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# PLEBNET

Peninsula Bitcoin Meetup

Oct 2022

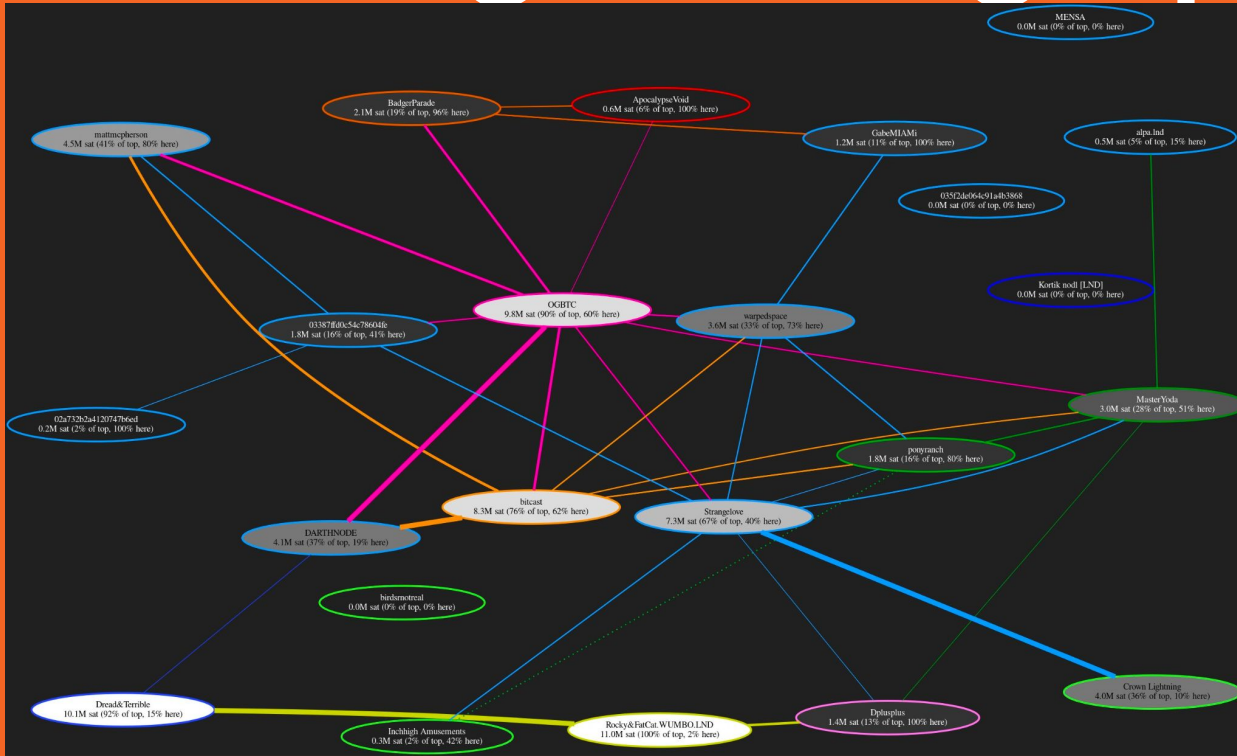
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# The Origin Story

Started May 2021 by many Bitcoiners on Clubhouse who wanted to learn how to run a ROUTING Lightning node

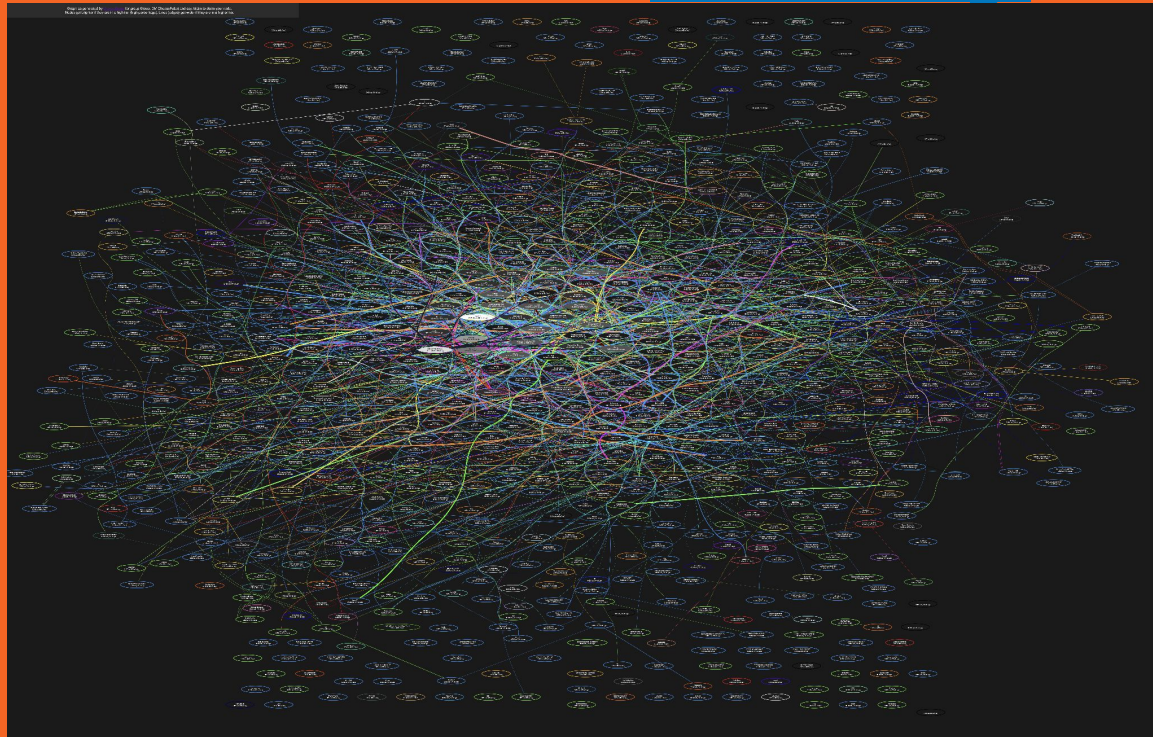


# Plebnet “genesis graph”



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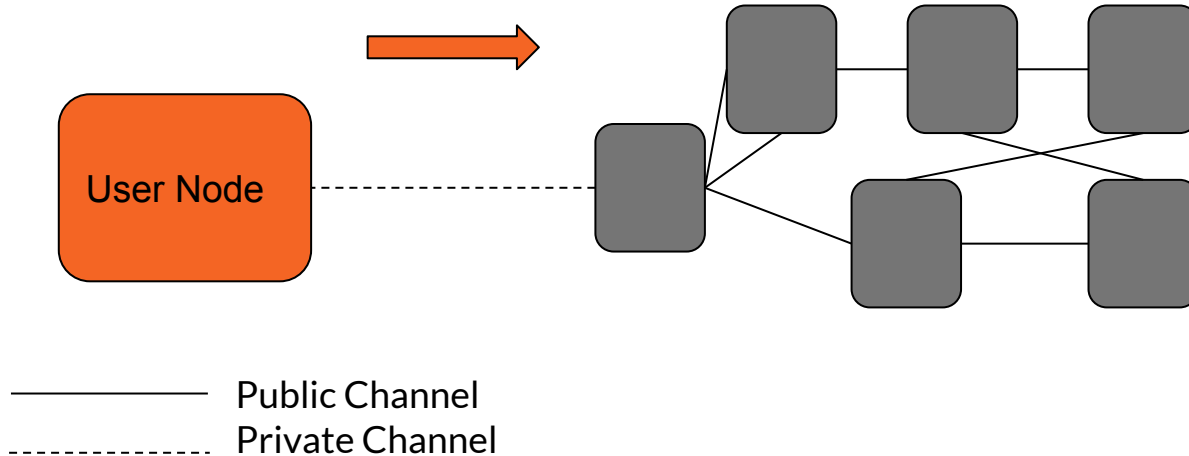
# Plebnet Today



# Types of nodes

## User or Wallet

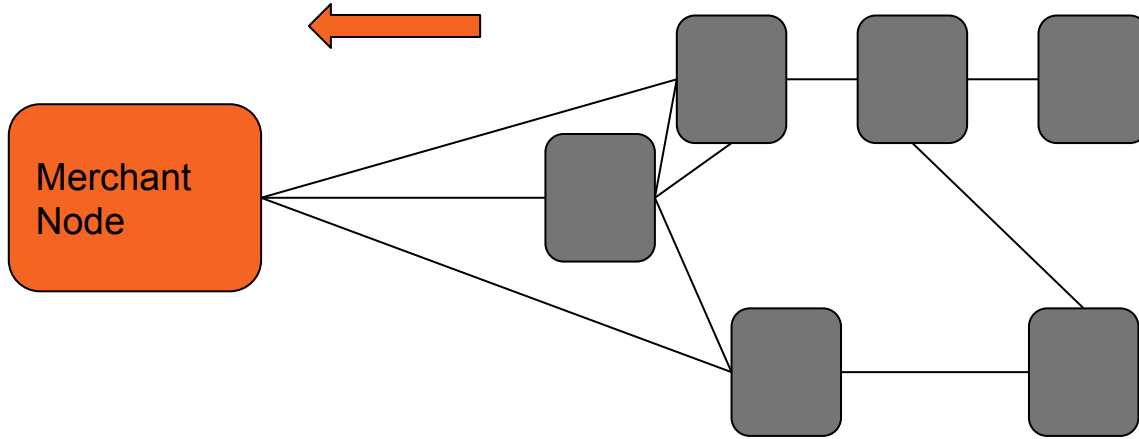
“Locks” on-chain bitcoin fund and make payments over the lightning network



# Types of nodes

## Merchant

Receives lightning payments from other lightning users

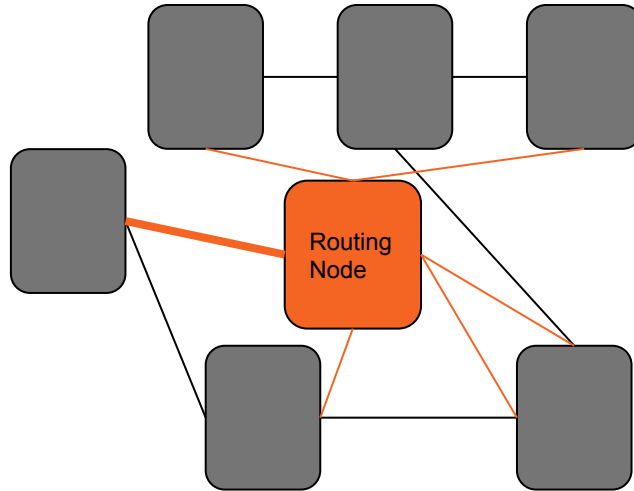


# Types of nodes

## Routing

Node that has multiple channels and provides liquidity to the network

Generates fees from routing payments



# What is the Lightning Network?

1. Opening channels requires a “web of trust”
2. To be part of the network - a channel needs to be created
3. Channel - [2 of 2 multisig](#) transaction coordinated between pair of nodes
4. Girth - the amount of bitcoin (or liquidity) in the channel
5. In order maintain a great routing node it's best to open balanced channels:
  - a. Via submarine swaps
  - b. MEG - Mutually Exchange Girth - A dual funded channel using BoS tool
6. Channels can be closed and force-closed by any peer



# Lightning Implementations

LND - Lightning Node Daemon by Lightning Labs

Most popular - Written in goLang



CLN - Core Lightning by Blockstream

Previously c-lightning, written in C



Eclair - by ACINQ

Written in Scala



Rust lightning by LDK

Written in Rust



# Node Packages with Lightning support

Umbrel - Most popular in Plebnet

Supports LND and CLN



Raspi Blitz

Supports LND and CLN



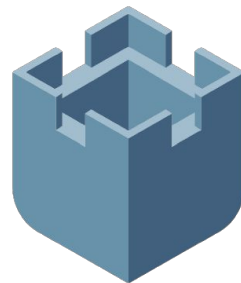
MyNode

Supports LND



Citadel - FOSS umbrel fork

Supports LND CLN and Liquid (Element)



# Lightning Network Explorers

[amboss.space](https://amboss.space)

[mempool.space/lightning](https://mempool.space/lightning)

# Privacy in Lightning

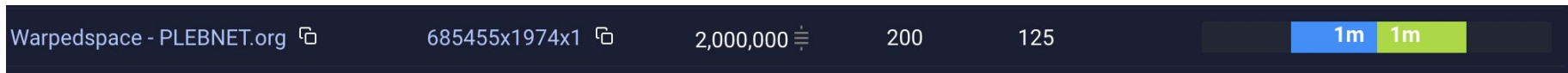
- Lightning transactions are only recorded on the nodes they are originated and passing through
- Network runs a gossip protocol to find public channels, private channels **can be found** but they are 'unannounced'
- The payment sender knows who the destination node is, crafts the payment and sends it off. Even the first peer can not know for certain if that was the original sender
- Receivers do not have the same privacy. They need to give certain information to the sender so that they can send the payment. The information they give out can be pretty revealing.

# Channel Management

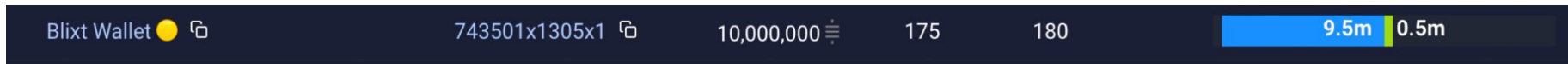
- To run a successful routing node - channel management is needed
- Balanced channel - when the local and remote amount are equal or close to equal.
- When liquidity is drained on a channel - a rebalance is needed in order to maximize the fees charged on payments going through the channel
- Rebalance is a circular payment that is made on a specific inbound and outbound channel in order to balance the liquidity on both sides.

# Channel Management

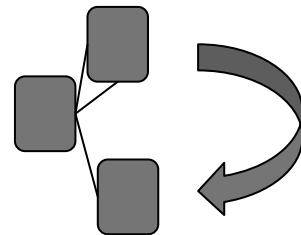
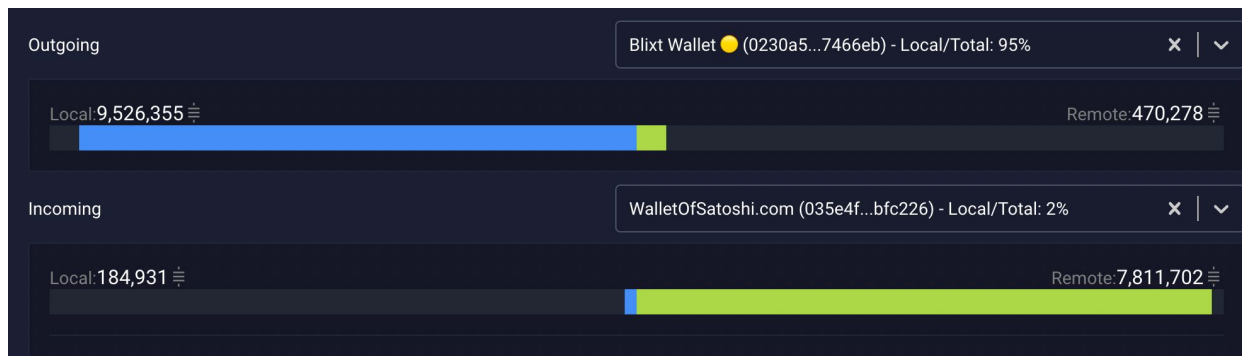
## Balanced



## Unbalanced



## Circular Rebalance



# Demo

- Open Channel
- Close Channel Transaction

# Questions?

Find these slides on my twitter or [plebnet.wiki](https://plebnet.wiki)

