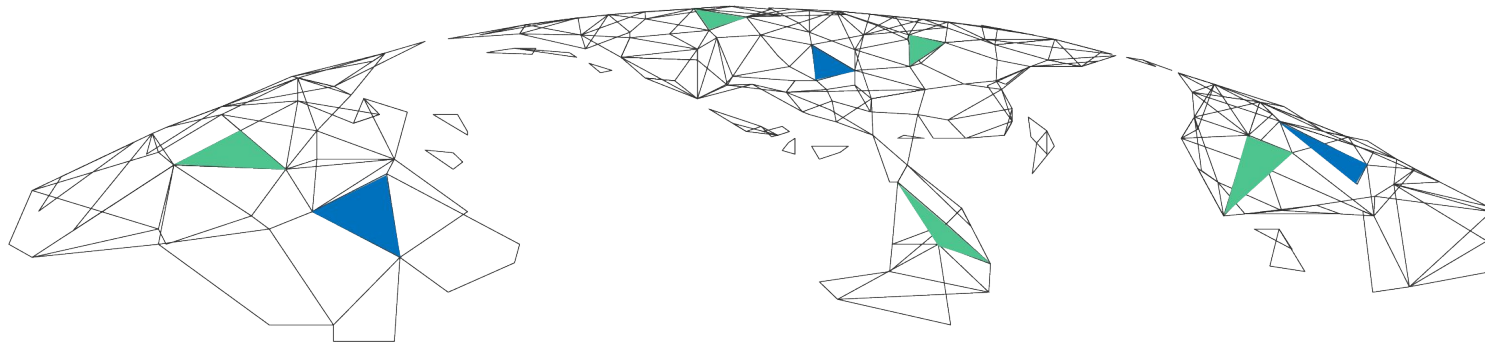# THREEFOLD

AUTONOMOUS DECENTRALISED CLOUD TECHNOLOGY

MEETING THE DEMAND FOR DECENTRALISATION IN THE DATA ECONOMY

Navigating the European Cloud Community

Oct 14, 2021

FROM CENTRALIZED TO PEER2PEER

WHAT SOLAR PANELS DID FOR THE ENERGY INDUSTRY - WE DO FOR INTERNET CAPACITY
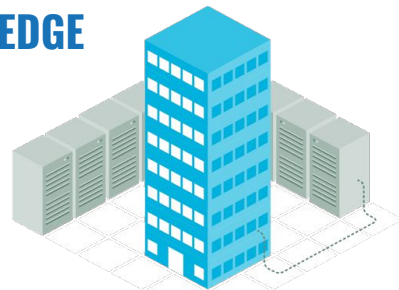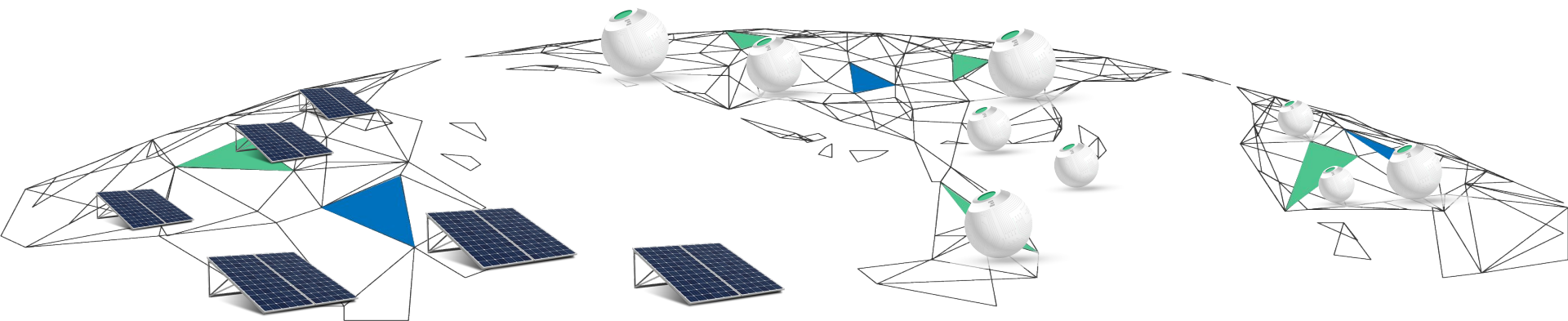### ... MAKING CLOUD DECENTRALISED AND READY TO RUN ON THE EDGE

POWER PLANT > **SOLAR PANEL**   **3NODE** < **DATACENTER**

... MEETING THE REQUIREMENTS FOR A FEDERATED CLOUD ARCHITECTURE (1)

- Operating System, able to access hardware resources
  - Combine Storage, Compute & Network
- Compatible
  - Ex. Linux-based
  - Containers (Docker, Kubernetes)
  - IPv6
  - Can run on existing cable network / internet hardware infrastructure
  - OS can run on any existing hardware, allowing secure boot (server hardware & ARM)
- Scalable
  - Able to run in a grid of millions of nodes connected
  - Need for a stateless and lightweight system
  - No limits in network (peer to peer connections, IPv6)
- Reliable (operational backups, operational continuity)
- Secure by design / Hackerproof and Privacy by design
  - Encrypted network
  - Quantum-safe storage = non-hackable, even if attacked by a quantum computer
- Open-source technology
  - Stimulating collaboration

- Capable for the Edge
  - Self-healing, to compensate for
    - absence of human operators
    - devices going out of service
  - Lightweight OS, so it can run on ARM infrastructure
  - Energy-efficient & sustainable : no need for extra power plants, can run on current electricity grid
  - Low latency ⇒ direct peer-to-peer connections
    (emerging need with AR/VR, Smart Cities, 5G, self-driving cars, …)
- Incentive for local hardware owners to keep their resources connected
- Identity for each device
  - IPv6 address (3.4 x 10^38 addresses available)
  - Decentralized identity, using PKI (DID ready)
  - Built-in trust
- Low capital requirements
  - Rely on a very big number of participants to build the infrastructure
- Low operational and logistic requirements
  - High automation needed to compensate for
    - Unavailability of system operators
    - Devices going out-of-service
  - Plug&Play
- Working prototype available on testnet, now to be adapted to become fully edge-ready
  - Compatibility with more hardware
  - Wireless
  - Embedded devices, …

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DECENTRALIZED CLOUD SOFTWARE TECHNOLOGY

ZERO OS

OUR UNIQUE OPERATING SYSTEM IS THE MOST EFFICIENT UTILIZATION OF HARDWARE

Efficient and scalable operating system that eliminates multiple layers of complexity and delivers compute and storage capacity everywhere, much closer to the source of the hardware. Its lightweight architecture makes it cost and energy efficient.

ZERO PEOPLE

AUTONOMOUS IT - SELF-DRIVING / HEALING SOFTWARE

A major efficiency gain comes from removing the human requirement for deploying and operating IT infrastructure and services. It is truly self healing IT has never been achieved before.

ZERO CHAIN

DECENTRALIZED CONSENSUS BLOCKCHAIN PLATFORM

More Scalable, Private Blockchain Technology
Blockchain Dilemma Resolved
Scale & Security
Supercharge any other blockchain technology.
Our own BCDB (Blockchain Database) is 50x more efficient for storing data compared to others.

ZERO OS ZERO PEOPLE ZERO CHAIN

THREEFOLD PEER-TO-PEER CLOUD
A 100% re-invented technology stack delivers true change.

	THREEFOLD P2P CLOUD	TRADITIONAL CENTRALISED CLOUD
Can run any IT workload, easily updatable (cloud agility)	Yes	Yes
Close the edges of the internet (to where workloads are)	Yes	No
Cloud Agility	Yes	Yes
Full Cloud Connectivity	Yes	Yes
Quantum Secure	Yes, by design	No
Zero People and Self-Healing (autonomy & automation)	Yes, 3Bot Virtual System Admin	No
Incentive for keeping infrastructure connected	Yes, TFT farming	N/A (centralised)
Privacy respecting	Yes, by design	Requires complex setup
Investment Cost	Low	High
Operational Cost	Low	High
Energy efficient and Green	Yes	No
Scalable	Yes	Has reached its limits

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THANK YOU!

for more information

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