how Stellar treats the transaction.
20         .addMemo(Memo.text("Test Transaction")))
21         // Wait a maximum of three minutes for the transaction
22         .setTimeout(180)
23         // Set the amount of lumens you're willing to pay per operation to submit your transaction
24         .setBaseFee(Transaction.MIN_BASE_FEE)
25         .build());
26 // Sign the transaction to prove you are actually the person sending it.
27 transaction.sign(source);
28
29 // And finally, send it off to Stellar!
30 try {
31     SubmitTransactionResponse response = server.submitTransaction(transaction);
32     System.out.println("Success!");
33     System.out.println(response);
34 } catch (Exception e) {
35     System.out.println("Something went wrong!");
36     System.out.println(e.getMessage());
37     // If the result is unknown (no response body, timeout etc.) we simply resubmit
38     // already built transaction:
39     // SubmitTransactionResponse response = server.submitTransaction(transaction);
40 }
```


Zistenie transakcií na „účte“

```
StringBuilder oo = new StringBuilder();
Server server = new Server(uri: "https://horizon-testnet.stellar.org");
KeyPair account = KeyPair.fromAccountId(adr);
// Create an API call to query payments involving the account.
PaymentsRequestBuilder paymentsRequest = server.payments().forAccount(account.getAccountId());
try {
    ArrayList<OperationResponse> operations = paymentsRequest.execute().getRecords();
    for (OperationResponse payment : operations){
        if (payment instanceof PaymentOperationResponse) {
            String amount = ((PaymentOperationResponse) payment).getAmount();
            Asset asset = ((PaymentOperationResponse) payment).getAsset();
            String assetName;
            if (asset.equals(new AssetTypeNative())) {
                assetName = "lumens";
            } else {
                StringBuilder assetNameBuilder = new StringBuilder();
                assetNameBuilder.append(((AssetTypeCreditAlphaNum) asset).getCode());
                assetNameBuilder.append(":");
                assetNameBuilder.append(((AssetTypeCreditAlphaNum) asset).getIssuer());
                assetName = assetNameBuilder.toString();
            }

            StringBuilder output = new StringBuilder();
            output.append(amount);
            output.append(" ");
            output.append(assetName);
            output.append("\n from ");
            output.append(((PaymentOperationResponse) payment).getFrom());
            output.append("\n to ");
            output.append(((PaymentOperationResponse) payment).getTo());
            output.append("\n\n ");
            oo.append(output.toString());
        }
    }
}
```

https://stellar.expert/explorer/testnet

Ledger explorer and analytics platform for Stellar Network

Asset Statistics

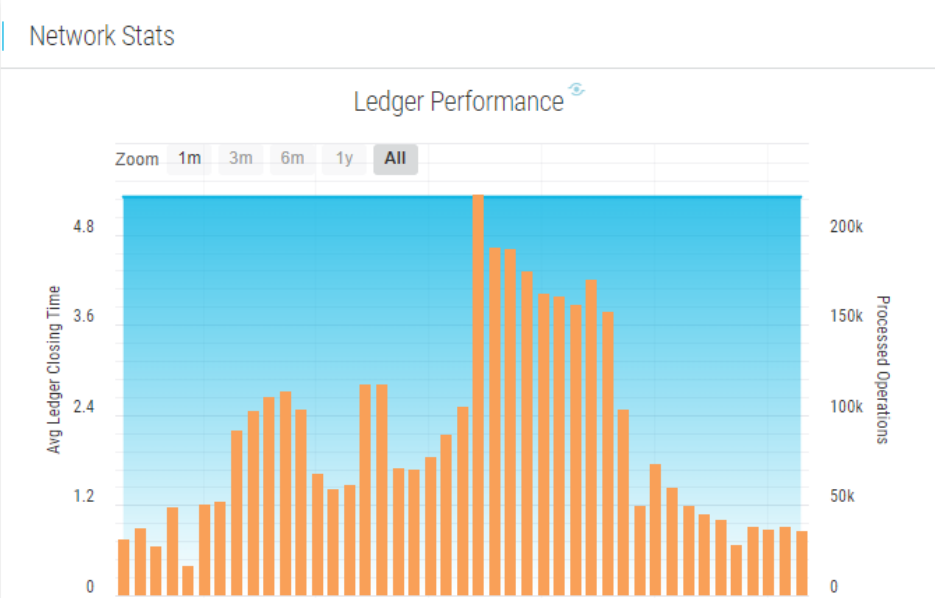
- Unique assets: 62,822
- Overall payments: 1,369,904
- Overall DEX trades: 91,502
- Overall DEX volume: 1,751,467 XLM
- XLM in circulation: 9,940,742,775 XLM
- XLM reserved: 90,059,249,894 XLM
- XLM fee pool: 7,330 XLM

24h Ledger Statistics

- Total accounts: 366,039
- Daily active accounts: 4,514
- Average ledger time: 5.3s
- New assets issued: 757
- Processed operations: 44,296
- Payments: 18,771
- DEX trades: 1,570
- DEX volume: 25,148 XLM

Ledger 695923

- Transactions: 2 succeeded
- Operations: 2
- Ledger closing time: 4s
- Protocol version: 18
- Base operation fee: 0.00001 XLM
- Base reserve: 0.5 XLM
- [View operations live stream](#)



Assets on the Ledger

Sort by overall rating

| Asset | Price (24h) | Price (7d) |
|---------------------------------|-----------------------------|------------|
| USDC dev.blocktimefinancial.com | 6.9 ^{148%} USD | |
| SRT testanchor.stellar.org | 0.37 ^{13.3%} USD | |
| USDC GC5W...USDC | 0.98 ^{13.5%} USD | |
| BRAVE GCJX...T7GN | 0.00068 ^{189%} USD | |
| RST GCZA...GS2Y | | |
| YBX GCIW...OQZ5 | | |
| FEE GDZZ...XLLY | 2.3 ^{10.59%} USD | |
| USDC centre.io | 2 ^{11.5%} USD | |

Transakcia: [https://stellar.expert/explorer/testnet/tx/\[id\]](https://stellar.expert/explorer/testnet/tx/[id])

Transaction [8e6ce095b1f3a5798d8744436b51fc6d943204e1e9eb4a6f2fce186878ec9024](#)

Summary

Status: ✓ Successful

Ledger: [695917](#)

Operations: [1](#)

Source Account: [GDPBW5...26J6RC](#)

Sequence Number: [556378653631570](#)

Created: [2021-10-27 17:21:06 UTC](#)

Max Fee: [0.00001 XLM](#)

Fee Charged: [0.00001 XLM](#)

Time Bounds: [from 1970-01-01 00:00:00 UTC](#)

Operations

Operation [2988940755742721](#) - ManageSellOffer

[GDPB...J6RC](#) placed new offer – sell [0.0000014](#) [EURT](#) for [USDT](#) at [1.171](#) [USDT/EURT](#)

Signatures

[GDPBW5...26J6RC](#): [JQZ/TXcCw6GiQ89Ro9Z18u13zOAaFBZ60ifQImWEHgz7BG/hPZyjQKCeH0Vu3aFclpyQUbeFbhetIZ+y4XGAw==](#)

Účet: [https://stellar.expert/explorer/testnet/account/\[id\]](https://stellar.expert/explorer/testnet/account/[id])

Account GDPBW5PBTSYR3D4BSBS6JZMNPPLTGPIK345Q43TSFBJV4LZ27Q26J6RC

Summary

Total payments: 1
 Total trades: 91
 Created: 2021-09-23 06:18:26 UTC
 Created by: ZNSR
 Last year activity: low
 Last month activity: moderate
 Account lock status: unlocked
 Operation thresholds: 0 / 0 / 0
 Asset authorization flags: none

Account Signers
 GDPBW5PBTSYR3D4BSBS6JZMNPPLTGPIK345Q43TSFBJV4LZ27Q26J6RC (w:1)

Account Balance

| | | |
|--|--------------------------------------|---|
| 19,008.66692 19,004.66692 available | 0.0000014 0.0000014 available | 10,870.9498901 8,220.9498901 available |
|--|--------------------------------------|---|

Balance History

Asset: XLM Scale: linear

Zoom 1m 3m 6m 1y All

| Date | Balance (XLM) |
|---------|----------------|
| 27. Sep | 0 |
| 27. Sep | 19,008.66692 |
| 18. Oct | 19,008.66692 |
| 18. Oct | 10,870.9498901 |
| 25. Oct | 10,870.9498901 |

All Operations Payments Offers Trades Settings Active Offers

| Operation | Details | Date |
|------------------|--|-------------------------|
| 2988996590309377 | GDPB...J6RC placed new offer – sell 0.0000014 EURT for USDT at 1.171 USDT/EURT | 2021-10-27 17:22:17 UTC |
| 2988992295342081 | GDPB...J6RC placed new offer – sell 0.0000014 EURT for USDT at 1.171 USDT/EURT | 2021-10-27 17:22:11 UTC |

Mobilné výpočty

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