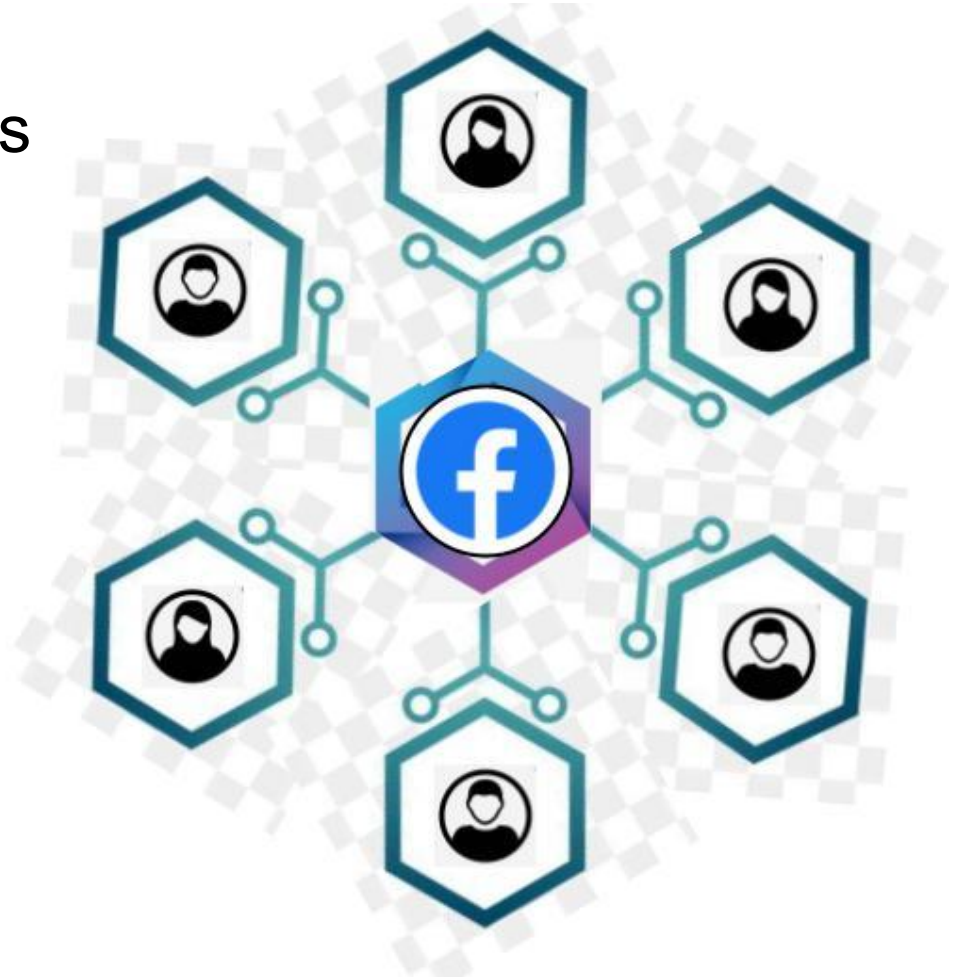# CASP3R

Chapter 1
Centralized vs. Decentralized Networks

Centralized Social Networks
The Current Paradigm

One centralized server means
the power facilitating the discussion
is centralized.

Big tech has complete control over
the discourse between clients on their
server/platform.

Centralized Social Networks
The Current Paradigm

If an individual wants to participate in the community they must agree to the terms of service dictated by the central authority.

This is a huge problem when this central authority facilitates the majority of discussion for an entire country.
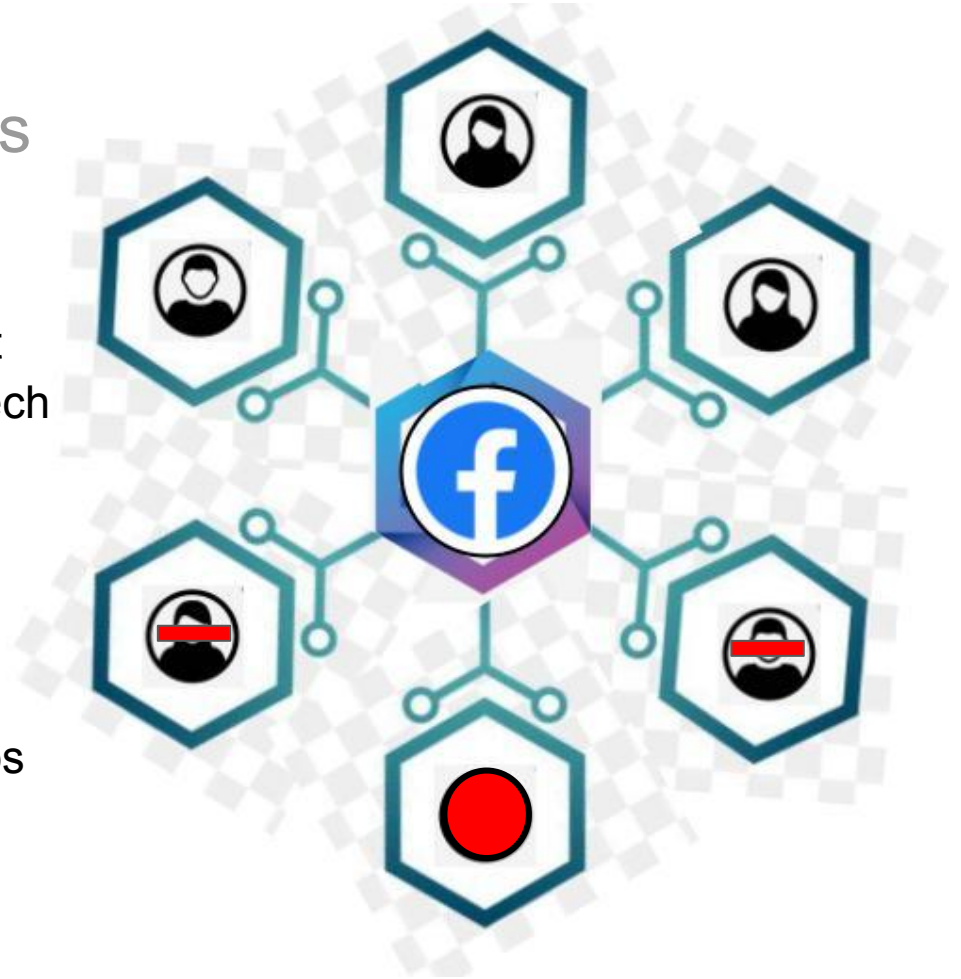
Centralized Social Networks
The Current Paradigm

This central authority can make unilateral and arbitrary rule changes that restrict the boundaries of allowable speech on the platform.

If the client does not abide by the new standard they can be censored or removed from the server completely, along with all access to their relationships photos & shared memories
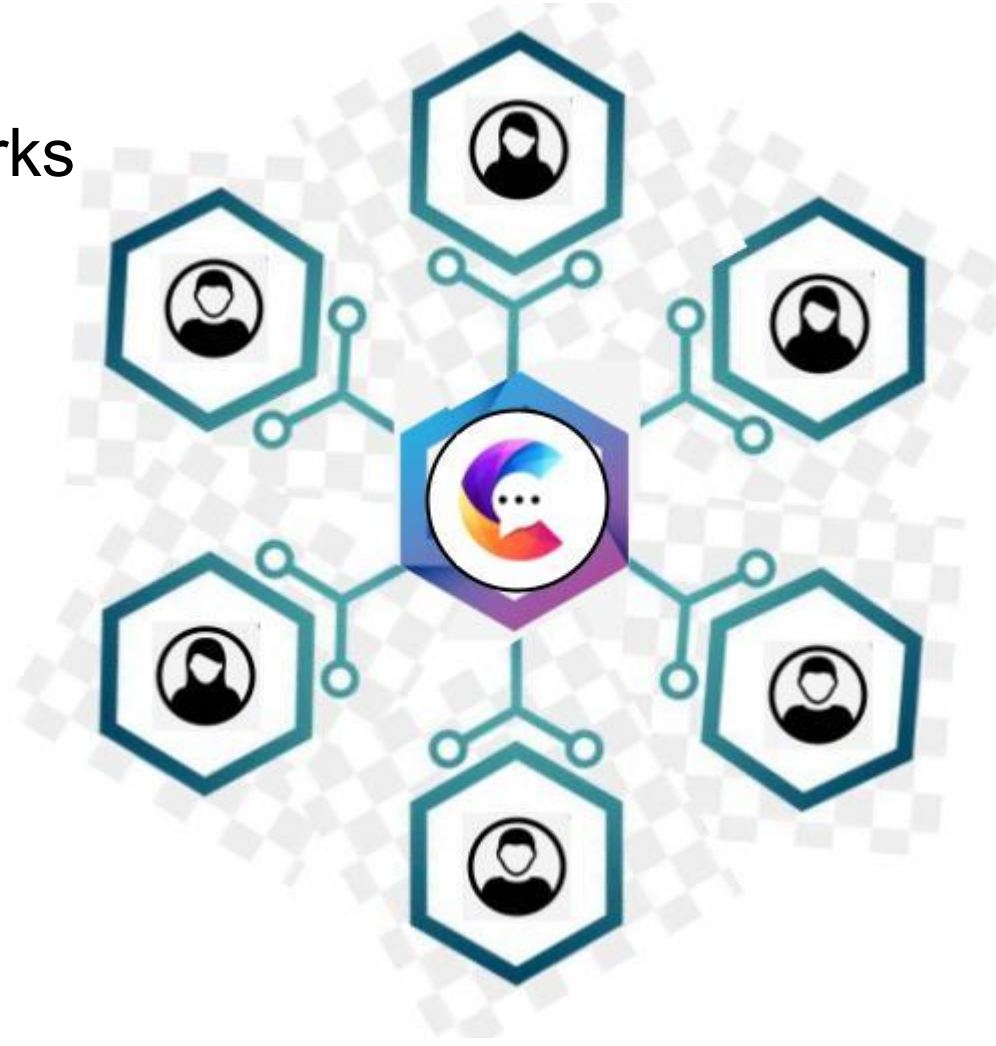
CASP3R

A decentralized network
a new paradigm

Decentralized Social Networks
A New Paradigm

In this system we have a familiar client - server relationship, but the power dynamic here is completely different.

Decentralized Social Networks
A New Paradigm

In this new structure, the servers primary
function is to facilitate communication
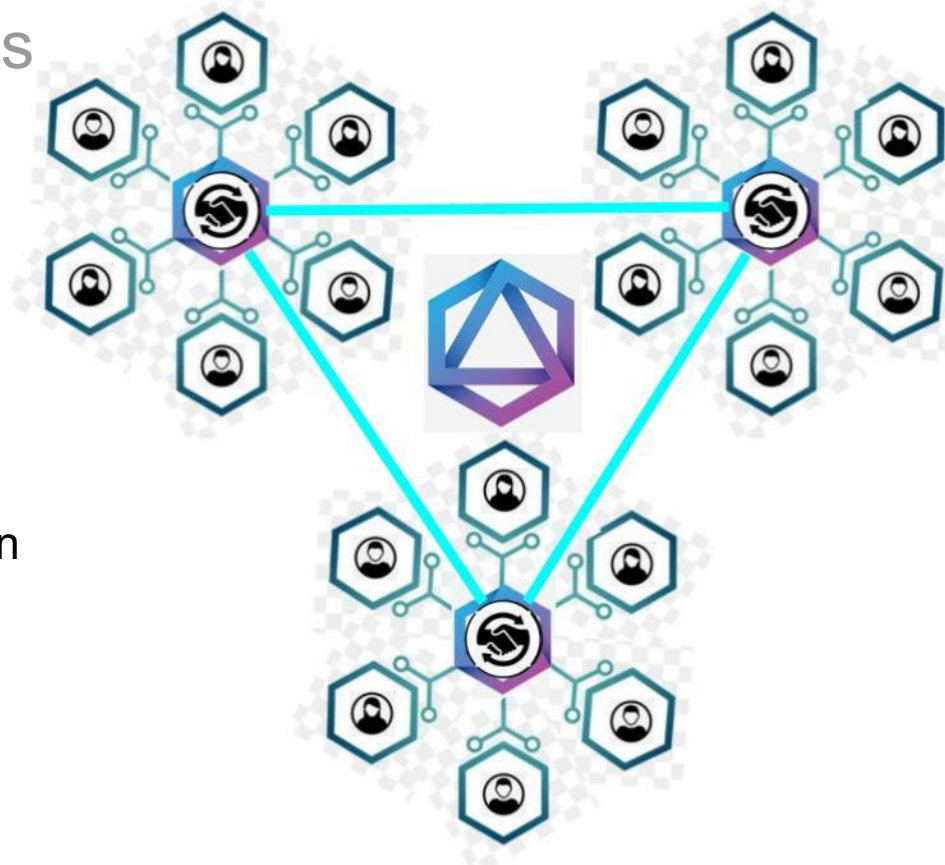not only between the clients it directly serves...

Decentralized Social Networks
A New Paradigm

...but between them, and the clients
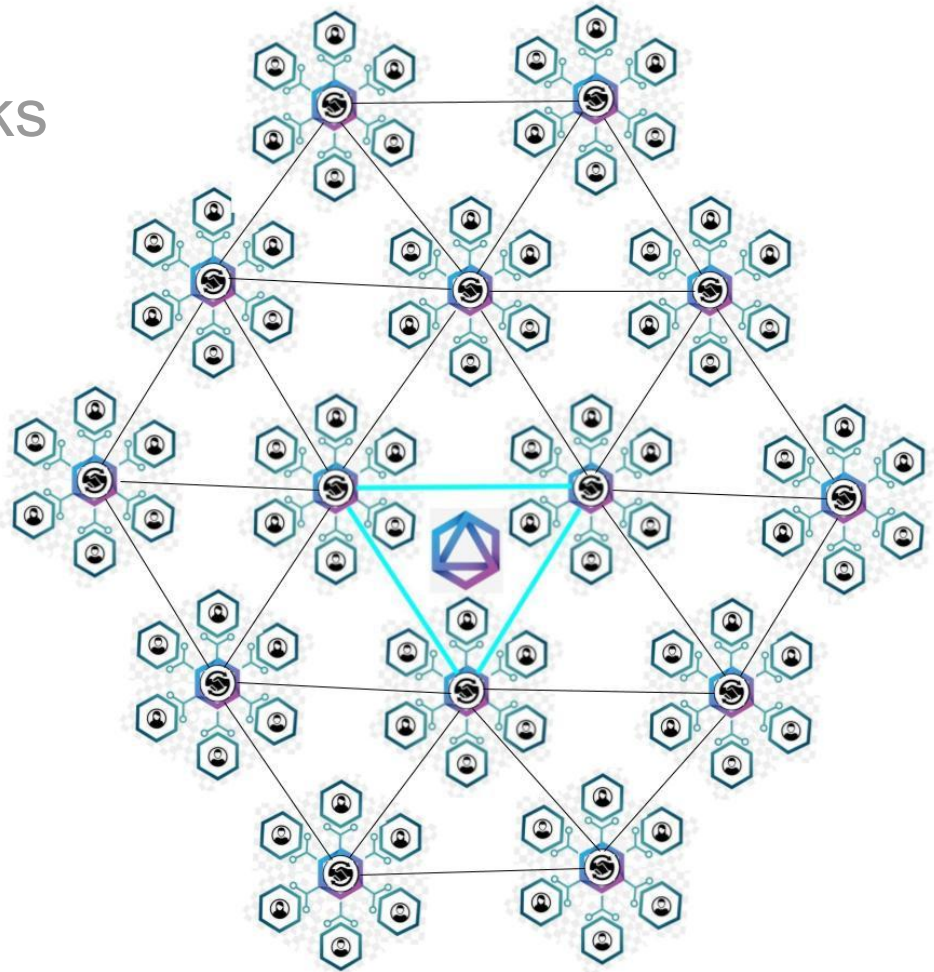of other servers.

The server acts as a catalyst, facilitating
communication across a large network of
servers, each controlled by their own chosen
server administrator.

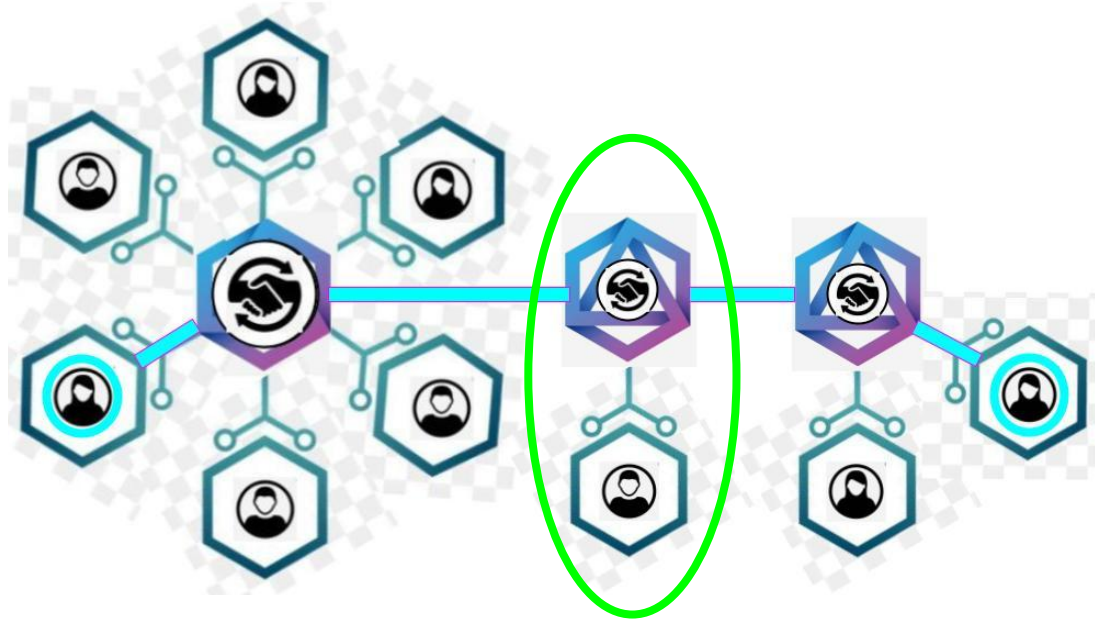# Decentralized Social Networks
A New Paradigm

This power dynamic is based on mutual agreement, and no central authority has the power to control the open discourse between individuals.

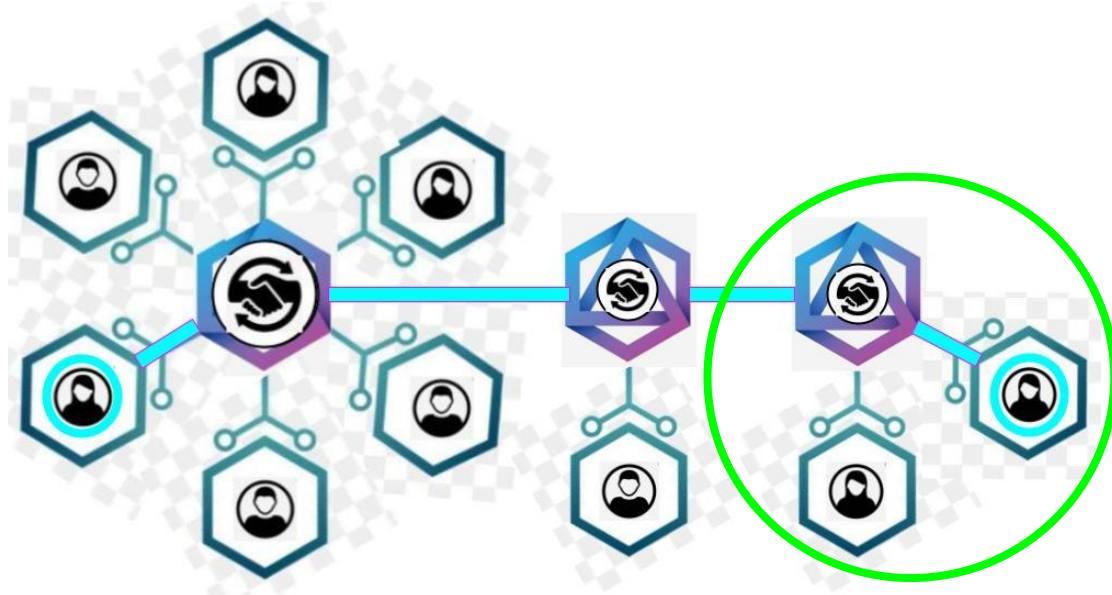# Decentralized Social Networks

A New Paradigm

Servers can be owned by
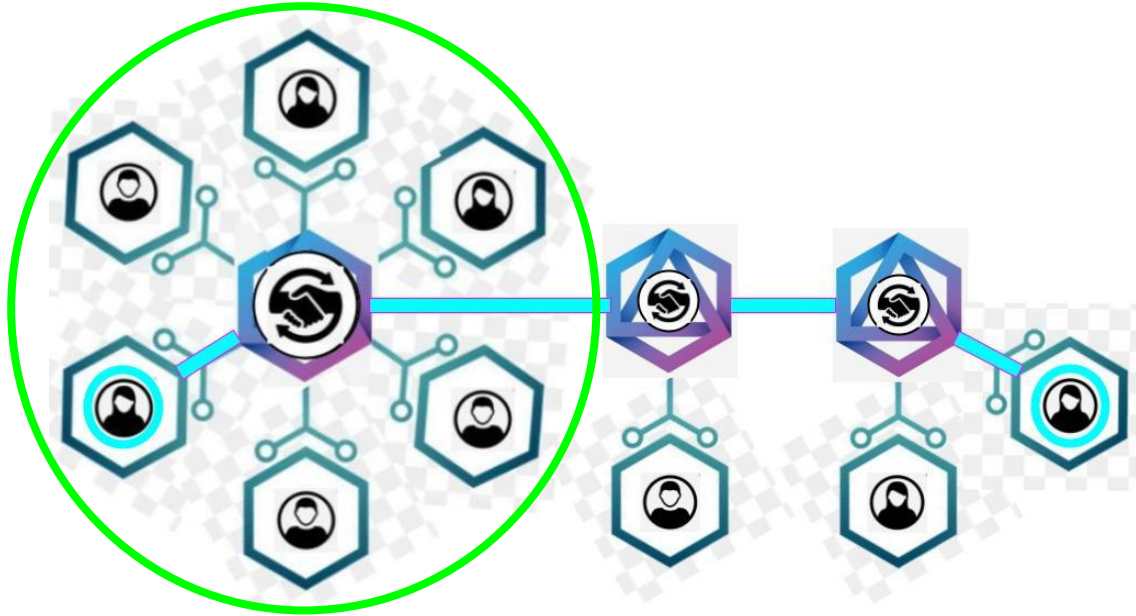an individual,

Decentralized Social Networks
A New Paradigm

a small group,

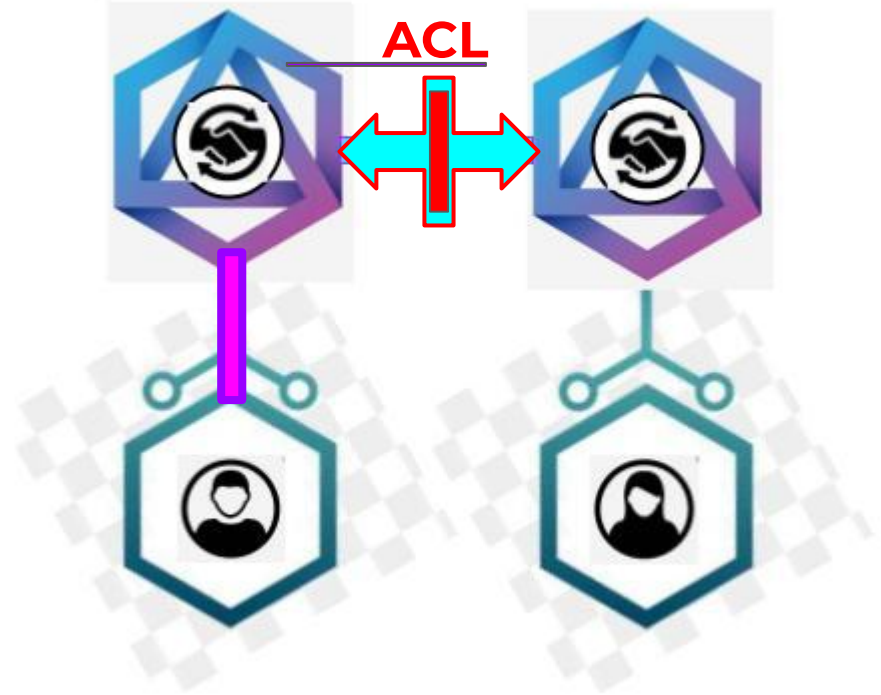# Decentralized Social Networks

A New Paradigm

or a larger community.

Decentralized Social Networks
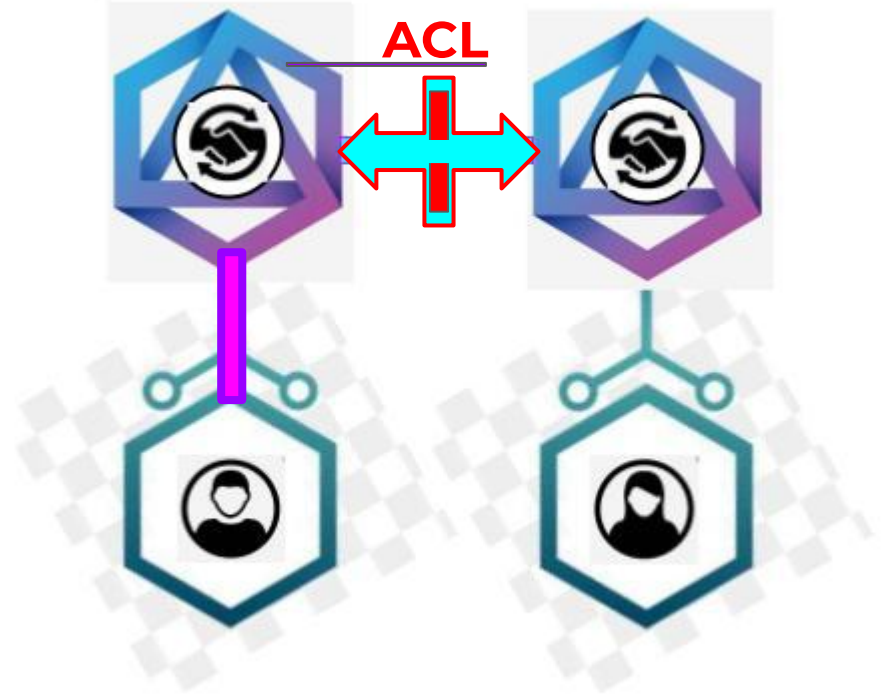
A New Paradigm

The server administrator has full control over who has access to their server. This is done with a mechanism called **ACL** or **A**ccess **C**ontrol **L**ists
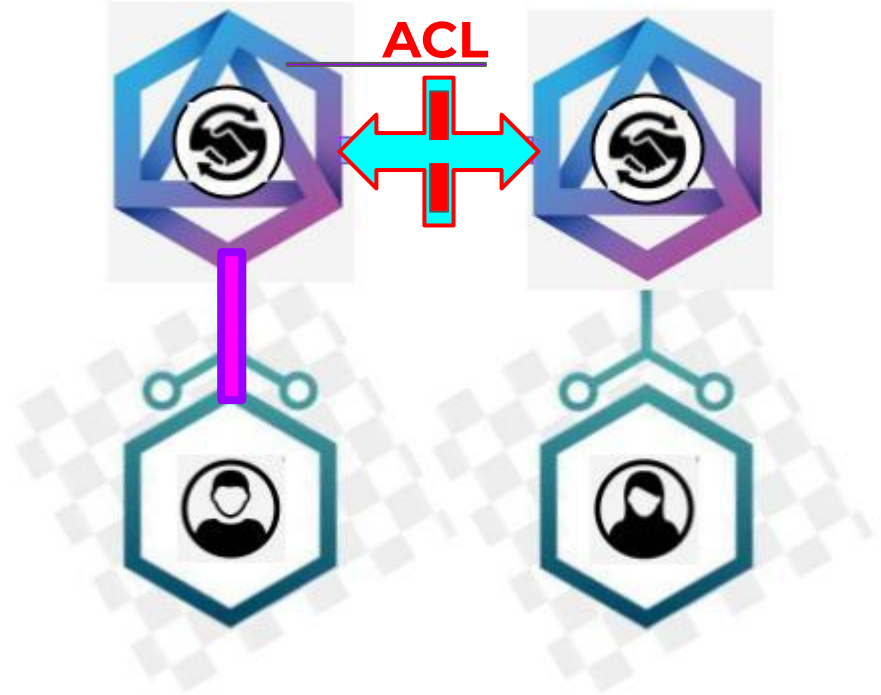
Decentralized Social Networks

A New Paradigm

The administrator has the power to choose if & how they wish to participate in the larger network.

ACL

Decentralized Social Networks
A New Paradigm

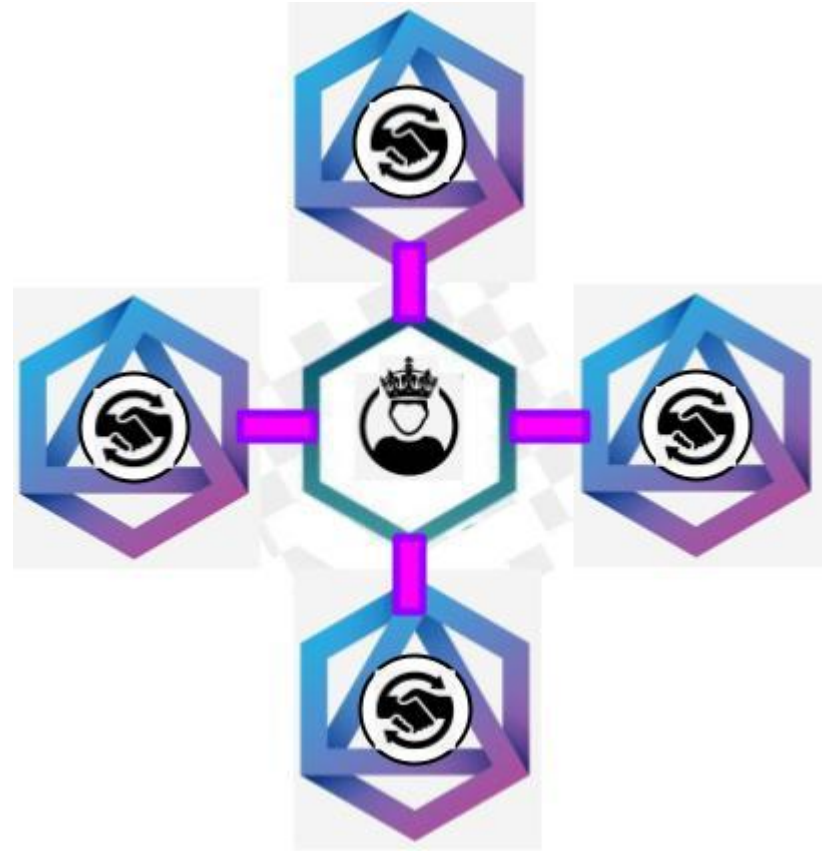The server can be open or completely private, with many variations in between.

The power is in the hands of the individual

Decentralized Social Networks
A New Paradigm

The power is in the hands of the individual

An individual can choose to have ownership
over several servers and set them up
for a multitude of purposes like home &
family, education, work, political discussion,
business, etc.

Decentralized Social Networks
A New Paradigm

The power is in the hands of the individual

Beyond that, an individual can create a distributed server consisting of multiple nodes in other physical locations all linked together over the internet.
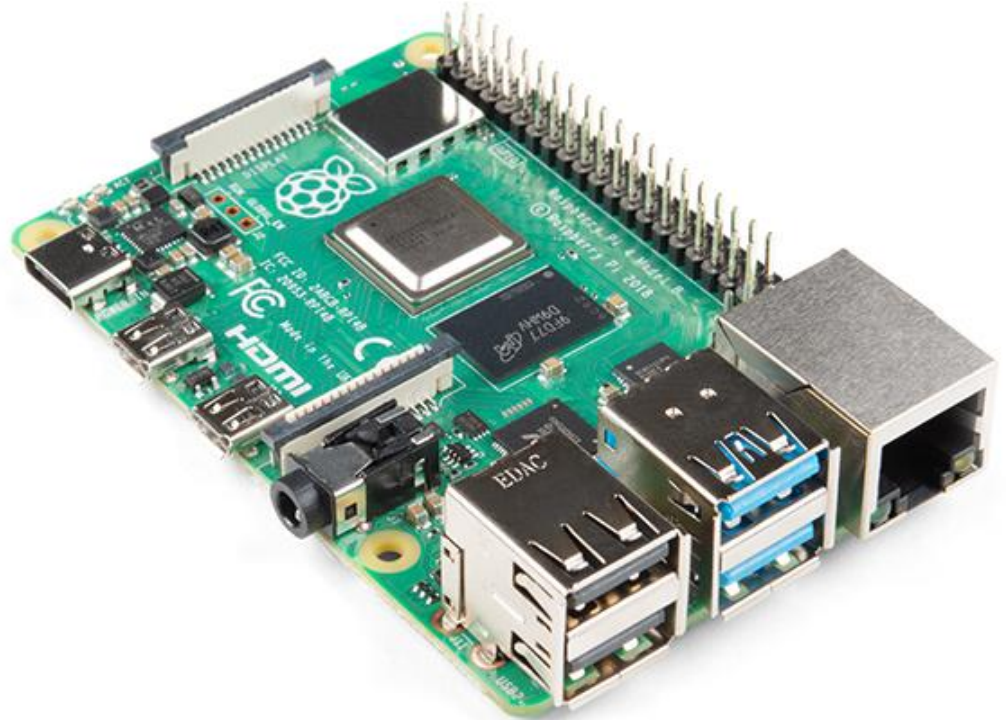
This creates the ability for a server to run regardless of a power outage on one node because the other nodes fill in for the demand.

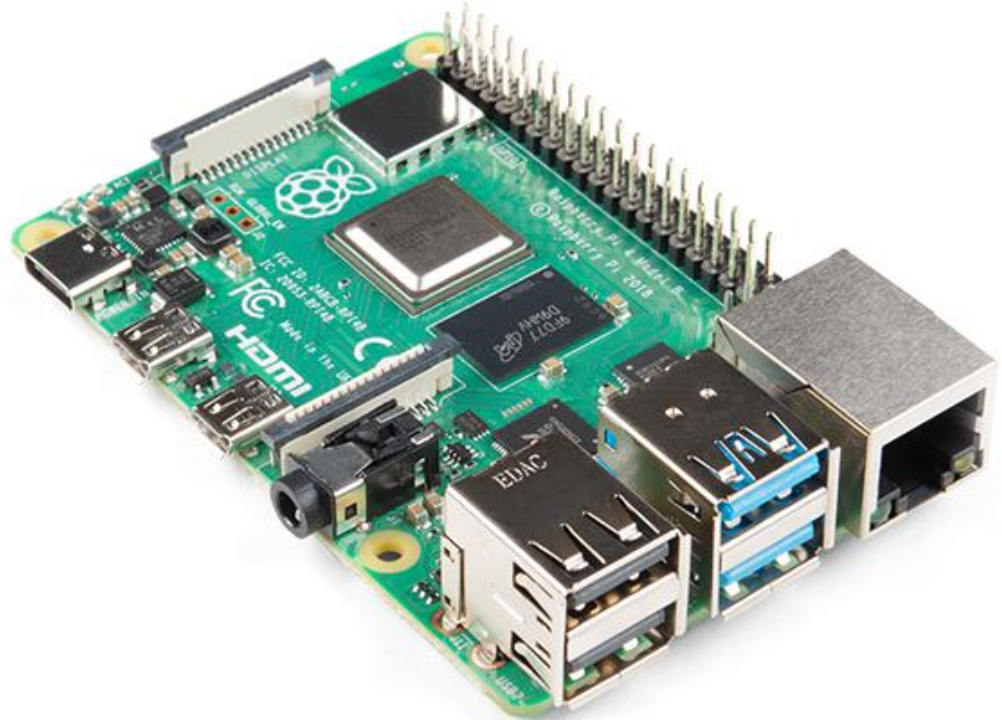All of these nodes act together as one individual server
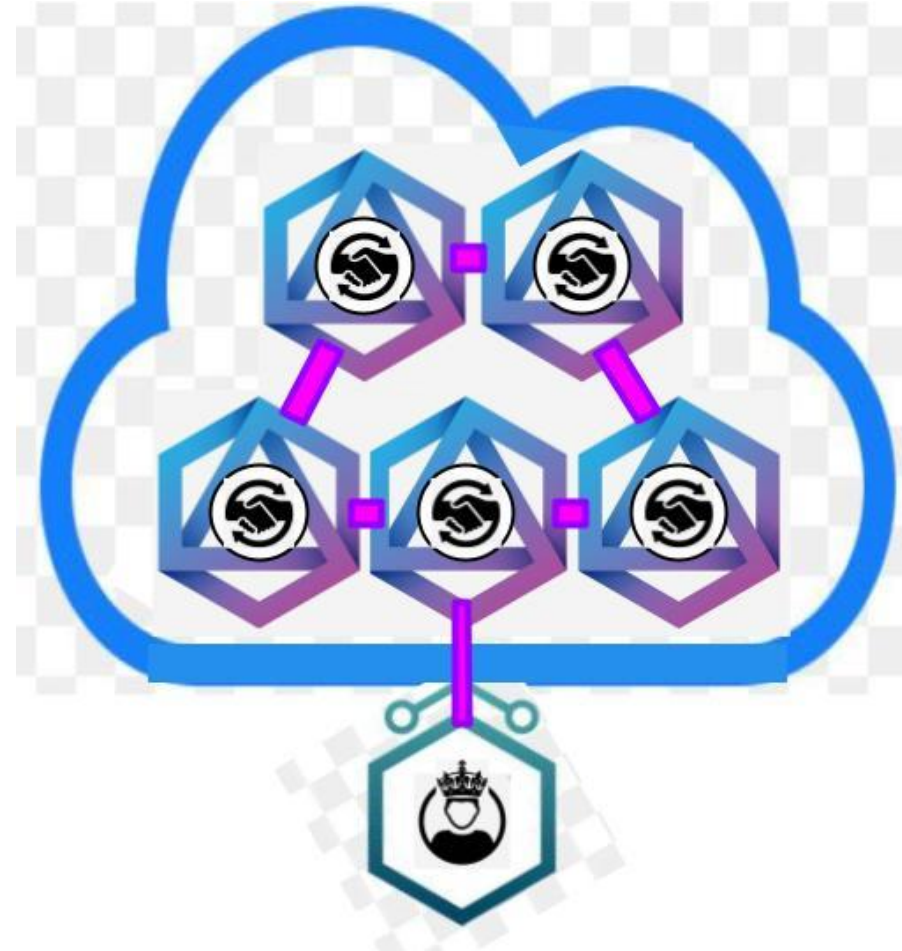
The CASP3R server

At the heart of CASP3R is an
XMPP server built around
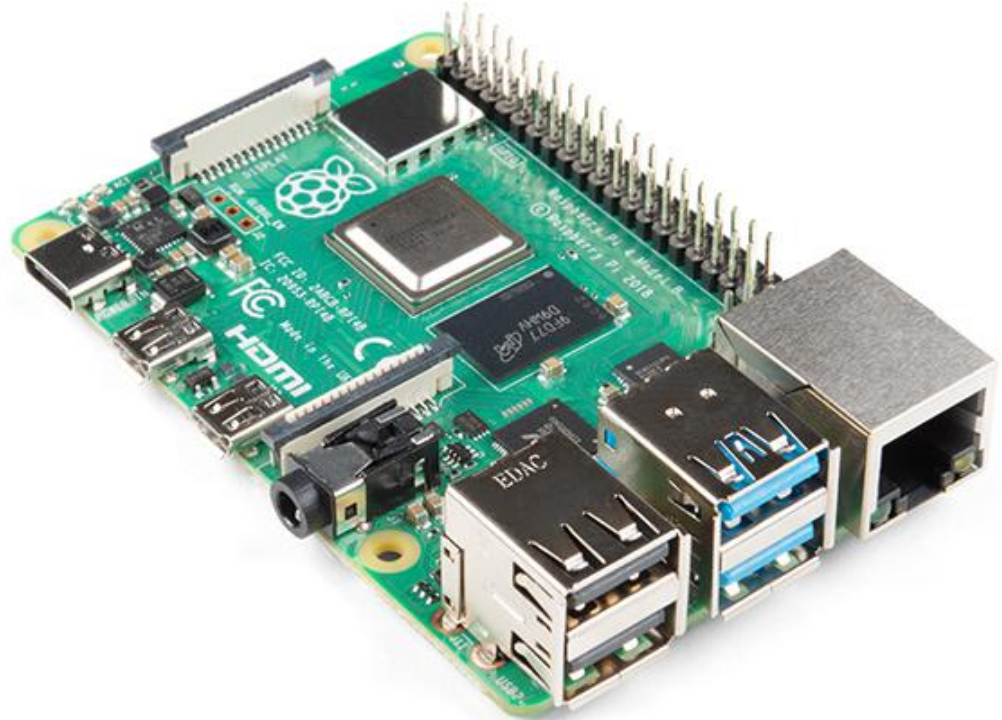a Raspberry Pi computer.

The CASP3R server

These little "micro servers" are
remarkably powerful for
their size & power consumption

The CASP3R server

At the cost of $62, the option of ownership is very much within reach for the average individual.

The CASP3R server

This server system can be scaled up to handle an Infinite number of concurrent users by stacking the hardware like lego blocks and having those in more than one physical location as described earlier.

This network configuration has a built in distributed framework that balances the load of user bemand between individual nodes, limiting "over demand" on any particular ISP connection.

The CASP3R server

This system is remarkably flexible and resilient to attack.

Unlike the centralized server structure of something like facebook.com if an outside agency decided to remove a server's URL like casp3r.im the server has several fallback URL's already built in, the change would only cause a minor hiccup.

If an agency pulled the plug on facebook.com it would be devastated & offline until they could reconfigure and launch under a new URL.
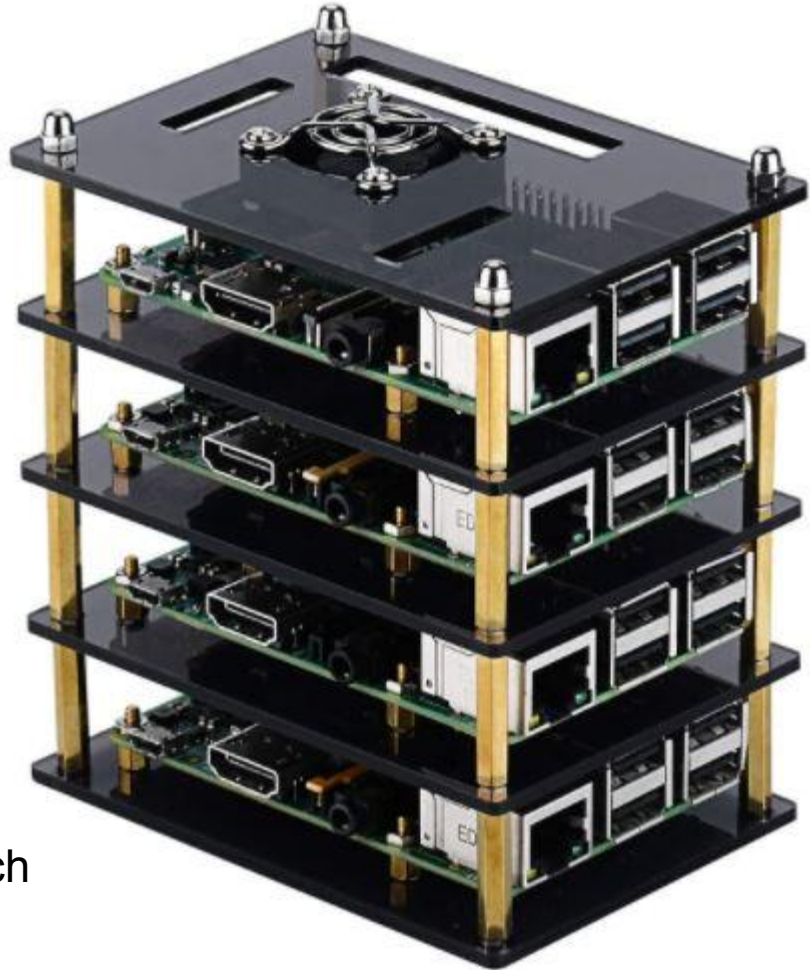
CASP3R

Chapter 1
Centralized vs. Decentralized
Networks
End of Chapter 1