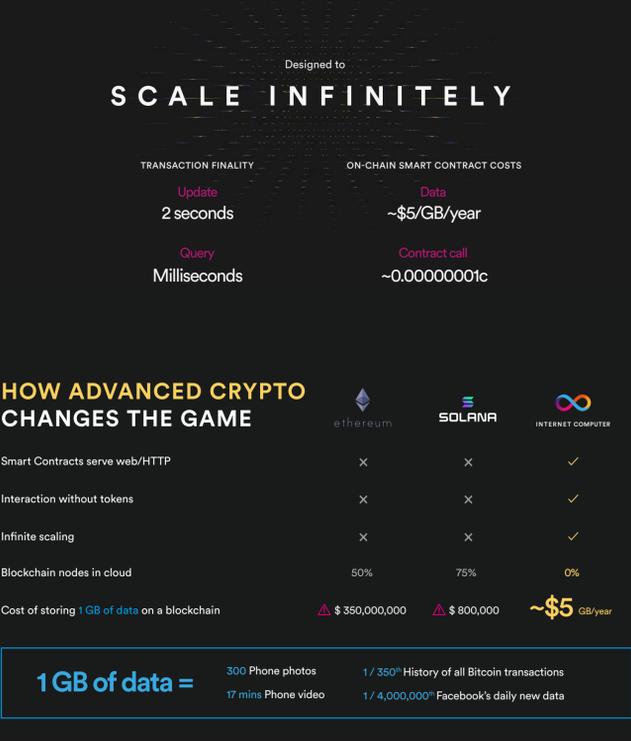


# INTERNET COMPUTER

A beautiful dream emerged in 2014. One team set itself to realizing that dream. It required years of R&D, a world-renowned team of scientists and engineers, the complete reimagining of blockchain architecture, consensus, smart contracts and development of "chain key cryptography", then finally, in May 2021, the first...

## WORLD COMPUTER

A blockchain you can build *anything* on



## SCALE INFINITELY

|                              |                                      |
|------------------------------|--------------------------------------|
| <b>TRANSACTION FINALITY</b>  | <b>ON-CHAIN SMART CONTRACT COSTS</b> |
| <b>Update</b><br>2 seconds   | <b>Data</b><br>~\$5/GB/year          |
| <b>Query</b><br>Milliseconds | <b>Contract call</b><br>~0.00000001c |

## HOW ADVANCED CRYPTO CHANGES THE GAME

|  |                  |              |                   |
|--|------------------|--------------|-------------------|
|  | ethereum         | SOLANA       | INTERNET COMPUTER |
| Smart Contracts serve web/HTTP               | ✗                | ✗            | ✓                 |
| Interaction without tokens                   | ✗                | ✗            | ✓                 |
| Infinite scaling                             | ✗                | ✗            | ✓                 |
| Blockchain nodes in cloud                    | 50%              | 75%          | 0%                |
| Cost of storing 1 GB of data on a blockchain | △ \$ 350,000,000 | △ \$ 800,000 | ~\$5 GB/year      |

**1 GB of data =** 300 Phone photos / 17 mins Phone video / 1/350<sup>th</sup> History of all Bitcoin transactions / 1/4,000,000<sup>th</sup> Facebook's daily new data

## Internet Computer ecosystem dapp

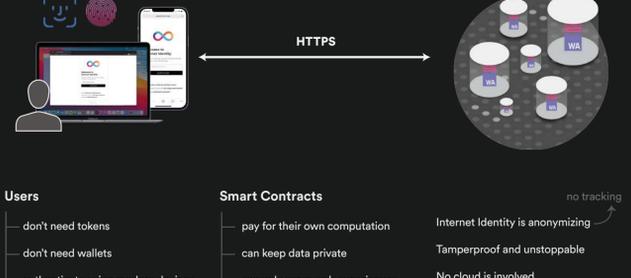
fast growing **75,000+ users**

**OPEN CHAT** (beta) True Web3

- Built entirely using smart contracts that serve web directly to users
- Messages can include media, and cryptocurrency and NFTs...
- Runs as a blockchain extension for maximum decentralization
- Smart contracts store messages, photos & video on-chain
- Community owned and governed via a DAO and tokens
- Total censorship resistance
- Chat dapp is also a crypto wallet providing SocialFi functionality
- Contracts randomly airdrop governance tokens to online users
- https://oc.app

## REAL WEB3 DAPPS DO NOT RUN ON THE CLOUD

Web2 applications running on the cloud that interact with a blockchain are often misleadingly described as Web3 "dapps running on blockchain X". Dapps on other blockchains are really cloud applications.



**GOOGLE CAN STOP ALL DAPPS**  
 The wallet is a browser extension that is downloaded from Google's Chrome Web Store. In 2018, they banned MetaMask for a while, preventing new downloads. Google can also insert malicious code to steal the cryptocurrency.

**CLOUD CAN BAN ALL DAPPS**  
 Without the cloud, dapps stop working, and their data is lost (for example, NFT content is stored on the cloud). In early 2021, AWS banned the Parler social media service, causing it to go offline. They can also insert malicious code.

**USERS MUST ACQUIRE TOKENS TO INTERACT MEANINGFULLY**  
 User interactions involving smart contracts on the blockchain, even, for example, to store a simple username, require a browser wallet loaded with cryptocurrency. The wallet must be downloaded from the Chrome Web Store and the cryptocurrency purchased and installed in advance. This creates a barrier to entry that slows down user adoption and growth.

**DEVELOPERS BECOME LEGALLY LIABLE BECAUSE IT'S NOT REALLY DECENTRALIZED**  
 When dapps process tokens, if they are not truly decentralized, then regulatory considerations become an issue. This often forces their developers to self-censor. For example, in the summer of 2021, Uniswap, a major "decentralized exchange", delisted more than 100 tokens. Although their smart contract code was controlled by governance tokens, naturally their website and much of the processing really ran on the cloud, and naturally these centralized services were paid for by the developers, making them liable, resulting in them self-censoring to avoid legal issues.

**THE ARCHITECTURE IS INSECURE AND DISASTERS ARE ACCELERATING**  
 Whereas blockchains host tamperproof code, which does not need to be protected by a firewall, the same cannot be said for cloud services, and private server computers. If a hacker gains access to these traditional IT systems, they can modify how they serve user interface code into the user's web browser, in such a way that they can steal all their tokens. In the winter of 2021, hackers gained access to the IT systems of BadgerDAO, and inserted malicious code into the user interface that stole \$120m worth of bitcoin and other cryptocurrency from its users.

**USERS ARE NOT ANONYMOUS AND CAN BE TRACKED**  
 Each interaction the user has with the blockchain involves their wallet key, which means that they can be tracked across the different dapps that they use. This is a privacy and security concern.

## The internet computer blockchain solves these problems by supporting real web3 — convenient for users, secure, unstoppable and censorship resistant

## REVOLUTIONARY SMART CONTRACTS SERVE WEB/HTTPS



|   |                                |                                  |
|---|--------------------------------|----------------------------------|
| <b>Users</b>  | <b>Smart Contracts</b>         |                                  |
| don't need tokens   | pay for their own computation  | Internet Identity is anonymizing |
| don't need wallets  | can keep data private          | Tamperproof and unstoppable      |
| authenticate using modern devices                                   | securely serve web experiences | No cloud is involved             |
| control dapp accounts using Internet Identity. Accounts hold tokens | directly to users              |                                  |

## BLOCKCHAIN IS NOW THE ENTIRE STACK. TIME TO FORGET THE CLOUD, SERVERS, WEB SERVERS AND DATABASES FOR...

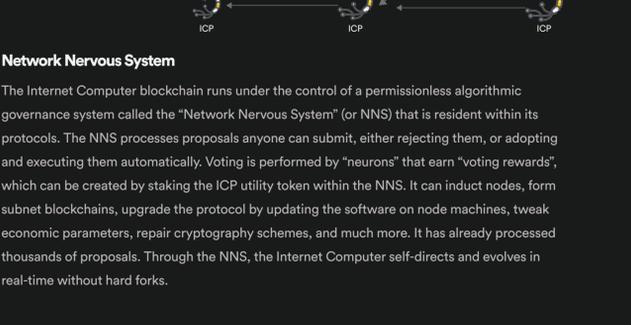


Only the Internet Computer makes it possible to build anything end-to-end on a blockchain



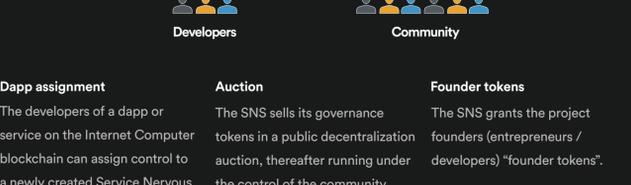
December 2021, 7 months since genesis...

## 1000+ DEVELOPERS BUILDING



## NOW BUILD ANYTHING ON INFINITE WEB3 BLOCKCHAIN

Smart contracts can now be the entire stack



**Popular languages**  
 Motoko was developed for the Internet Computer environment. Designed by a DFINITY team led by the co-creator of WebAssembly

## The lower the cost of a blockchain, the more environmentally friendly

The Internet Computer's advanced architecture and cryptography runs smart contract software with breakthrough levels of efficiency. Systems built 100% on the Internet Computer run with efficiency comparable to the traditional IT stack, providing massive savings in costs and protecting the environment

## BLOCKCHAIN SINGULARITY

Smart contracts are the building blocks of the future

- Public** means builders are no longer captive customers
- Tamperproof** means systems and services don't need a firewall
- Unstoppable** like the internet means systems are always ticking
- Composable** means running services can be assembled like software
- Autonomous** means services without owners or control via community DAOs
- Tokenization** means that logic can process value just like data

## GOVERNANCE

### BLOCKCHAIN IS NOW SELF-DIRECTED



**Network Nervous System**  
 The Internet Computer blockchain runs under the control of a permissionless algorithmic governance system called the "Network Nervous System" (or "NNS") that is resident within its protocols. The NNS processes proposals anyone can submit, either rejecting them, or adopting and executing them automatically. Voting is performed by "neurons" that earn "voting rewards", which can be created by staking the ICP utility token within the NNS. It can induct nodes, form subnet blockchains, upgrade the protocol by updating the software on node machines, tweak economic parameters, repair cryptography schemes, and much more. It has already processed thousands of proposals. Through the NNS, the Internet Computer self-directs and evolves in real-time without hard forks.

## DAPPS CAN ALSO BE SELF-DIRECTED AND RAISE FUNDS



- Dapp assignment**  
 The developers of a dapp or service on the Internet Computer blockchain can assign control to a newly created Service Nervous System (SNS) DAO with 1-click.
- Auction**  
 The SNS sells its governance tokens in a public decentralization auction, thereafter running under the control of the community, which manages its financial reserves and updates. The NNS itself can participate in the auction, drawing on staked funds worth tens of \$billions.
- Founder tokens**  
 The SNS grants the project founders (entrepreneurs / developers) "founder tokens".

- Governance ledger**  
 The newly created SNS creates an associated ledger of governance tokens, which play a similar role to ICP tokens within the NNS (the same technology is involved).

## DFINITY

BLOCKCHAIN'S LARGEST R&D OPERATION



The DFINITY Foundation is committed to realizing the most disruptive vision in tech: the adoption of public blockchain as a single technology stack that hosts all of humanity's systems and services

|                     |                        |                           |                  |
|---------------------|------------------------|---------------------------|------------------|
| <b>Type</b>         | Foundation             | <b>Endowment</b>          | ICP (\$billions) |
| <b>Motive</b>       | Not-for-profit         | <b>#1 prev employer</b>   | Google           |
| <b>Founded</b>      | October 2016           | <b>Research centers</b>   | 3 (CH, CA...)    |
| <b>Funded</b>       | 2017-2018 token sales  | <b>Research citations</b> | 100,000+         |
| <b>Purpose</b>      | R&D, Internet Computer | <b>Remote teams</b>       | 10+              |
| <b>Mission</b>      | Blockchain singularity | <b>Team size</b>          | 200+             |
| <b>Headquarters</b> | Zurich, Switzerland    |                           |                  |

## BLOCKCHAIN SINGULARITY

Help us reimagine the world on blockchain

## FOLLOW AND CONNECT

- dfinity.org
- smartcontracts.org
- forum.dfinity.org
- internetcomputer.org (ICA)
- grants@dfinity.org
- jobs@dfinity.org
- comms@dfinity.org
- partners@dfinity.org
- twitter.com/dfinity
- medium.com/dfinity
- twitter.com/dominic\_w