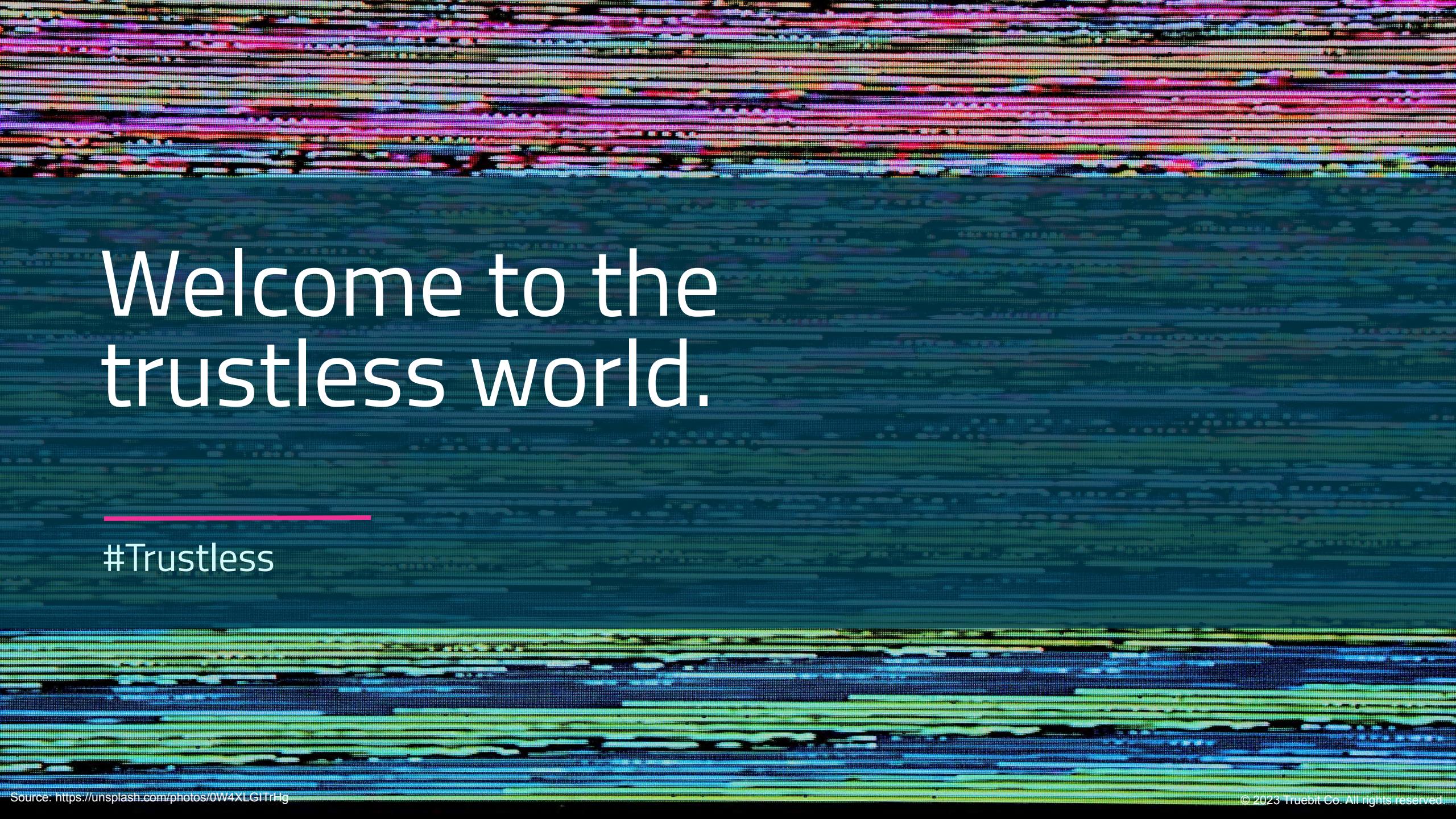


Web3 beyond blockchains

GOTO Chicago | May 2023



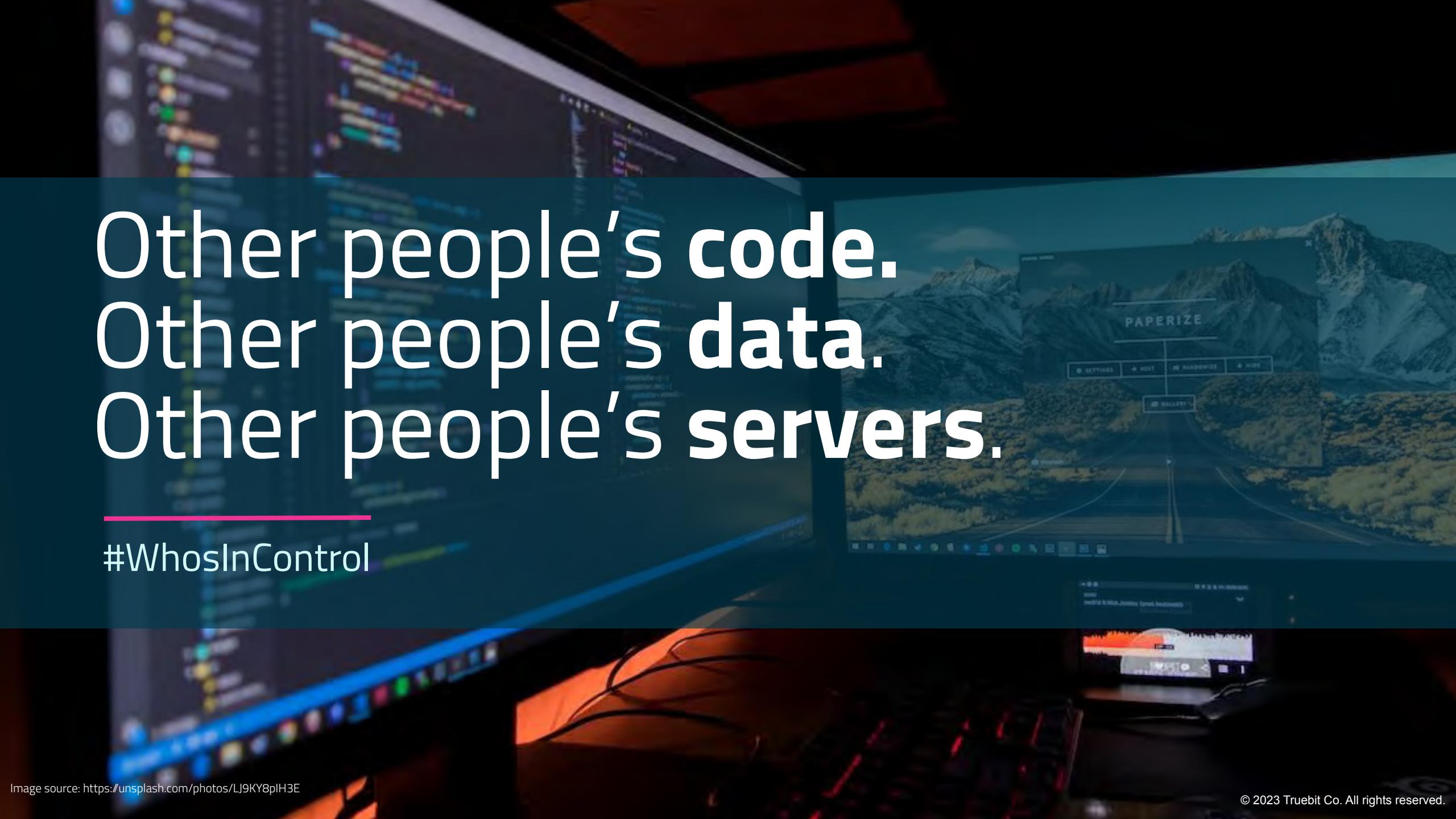
Welcome to the trustless world.

#Trustless



AI is about to change
everything.

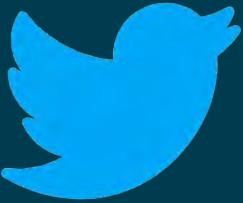
#TheSingularity



Other people's code.
Other people's data.
Other people's servers.

#WhosInControl

Trusting third parties: Business risks



Elon Musk pulls access to
Twitter API (2023)



2-hour outage at Stripe costs
customers \$80mm (2019)

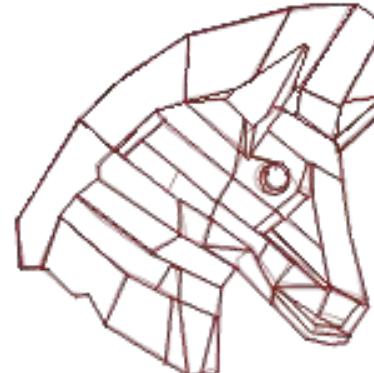


Facebook cancels Farmville
contract, putting 80% of Zynga's
revenue at risk (2012)

Trusting third parties: Security risks

THE CURRENT STATE
OF PRACTICE IN
SOFTWARE SUPPLY
CHAIN SECURITY
LACKS SYSTEMATIC
INTEGRITY.

MITRE



IEEE SECURITY & PRIVACY
SYMPOSIUM 2023

MACHINE LEARNING SEC
> AI Poisoning
> Leaking of PII in Large Language Models
> Decentralized Machine Learning Security
> Inference Attacks





Traditional security approach
can't keep up.

#NewPlaybook



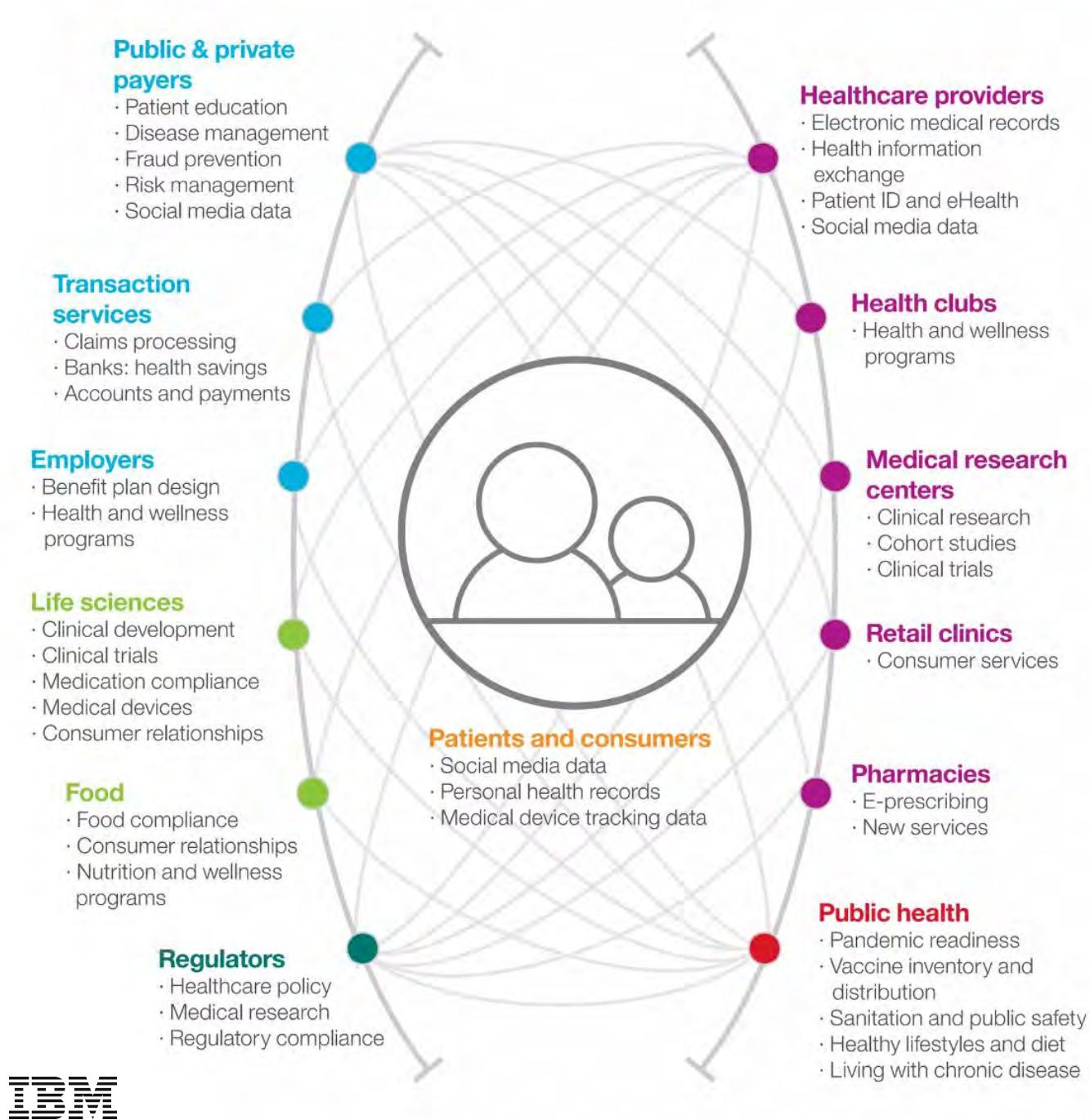
Within the next 5 years,
80% of enterprises will leverage
industry ecosystems built on
decentralized code, data & compute

#NotMyAlgorithm

Smart Healthcare Ecosystem

Source:

<https://www.slideshare.net/IBMSmarterHealthcare/the-new-age-of-healthcare-ecosystem-infographic-1>



IBM

Connected Car Ecosystem

DATA RECEIVERS

A growing number of entities receive and transmit data through the connected vehicle ecosystem

OTHER CAR (V2V)



TRAFFIC LIGHT (V2I) & LICENSE PLATE READER



CAR MAKER



THIRD PARTIES



TOLL BOOTH



EMERGENCY SERVICES



SATELLITE



WIRELESS CONNECTIVITY

- CELLULAR
- NON-CELLULAR
 - BLUETOOTH
 - WIFI
 - DSRC RADIO
 - SATELLITE/GPS
 - SHORT RANGE RADIO
 - SHORT RANGE RADAR

CAN-BUS: Internal communication bridge between Electronic Control Units

TELEMATICS CONTROL UNIT (TCU): interconnects CAN Bus and external systems

TIRE PRESSURE SENSORS: short range radio, goes to radio receiver

AUTONOMOUS VEHICLE IMAGING AND SCANNING: LIDAR, radar, ultrasonic sensors, or exterior cameras

DSRC RADIO: vehicle to vehicle and vehicle to infrastructure communication

License Plate

EVENT DATA RECORDER: black box with accident data

CRASH DATA RETRIEVAL UNIT: extracts EDR data

THIRD PARTY MONITORING DEVICE: OBD-II or external device communicates with fleet operator

RFID VEHICLE TAG: enables short-range tracking

VIN NUMBER: long-used unique vehicle identifier

OBD-II PORT: interface to driving and operational data

OBD-II PORT: interface to driving and operational data

INFOTAINMENT SYSTEM: access entertainment and navigation apps

PHONE-PROJECTING SOFTWARE: mirrors apps from smartphone

SMART PHONE: connects to car via Bluetooth, Wi-Fi or USB

ELECTRONIC TOLL COLLECTION SYSTEM: transponder sends ID via radio

CABIN MONITORING SYSTEM: e.g. monitors eye movement to measure attention

VEHICLE SERVICES: Links to, e.g., roadside assistance and preventative maintenance reminders

GPS UNIT: uses satellite to inform location, navigation

TOUCH SENSORS: detects driver fatigue through grip, pulse

SIM CARD: connectivity point for transmitting onboard information

WIFI NETWORK: enables in-car internet access

USB PLUG-IN: connects via USB port for power or data transfer

TYPES OF DATA

VEHICLE & SAFETY: functioning of vehicle, including maintenance status, mileage, and operations



DRIVER: driver physical characteristics or how a person drives a vehicle: i.e. speed, seat belt use, braking habits



LOCATION: precise geographic location of a vehicle



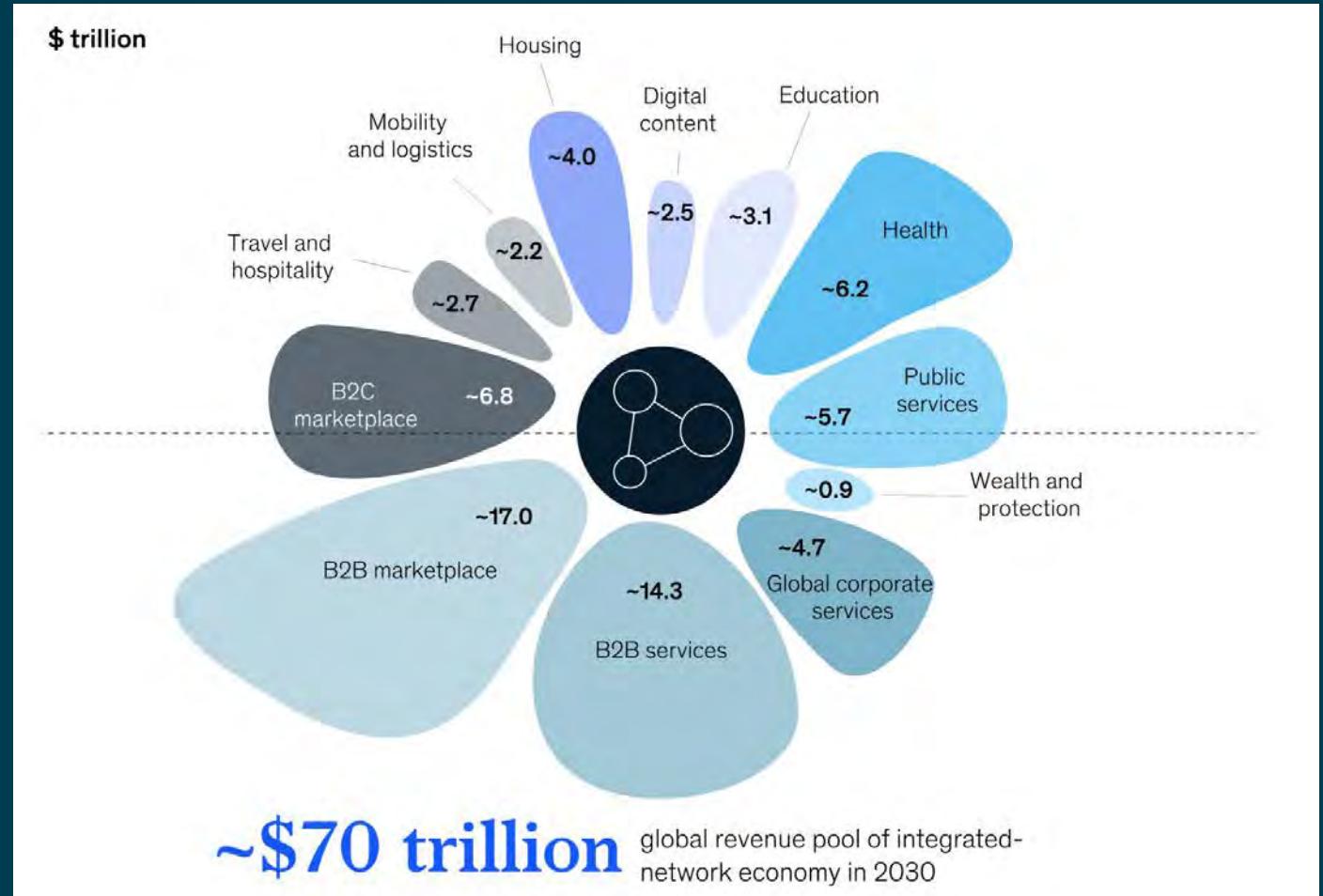
ACCOUNT: personal accounts established by vehicle owner



KEY FOB: supports keyless entry

McKinsey
& Company

Industry ecosystems
are about delivering
integrated customer
experiences



A person is captured in mid-air, performing a high jump over a dark, craggy cliff edge. The person is wearing a dark long-sleeved shirt and dark pants. The background is a bright, hazy sky, and the foreground is the dark, textured surface of the cliff.

Web3 provides the framework
to build trust in code
you don't control.

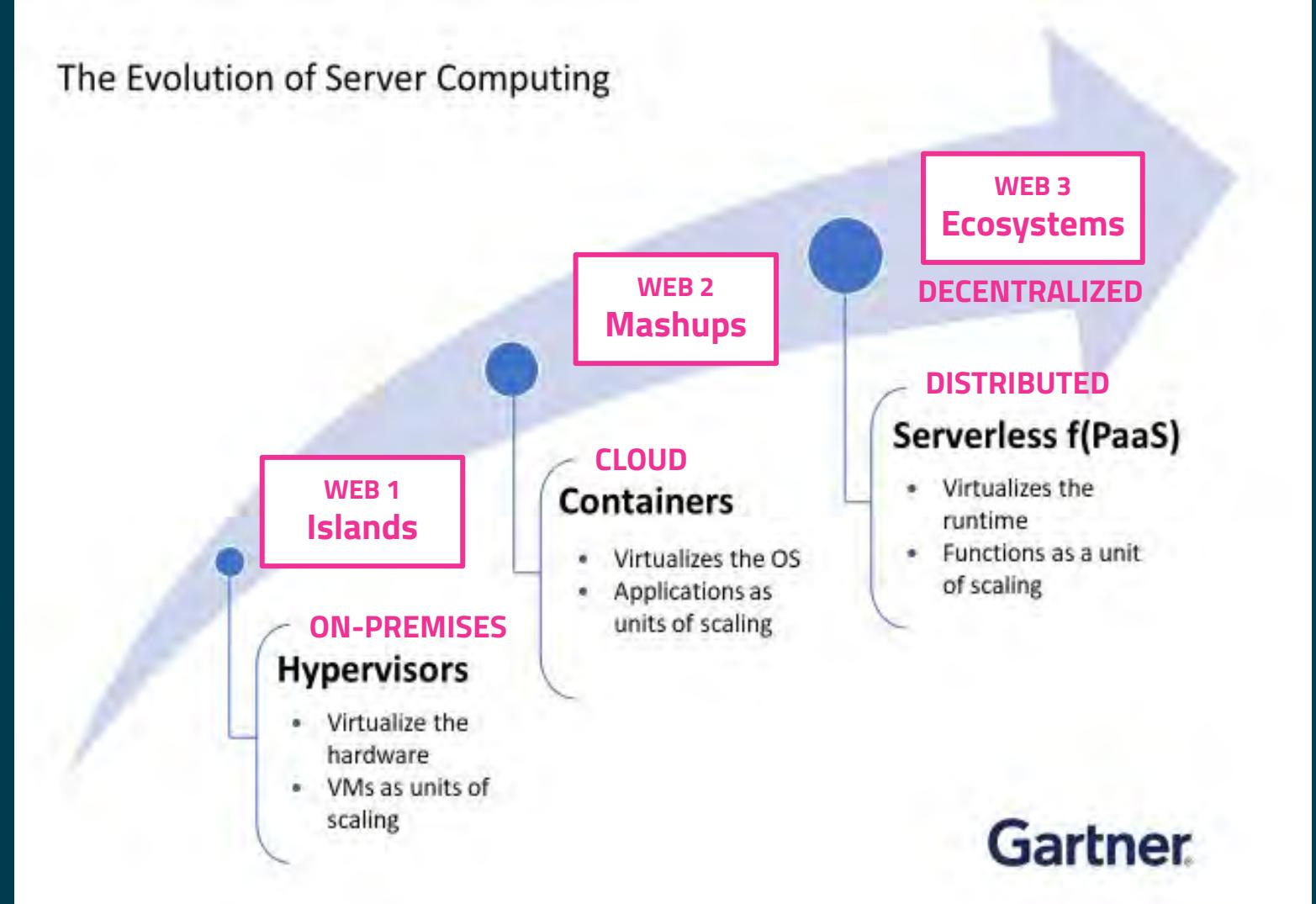
#MineYoursOurs



Wait, what?
I thought Web3 meant ...

#MoreThanBlockchains

Web3 through the lens of compute



Web3: Building Blocks for Decentralization



Shared
Governance



Trustless
Consensus



Verified
Compute



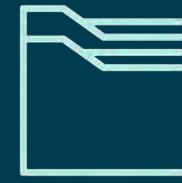
Distributed
Events



Independent
Economics



Cryptographic
Identity



Immutable
Records

Truebit: Trust through verification.

Verified
code

Verified
data

Verified
compute



Data Traceability
Compute for Shared Applications
Blockchain Integration & Interoperability