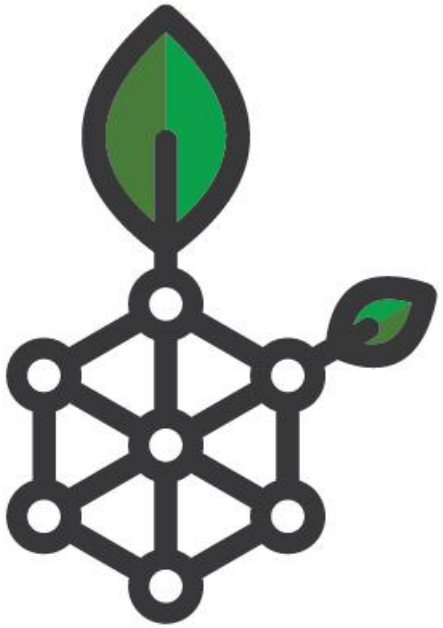
Develop your first web API for RSK



RSK
SMARTER BITCOIN

Jonathan Smirnoff
Developer
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Microsoft — GOLD

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Agenda

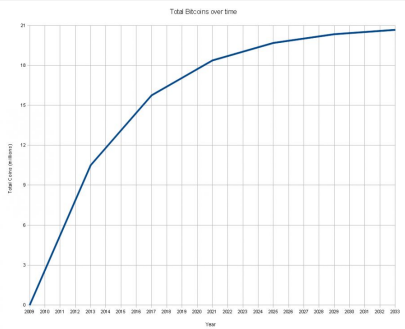
1. Introduction
2. Get your RSK node.
3. Remix
4. Netherum
5. Implement Web API using Netherum for RSK

Internet of Knowledge

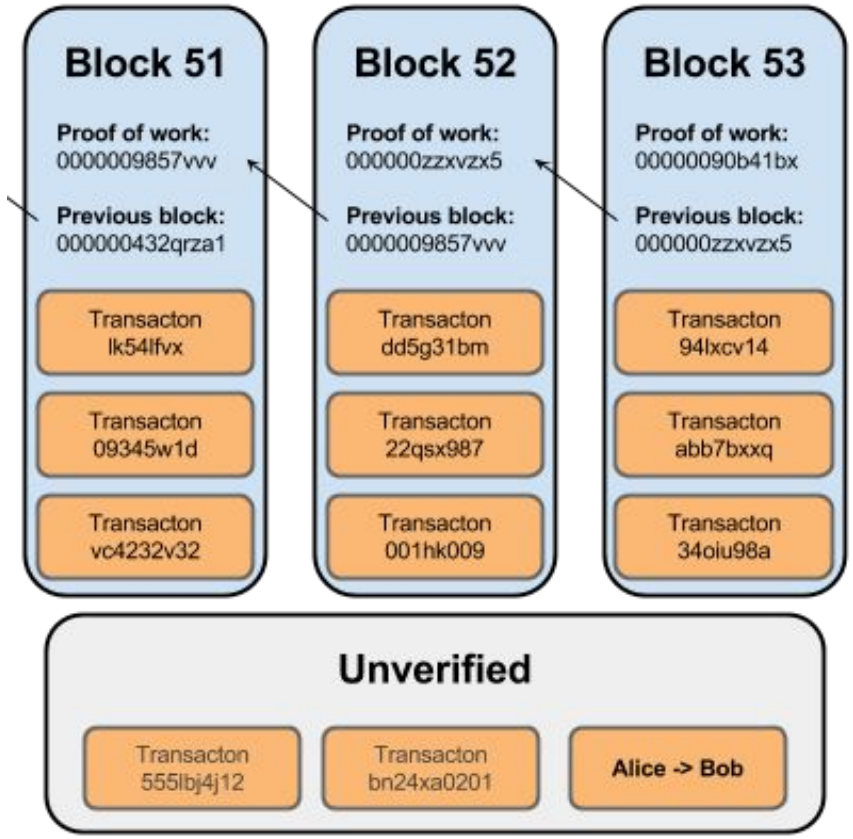
Internet of Value

What is Bitcoin?

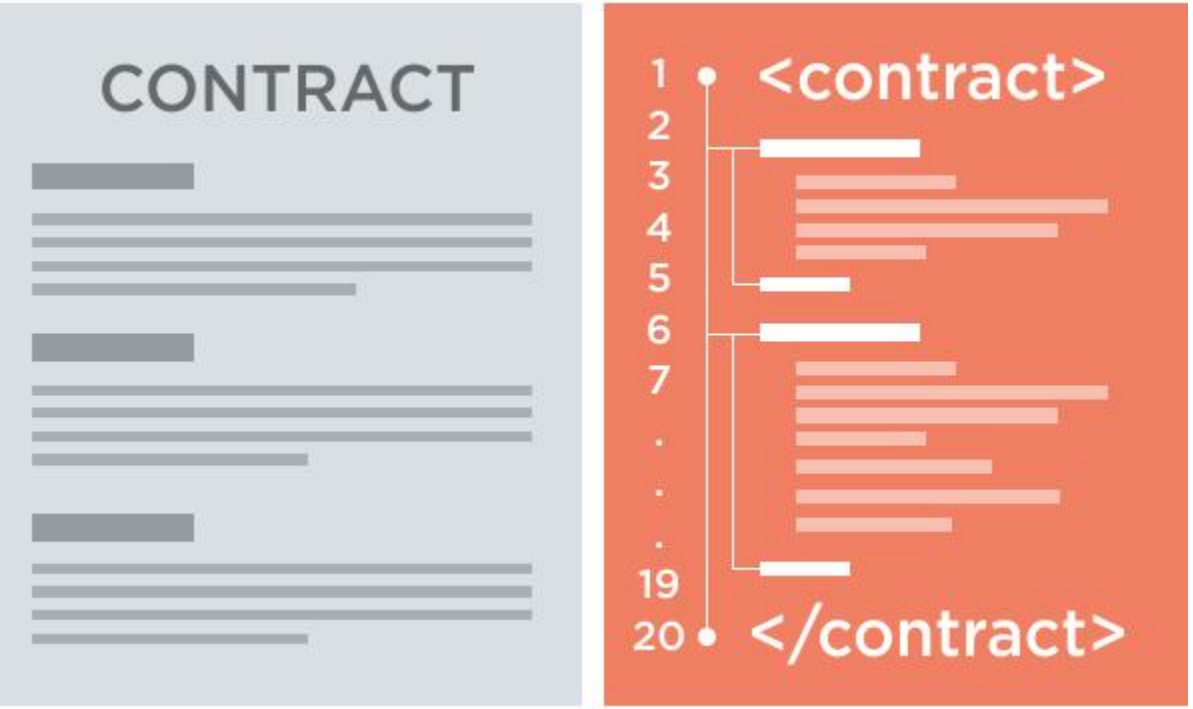
- First global decentralized value transfer network
- Transfers are almost immediate no matter where
- Fixed function for bitcoin emission



What is Blockchain?



Smart Contracts



- trustless
- autonomous
- self-sufficient.

Intro to RSK

Five pillars

1. Ethereum compatibility
2. Bitcoin - RSK Bridge (2WP)
3. Merged Mining
4. Global federation
5. Community

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1. Ethereum compatibility

- RSK started as a fork of the EVM
- Your Solidity contract can run in RSK network without changing code!

Five pillars

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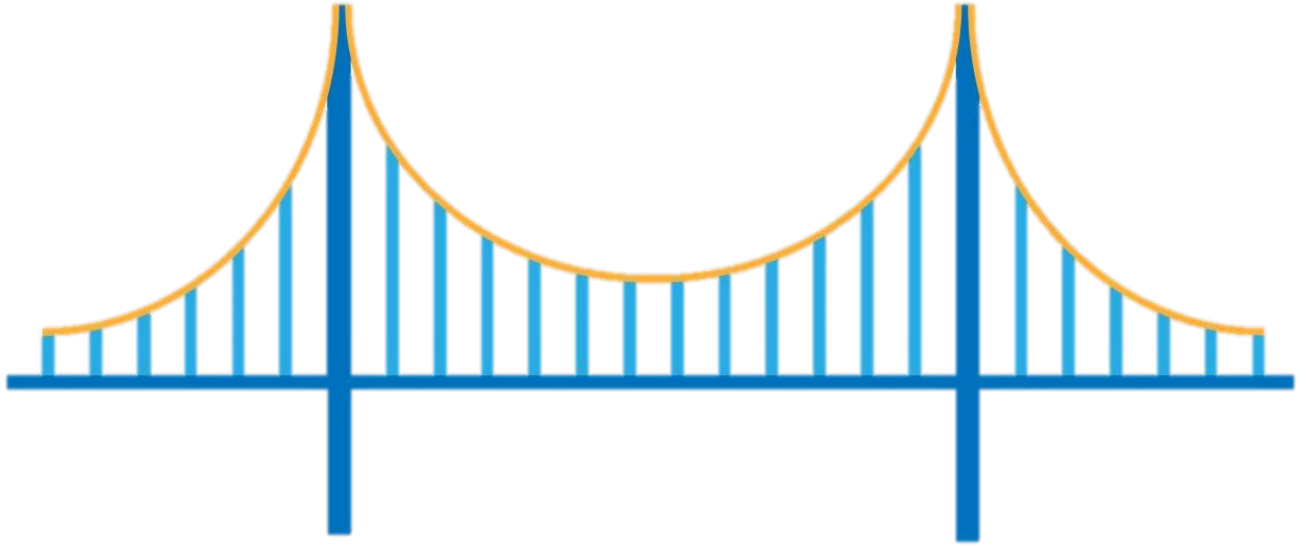
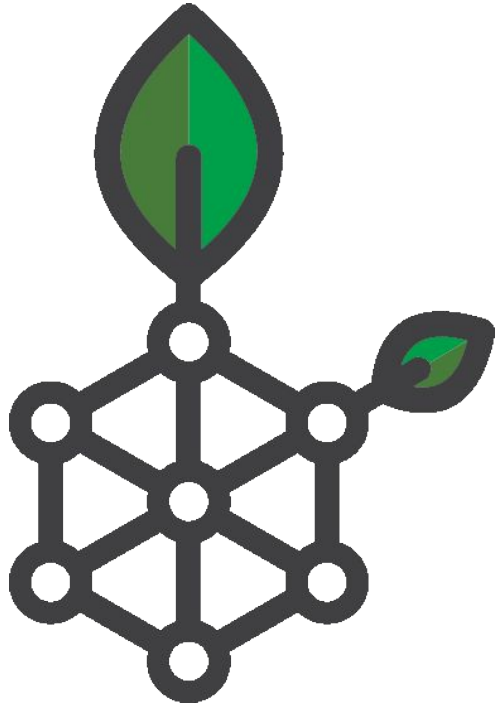
2. Bitcoin - RSK Bridge (2WP)





2. Bitcoin - RSK Bridge (2WP)
SMART BITCOIN

- The Smart Bitcoin (or RBTC) is a conversion of the original Bitcoin residing in the RSK network
- 1:1 conversion rate with Bitcoin
- The 2-way peg is used to convert from one to the other

Five pillars

1. Ethereum compatibility
2. Bitcoin - RSK Bridge (2WP)
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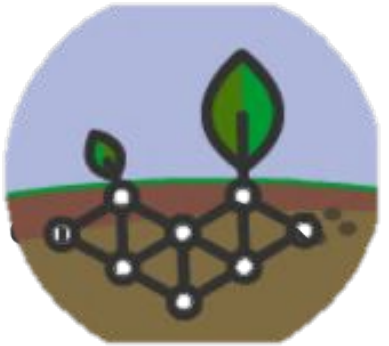
3. Merged Mining

- Allows a miner to mine more than one blockchain at the same time
- Every hash the miner does contributes to the total hash rate of both networks

3. Merged Mining



- The RSK Network is secured by the Bitcoin miners
- The Bitcoin miners increase their revenue at zero extra cost
- RSK leverages the Bitcoin security to create the most secure Smart Contract platform
- RSK enables the Bitcoin miners to form part of the Smart Contracts business

Five pillars

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4. Global federation

- Act as the bitcoin guardians on the Bitcoin-RSK Bridge
- Provide additional services:
  - Generation of external security checkpoints
  - Active oracling services
- 25 of the most recognized companies in the industry

Five pillars

1. Ethereum compatibility
2. Bitcoin - RSK Bridge (2WP)
3. Merged Mining
4. Global federation
5. Community

Get your RSK node (in Azure)

1. Review RSK Wiki (https://github.com/rsksmart/rskj/wiki/install-rskj-using-azure)
2. Go to Azure Portal
3. Create a resource
4. Search for RSK, choose the node's version and click Create.
5. Wait for Azure to finish the deployment.
6. Initialize RSK node configuration file settings.

RSK Public Nodes

- https://public-node.testnet.rsk.co
- https://public-node.rsk.co
- https://lb-publicnode-test.rsklabs.io/
- Here's an example request using cURL to get the Testnet block number:

```
$ curl https://public-node.testnet.rsk.co -X POST -H "Content-Type: application/json" --data '{"jsonrpc":"2.0","method":"eth_blockNumber","params":[],"id":1}'
```

What is Remix?

- Remix is a powerful, open source tool that helps you write Solidity contracts straight from the browser. Written in Javascript, Remix supports both usage in the browser or locally.
- HelloNetconfUY Example!

What is Nethereum?

Nethereum is the .Net integration library for Ethereum (compatible with RSK), simplifying the access and smart contract interaction with Ethereum and RSK nodes.

Implement Web API for RSK

- Use Nethereum, .NET Core, Swagger.
- Start from here: https://github.com/jonathansmirnoff/RskManager
- Review Nethereum wiki: https://nethereum.readthedocs.io/en/latest/
- https://faucet.testnet.rsk.co/
- Let's try to implement this methods for the API:
  - Get block number
  - Get balance for an account
  - Transfer value to an address
  - Deploy contract

Implement Web API for RSK

- Call to **CreatNewAccount** and save the result!
- Go to https://faucet.testnet.rsk.co/ and send some rbtc to the account
- Check using explorer (https://explorer.testnet.rsk.co/) and with using the method **Balance**

Different programs

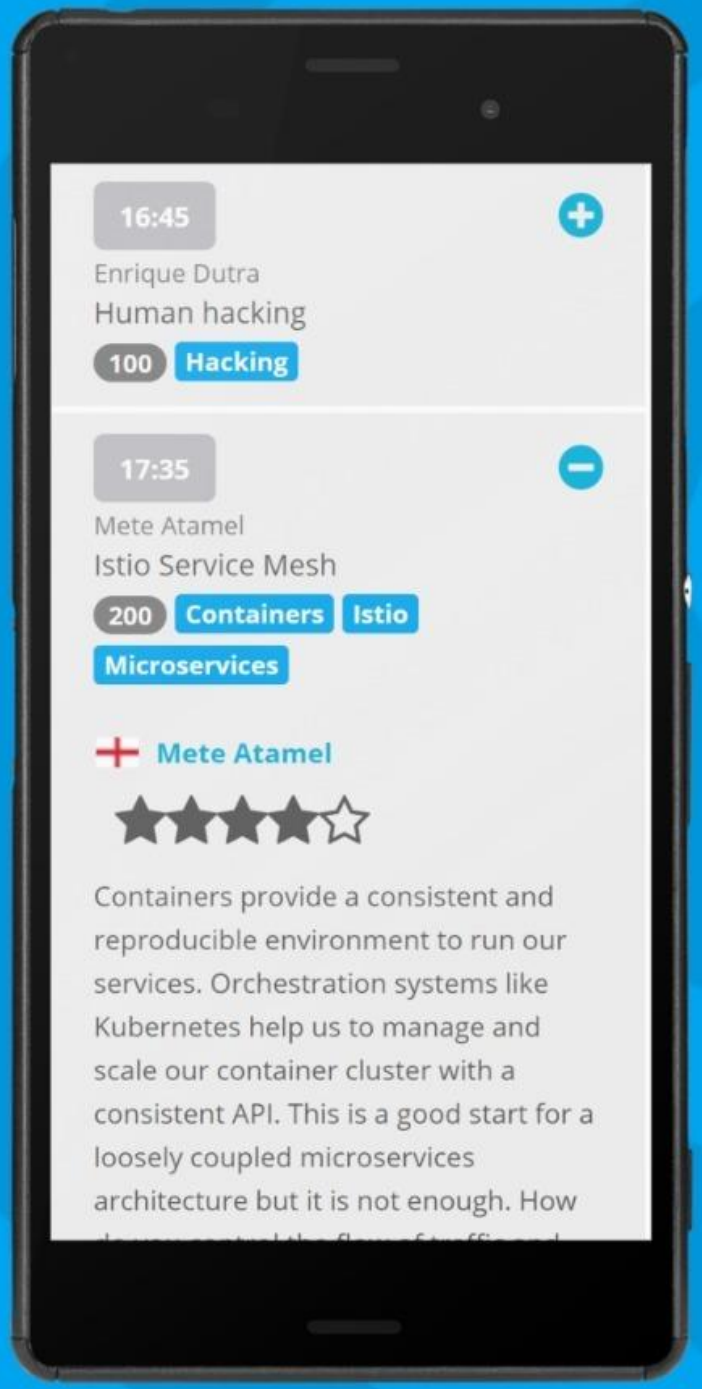
1. EDUCATE
   -> https://educate.rsk.co
2. PARTNERS
   -> https://partner.rsk.co
3. BUG BOUNTY
   -> https://bounty.rsk.co
4. AMBASSADOR + BETA TESTER
   -> https://ambassadors.rsk.co

Tech information

- GitHub
  -> GITHUB.COM/RSKSMART
- Gitter
  -> GITTER.IM/RSKSMART/RSKJ
- Tech Resources
  -> http://bit.ly/RSKTechResources

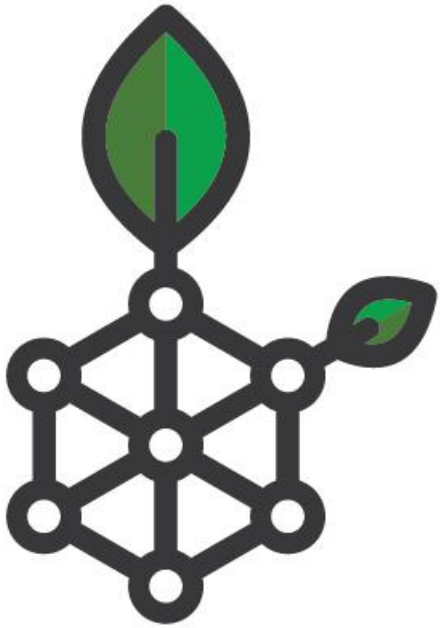
Communication Channels

- Telegram: @rsksmartcontracts
- Twitter: @rsksmart
- Slack: http://bit.ly/RSKCommunitySlack
- Blog: media.rsk.co



Recuerda Calificarme

Utilizando el App Oficial



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Thanks!

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