A full node for every Alice

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NBitcoin and BTCPay

.NET fanboy

METACO

DG LAB

Foreword

- No ICO
- Not a company
- No funding
- Need Open Source developers, not money
- BTCPay is started as a reaction to B2X
- BTCPay is not about merchants

Why full nodes are important?

- No third party bullshit (KYC/AML, surprise account freeze)
- No hostage situation (Central parties trying to redefine Bitcoin)
- Unleashing the programmable money

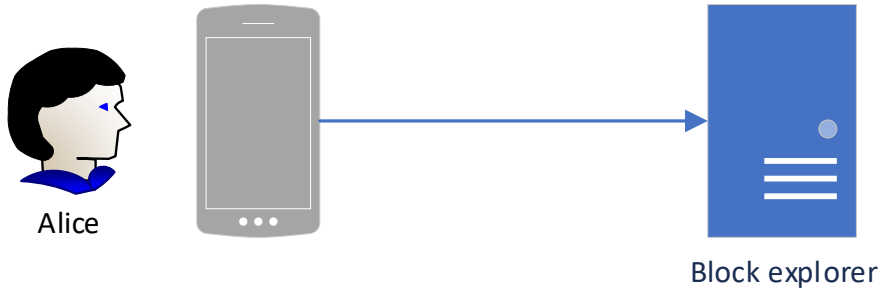
Why Alice does not run a full node?

- Can receive money on her mobile wallet just fine
- Do not care about decentralization, until it is too late
- Can use Trezor/Ledger desktop apps just fine
- Bitcoin QT always need to sync when she need to use it

How to make the dog to eat a medicine?

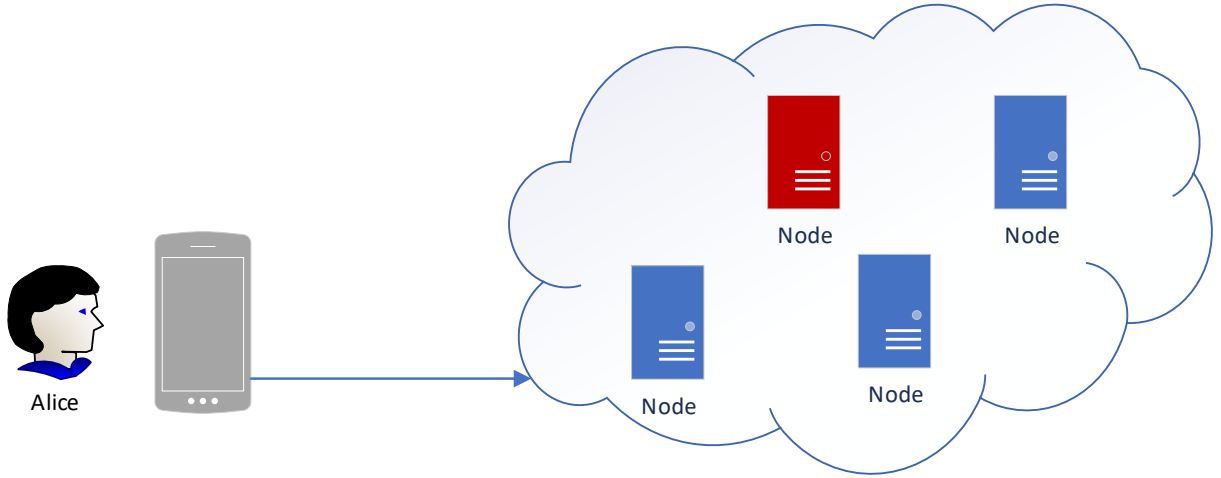
What kind of wallet exists?

Mobile wallet using Block explorer



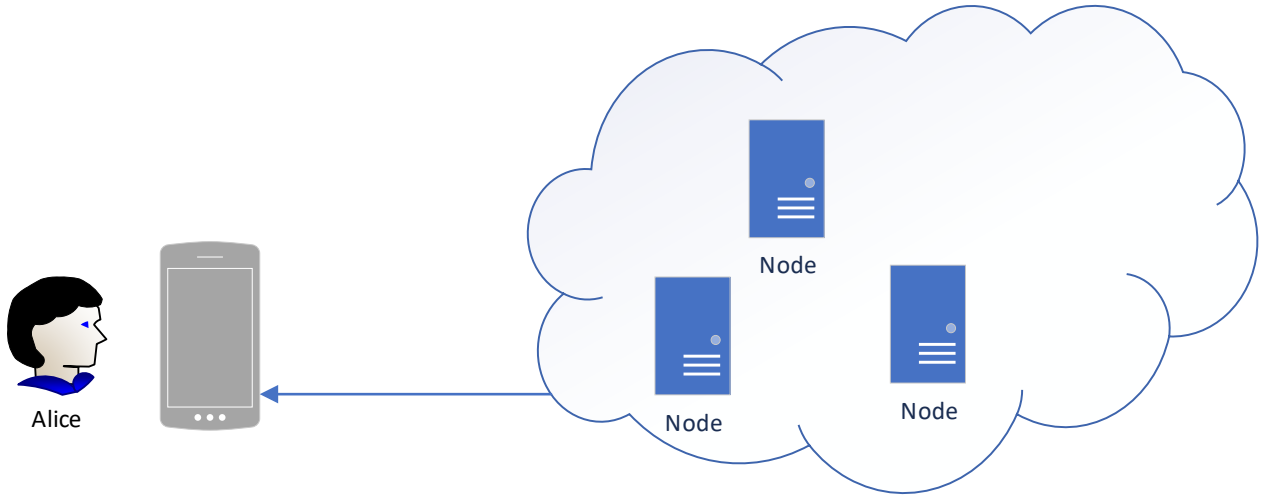
- Bad privacy

Mobile wallet using Bloom filters



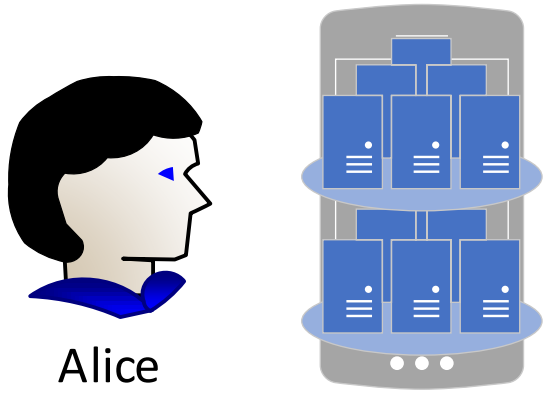
- Terrible privacy
- Bad User Experience

Mobile wallet using Bloom filters



- Mediocre User Experience (Sync needed)

Wallet with full node on phone



- Bad User Experience
- Resource consuming (Storage, Bandwidth, Power)

And for lightning?

- Same Layer 1 tradeoffs
- + Layer 2 tradeoffs
- Unable to reliably receive payments
- Need occasional connectivity

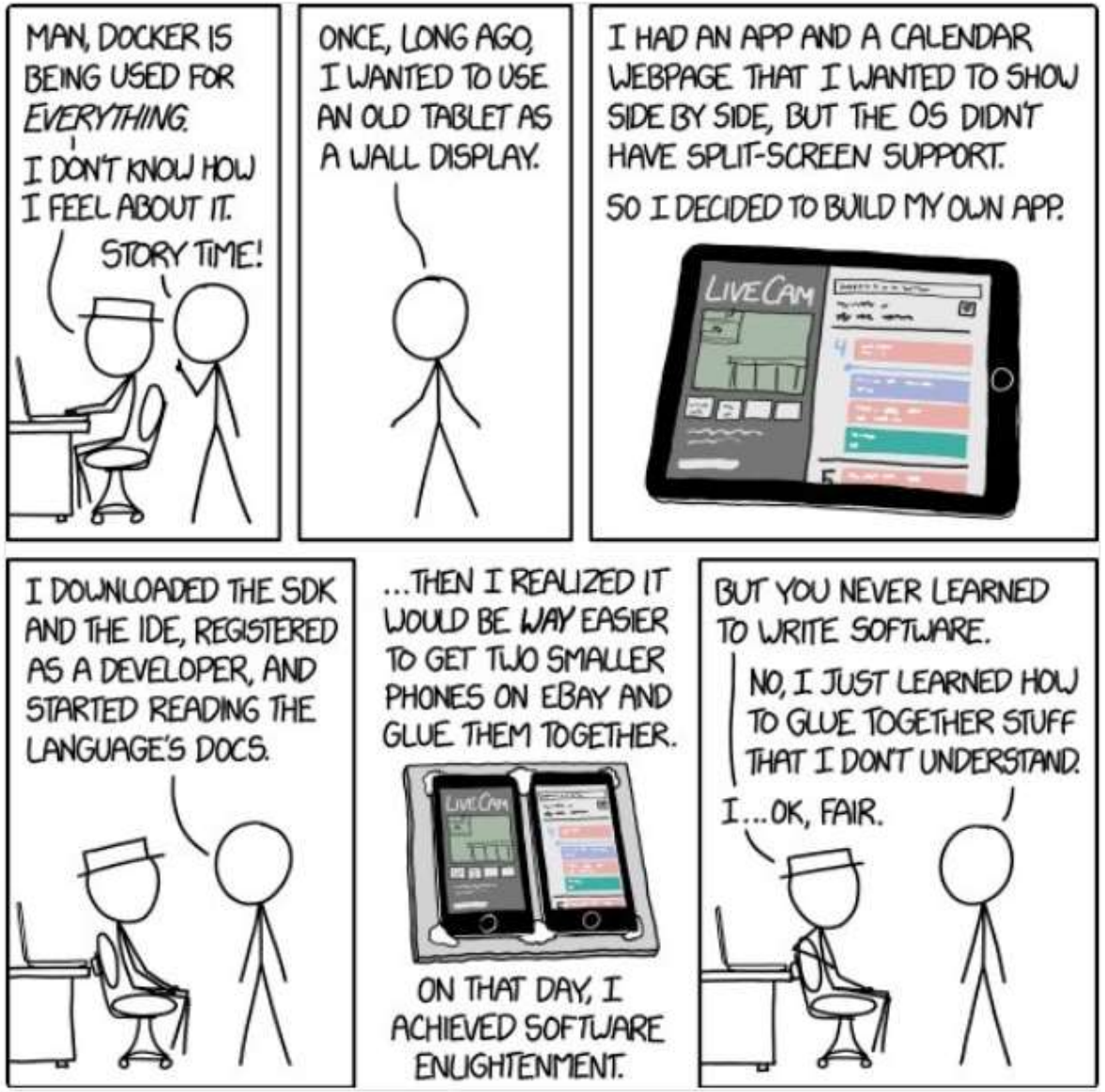
Time to stop trying to fit
round shape into square holes…

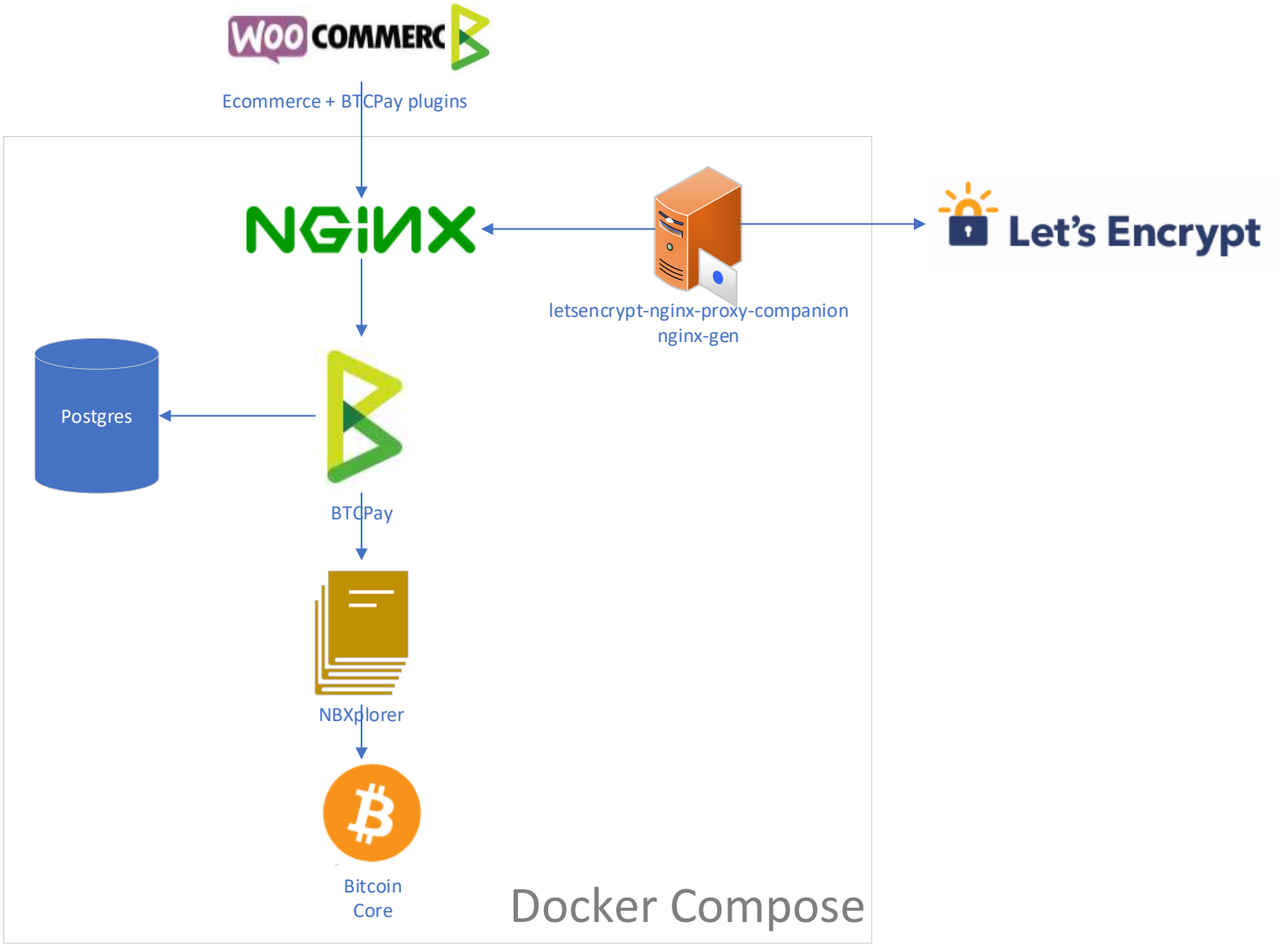
What if having an always connected bitcoin server was easier and cheaper than paying for a Netflix subscription?

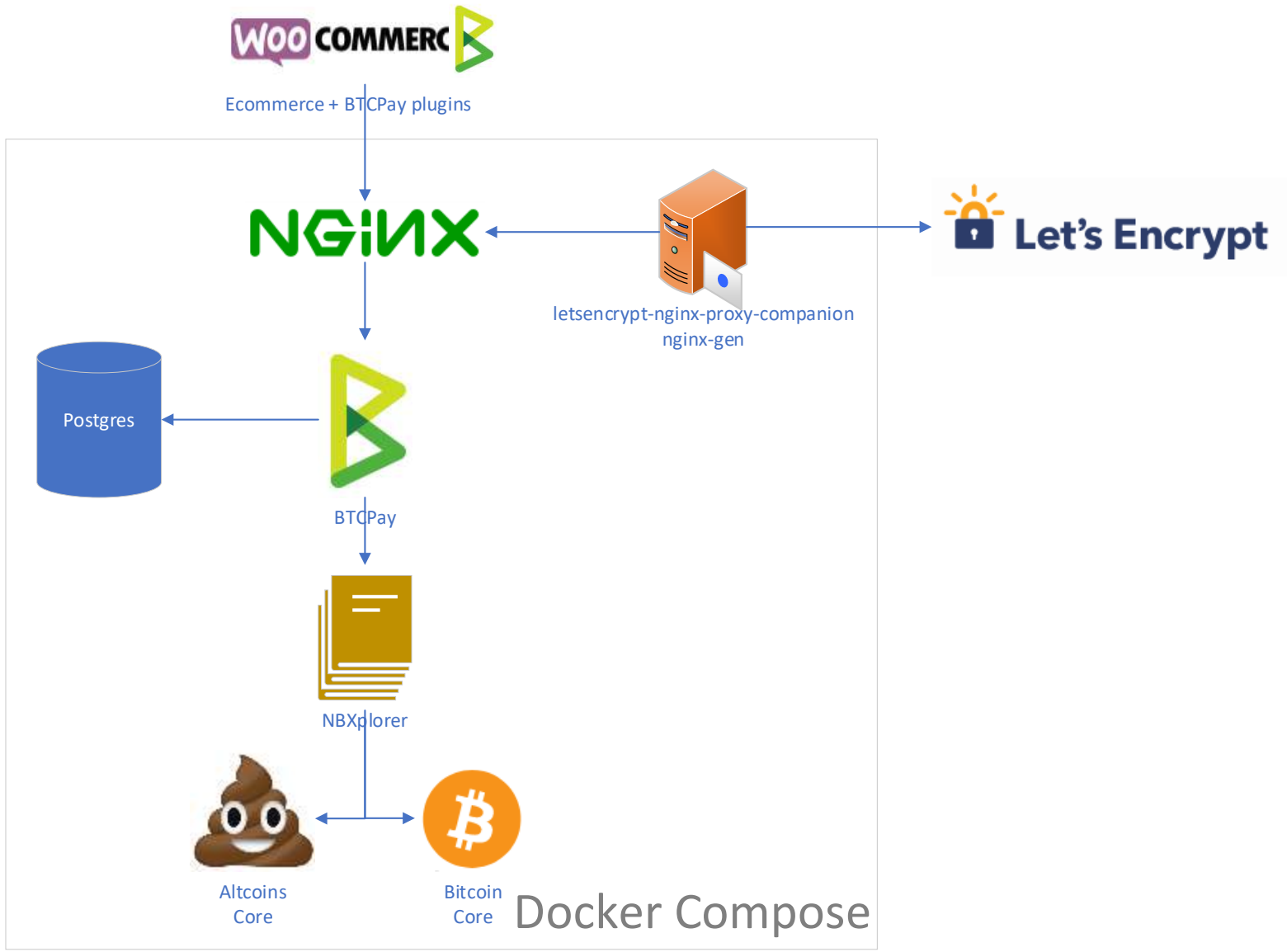
- A mobile app have good UX but is occasionally connected

- Hosting a Server has bad UX but is always connected

Lot's of great tooling in Bitcoin, but those are difficult to integrate together if you are not a coder


MAN, DOCKER IS BEING USED FOR EVERYTHING.
I DON'T KNOW HOW I FEEL ABOUT IT.
STORY TIME!
ONCE, LONG AGO, I WANTED TO USE AN OLD TABLET AS A WALL DISPLAY.
I HAD AN APP AND A CALENDAR WEBPAGE THAT I WANTED TO SHOW SIDE BY SIDE, BUT THE OS DIDN'T HAVE SPLIT-SCREEN SUPPORT.
SO I DECIDED TO BUILD MY OWN APP.
LIVE CAM
I DOWNLOADED THE SDK AND THE IDE, REGISTERED AS A DEVELOPER, AND STARTED READING THE LANGUAGE'S DOCS.
...THEN I REALIZED IT WOULD BE WAY EASIER TO GET TWO SMALLER PHONES ON EBAY AND GLUE THEM TOGETHER.
ON THAT DAY, I ACHIEVED SOFTWARE ENLIGHTENMENT.
BUT YOU NEVER LEARNED TO WRITE SOFTWARE.
NO, I JUST LEARNED HOW TO GLUE TOGETHER STUFF THAT I DON'T UNDERSTAND.
I...OK, FAIR.


WOO COMMERCE
Ecommerce + BTCPay plugins
NGINX
letsencrypt-nginx-proxy-companion
nginx-gen
Let's Encrypt
Postgres
BTCPay
NBXplorer
Bitcoin
Core
Docker Compose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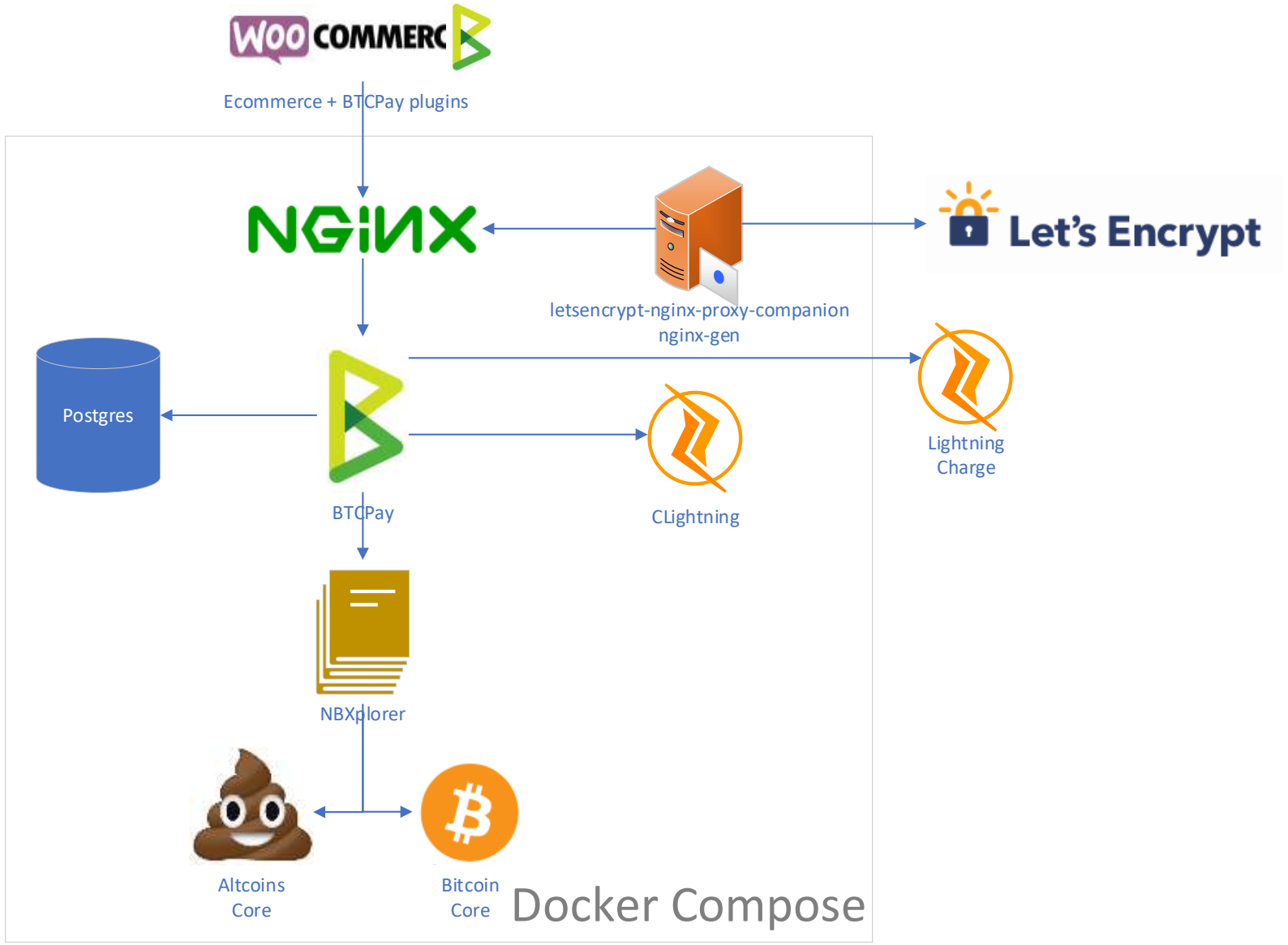
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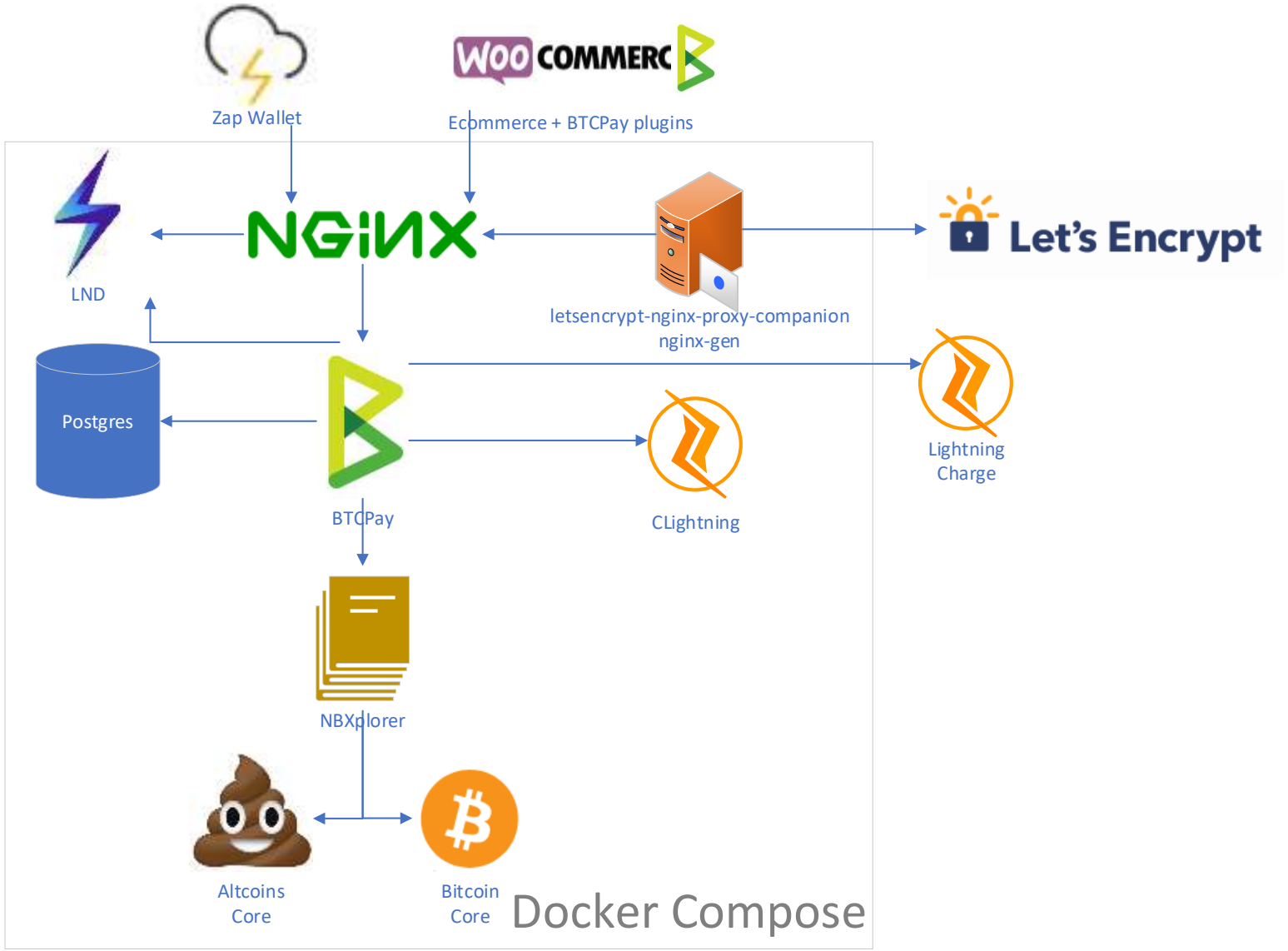
Zap Wallet
Ecommerce + BTCPay plugins
LND
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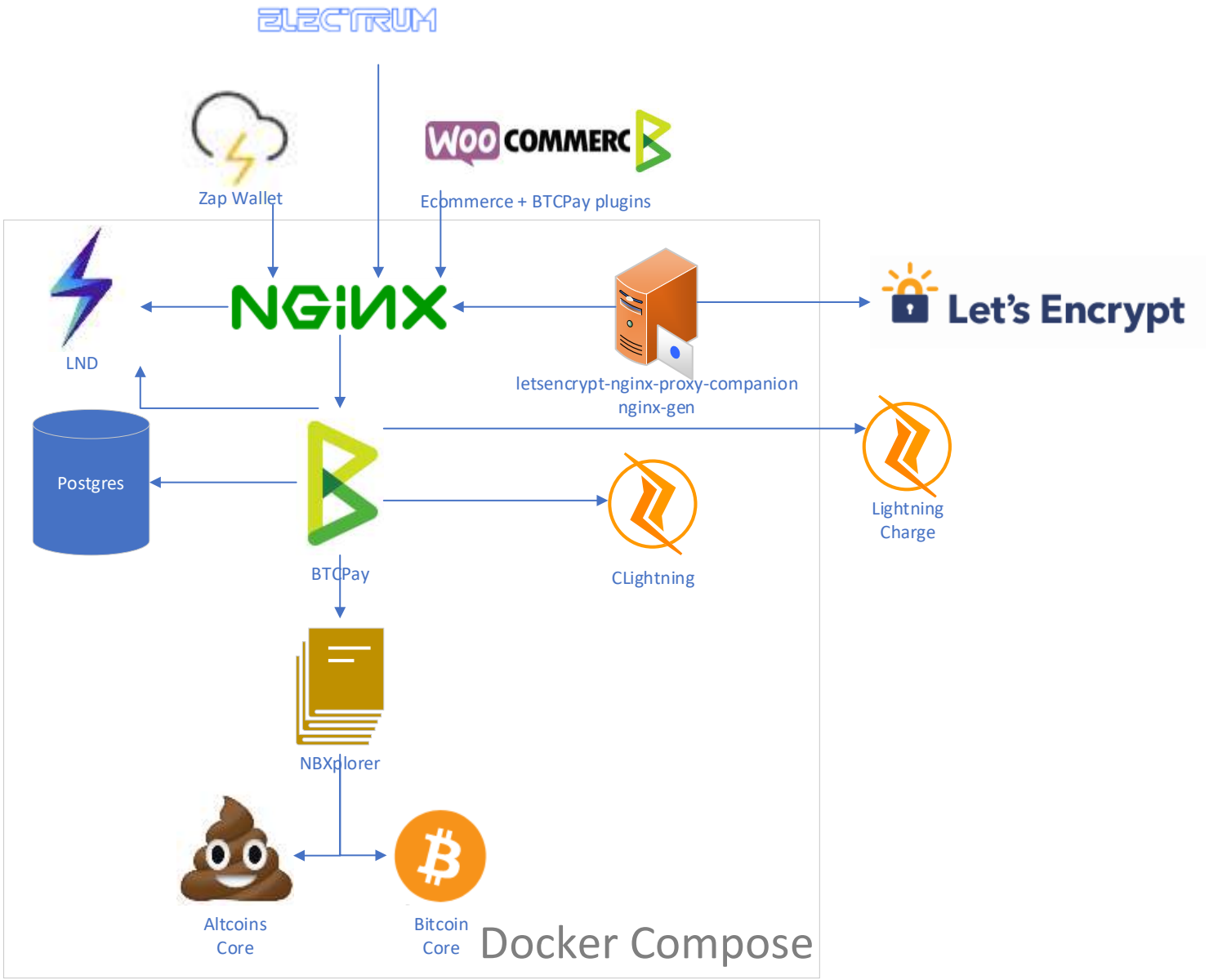
ELECTRUM
Zap Wallet
WOO COMMERCE
Ecommerce + BTCPay plugins
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Docker Compose

Easy deployment with docker

1. **Git clone** https://github.com/btcpayserver/btcpayserver-docker
2. Setup environment variables
3. Run “./btcpay-install.sh”

Current downside:

- Can’t use Lightning on pruned node
- Docker installation on custom hosting affordable
  but harder **(10$/mo)**
- Pruned node support for lightning could bring down the cost to **5$/mo**.
- Need to search for the hosts and run **./btcpay-install.sh** on it

Easy deployment with Azure

Deploy to Azure

* Subscription	AO-IS (BizSpark)
* Resource group	(•) Create new ( ) Use existing
	Create a resource group
* Location	West Europe

SETTINGS

Admin Username	btcpayserver
* Admin Password	
Notification Email	yourname@example.com
Vm Size	Standard_D1_v2
Network	mainnet
Supported Crypto1	btc
Supported Crypto2	
Lightning Network Implementation	
Lightning Node Alias	
Ubuntu OS Version	16.04.0-LTS
Repository	https://github.com/btcpayserver/btcpayserver-docker
Branch	master

Current downside:

- Azure installation easy but costly (**60$/mo)**
- Can go down to **20$/mo** but need to mess up with Azure settings manually
- Microsoft

Tedious deployment but works on Raspberry PI

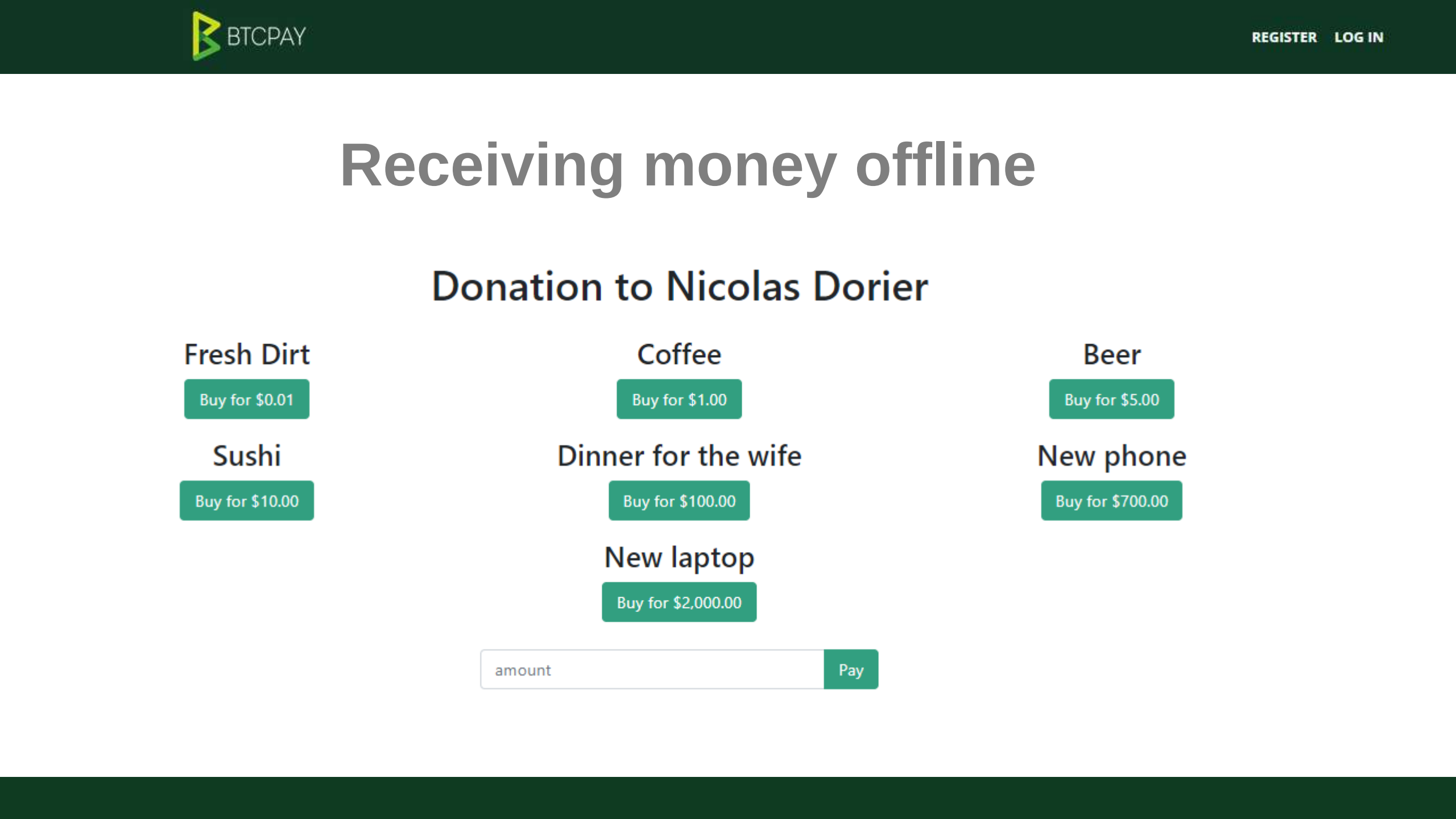
Would need multi-arch images in docker

Reason 1 to run full node:
More User friendly

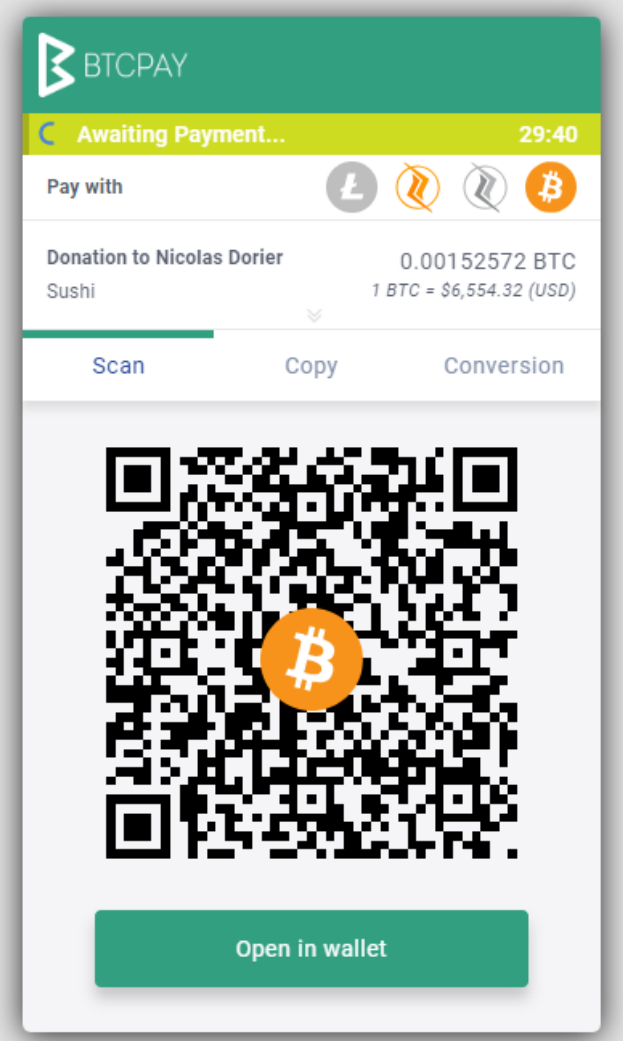
Exchange integration

DLC

- Pay for retweet (Popular for some alts ;))



Receiving money offline


BTCPAY
Awaiting Payment...
29:40
Pay with
Donation to Nicolas Dorier
Sushi
0.00152572 BTC
1 BTC = $6,554.32 (USD)
Scan
Copy
Conversion
Open in wallet
English
Powered by BTCPay Server

NICOLAS and IBUKI's WEDDING
お支払いをお待ちしております...
59:55
Nicolas and Ibuki
会費
0.02747300 BTC
1 BTC = ¥728,067 (JPY)
スキャン
コピー
ウォレットで開く
日本語
Powered by BTCPay Server

Manage store

Manage wallet

Please validate the transaction on your ledger

You can send money received by this store to an address with the help of your Ledger Wallet.
If you don't have a Ledger Wallet, use Electrum with your favorite hardware wallet to transfer crypto.
If your Ledger wallet is not detected:

- Make sure you are running the Ledger app with version superior or equal to 1.2.4
- Use a browser supporting the U2F protocol

Ledger detected

This store is configured to use your ledger

Destination

1F1tAaz5x1HUXrCNLbtMDqcw6o5GNn4xqX

Amount

0.05453775

Your current balance is 0.05453775 BTC.

Fee rate (satoshi per byte)

5

The recommended value is 5 satoshi per byte.

Subtract fees from amount

Confirm

Making passive income

- Expose ShapeShift like endpoint for your Alts
- Expose a CoinJoin endpoint (as market maker)
- Being Lightning CENTRALIZED HUB

Reason 2 to run full node:
Programmable money

On Twitter

@BtcPayServer

@NicolasDorier
@r0ckstardev

On Slack

http://slack.forkbitpay.ninja

On Github

https://github.com/btcpayserver/

Thanks you!