

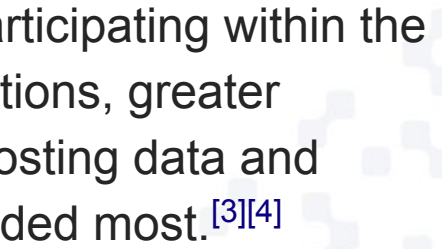
Linux Containers Drive P2P Social Cloud Computing

By Alex Karasulu



Social cloud computing, generalizes [cloud computing](#) to include the sharing, bartering and renting of computing resources across peers whose owners and operators are verified through a [social network](#) and/or [reputation system](#).^{[1][2]}

It expands cloud computing past the confines of formal commercial data centers operated by cloud providers to include anyone interested in participating within the cloud services [sharing economy](#). This in turn leads to more options, greater economies of scale, while bearing additional advantages for hosting data and computing services closer to the edge where they may be needed most.^{[3][4]}



Collaborative Resource Consumption Based On Trusted Social Network Relationships and Reputation



NOT a new idea!



MIT Technology Review

A View from **Emerging Technology from the arXiv**

The Imminent Rise of Social Cloud Computing

If you share your photos, videos and life events with people on a social network, you should also trust them to store and process information for you too, say computer scientists

December 14, 2011



The People's Cloud is the New Computer!

- Personal Clouds
- Family Clouds
- Clouds Between Friends
- Between Colleagues
- Clouds at Work
- Clouds while Traveling
- Integrated w/ Personal Devices
- Integrated w/ the Internet of Things
- Integrated w/ Life
 - Our Activities
 - Our Relationships
 - Our Environments
 - Our Belongings
- Intrinsically Social and Intrinsically P2P



Again these are **NOT** new ideas!



Available from: Ozalp Babaoglu, Mar 05, 2015

The People's Cloud

Peer-to-peer cloud computing
could free us from
the tyranny of data centers



Sharing is caring! But ...

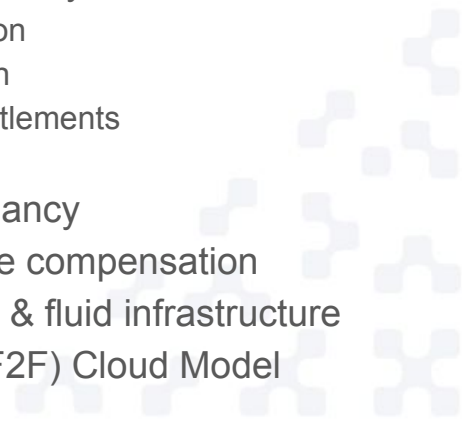
Computing Resource:

- Sharing
- Bartering
- Renting
- Collaborative Consumption!

All parties can be suppliers and consumers at the same time in a peer economy.

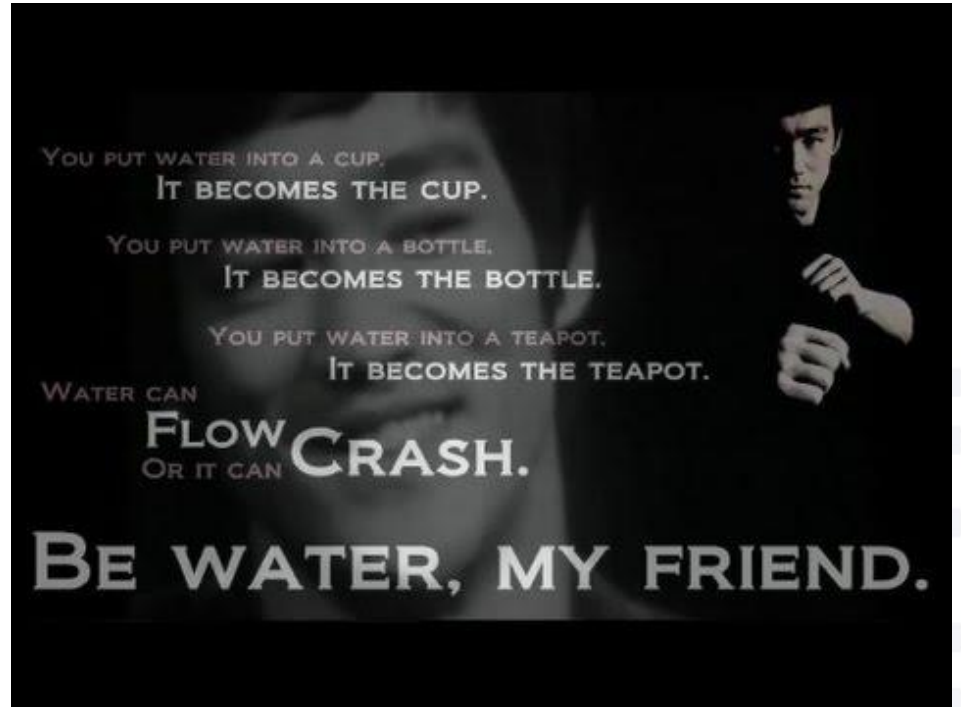
Requires:

- Validation through reputation
- Trusted social network relationships
- For individuals: Web of trust (PGP)
- For businesses: X.509 hierarchy
- Decentralized identity
 - Authentication
 - Authorization
 - Quotas: Entitlements
 - Governance
- Isolation and tenancy
- Fair market value compensation
- Granular flexible & fluid infrastructure
- A Private P2P (F2F) Cloud Model



Cloud “Fluid” Dynamics

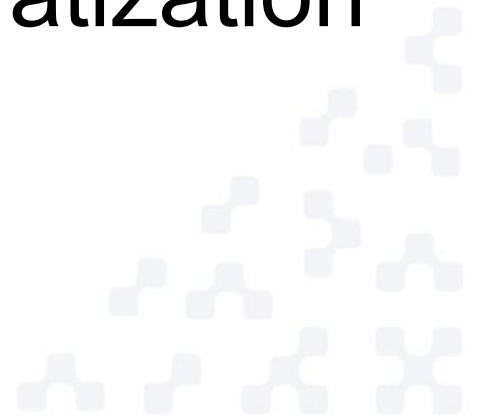
- Clouds In the (Sky) Data Center
- Clouds on (Land) Edge, The Fog
- Colliding
- Combining
- Separating
- Interacting
- Fluid and Contiguous (Not Separate)
- Fine Grained (Atomize Everything)
 - Network
 - Data
 - Computation
- Bruce was right !!



Fluid Friend-to-Friend Cloud Model Now Possible Thanks To Lightweight Linux Containers



P2P CaaS and decentralized identity
holds the key to cloud democratization



Google's Infrastructure For Everyone Else (really?)



“FEEL” the GIFEE

Social cloud computing empowers users with resources from social relationships to actually experience the power of GIFEE



Great For Business Too: B2B Interactions

- Drivers resulting in the genesis of AWS still exist
- Think of millions of Amazon's being born all over the world
- Geographically fluid and mobile clouds adapting to load distribution
- A multi-cloud world on steroids with CDN built in
- Enhanced performance with less waste
- Better server and instance utilization: still less than 10%
- Use existing X.509 EV certificates for commercial identities
- P2P has no boundaries between
 - Edge and Cloud
 - Private, Public, Hybrid, Multi-Cloud
- Dramatically reduced costs from the “provider” explosion



Many know it's coming ...



CloudTimes

[HOME](#) [EVENTS](#) [TOP 100](#) [RESEARCH](#) [CEO SERIES](#) [GUEST AUTHORS](#) [ABOUT US](#) [CONTACT](#)

[Big Data](#) [Cloud Storage](#) [Google](#) [Cloud Providers](#) [SaaS](#) [Cloud Security](#) [White Paper](#)

Social Cloud: Social Networks and Cloud Computing Connections

 Tweet

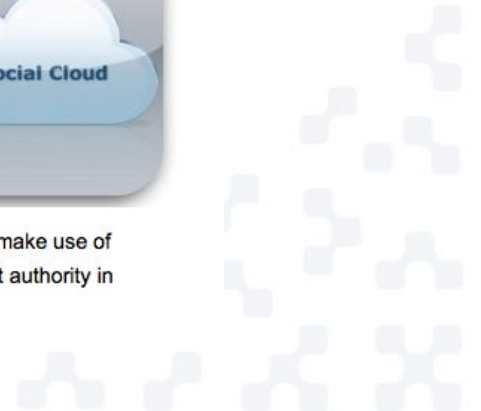
22

 G+

Millions of people are connected to the Internet and a lot of those people are connected on social networking sites.

Social networks have become an excellent platform for sharing and communication that reflects real world relationships. Social networking plays a major part in the everyday lives of many people. Facebook is one social networking site that has more than 400 million active users. The possibility of social media and cloud integration is compelling.

Social networks are being more than an online gathering of friends. It's becoming a destination for ideation, e-commerce and marketing. For instance, there are some organizations and integrated applications that make use of Facebook credentials for authentication rather than requiring their own credentials (for example the Calgary Airport authority in Canada uses Facebook Connect2 to grant access to their WiFi network).



The Harvard Business Review

SOCIAL PLATFORMS

The Power of the Social Cloud

by John Hagel III and John Seely Brown

OCTOBER 15, 2010



SAVE



SHARE



COMMENT



TEXT SIZE



PRINT

In our previous two posts, we discussed the significance of [cloud computing](#) and [social software](#). We rarely get excited about technology for technology's sake – we are most interested in how technologies (and people and practices) alter the business landscape. In this post, we explore how the convergence of these two technology edges can help to support extreme performance improvement. In particular, we want to focus on their potential to change individuals' behaviors and orientation toward challenges.



Escape From the Data Center: The Promise of Peer-to-Peer Cloud Computing

Today, cloud computing takes place in giant server farms owned by the likes of Amazon, Google, or Microsoft—but it doesn't have to

By Ozalp Babaoglu and Moreno Marzolla
Posted 22 Sep 2014 | 19:00 GMT

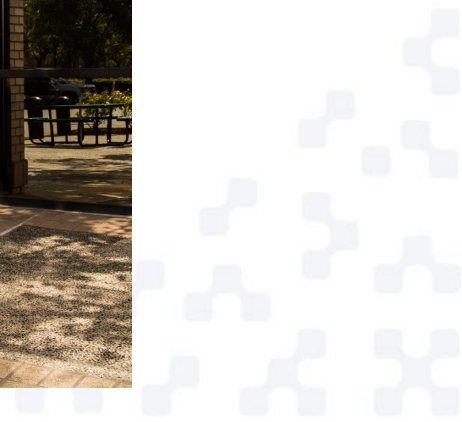


Researchers from The University of Bologna



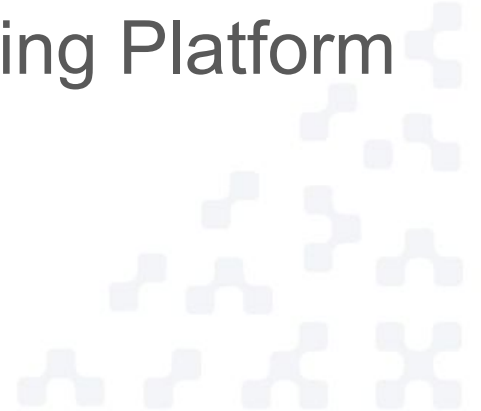
Illustration: Rob Wilson

Maybe some folks bet \$26B on something like it?



Subutai Social

An Open Source Social Cloud Computing Platform



Subutai Social and Tracker Hub

Subutai Social:

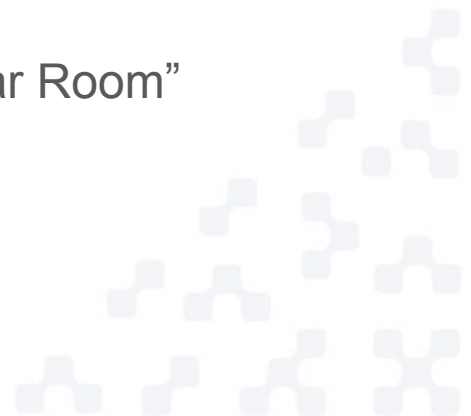
- Peer software installed on:
 - Bare metal
 - Over hypervisors
 - On cloud instances
- Attach resources (resource hosts)
 - Physical machines
 - Virtual machines
 - Cloud instances
- Register on Hub to:
 - Share
 - Barter
 - Rent

Subutai Social Hub:

- UI around system of peer trackers
- Peer search engine
- Peer and user reputation system
- Social network sharing relationships
- Social cloud bazaar using virtual currency
- Services for peer owners and consumers:
 - Dynamic DNS, Reverse Proxy
 - Dynamic matching and auction
 - Peer management and CDN
- Philanthropic contribution system:
 - Open Source Projects: Github
 - Academia and Research
 - Nonprofit Charities

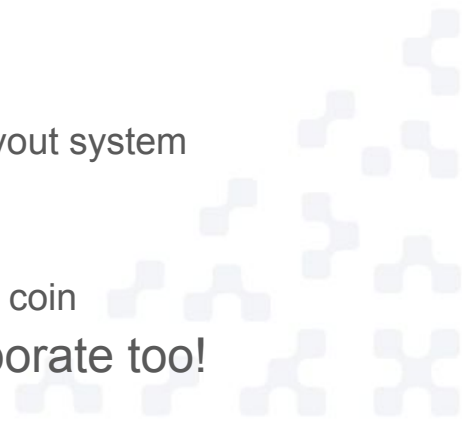
Why Subutai?

- Mongol general who made Genghis Khan great
- Slave who became the greatest general in history
- Merged several peoples together to create mongol hordes
- Fought wars with concepts and tactics around water (fluidity)
- We needed a bad assed general to help us assemble the hordes
- We are one together with the entire ecosystem
- Join us and flow with our hordes in the Subutai Hub's "War Room"



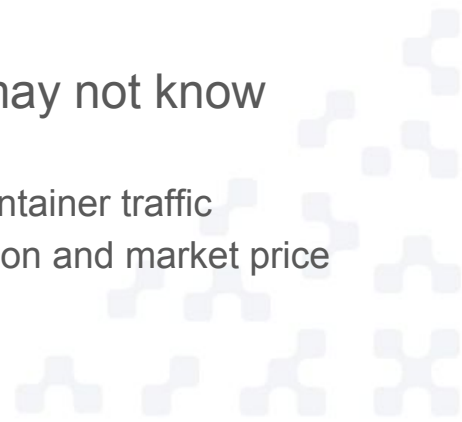
Social Cloud Economics

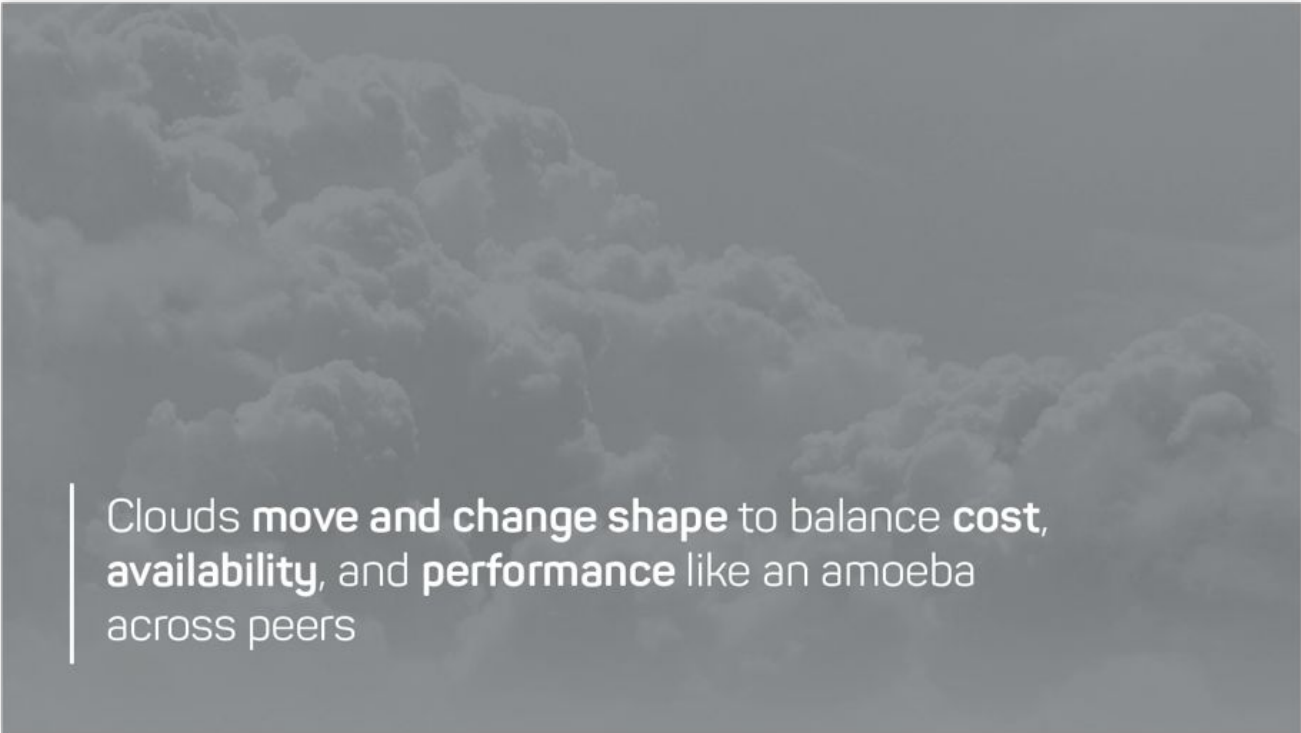
- All collaborations are rewarded with Subutai Coin (virtual currency)
- Everything is part of the bazaar that you can sell for Subutai Coin
 - Peers and their resources
 - Plugins
 - Applications
 - Services
 - Anything
- You **MUST** earn Subutai Coin:
 - Joining and inviting others gets you coin in a dampened pyramid payout system
 - Just installing peers and adding resources gets you coin
 - High reputation is rewarded with coin: warning tenants, uptime, etc
 - Being philanthropic and contributing to OS projects and charities get coin
- No real money! Not even for businesses, they must collaborate too!



How it works?

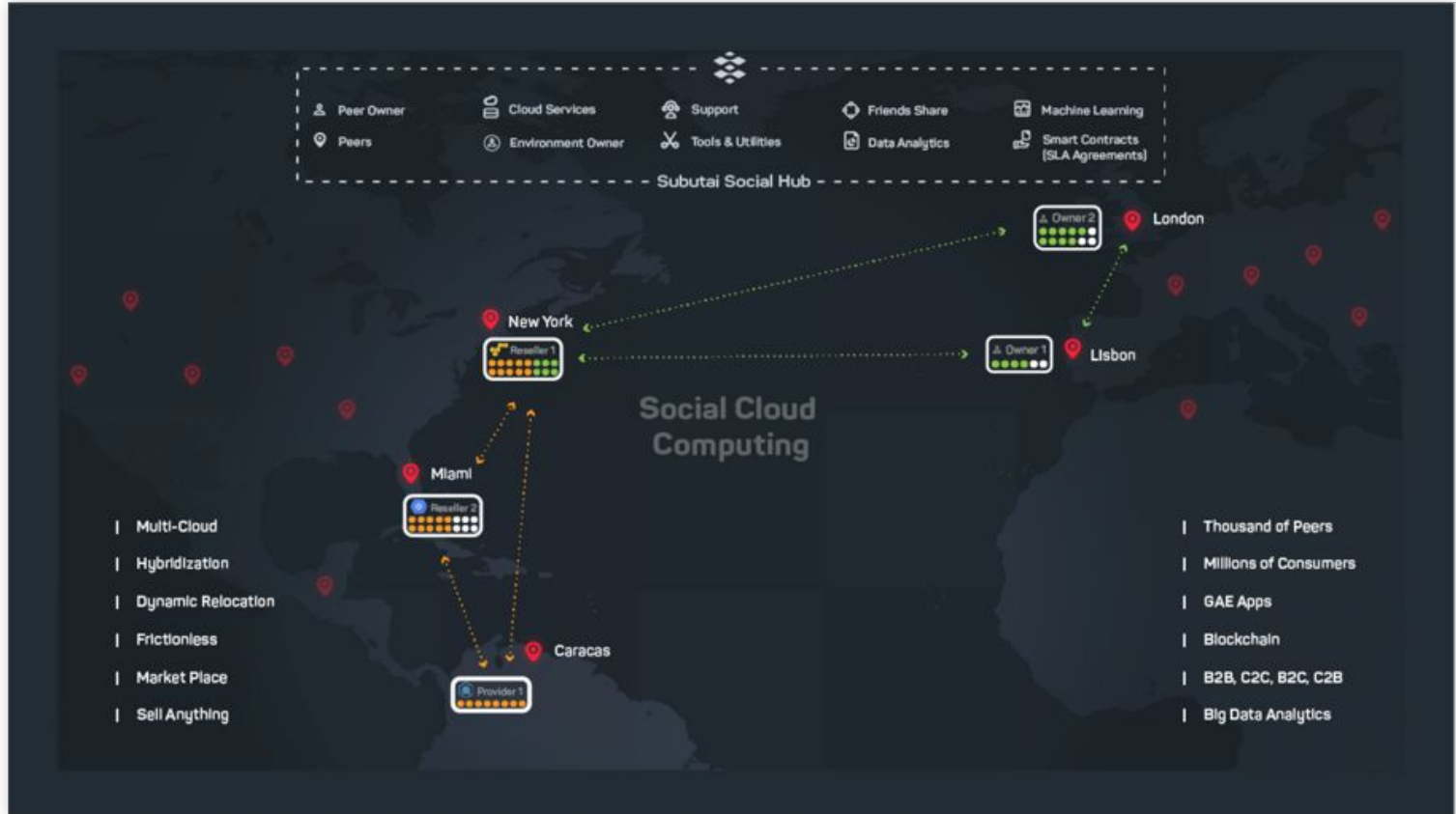
- Consumers build virtual private environments stuffed with container hosts
 - Containers have preset sizes like AWS instances
 - Suggested market prices computed based on Subutai Coin
- Peers expose resources to be shared or rented to others
- Sharing is static and all parties earn free coin: uses social network relations
 - Pick friends you want to share with
 - Specify how much to share
- Renting occurs when using resources from “others” you may not know
 - Totally dynamic
 - Environments and containers move and scale based on load and container traffic
 - You specify constraints for peers and their owners based on reputation and market price
 - You pay them with your Subutai Coin based on container usage





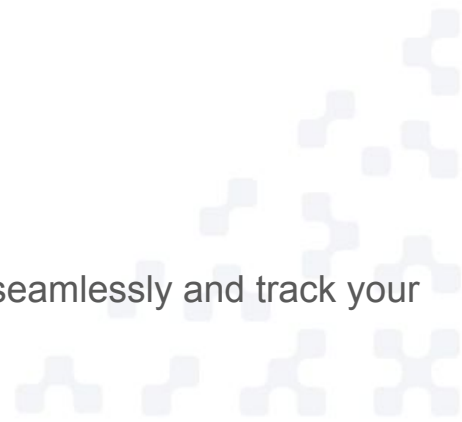
Clouds **move and change shape** to balance **cost**,
availability, and **performance** like an amoeba
across peers



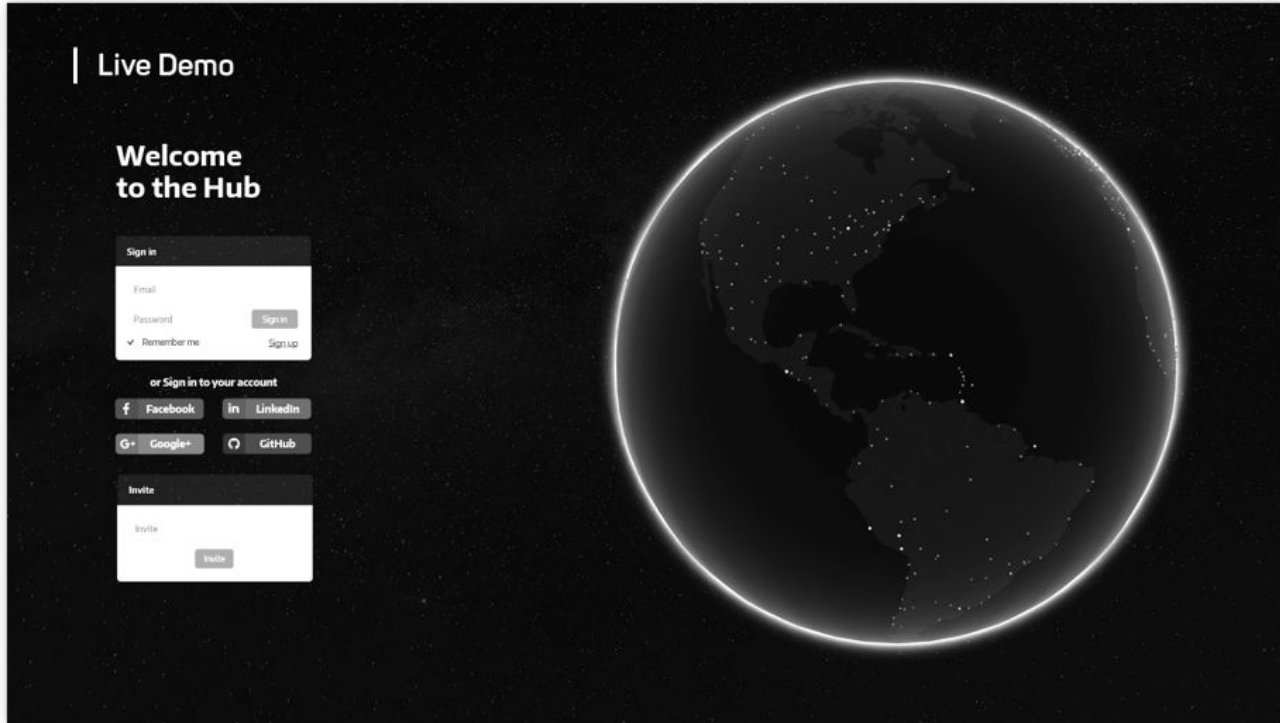


How do I start?

- Come join the community on the Hub
 - <https://hub.subut.ai>
 - Chat with us in the “War Room”
 - Invite your friends, family, and colleagues through social networks
- Install a peer using trail installers
 - <https://subut.ai/installation.html>
 - Easy to uninstall installers using virtualbox VM
 - For all operating systems
 - Made for babushka’s and non-techie friends
 - Start sharing, or renting out resources to make some coin
 - Create environments and test across other people’s peers (OPP)
 - Use desktop tray app and browser plugins to login to environments seamlessly and track your coin.

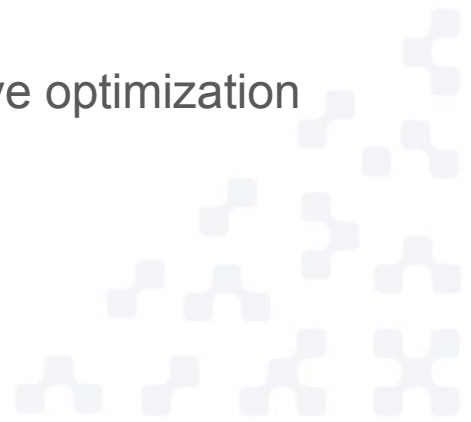


Let's Take a Look



Current Roadmap

- Open beta starts today!!!
- We need you, please contribute by:
 - Joining the Hub (user community)
 - Join the developer community: <https://github.com/subutai-io>
 - Stand up peers and contribute some resources to us and others
 - Help test, give advice and feedback
- Github Integration w/ Blueprints
- More big data analytics and machine learning for predictive optimization
- Live migration and p2p backups
- Adding blockchain based smart contracts
 - For SLA enforcement
 - Escrow based liability



Come join the horde!

Alex Karasulu

akarasulu@gmail.com

<https://subut.ai>

<https://hub.subut.ai>

