

D F I N I T Y

Introducing a blockchain computer that is the...

Intelligent Decentralized Cloud

V1 - 2nd August 2017



D F I N I T Y

Objectives

1

“Reimagine”
enterprise IT &
slash costs 90%
by reducing human
capital needs

2

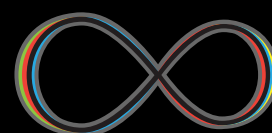
Power real
decentralized
finance that uses
“cryptofiat”
technology
e.g. PHI

3

Power open
source businesses
that compete
monopolistic
intermediaries
e.g. eBay

4

Distribute data
and computation
outside of mega
data centers
e.g AWS



DFINITY

Blockchain Evolution

2009



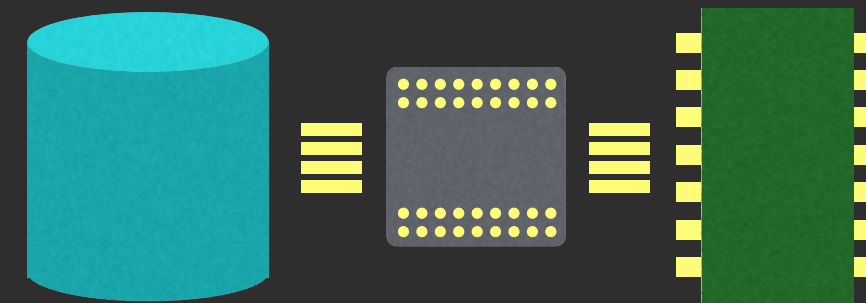
Address	Balance	AC Script
0x0C82..	2 BTC	P2H
0xA914..	9.1 BTC	Multisig
...

Virtual Ledger

+ Shared state

Proof-of-Work

2015



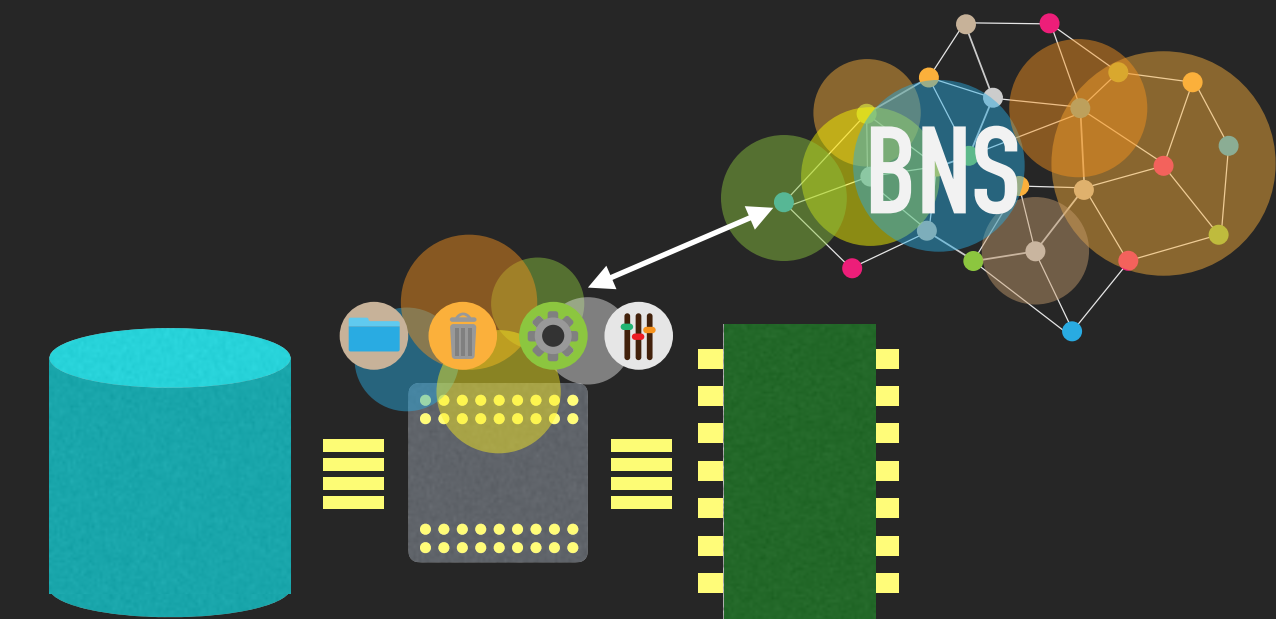
Virtual Blockchain Computer

+ Install smart contract software

+ Create arbitrary systems

GHOST

2018



Intelligent Decentralized Cloud

+ Algorithmic governance

+ VBC is performant

+ VBC can scale-out capacity

+ VBC can support PHI

Threshold Relay, Validation Towers...

Project **Timeline**

Jan 2014

Pebble Project

CC for micropayments

Custom BFT consensus systems



Jan 2015

DFINITY Project

Infinite blockchain computer

New idea: apply “randomness”

July 2016

DFINITY Stiftung

Incubation by String Labs

Organizational build-out



Feb 2017

Seed Fundraising

\$25M new funds for R&D

Build research SV & Zurich

August 2017

Tech Demonstrations

Copper Release features

Seeing is believing!



September 2017

Main Fundraising

Est. 50M+ CHF

Then network launch...

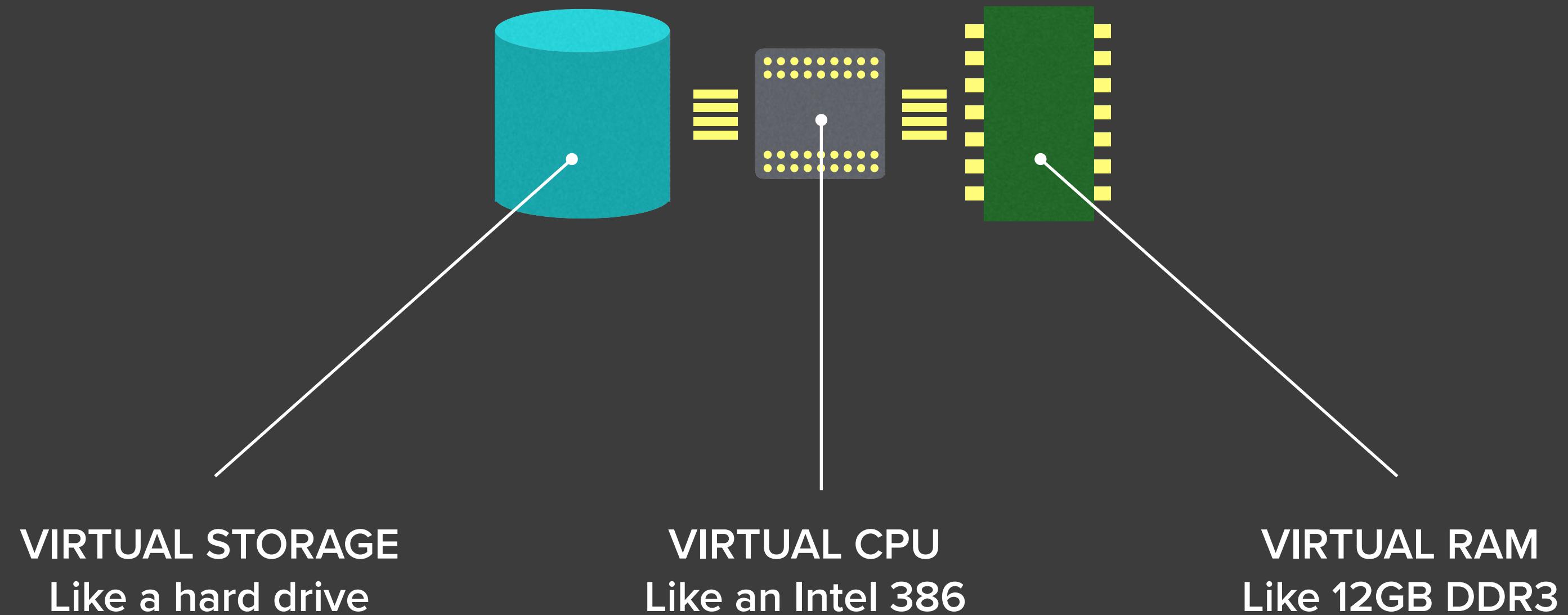


DFINITY

Overview

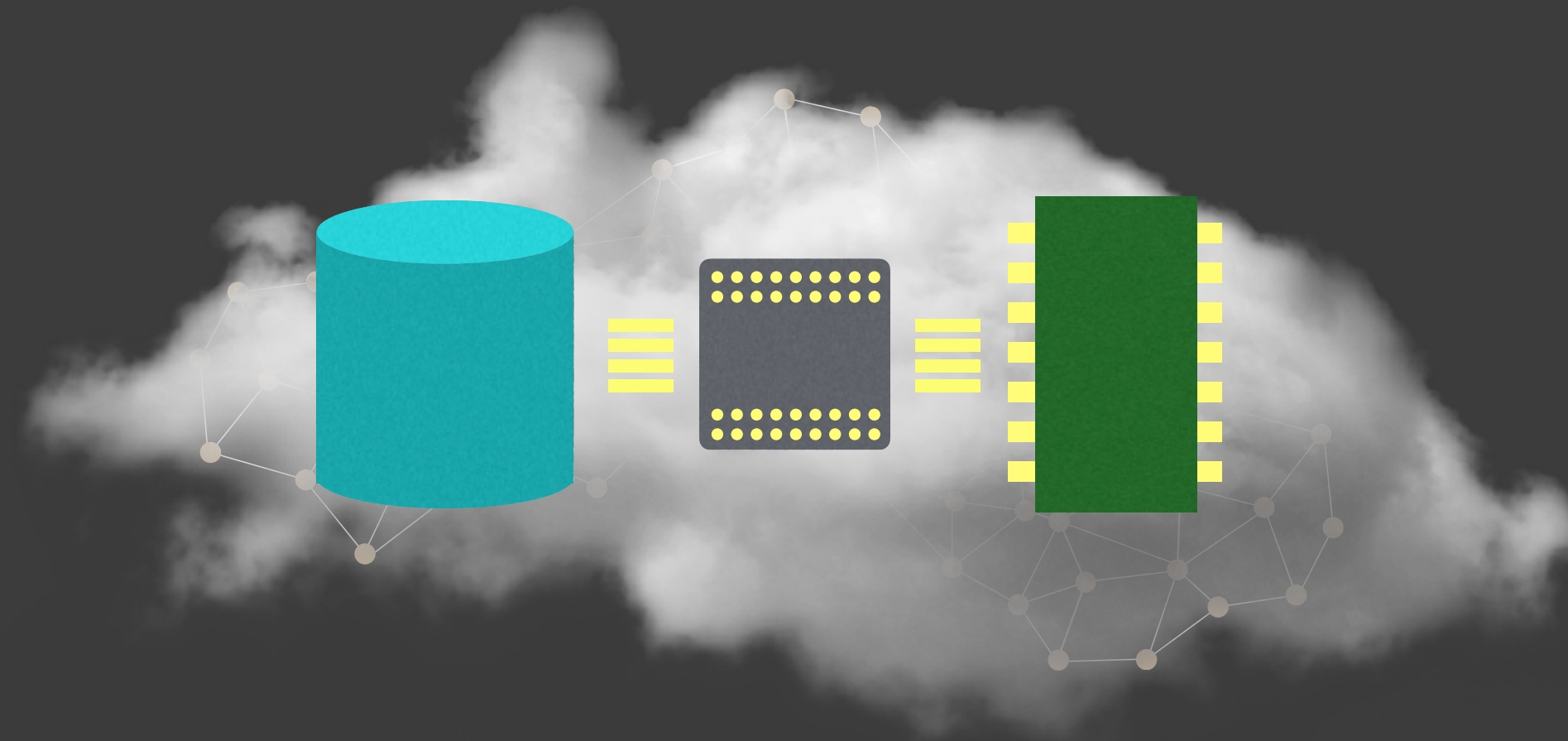
A Computer Can Be Entirely Virtual

HARDWARE CAN BE EMULATED. COMPUTATION IS A SPECIFICATION



DFINITY is a Mainframe Computer In Cyberspace

FULLY VIRTUAL AND CONJURED BY INTERACTIONS IN A DECENTRALIZED NETWORK



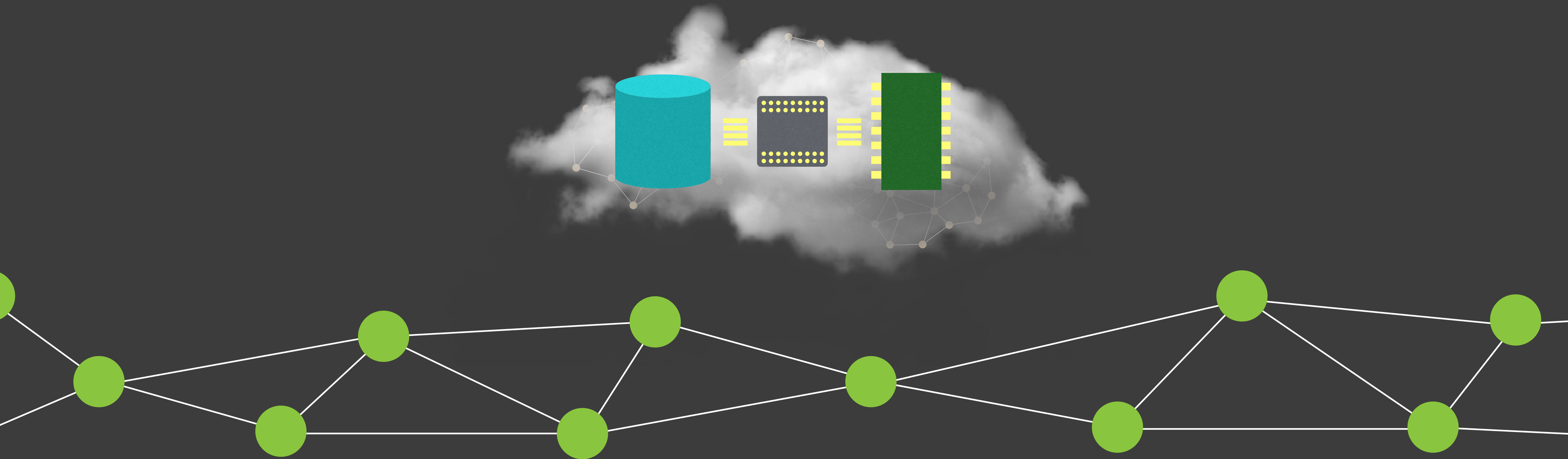
CYBERSPACE CLOUD



PHYSICAL WORLD

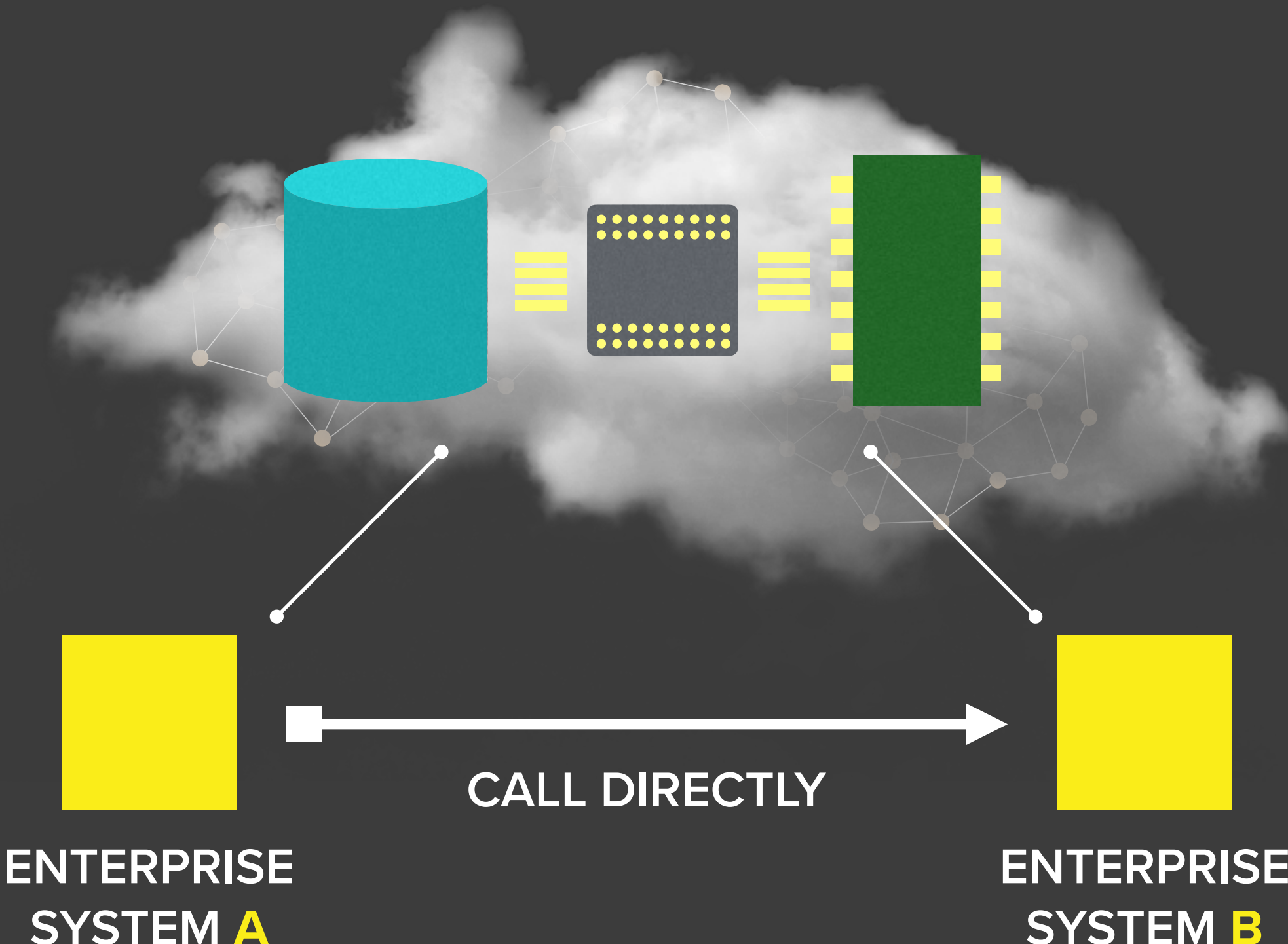
Virtual Computer Is Created by an Open Network

NETWORK PROTOCOL IS PEER-TO-PEER, SYBIL RESISTANT AND BYZANTINE FAULT TOLERANT



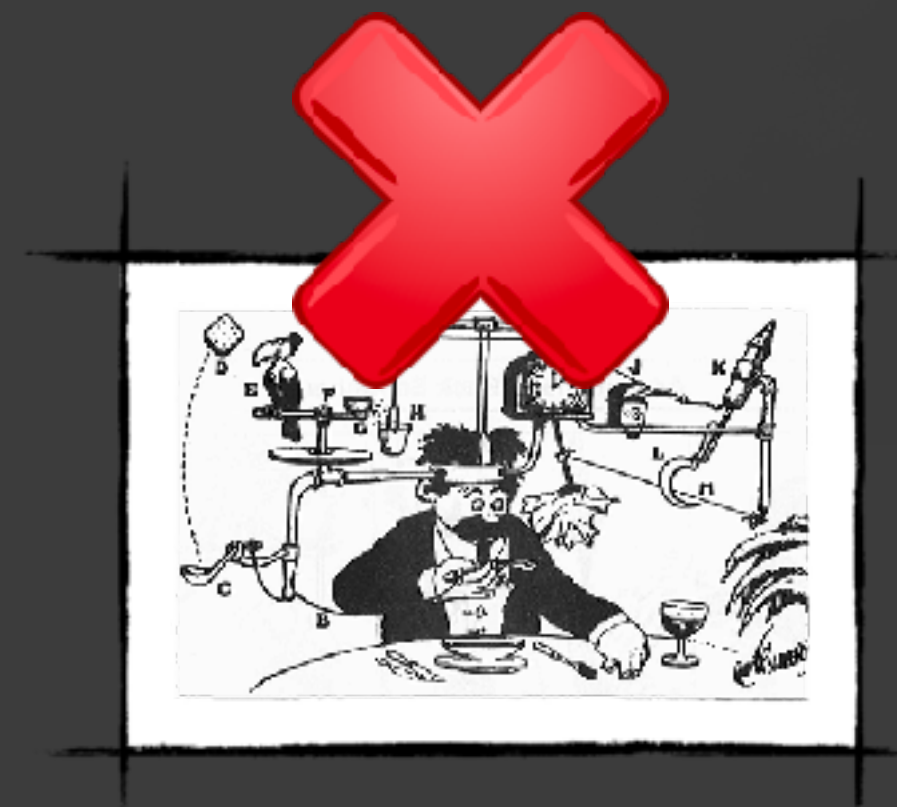
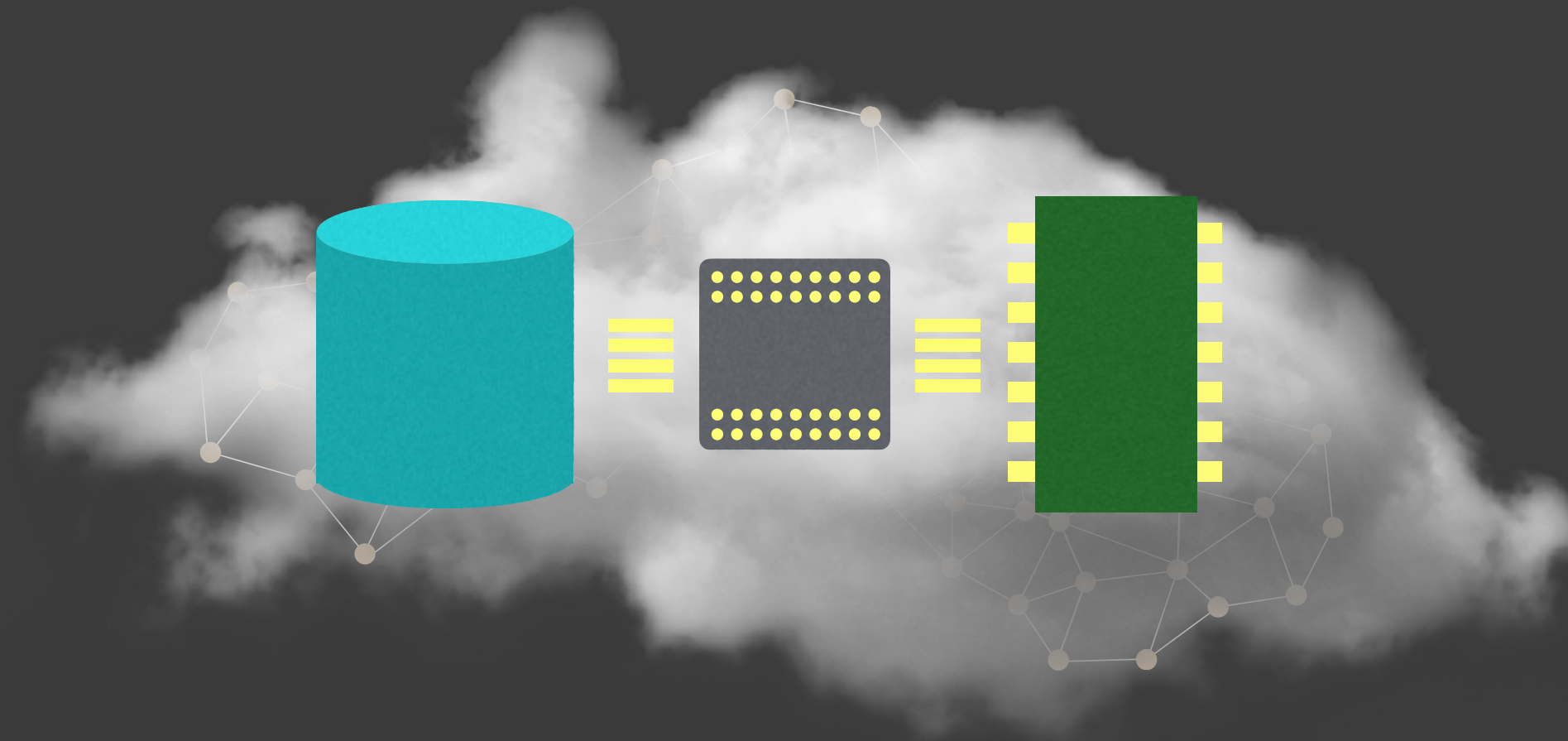
Super Massive Mainframe Shared By The World

NOW SYSTEMS CAN INTEROPERATE WITHOUT BOUNDARIES



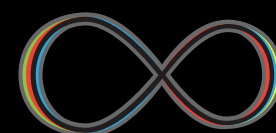
Simpler To Use, Unstoppable, Tamperproof...

EASIER R&D. DELETE BACKUP & RESTORE. DELETE DATABASES. DELETE FIREWALLS



MISSION: MAKE THE “RUBE GOLDBERG MACHINE” THAT IS TODAY’S IT INFRASTRUCTURE OBSOLETE. THE DFINITY MAINFRAME IS UNSTOPPABLE AND TAMPERPROOF. DATA PERSISTS WITHOUT DATABASES. DEVELOPING AND MAINTAINING ENTERPRISE IT SYSTEMS IS SIMPLIFIED

Reimagine
enterprise IT &
slash costs 90%
by reducing human
capital needs



D F I N I T Y

Reimagine Enterprise IT

Securities & Trading

Supply chain & Trade finance

Intellectual property management

Logistics & Asset Tracking

Charity

Educational

Legal

Real Estate & Property

Internet of Things

Financial markets and exchanges

Electronic medical records

Digital rights

Smart property

Workforce

Collaborative economy

Voting & Governance Systems

Insurance

Global identity

Provenance

Cross-border finance

Customer Acquisition & Loyalty

Escrow & Custody services

Identity management

Auditing & Compliance

Autonomous

systems w/o intermediaries

Verifiable

know what code you execute

Tamperproof

no servers to meddle with

Simple

distribution abstracted away

Unstoppable

no servers to fail

Logic in Cyberspace

no servers so no geography

Shareable

open code and governance

Interoperability

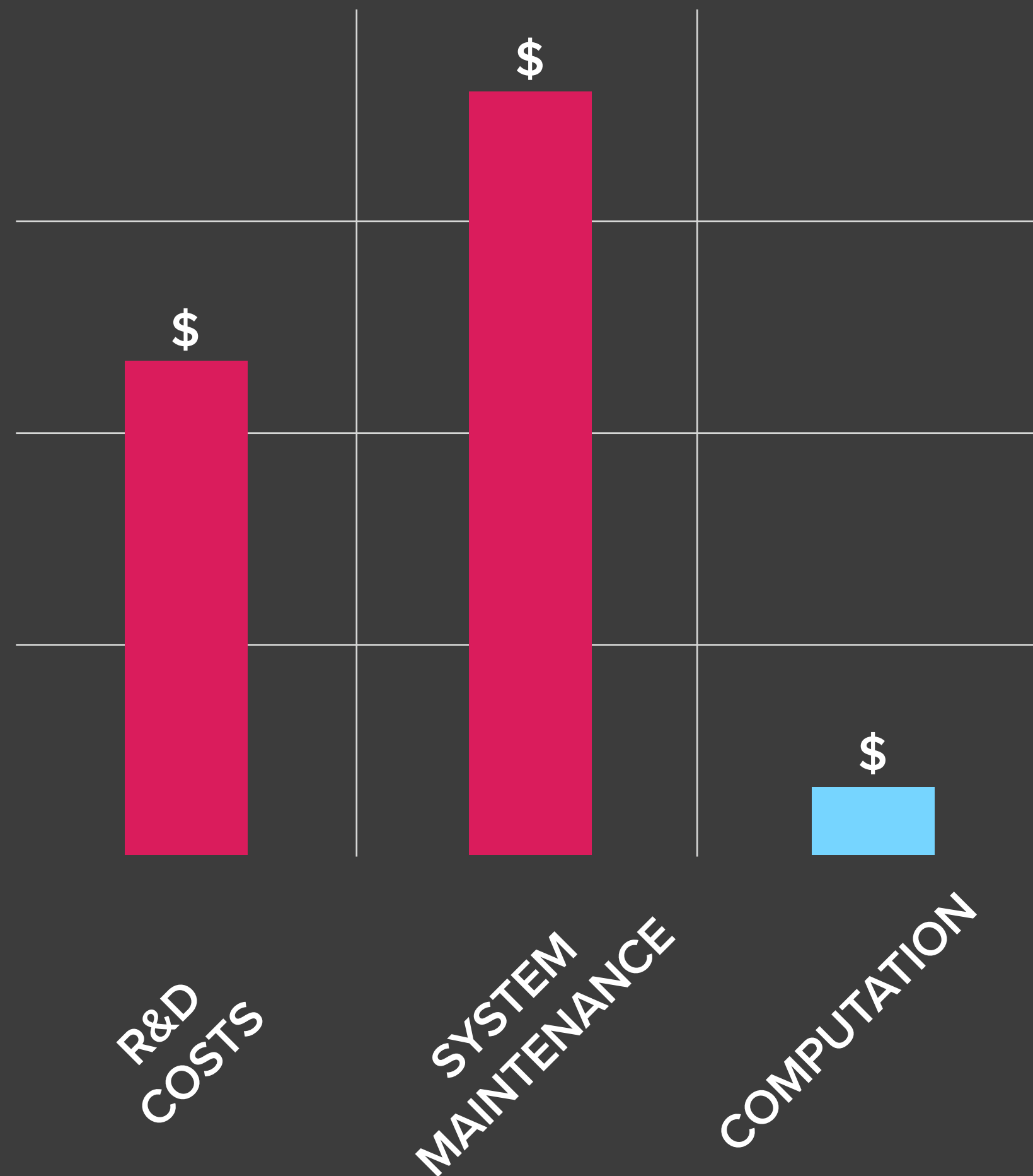
no server boundaries



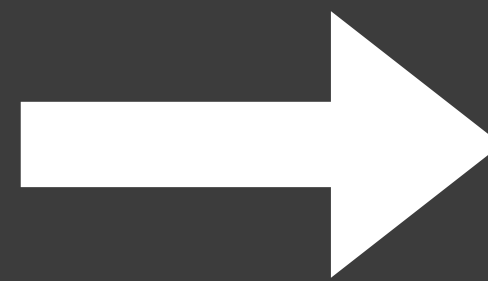
Slash Enterprise IT Costs

BY DRAMATICALLY REDUCING THE
HUMAN CAPITAL INVOLVED

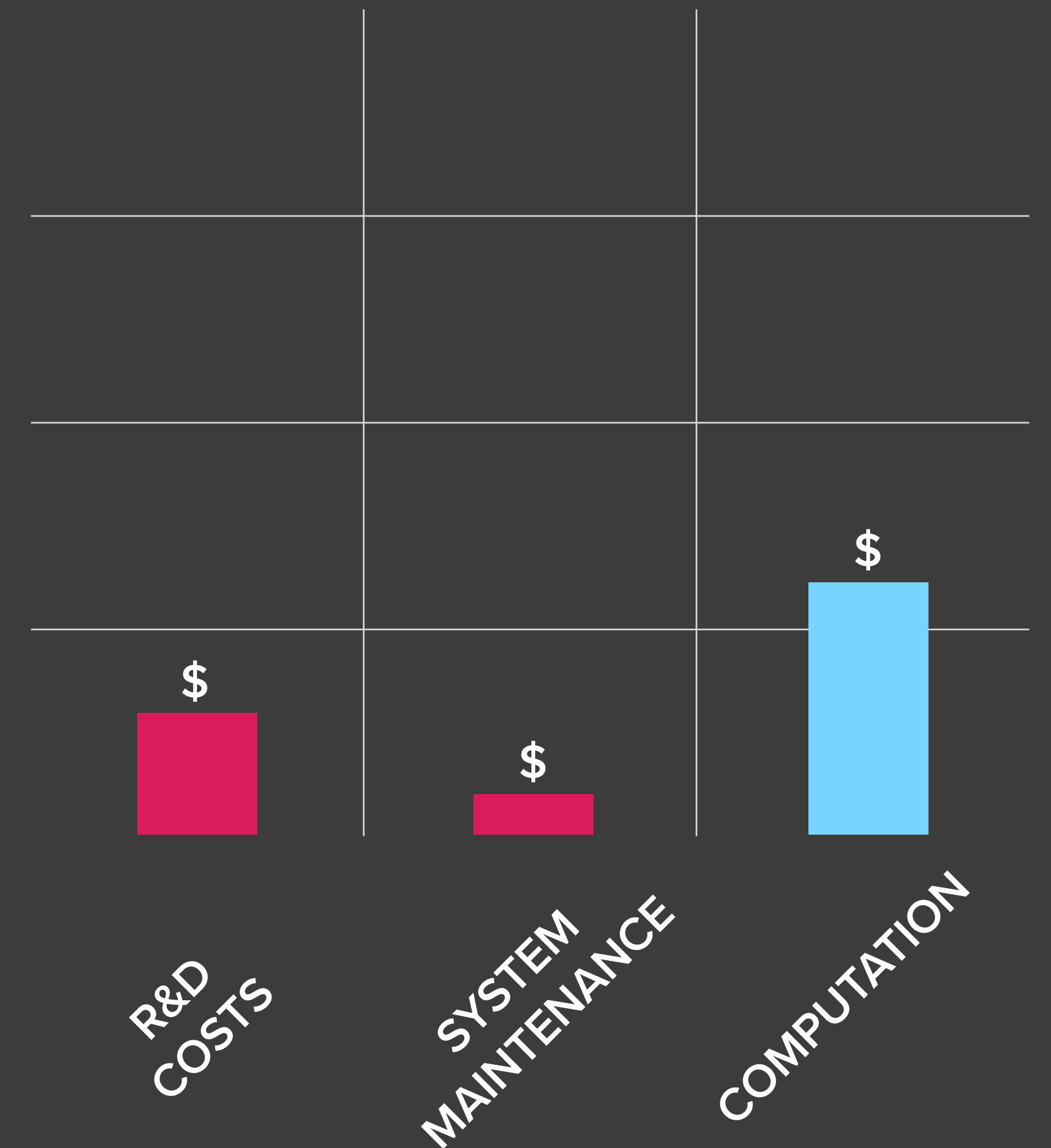
TODAY



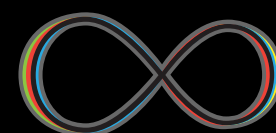
-90%



DFINITY



Power real
decentralized
finance that uses
“cryptofiat”
technology
e.g. PHI



DFINITY

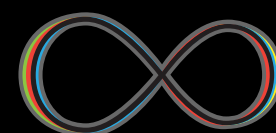
Decentralize (replace) Commercial Banking

BANKS CREATE FIAT TO ISSUE AS LOANS, STABLE AND BACKED BY LEINS. PHI OFFERS A FULLY DECENTRALIZED VERSION..



<http://bit.ly/2nWqJ14>

Power open
source businesses
that compete
monopolistic
intermediaries
e.g. eBay



D F I N I T Y

Decentralize Intermediary Systems

CREATE "OPEN SOURCE BUSINESSES" USING AUTONOMOUS SELF-UPDATING SOFTWARE

User-to-user



Social Media



Messaging



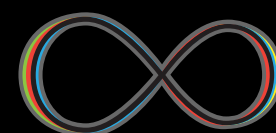
Search



Storage



Distribute data
and computation
outside of mega
data centers
e.g AWS



D F I N I T Y

Decentralize Data And Computation

DISTRIBUTE OUTSIDE OF MEGA DATA CENTERS E.G. AWS, GOOGLE...

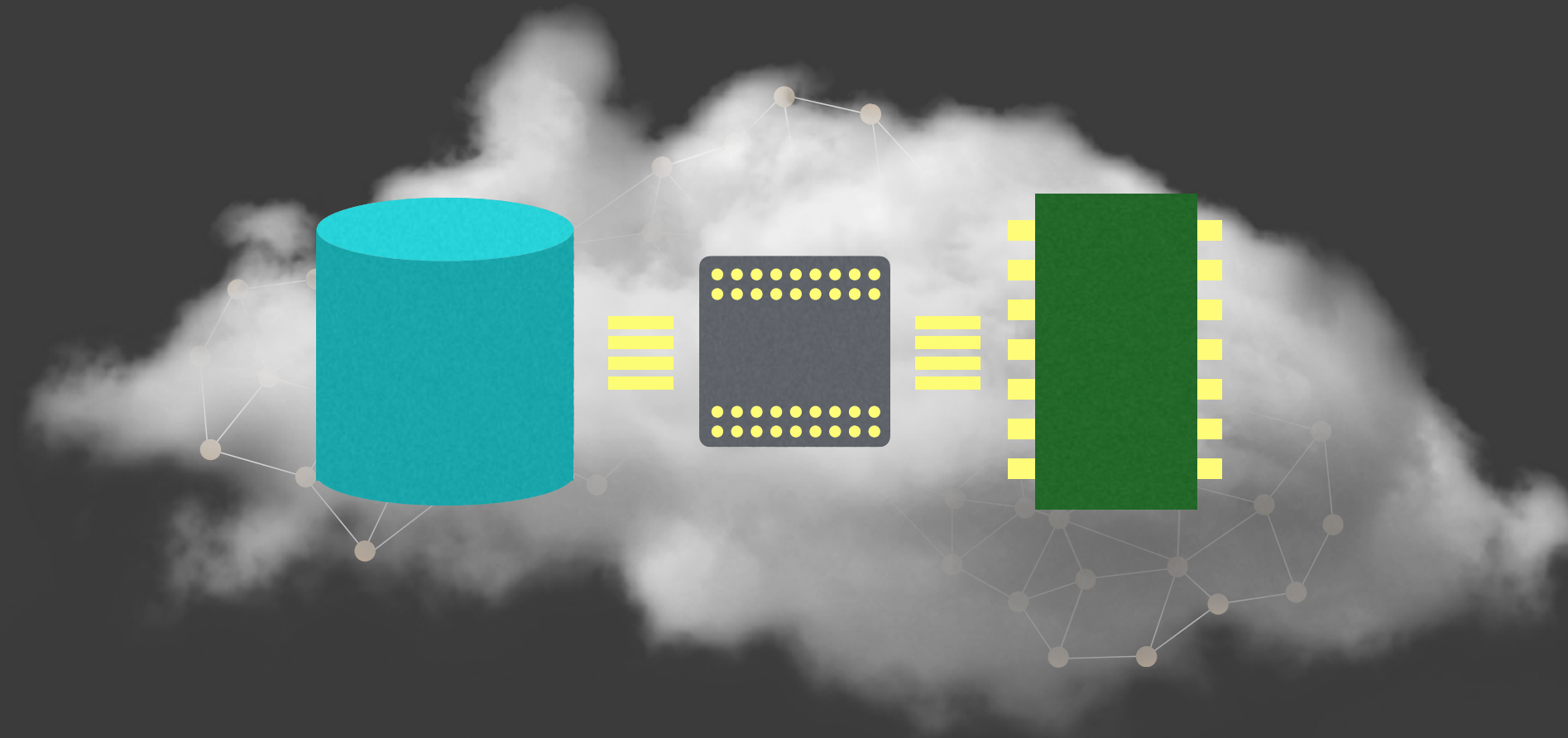


String Labs in Palo Alto is working on consumer DFINITY mining & neuron device concepts

How we do this

Performant Blockchain Computer

COMPUTATIONS FINALIZED 3 - 7 secs

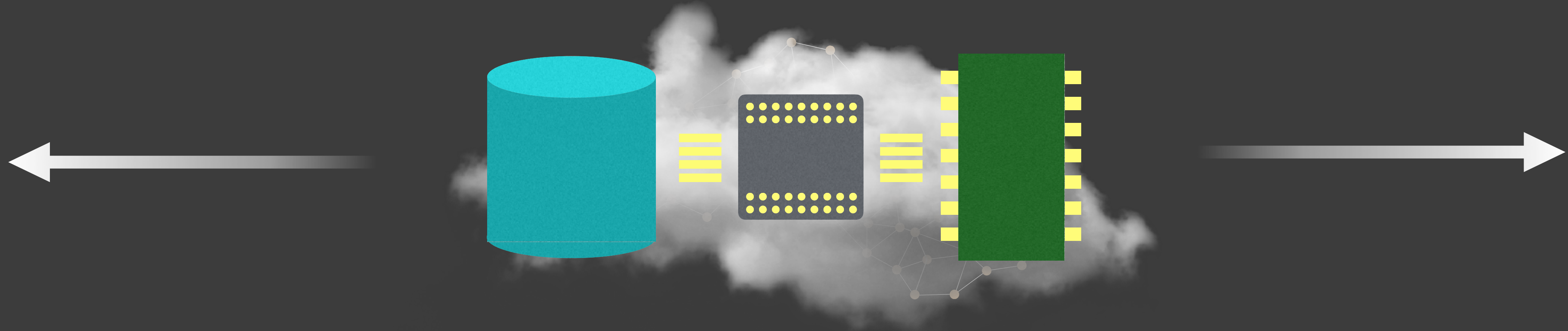


DFINITY pioneered new techniques involving VRFs (Verifiable Random Functions) that provide much faster finality and greatly increase security

50X SPEED-UP Vs ETHEREUM TODAY

Infinite Computer Capacity

CAPACITY GROWS WITH NEW PARTICIPANTS



DFINITY uses unmanipulable unpredictable randomness from VRFs to globally scale-out computation, validation and state storage

UNBOUNDED CAPACITY

Read in-depth media describing how our crypto works

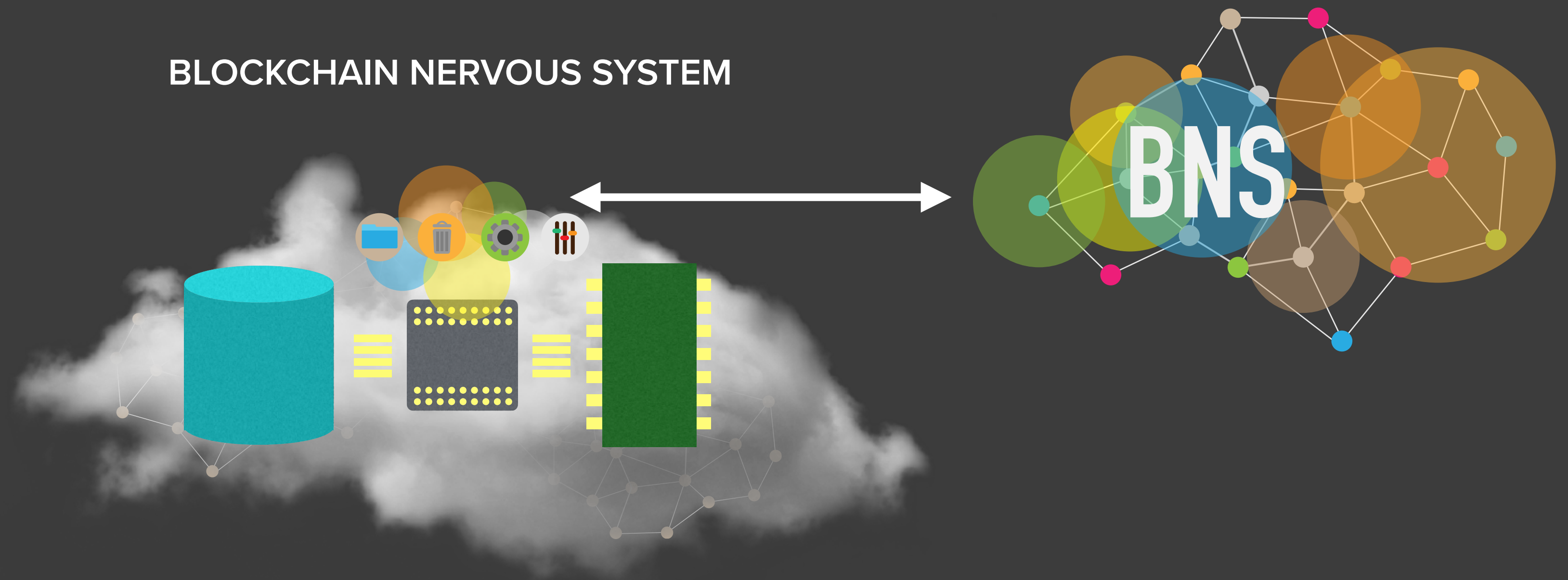
<https://dfinity.network/documentation/>

See technical FAQ on website

<https://dfinity.network/faq>

Blockchain Nervous System

Algorithmic Governance

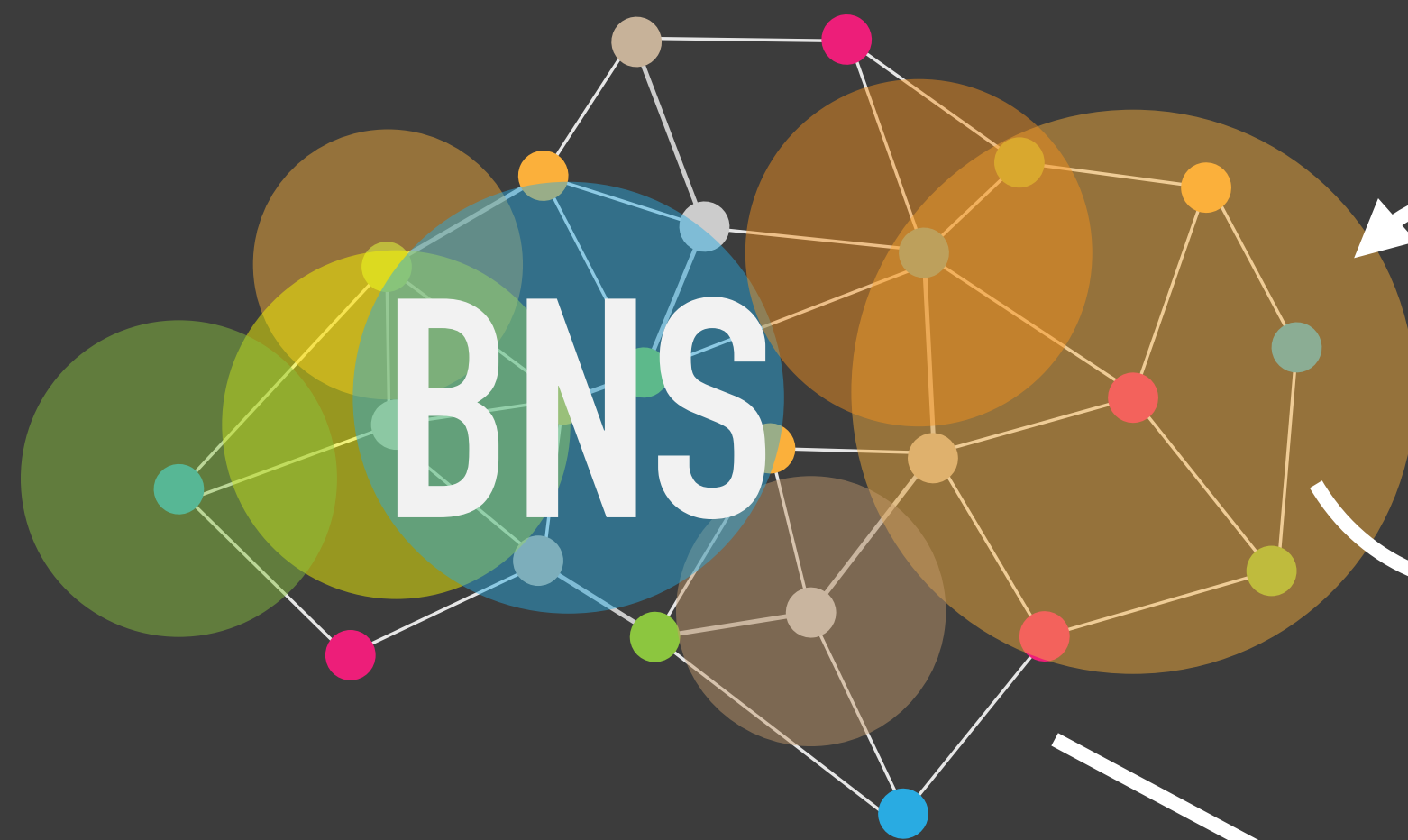


Freeze miscreant systems, restart broken systems, mitigate hacks,
optimize economic parameters, upgrade the protocol...

THE NETWORK IS FULLY ADAPTIVE

Essential for decentralized finance...?

Proposal Processing



2. BNS evaluates proposal

- Process is type dependent
- Output is adopt | reject

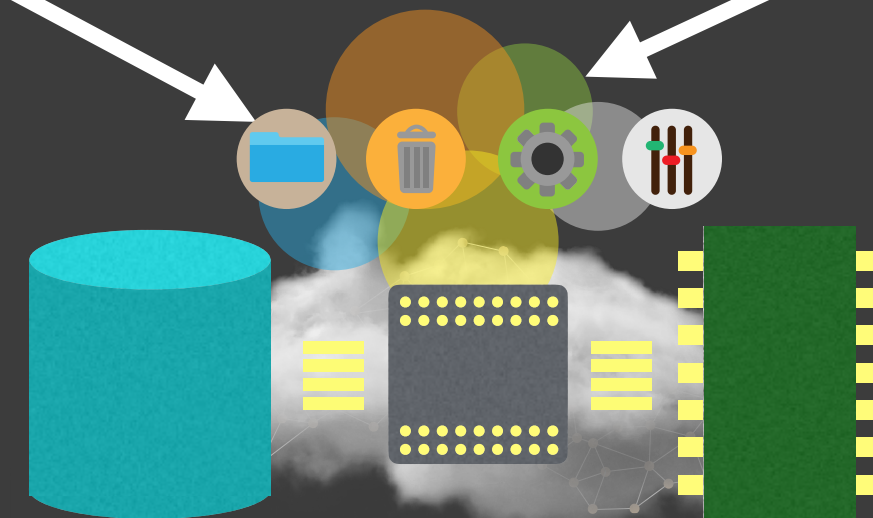


1. Submit proposal

- Standard types of proposal
- A fee is paid in dfinities
- Deposit refunded on adoption

3. Voting triggers decision

- Exec. privileged EVM op codes
- Freeze contracts, move tokens
- Run arbitrary privileged code
- Change economic parameters
- Upgrade the protocol



People Create Neurons



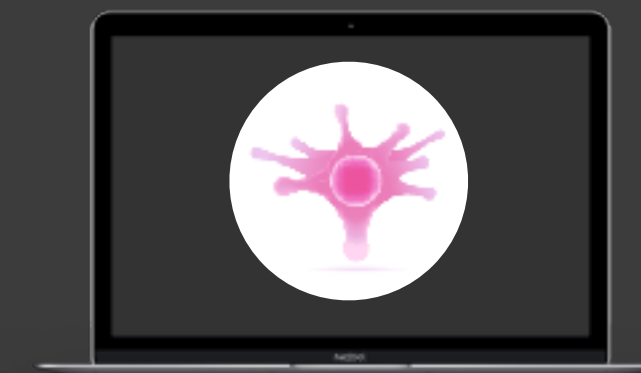
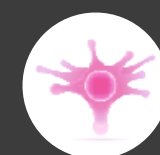
Users create neurons to earn “decision” mining rewards

Neuron’s rewards proportional to dfinities deposited and votes

Security deposit in dfinities



Neuron controller

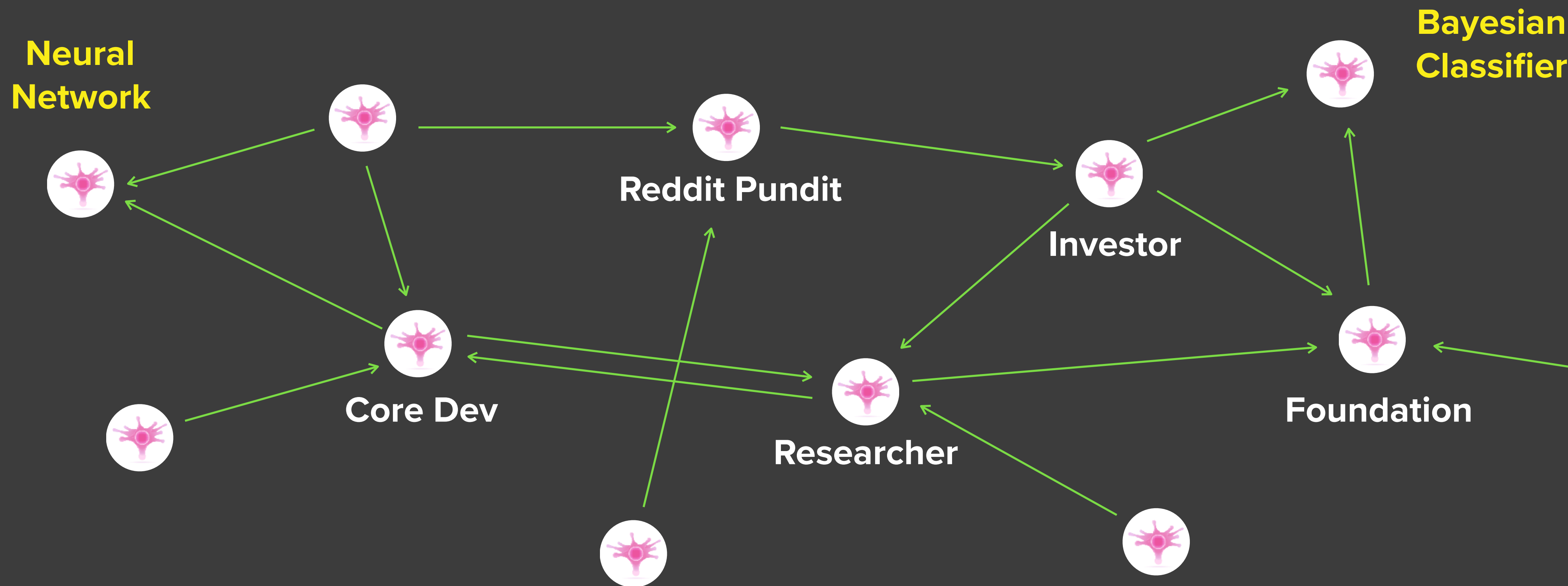


Neuron voting key configured into laptop or smartphone client

Neuron’s voting power equals dfinities deposited

Create a neuron by depositing DFN/dfinities with the BNS. Try and ensure the BNS adopts good decisions that will be rewarded by the markets since it takes months to dissolve your neuron and recover the DFN

Neurons Follow Neurons...



Neurons “follow” other neurons (relationships can be arbitrarily complex) to vote automatically using the output of other neurons. People can advertise the address of their neuron

BNS Factoids

Distributed “Hybrid” AI

Security

Wisdom of Crowds
processed algorithmically

Objective: drive market value of
DFN/dfinities

Follow relationships on edges
and *unknowable*

Traditional AI integrated via
neurons & “followed”

Dopamine: is market reaction to
decisions made

Impossible blackmail, extort,
bribe key neuron holders

Neurons cascade to make
decisions on proposals

Learning: relationships updated
after market feedback

Impossible sue or prosecute
owners neurons “trip” decisions

Read in-depth articles on our blog

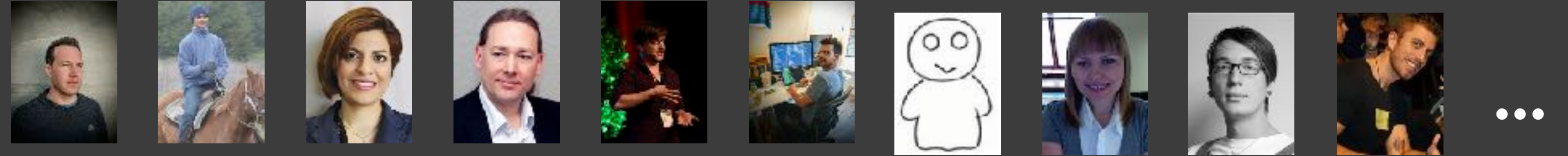
<https://medium.com/dfinity-network-blog>

See technical FAQ on website

<https://dfinity.network/faq>

Milestones

Team - NASA for Decentralization

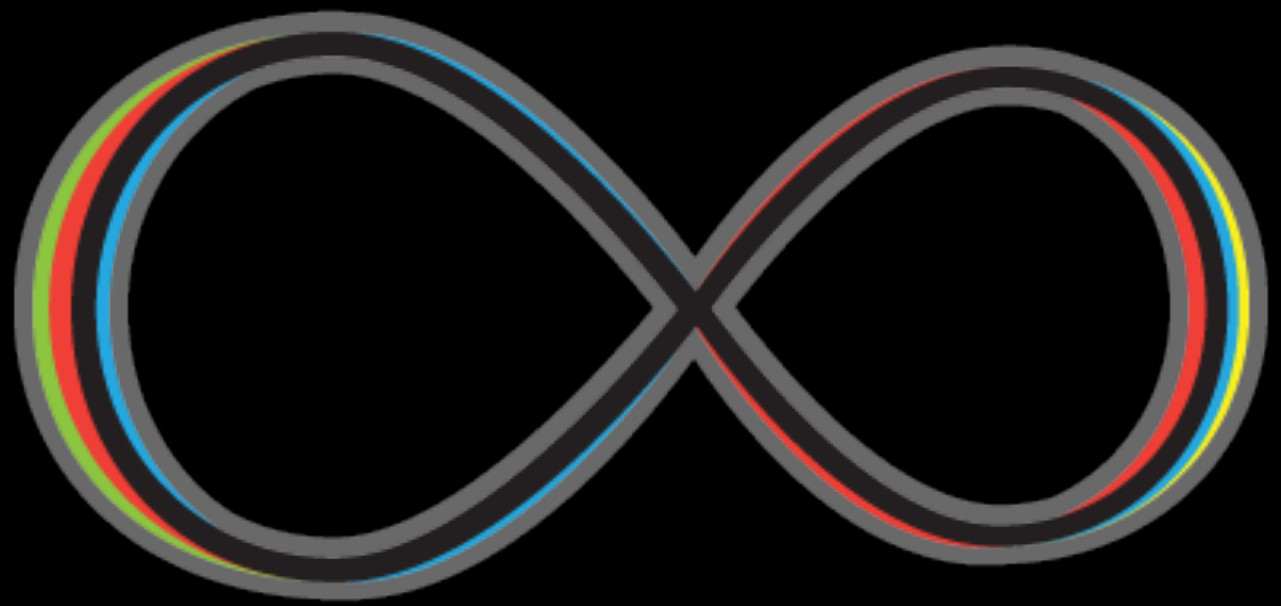


Network Technology Demo - Coming Soon, *at scale*

Corporate Partners - Huge Projects Depending, *already*

Last Fundraising - Possible Fall of 2017

Network Launch - Summer 2018



DFINITY



Dominic Williams

President/Chief Scientist DFINITY Stiftung

http://twitter.com/dominic_williams

https://medium.com/@dominic_w