

LEYHEAN

THE SAFEST WAY TO BE ONLINE

an open source, blockchain-backed, decentralized P2P VPN

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International Team

Czech Republic, England, Euskadi, Greece
Italy, Portugal, Singapore, Spain, USA

What is Lethean building?

an open source, blockchain-backed, decentralized P2P VPN

acronym overload

open source

client, server, proxy, vpn, wallet, scheduler, payment processor

blockchain-backed

users exchange information and payments via a blockchain

decentralized

software running on each user's computer is all that is required*

P2P = peer-to-peer

users connect directly to each other without a third party

VPN = virtual private network

encrypts your local connection to the internet

What are VPNs used for?

data protection

data protection

of your employer's data as you transmit it

What about your data?

data protection = privacy

urls, searches, click-patterns, visit frequency

data protection = security

municipal wifi, conference wifi, coffeeshop wifi

data access

data access

to your employer's data

What about the world's data?

This video is not available in your country.

Sorry about that.





This site can't be reached

pinterest.com took too long to respond.

Try:

- Checking the connection
- [Checking the proxy and the firewall](#)
- [Running Network Diagnostics](#)

ERR_CONNECTION_TIMED_OUT



https://en.greatfire.org/pinterest.com



GREATFIRE.ORG

SEARCH

TEST URL

http://pinterest.com

PINTEREST.COM IS 100% BLOCKED IN CHINA

BLOCKED:

100% (IN THE LAST 90 DAYS)

en.wikipedia.org/wiki/Amnesty_international
en.wikipedia.org/wiki/Anti-Chinese_sentiment
en.wikipedia.org/wiki/Arab_spring
en.wikipedia.org/wiki/Beijing
en.wikipedia.org/wiki/Beijing_spring
en.wikipedia.org/wiki/Boxer_Rebellion
en.wikipedia.org/wiki/Censorship
en.wikipedia.org/wiki/Chinese_internet_censorship
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en.wikipedia.org/wiki/Computer
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en.wikipedia.org/wiki/Corruption
en.wikipedia.org/wiki/Crimes_against_humanity
en.wikipedia.org/wiki/Dalai_Lama
en.wikipedia.org/wiki/Deep_packet_inspection
en.wikipedia.org/wiki/Democracy_in_China
en.wikipedia.org/wiki/Deng_xiaoping

en.wikipedia.org/wiki/Dictatorship
en.wikipedia.org/wiki/falun_gong
en.wikipedia.org/wiki/Foot_binding
en.wikipedia.org/wiki/Freedom_of_religion
en.wikipedia.org/wiki/Golden_Shield_Project
en.wikipedia.org/wiki/Groping
en.wikipedia.org/wiki/Hippocampus
en.wikipedia.org/wiki/Homosexuality
en.wikipedia.org/wiki/Human_rights
en.wikipedia.org/wiki/Hu_Jintao
en.wikipedia.org/wiki/I_Shot_the_Sheriff
en.wikipedia.org/wiki/Liberalism
en.wikipedia.org/wiki/Liberty
en.wikipedia.org/wiki/Mahatma_Gandhi
en.wikipedia.org/wiki/Mao_Zedong
en.wikipedia.org/wiki/Mathematics
...

More than 1200 pages are currently censored.

data access = freedom

So why blockchain?

How do you pay for VPN services?

How do you pay for VPN services?

credit card, debit card, bank account, paypal

What about the unbanked?

As of April 2018, the World Bank estimates there are still 1,700,000,000 adults without a bank account.

What about the unbanked?

The US government estimates 5% of households are unbanked.

The unbanked are not unconnected.

“...two-thirds of them own a mobile phone.” — World Bank

**Banks are not needed
to acquire cryptocurrencies.**

mining, faucets, donations, airdrops

Also, no payment gateway needed.

Customer and provider interact directly.

Anyone can be a provider. Everyone can pay that provider.

We're not here to compete, just enable.

Our software helps existing providers reach new customers.

Decentralized Users

How do I create an account?

You don't.

"Accounts" are based entirely on public/private key pairs.

public key

Analogous to a username or address on the network.

private key

Analogous to a password on the network.

I sign messages to you with my private key.

I address messages to your public key.

You validate my messages with my public key.

This confirms that only I could have sent them.

Your public key is used to deposit.

Your private key is used to withdraw.

To participate on the network, you need a “wallet.”
This is a misleading term.

It is just a pair of keys.

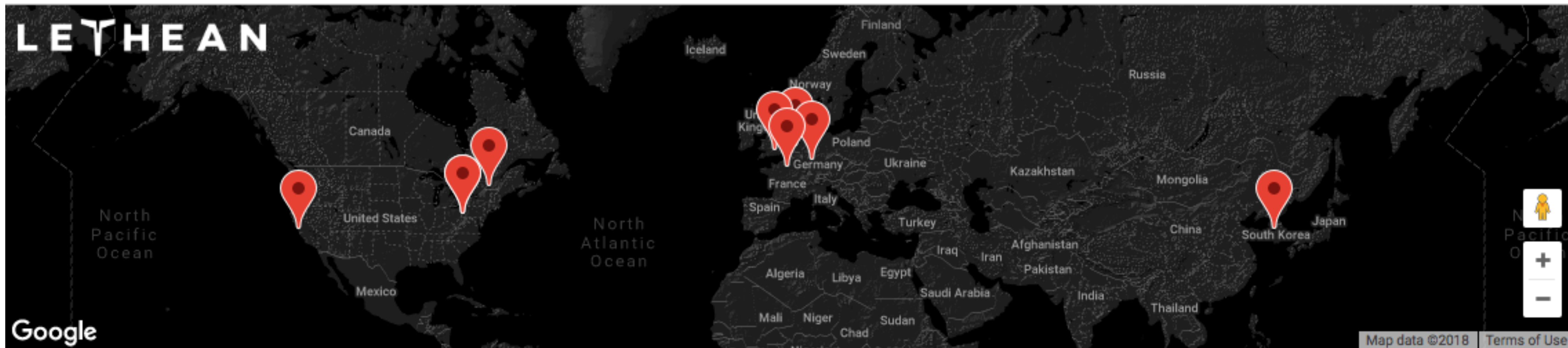
If anyone has your keys, they ARE you on the network.

Technical Overview

Providers create a new service offer.

They sign a formatted message describing their endpoint.

This transaction involves a listing fee to prevent spam.



🔍 Type to search...

Rating	Provider	Location	Speed (Down/Up)MB/s	Price	Pre Paid (min.)
0 of 5	vipLTHN DE Frankfurt v3.0.0.b2	🇩🇪 Frankfurt am Main, Germany (EU) de01.lethean.vipvpn.hu:8080/TCP (proxy)	1.07 Gbps / 1.07 Gbps	0.1 LTHN/min	30 min
3.7 of 5	Seoul Korea 1 Seoul Korea 1	🇰🇷 Incheon, Republic of Korea (AS) 52.78.197.127:8088/TCP (proxy)	1.00 Gbps / 1.00 Gbps	0.01 LTHN/min	10 min
4.9 of 5	Lethernet NL Amsterdam adblocking proxy	🇳🇱 Haarlem, Netherlands (EU) nl01.lethearnet.com:8080/TCP (proxy)	10.00 Mbps / 10.00 Mbps	0.01 LTHN/min	60 min

Customers download a wallet.

Coins are acquired via mining, participating in our Discord or via a trade on a cryptocurrency exchange.

Customer chooses a provider.

A transaction is sent to pre-pay the number of minutes defined by the provider.

Miners validate new transactions.

Transactions are grouped into blocks every two minutes.

The provider monitors new blocks.

When the customer's transaction arrives,
the provider enables connectivity.

The customer continues to browse.

New transactions are scheduled at a provider defined interval to maintain the connection.

The customer disconnects.

Each session is rated by customers to promote quality providers.

Technical Specifics

CryptoNote based Monero fork

blockchain

untraceable payments

blockchain

un-linkable transactions

blockchain

resistant to analysis

blockchain

two-minute block time

blockchain

standard HAProxy binaries

proxy

standard OpenVPN binaries

vpn

Linux, Windows, macOS

cli and gui wallets

Chrome, Firefox, Opera

browser extension

Linux + Dockerized

provider dispatcher

Mining Specifics

Mining Specifics

but first...

Mining Basics

It is what powers the network.

Miners validate transactions.

The validation process uses electricity.

Miners are compensated with coins for their work.

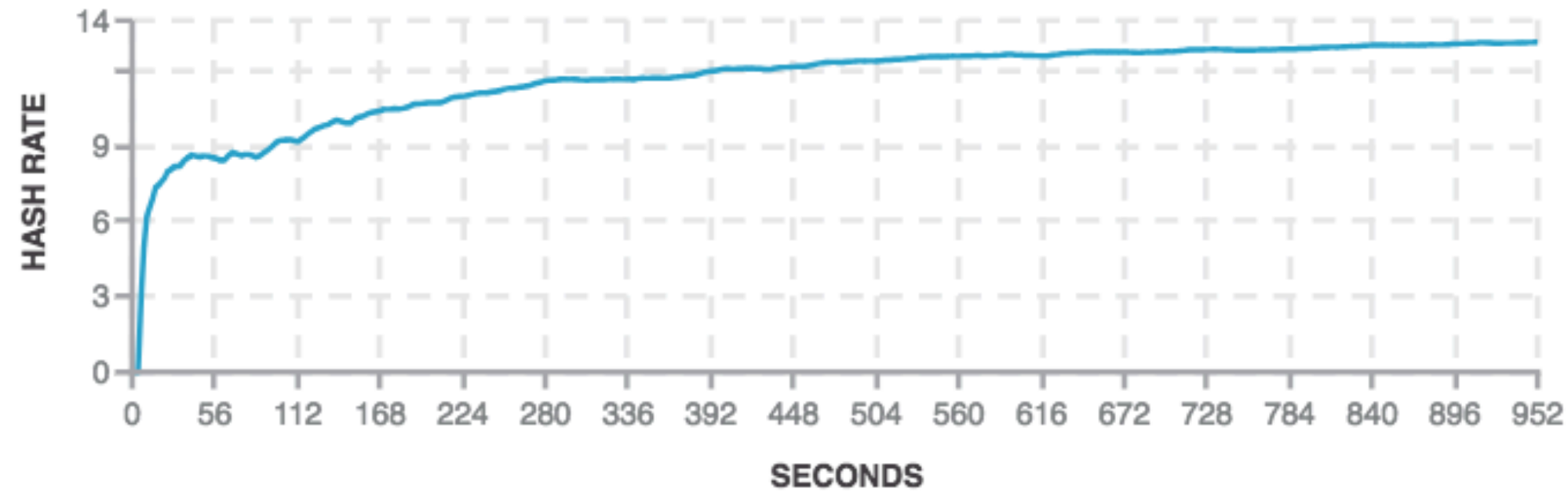
We use egalitarian proof-of-work.

CPU and GPU friendly, ASIC resistant

STATUS: MINING IN PROGRESS!

iz59qmyEGDVIE MocPexGpuAiGHMc8KbEKgvEUEqW7R4tJV2dH1MrmkjEdizW5VFDX1HKbEKgvEUEqW7

MINING STATS



POWERED BY ZINGCHA

Start mining!

Stop mining!

CPU UTILIZATION:

0



75

100

CURRENT HASH RATE: 13.14 H/S. TOTAL HASHES: 12507 HASHES. ELAPSED: 952 SECONDS. CPU THROTTLE: 25%

Hash Rate (10 min Avg)

12 H/s

Hash Rate (24h Avg)

8 H/s

Est. Profit 24h*

1.09 LTHN

Est. Profit 7d*

7.65 LTHN

Total Hashes

707.8 Kh

Valid: 2.4 Kh ✓

Invalid: 0 H ✗

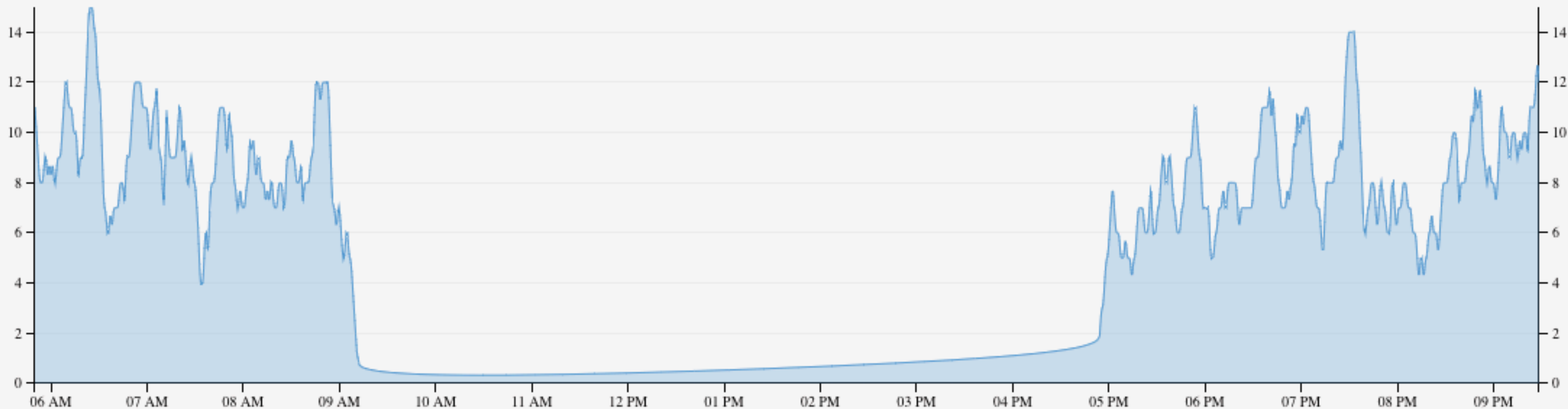
Total Paid

0.0000000 LTHN

Total Due

0.57277377 LTHN

LIST PAYMENTS




```
C:\Users\lifeboat\Downloads\xmr-stak-win64-2.5.2\xmr-stak-win64-2.5.2\xmr-stak.exe

[2018-11-09 21:30:20] : New block detected.
[2018-11-09 21:30:21] : Result accepted by the pool.
[2018-11-09 21:30:22] : Result accepted by the pool.
[2018-11-09 21:30:25] : New block detected.
[2018-11-09 21:30:33] : Result accepted by the pool.
[2018-11-09 21:30:40] : Result accepted by the pool.
[2018-11-09 21:30:41] : Result accepted by the pool.
HASHRATE REPORT - CPU
| ID | 10s | 60s | 15m | ID | 10s | 60s | 15m |
| 0 | 71.7 | <na> | <na> | 1 | 72.7 | <na> | <na> |
| 2 | 72.7 | <na> | <na> | 3 | 71.6 | <na> | <na> |
Totals <CPU>: 288.8 0.0 0.0 H/s
-----
HASHRATE REPORT - AMD
| ID | 10s | 60s | 15m |
| 0 | 404.3 | <na> | <na> |
Totals <AMD>: 404.3 0.0 0.0 H/s
-----
Totals <ALL>: 693.0 0.0 0.0 H/s
Highest: 693.9 H/s
-----
[2018-11-09 21:31:16] : Difficulty changed. Now: 24000.
[2018-11-09 21:31:16] : New block detected.
[2018-11-09 21:31:17] : Result accepted by the pool.
```

Hash Rate (10 min Avg)

791 H/s

Hash Rate (24h Avg)

723 H/s

Est. Profit 24h*

101.46 LTHN

Est. Profit 7d*

710.25 LTHN

Total Hashes

200.3 Mh

Valid: 11.2 Kh ✓

Invalid: 0 H ✗

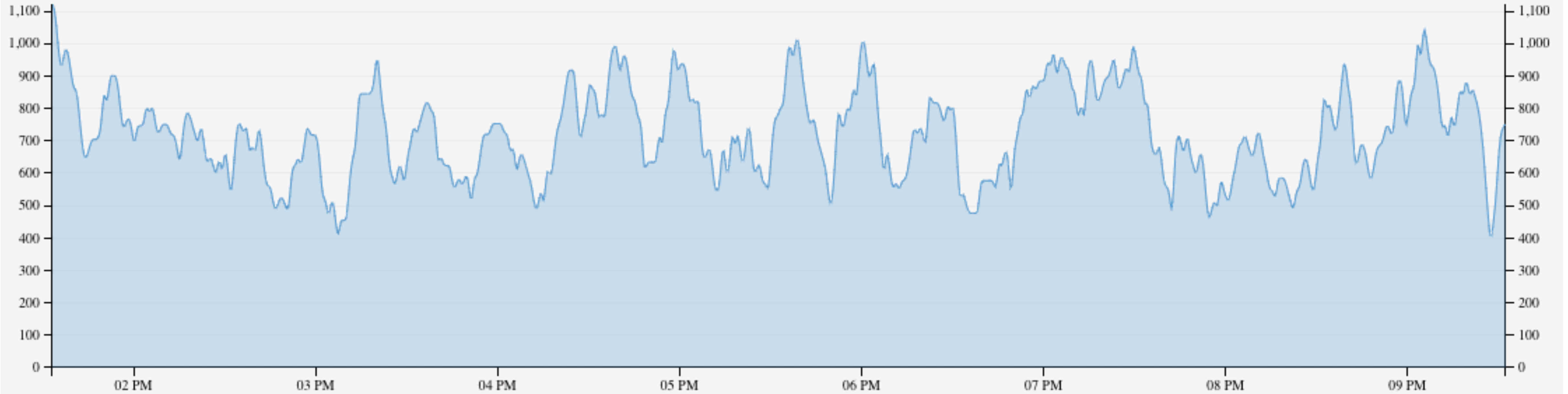
Total Paid

388.26674345 LTHN

Total Due

1.66808747 LTHN

LIST PAYMENTS 



Let's put this all together!

demo time

Eskerrik asko!

Alguna pregunta?
Any questions?

<https://lethean.io>

Michael Iedema

[@iedemam.com/presentations](https://miedemam.com/presentations)