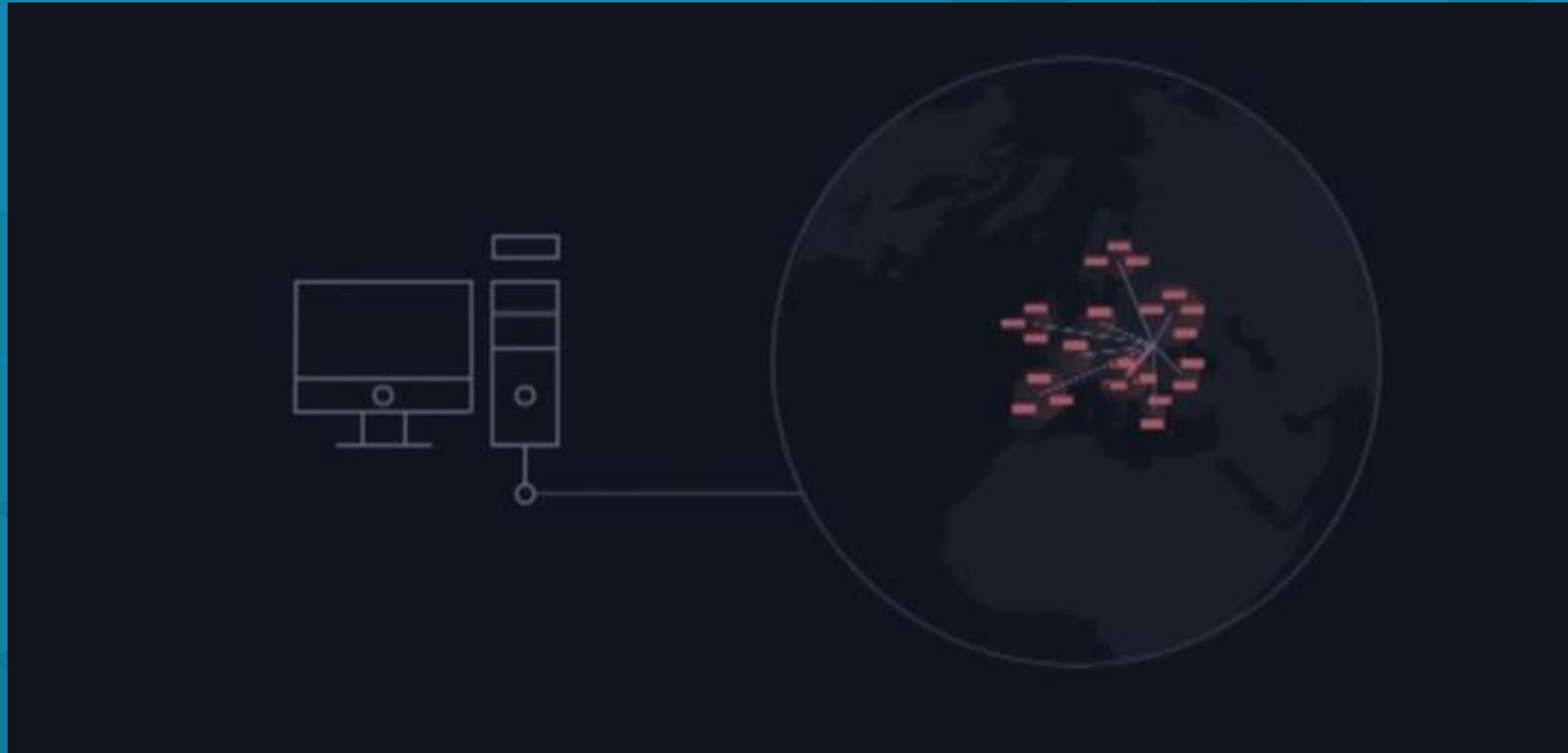


Blockchain for Computing....



Golem, iEx.ec, SONM.....

The Shortest Description!

Anyone can use Golem to rent their unused computing resources. Simultaneously Golem enables every user to buy computing time from other users to complete virtually any computationally-demanding task.

Consequently, Golem creates the first global market for idle computing power.

Golem is a decentralised, p2p network utilising Ethereum and smart contracts as transaction system.

USE CASES



Site hosting

for end-buyers and subhosting



Application

back-end for mobile apps or platforms for app hosting: Yandex, Heroku etc.



Machine learning

for end-buyers and subhosting



Scientific research

and calculations



Game servers

Quake, CS:GO an others



Video streaming

without interruptions and uploads (Netflix, HBO)



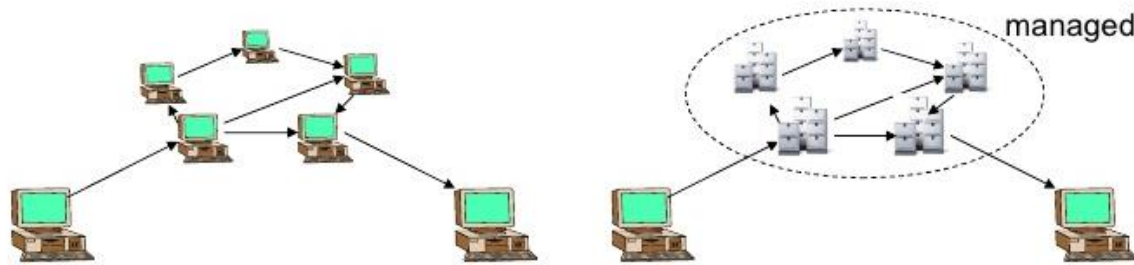
Video rendering

rendering faster, and cheaply

Peer-to-peer \neq cloud computing

- Self management
- Free resource sharing
- No central co-ordination
- ...

- Self management
- Utility computing
- Central co-ordination
- ...



A MARKETPLACE FOR COMPUTER POWER

An opportunity for miners to earn tokens by performing calculations for everyone in the network.

Any smart device (CPU, GPU, PlayStation, and even smartphone) located anywhere in the world can take advantage by joining the fog network and selling computing power peer-to-peer.

A MARKETPLACE FOR COMPUTER POWER

Buyers benefit from using fog computing as an alternative to centralized cloud services in terms of cost effectiveness, security, and scalability.

There's no need for infrastructure and employees - the data is stored in the fog, decentralized and encrypted on miners' computers.

Buyers can select any rental time or computer architecture they need for their project and they set the cost.

SONM's secure and cost-effective fog supercomputer is designed for general-purpose computing, from mobile app hosting to video rendering to DNA analysis.



Ethereum smart contracts

A consensus system ensuring transparency and security for the system's participants

Fog computing

A decentralized and more efficient computing model compared to cloud

Yandex.Cocaine

An open source Platform-as-a-Service (PaaS) technology, and a decentralized computing platform

Docker Container

An isolated environment ensuring computing parallelism and appropriate apps running on any device

BtSync

A peer-to-peer system for fast and safe data transfer

Whisper

A peer-to-peer technology for node communication

$F = \frac{q_1 q_2}{4\pi\epsilon_0 \epsilon r^2}$
 $\Phi = \int B \cos \alpha ds$
 $f = \frac{U_m}{L}$
 $W_n = \frac{k(\Delta v)^2}{2}$
 $C_v = \frac{i+2}{2} R$
 $l = l_0 \cos^2 \alpha$
 $M = I \bar{z}$
 $I = \frac{U}{R}$
 $\langle D \rangle = \frac{n_2 - n_1}{\lambda_2 - \lambda_1}$
 $\vec{a} = \vec{a}_n + \vec{a}_c$
 $\langle v \rangle = \frac{\Delta S}{\Delta t}$
 $\Delta S = S_2 - S_1$
 $v = \text{const}$

$\vec{E} = \sum_{i=1}^N \vec{E}_i$
 $\Psi(x)$
 $\frac{1}{\lambda} = R z^2 \left(\frac{1}{m^2} - \frac{1}{n^2} \right)$
 $h = 6,63 \cdot 10^{-34} \text{ Дж} \cdot \text{с}$
 $R = \frac{\lambda}{\Delta \lambda} = mN$
 $C = \frac{\epsilon_0 \epsilon S}{d}$
 $L = \mu \mu_0 n^2 V$
 $T_0 = 2\pi \sqrt{\frac{m}{k}}$
 $\chi = \ln \frac{A(t)}{A(t+T)}$
 $v_k = \frac{A}{h}$
 $A = f_0 e^{-\beta t}$
 $A = p(V_2 - V_1)$
 $A = \frac{p}{\mu} A T h \frac{v}{v_0}$
 $Q = \Delta U + A$
 $c = \frac{dQ}{m dt}$
 $C = c \cdot \mu$
 $S_2 - S_1 = \int_1^2 \frac{dQ}{T}$

$R = \sigma T^4$
 $T = \frac{2\pi}{\omega}$
 $\chi = \beta T$
 $\Psi_n = \sqrt{\frac{2}{l}} \sin \frac{n\pi x}{l}$
 $\omega = \sqrt{\omega_0^2 - \beta^2}$
 $E = mc^2$
 $h\nu = A + \frac{mv_{mo}^2}{2}$
 $\Delta m > 0$
 $\Delta m < 0$
 $C = c \cdot \mu$

$\sigma = 5,67 \cdot 10^{-8} \frac{\text{Вт}}{\text{м}^2 \cdot \text{К}^4}$
 $W = |\Psi|^2$
 $R = \alpha \sigma T^4$
 $\alpha = f_0 e^{-\beta t} \cos(\omega t + \alpha)$
 $p = \frac{mv}{\sqrt{1 - \frac{v^2}{c^2}}}$
 $E = h\nu = h \frac{c}{\lambda}$
 $m_0 = -$
 $\langle \lambda \rangle = (\sqrt{2\pi d^2 n})^{-1}$

$\lambda_m = \frac{b}{T}$
 $b = 2,9 \cdot 10^{-3} \text{ м} \cdot \text{К}$
 $\nu_1 = \frac{1}{T}$
 $\omega = 2\pi\nu$
 $T = \frac{2\pi}{\sqrt{\omega^2 - \beta^2}}$
 $\rho = \frac{mv}{t \cdot s}$
 $\beta = \frac{v}{c}$
 $\Delta N = N \frac{4}{\sqrt{\pi}} e^{-4u^2} du$
 $u = \frac{v}{v_0}$

$\varphi = \arctg \frac{A_1 \sin \alpha_1 + A_2 \sin \alpha_2}{A_1 \cos \alpha_1 + A_2 \cos \alpha_2}$
 $\lambda = vT$
 $k = \frac{2\pi}{\lambda}$
 $\Delta = \pm m\lambda_0, m = 0, 1, 2, \dots$
 $\rho = \vec{\rho}_1 + \vec{\rho}_2 + \dots + \vec{\rho}_n$
 $\Delta m = Z m_p + N m_n - m$
 $\langle Z \rangle = \sqrt{2\pi d^2 n} \langle v \rangle$

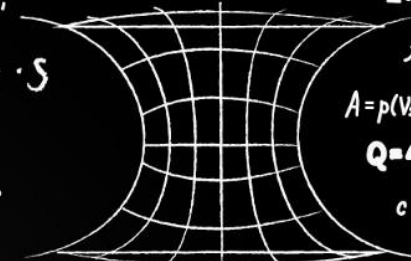

$A_p = \frac{f_0}{2\beta \sqrt{\omega_0^2 - \beta^2}}$
 $W = \frac{1}{2} m A^2 \omega^2$
 $E = A \cos(\omega t - kx)$
 $\rho = nkT$
 $\langle \epsilon \rangle = \frac{3}{2} kT$

$M = Fv$
 $\Delta \varphi = \frac{2\pi}{\lambda} \Delta x$
 $\eta = \frac{1}{3} \rho \langle v \rangle \langle \lambda \rangle$
 $U = \frac{1}{2} \frac{m}{\mu} RT$
 $\frac{Dv}{T} = \frac{m}{\mu} R = 8,31$
 $v = \frac{N}{N_A} = \frac{m}{\mu}$
 $\sigma = en(u_n + u_p)$

$A = I \Delta \Phi$
 $q = \frac{\Delta \Phi}{R}$
 $D = \frac{1}{3} \langle v \rangle \langle \lambda \rangle$
 $\Delta = L_2 - L_1$
 $\epsilon = \frac{q}{4\pi\epsilon_0 \epsilon r^2}$
 $\chi = \eta \frac{l}{2} \frac{R}{\mu}$

$\mathcal{E}_2 = 5/2 \cdot \hbar \omega (n=2)$
 $\mathcal{E}_1 = 3/2 \cdot \hbar \omega (n=1)$
 $\mathcal{E}_0 = 1/2 \cdot \hbar \omega (n=0)$
 $R_n = \frac{3\hbar}{8} \frac{r}{ne}$
 $p = \frac{h}{\lambda}$
 $\rho = \rho_0 e$
 $\psi = N \Phi$

$\lambda = \frac{h}{p}$
 $\varphi = \frac{W}{q_0}$
 $f(v) = 4\pi \left[\frac{2\pi kT}{m_0} \right]^{3/2} v^2 e^{-\frac{m_0 v^2}{2kT}}$
 $\Delta u = \frac{\Delta v}{v_0}$
 $\lambda_k = \frac{hc}{A}$
 $\vec{E} = \frac{\vec{F}}{q_0}$
 $W = mgh$
 $F_{TP} = mN$
 $\langle v \rangle = \sqrt{\frac{8kT}{\pi m_0}} = \sqrt{\frac{8RT}{\pi \mu}}$
 $A = F \Delta s \cos \alpha$

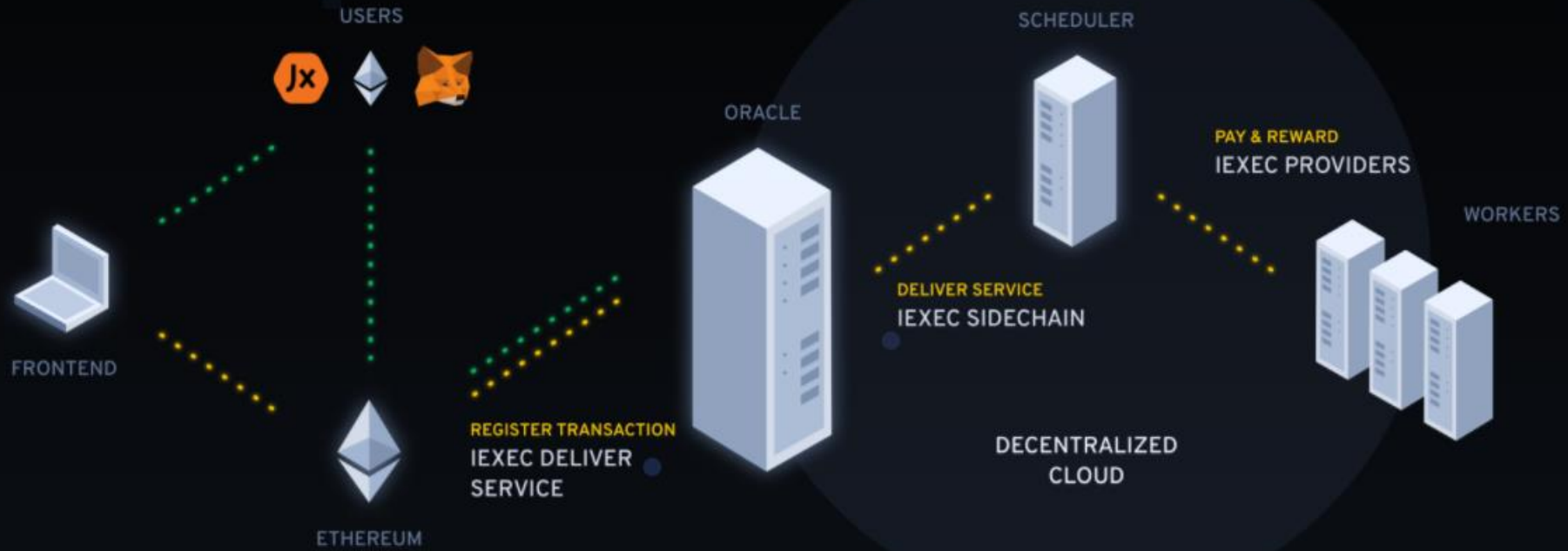





iExec

The Decentralized Cloud

Our architecture makes it possible to have a network of computing resources that are used to execute distributed applications.



● BLOCKCHAIN TRANSACTION

● OFFCHAIN COMPUTATION & RULES