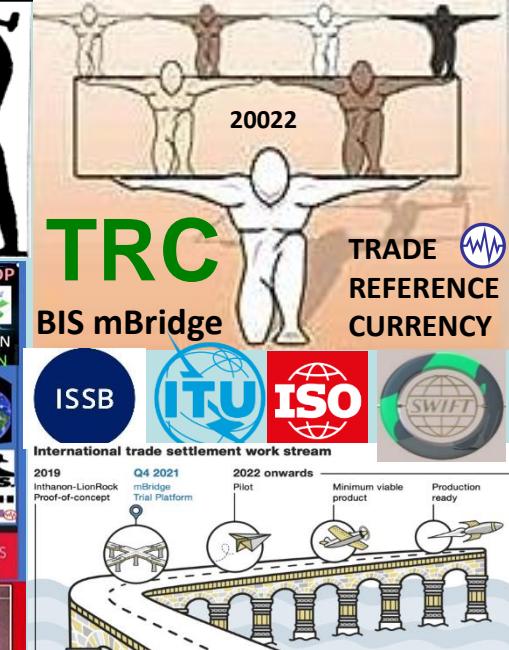
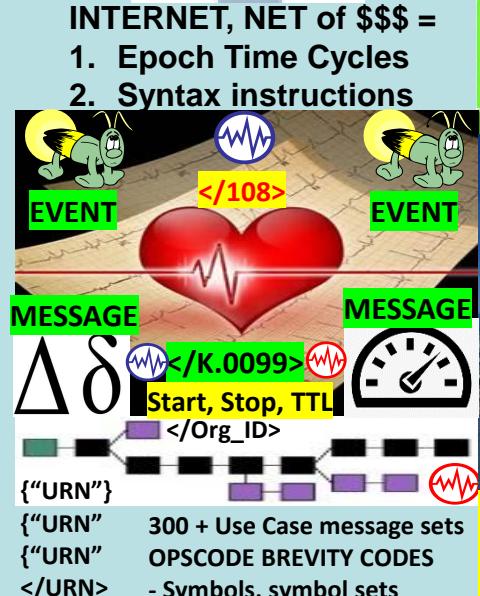


World Game Annex K

Signals & Telemetry



“Build a new model”
Standing on the shoulders of giants



Eco Economic Epochs
For Programmable \$\$\$
Programmable Economy
Eco Economic Epochs
Symbol / Message Sets A.I.
FIREFLY Inspired
Heartbeat Algorithm

SyntSymbols
Delta Rule
The World”
OPSCODE
BREVITY
CODES
mapped
to symbols
2525A,C D

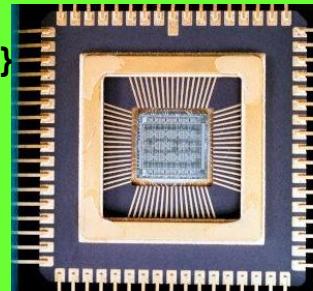


THESES: All things internet, programmable net of \$\$ money are formed using:



1.Time epochs created by oscillating quartz crystal silicon microchips. </Foundation_Tech framework> 

Foundation_Tech framework> TradeFI / Trade Reference \$\$\$"}



2. Syntax used / not used as code instructions during epoch time cycles.

All things internet, internet of money, blockchains are sent via unicast, multicast, anycast protocol (s).

STRUCTURED DATA → AI

BREVITY CODES / SYNTAX → COMMODITIES SYMBOLS

STANDARDS
COMPLIANCE
CONSENSUS
TIME SYNC
STOCHASTIC
HARMONIZATION

QUANTUM

NEWS



OPSCODE Brevity Codes / Symbols



SYSTEM OF SYSTEMS

STRUCTURED DATA

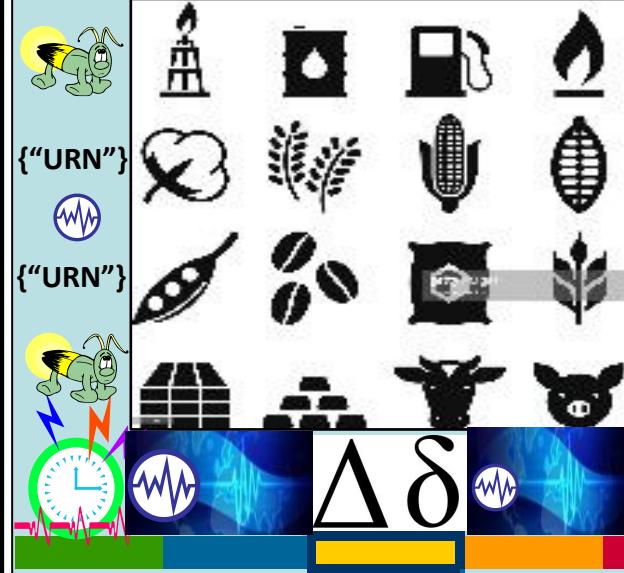


The diagram illustrates the concept of a "WATER DROP PHYSICAL NATURAL MEME" using various visual metaphors and data representations:

- Header:** </Org_ID>
- Text:** {"URN, URN, URN"}
- Diagram:** A brain scan showing three distinct purple regions connected by black lines.
- Timeline:** A horizontal timeline divided into segments labeled EPOCH. The segments are represented by blue circles with heartbeats. The segments are labeled: cycle n, n + 1, and n + 2.
- Sync Delta:** A triangle symbol representing the difference between the sync points of adjacent epochs.
- Text:** NET OF MONEY formed by 1) Time Cycles 2) Syntax
- Text:** Faster
- Image:** Three light blue heart shapes representing time intervals t₁, t₂, and t₃. Each heart contains a blue circle with a heartbeat.
- Text:** "HeartBeat" EPOCH TIME INTERVALS
- Image:** A green clock with red, blue, and purple lightning bolts pointing to it, set against a background of a brain scan.
- Text:** WATER DROP PHYSICAL NATURAL MEME USPTOb13/573,002
- Image:** A horizontal bar divided into four colored segments: green, blue, yellow, and red.
- Text:** Time Series
- Graph:** A line graph with "Value" on the vertical axis and "Time" on the horizontal axis. The line fluctuates over time.

Tokenization of Physical Assets

RWA Pegged Currency



ALGORITHMIC STABLE COIN
COMMODITY INDEX
CURRENCY PROGRAMMABLE \$\$\$

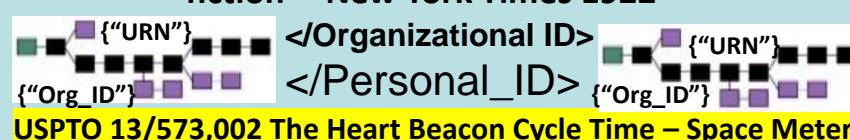


FIREFLY – HEARTBEAT ALGORITHM CHINA: nature-inspired metaheuristic optimization algorithm developed by Xin-She Yang flashing behavior of fireflies (Yang, 2008), adapted to solve continuous optimization problems (Lukasik and Žak) 2010, 2013



Thomas Edison's Monetary Option
Cambridge University Press 2009
"Crops hold their value best over time"

"Thomas Edison publicly introduced his latest invention: a new type of money, a crop index commodity-backed currency that he believed was the long-term solution to America's monetary woes. "I want to cast the variable out of money. This gold money is not good enough. It's a fiction" "New York Times 1922





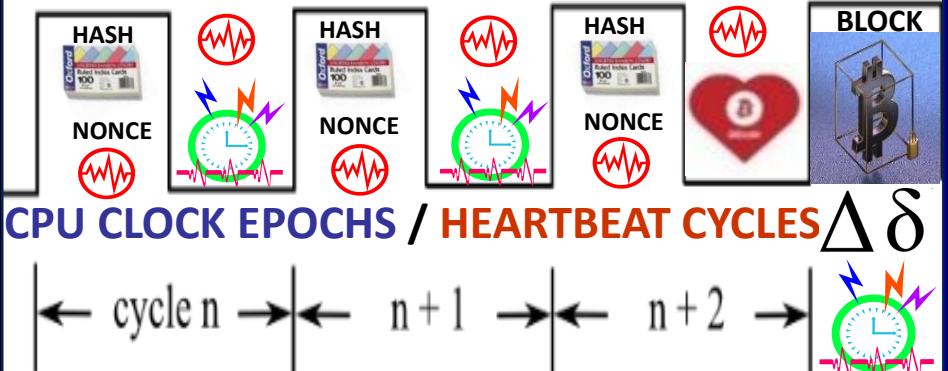


ALGORITHMIC REGULATION

The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC.



The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.



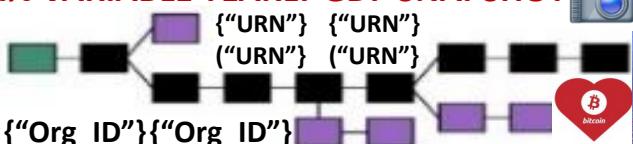
ECONOMIC HEARTBEAT



MACRO ECONOMIC VALUE STAT MEAN \$ TRADEFI / PRICE / SPEED MATCH

K% RULE ECONOMIC HEARTBEAT 

10% VARIABLE YEARLY GDP SNAPSHOT



•



WAVI



TOKENIZES CURRENCIES

K-Percent Rule Macro economic
money-supply heartbeat
automatically adjusts \$ supply
by a set amount "K" variable
regardless of cyclical state of the
economy e.g., set growth rate
variable to real yearly % GDP



LEADING ECONOMIC INDICATORS



“Heartbeat Synchronization strives to have nodes in a distributed system generate periodic local “heartbeat” events approximately at the same time. It differs from classical clock sync in that Nodes are not interested in counting cycles and agreeing on the ID of the current clock cycle. There is no requirement regarding the length of a cycle with respect to real time as long as the length is bounded and all nodes agree on it eventually”



Firefly - Heartbeat Algo



University of Bologna Italy / Hungary

LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE



ECO ECONOMIC HEARTBEAT



("108")



K%



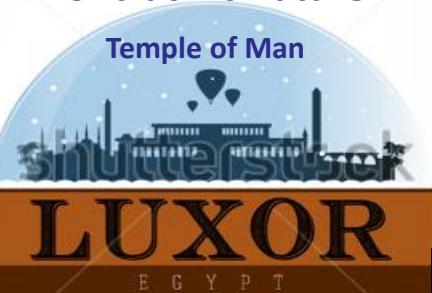
ECONOMIC MACRO CYCLES

TIME-SPACE SYNC

K% GDP ECONOMIC PULSE FEDCOIN WORLDCOIN

Luxor Temple Egypt:
"The shortest path towards knowledge of truth is nature"

Temple of Man



LUXOR
EGYPT

FIREFLY inspired Heartbeat Sync Algo

PRECEDENCE UTZ SYNC SYNC
PROCESSING PULSE DELTAS



NEURAL NET
EMULATION



BLOCKCHAIN
PARSING Erlang
TIME EQUATIONS



{"Org_ID"}
{"URN"}

NIST Beacon
A Public Randomness Service

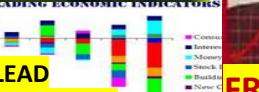
NON REPUDIATION

Crypto Currency
TIME STAMP
SERVER / SERVICE



TERRA
TRC

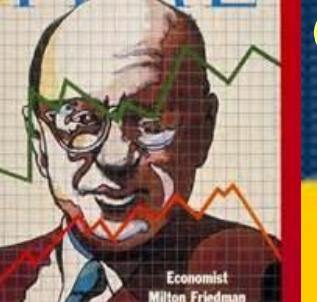
COMMODITY
PRICE INDEX



LEAD
ECONOMIC
INDICATORS



TIME
Will There Be a Recession?



FRIEDMAN'S K% RULE



STAT MEAN VALUE INDEX
SCHELLING POINT TRUTH



Price Indexes in Time and Space
Methods and Practice



ALGORITHMIC REGULATION
TOKEN ECONOMICS



The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC.

UTZ TIME ZONE SYNC

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

SYNC TO CLOSEST HEARTBEAT {"URN"} {"URN"} {"URN"}

HEARTBEAT EVENT FLASH MESSAGE BUS

UTZ STOCHASTIC HARMONIZATION

Universal Metrics / Meters

Geo-spatial Temporal Syntax-Semantic Sync & Consensus

SAMPLING

CURRENCY PAIR

ON / OFF SHORE

SYN DELTA STATE META DATA SNAPSHOTS

Int'l Date Line

13 14 15 16 17 18 19 20 21 22 23 24

Int'l Date Line

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Int'l Date Line

11 12 13 14 15 16 17 18 19 20 21 22 23 24

Int'l Date Line

12 13 14 15 16 17 18 19 20 21 22 23 24

Int'l Date Line

13 14 15 16 17 18 19 20 21 22 23 24

Int'l Date Line

14 15 16 17 18 19 20 21 22 23 24

Int'l Date Line

15 16 17 18 19 20 21 22 23 24

Int'l Date Line

16 17 18 19 20 21 22 23 24

Int'l Date Line

17 18 19 20 21 22 23 24

Int'l Date Line

18 19 20 21 22 23 24

Int'l Date Line

19 20 21 22 23 24

Int'l Date Line

20 21 22 23 24

Int'l Date Line

21 22 23 24

Int'l Date Line

22 23 24

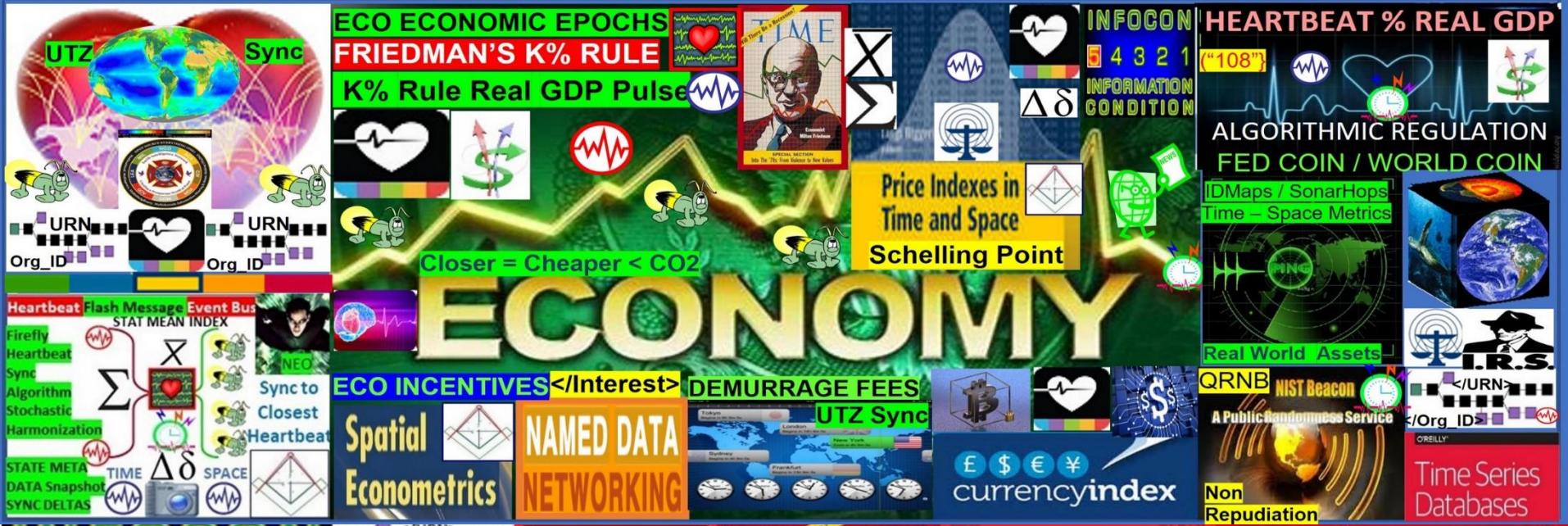
Int'l Date Line

23 24

Int'l Date Line

24

Int'l Date Line



Eco Economic Epoch Heartbeat: reuse of DoD / NATO signal, telemetry syntax - symbol set structured data exchange system of systems engineering framework for DAO Trade Federations, programmable money / Economy. It is time to stand on the shoulders of giants. SLA Service Level Agreement Eco incentives: closer = < time, cheaper, < fuel, < CO2 "Build a new model that makes the old model obsolete" Buckminster Fuller



Adaptive Procedural Template (checklist): Foundation tech for programmable \$\$\$, Economy / DeFI



- Reuse, mod of System of systems engineering framework, Syntax Lexicon Library data elements
- STRUCTURED DATA EXCHANGE
Reuse brevity codes mapped to 2525D symbol sets comprised of 300 + message sets for A.I. - machine Block-Time DLT arbitrage among Trade Federations </Org_ID> {“URN”} </URN> = COMMODITY

Eco Economic Epoch GDP Heartbeat signals and telemetry framework



USE CASE: Banks - Tech firms are forming teams to assert foundation tech as a legal basis for IP intellectual property claims for programmable \$\$\$ DeFI

Use Case: Tokenize Europe 2025 initiative: reuse DoD / NATO's structured data brevity OPSCODES mapped to 2525A, B, C, D symbols needed for A.I. man-machine interface Reuse, modify 300 + Use Case message set templates data element FFIRNs FFUDNS or, redo a time, people intensive process that took decades to create, test and refine.

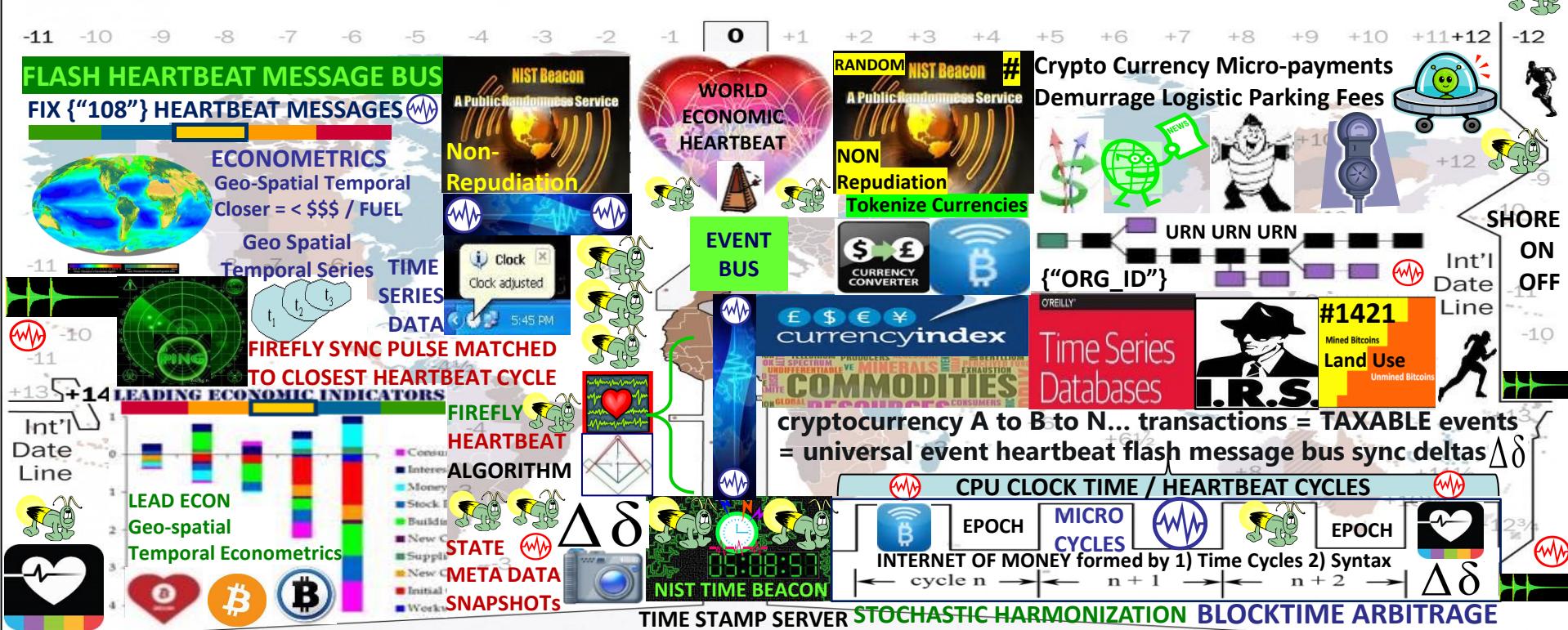


Attribute Series





The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC. **UTZ TIME ZONE SYNC STOCHASTIC HARMONIZATION**



The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.

Quantum Financial System vs BlockChain

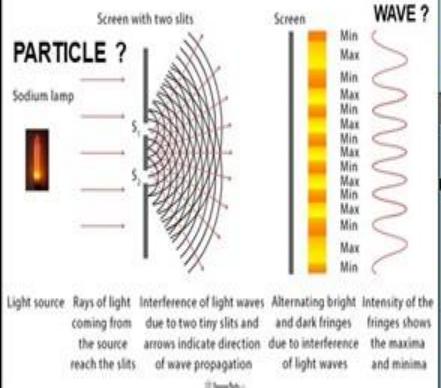
TIME
CHAIN

QFS

TIME
STAMP
SERVER

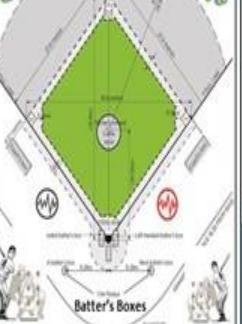
<https://gesara.news>

Double-Slit Experiment

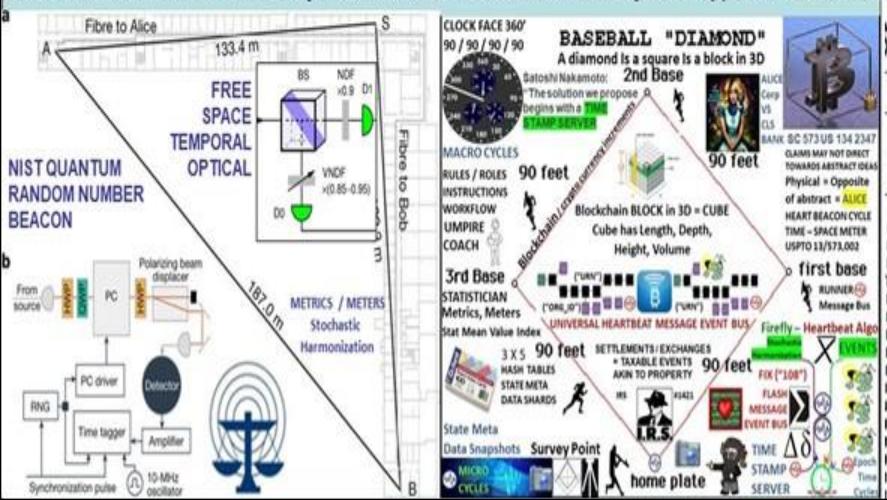


QUANTUM COMPUTING
- RESISTANT ? - BASED ?
THROUGH LENS OF SCOTUS
ALICE LOOKING GLASS RULING

USPTO APPLICATION 13/573,002
The Heart Beacon Cycle Time-Space Meter
Main Embodiment: Baseball Diamond = Block in 3D = cube



SCOTUS ALICE RULING: "Claims may not direct towards abstract ideas" / Physical = opposite of abstract



Satoshi Nakamoto Bitcoin Paper

The VALUE OF BITCOIN IS TIME ITSELF

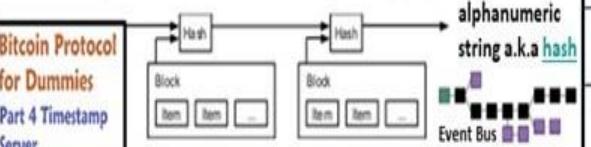
Craig WRIGHT a.k.a. THE VALUE OF BITCOIN IS TIME ITSELF

Wright Brother's 1st Flight Cape Hatteras Outer Banks

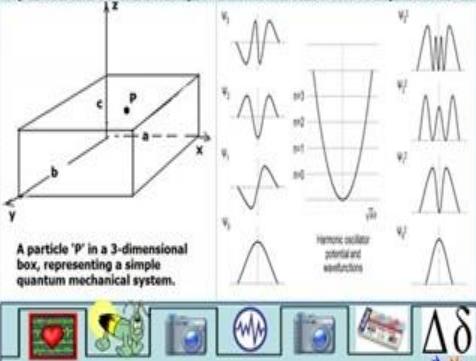
"THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER" Satoshi Nakamoto

3. Timestamp Server

The solution we propose begins with a timestamp server. A timestamp server works by taking a hash of a block of items to be timestamped and widely publishing the hash, such as in a newspaper or Usenet post [2-5]. The timestamp proves that the data must have existed at the time, obviously, in order to get into the hash. Each timestamp includes the previous timestamp in its hash, forming a chain, with each additional timestamp reinforcing the ones before it.



QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS

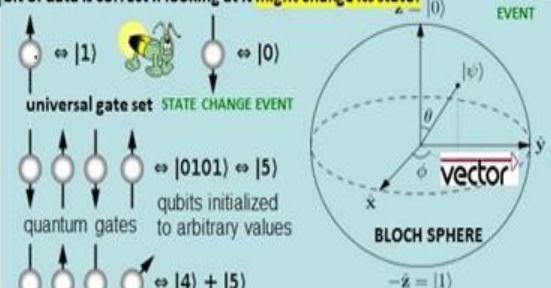


#QuantumComputing USet Alice Corp Vs CLS Bank compliant memes:
In quantum computing, a qubit (or quantum bit (sometimes qbit) is a unit of quantum information—the quantum analogue of the classical binary bit. A qubit is a two-state quantum-mechanical system, such as the polarization of a single photon: the two states are vertical polarization and horizontal polarization. In a classical system, a bit has to be in one state or the other. Quantum mechanics allows a qubit to be in a superposition of both states at the same time, a fundamental quantum computing property

US Ct Alice Corp Vs CLS Bank Physical memes
Linear sequential "Paul Revere" meme = horizontal polarization
Vertical polarization vectors from a known point 0 null Sonar Hop meme

particle representation / samples

Instead of each bit having two potential states — on or off — a quantum bit or qubit has three. It can be on, off, or both, and you only know which one it is once you look at it. How can you tell if a bit of data is correct if looking at it might change its state?



Microwave pulses like sonar ping—
qubits can be in a superposition of all the classically allowed states
silicon device movement is controlled through use of microwave pulses. As an electron spins up, a binary value of 1 is generated, when the electron spins down, a binary value of 0 is generated.

Fock state number state quantum state that is an element of a Fock space with a well-defined number of particles (or quanta)

Humanitarian Assistance Networked Donor System

H.A.N.D.S: "Based on the need to speed up the processes of influencing an adversary, new concepts result in the adaptation of military doctrine, organization, training, material, infrastructure, interagency interaction, leadership, personnel and facilities" ... German Bundeswehr concept of "OOTW Operations Other Than WAR or "Vernetzte Operationsführung" circa 2003



"Shared situational awareness enables collaboration synchronization, and enhances sustainability, speed of command"



Reuse adaptive procedural template guides from Battlefield Digitization among a federated systems of systems improving synergy, synchronicity to achieve shared sustainable goals



DOD SITUATION AWARENESS PROGRAM
SWORDS TO PLOWSHARES OOTW IDEA
BY GERMAN MILITARY CIRCA 2003



Beacon Communities

Vernetzte Operationsführung



PING

Proximity Beacons

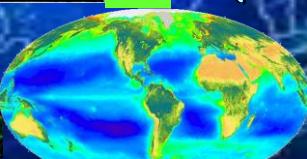
JAEGERS

BIOCOIN



Closer < \$\$\$ < FUEL

PING



OFF SHORE



FREELY

HEARTBEAT

EVENT / ALERT

Flash Heartbeat Message Bus

ALGORITHM

NEWS

FLASH

MESSAGE

BUS

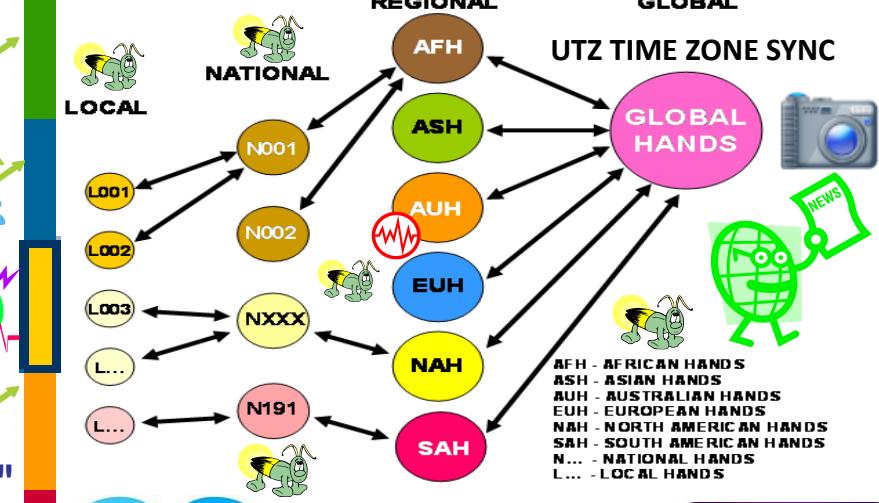
KAIJU

MONSTER

BEAST

DRAGON

SYSTEM
Of
SYSTEMS



AFH - AFRICAN HANDS
ASH - ASIAN HANDS
AUH - AUSTRALIAN HANDS
EUH - EUROPEAN HANDS
NAH - NORTH AMERICAN HANDS
SAH - SOUTH AMERICAN HANDS
N... - NATIONAL HANDS
L... - LOCAL HANDS



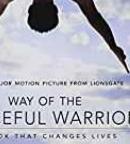
WORLD BEYOND WAR.org
a global movement to end all wars



Neural Net



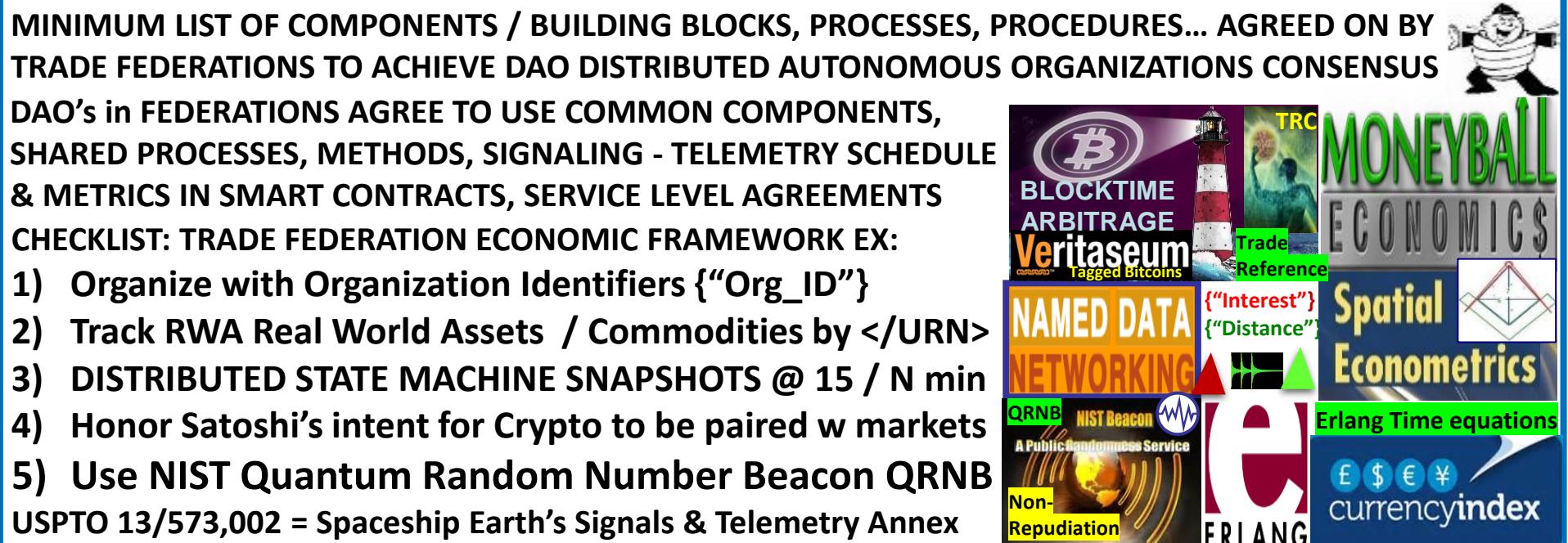
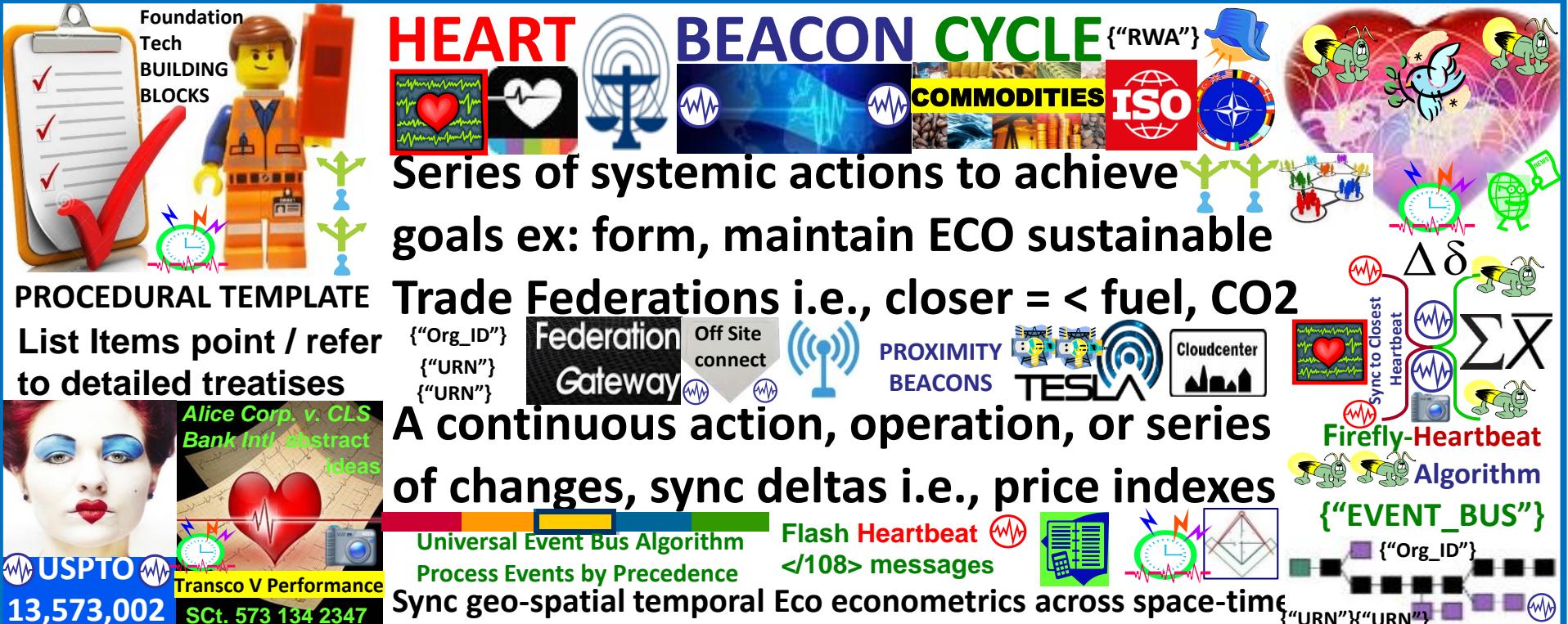
DAN MILLMAN



OFF SHORE
OUTER BANKS



KAIJU

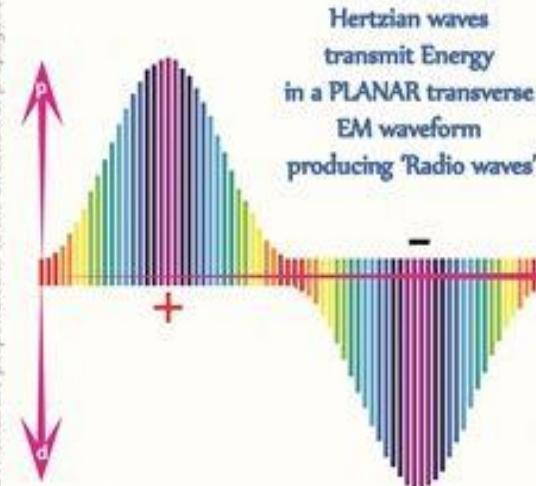


CLOSER = < Infrastructure
= CHEAPER SLA

ElectroMagnetic waveforms



ENERGY / DATA
Over
Transmission
Lines / Airwaves



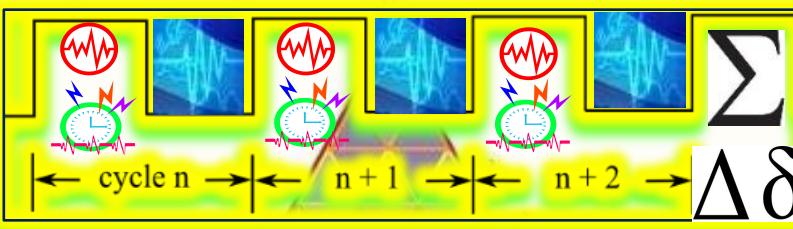
In 1887, Heinrich Hertz demonstrated the reality of Maxwell's electromagnetic waves by experimentally generating radio waves in his laboratory.

f



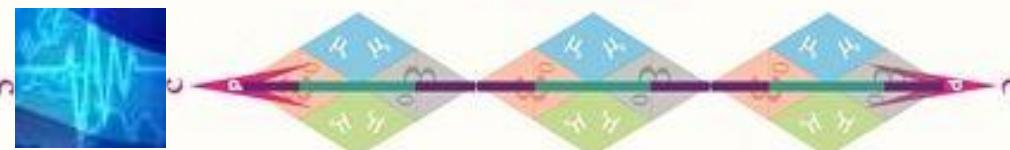
(22 February 1857 - January 1 1894)

INTERNET = 1. TIME EPOCH CYCLES 2. Syntax (not) Processed in cycle



Cycles per Second

All Photons and EM waves can have various directions of polarisation with respect to their direction of propagation



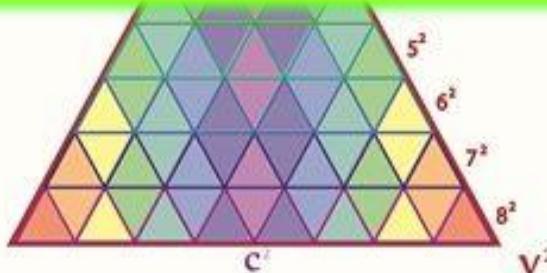
Teslian waves transmit Energy in a LONGITUDINAL waveform producing 'Action at a Distance'

Through longitudinal waves, Tesla transferred energy to receiving devices. He sent electrostatic forces through the air, transferred electrical energies and noted the lethal forces produced by these waves.

Nikola Tesla



(10 July 1856 - 7 January 1943)



Volts per Second

Soon after Hertz's claim of discovering Maxwell's transverse EM waves Tesla visited him and personally demonstrated the experimental error to him. Hertz agreed with Tesla and had planned to withdraw his claim, but varying agendas intervened and set the stage for a major rift in the 'accepted' theories that soon became transformed into the fundamental "laws" of the electric sciences that have held sway in industry and the halls of academia to the present day

V

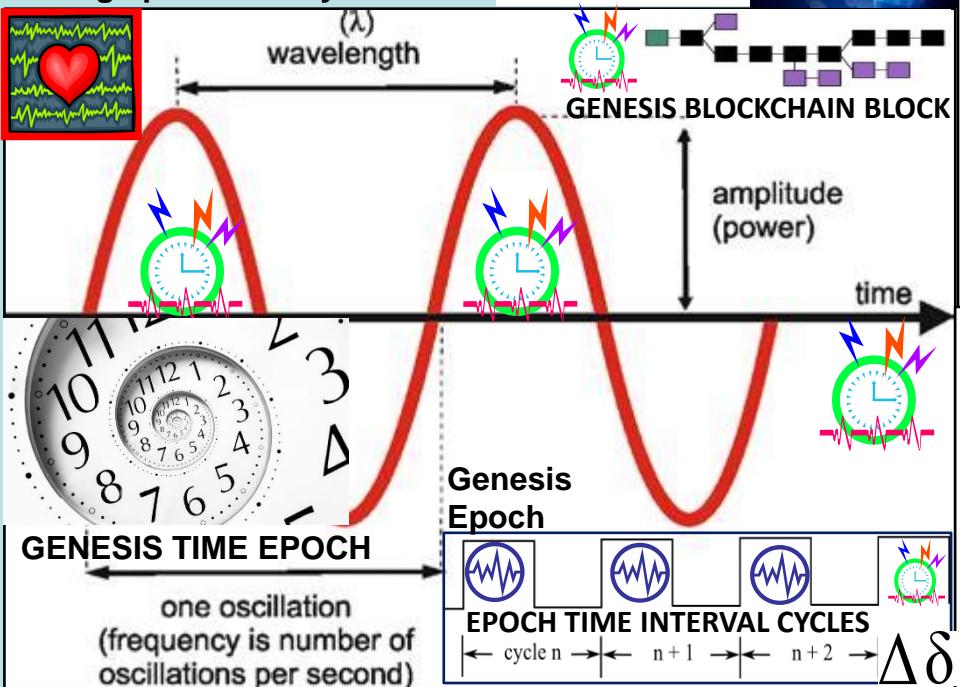
THESIS: All things net, net of programmable \$\$\$ are formed using:

ENERGY / DATA WAVE METRICS / METERS

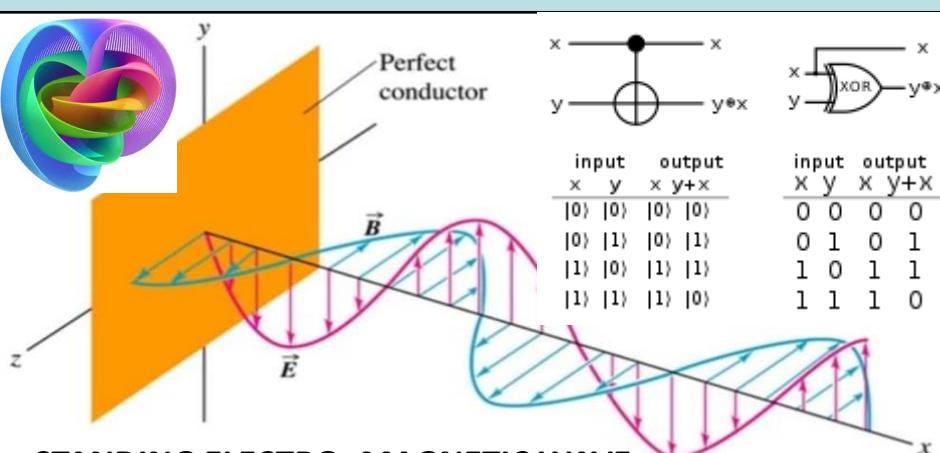
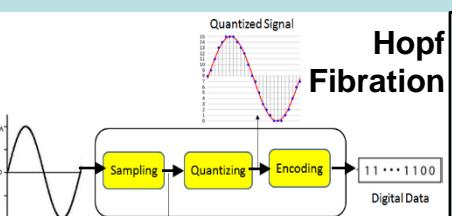
BELL STATE QUANTUM COMPUTING

1) Time epochs created by quartz crystal silicon chips

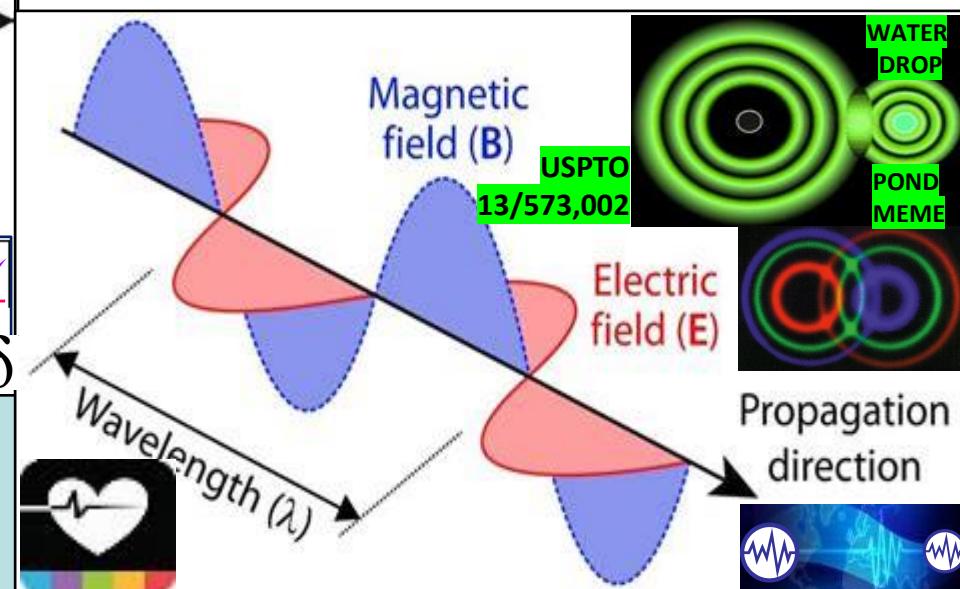
2) Syntax used / not used as programming instructions during epoch time cycles



Quantum Computing Vibrations encode, process data like quantum computers. A simple mechanical system built from aluminum rods uses vibrations to encode information, mimicking quantum computing in a non-quantum system. "Light is made from photons, the quantum of light." mechanical vibrations or sound waves can be described in a quantum-mechanical manner i.e., composed of phonons: the smallest possible units of mechanical vibration" Link: https://phys.org/news/2018-06-quantum_1.html

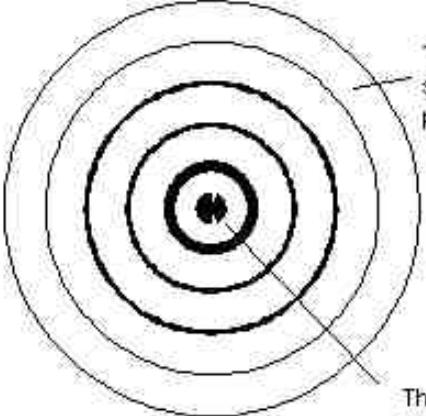


A **standing** electromagnetic wave does not propagate along the x-axis; instead, at every point on the x-axis the E and B fields simply oscillate.



"Nature may reach the same result in many ways. Like a wave in the physical world, in the infinite ocean of the medium which pervades all.. Nikola Tesla

Water drop in pond meme <https://www.spaceandmotion.com/>



The IN and OUT waves form standing waves about the central point

On Truth & Reality The Wave Structure of Matter (WSM) in Space

The pointlike Particle effect at the Wave Center

Paul Revere Linear, sequential meme

And as I shall explain in Einstein's relativity, when we apply this one law, where the wave velocity changes the wavelength also has a corresponding change such that we can never observe this change. This relates to the Lorentz transformations, the negative solution of the Michelson Morley experiment, and why we always measure a constant velocity of light even when it changes, thus why we cannot measure our motion through absolute space.

With respect to time, physics was always telling us that time is caused by frequency (and fundamentally by motion as the wave motion of space), since time equals the inverse of frequency $t=1/f$.

From our wave equation we see that while the velocity and wavelength change, the frequency remains constant, giving rise to an absolute time in the universe. This was one central problem of Einstein's relativity, he changed time and maintained a constant velocity of light, when the opposite is true. (Yes, this one property of waves from this simple wave equation has caused us so much confusion!).

"What we observe as material bodies and forces are nothing But Shapes and variations in the structure of space" Schrodinger

Physical Reality: 1. One Substance. Space exists with properties of an elastic solid wave medium, propagating longitudinal waves in all directions, thus forming standing waves in all directions. When these standing waves are in-phase (coherent) around a central point then a spherical standing wave naturally forms - space vibrates in and out around the central point, which we call the particle. There are two opposite phase spherical standing waves, which create the electron and positron (matter and antimatter),

2. One Law. The velocity of the waves is proportional to the wave amplitude (bigger waves travel faster). Where these waves are coherent, forming spherical standing wave 'particles', the wave amplitude is higher, and the waves travel faster. This, as i shall explain, is the foundation of all matter interactions, the source of causal connection and absolute truth.

Why matter and energy are equivalent, since a wave is a flow of energy between two states of the wave medium Space - kinetic energy (vibratory motion of space) and potential energy (elastic deformation of a nearly rigid space). Why matter and antimatter annihilate, due to destructive wave interference. How matter and antimatter can be created from apparently 'empty' space. How science can exist, since the spherical in and out waves provide continuous two way communication between matter in space (empirical knowledge), and the waves behave in a necessary manner due to this one law (logical knowledge).

Wave velocity is the velocity of light, $\sim 3 \times 10^8$ m/s, the wavelength is the Compton wavelength $\sim 10^{-12}$ m, and the frequency $\sim 10^{20}$ Hz. So in a pin head there are roughly a billion billion billion standing waves, each vibrating a billion trillion times a second. i.e. These standing waves are very small, and vibrate very fast, thus explaining how such complex standing wave structures (like us) can evolve in space. The fundamental equation of the universe is the simple wave equation; Velocity (C) = Frequency (f) * Wavelength (y)

Combined with the equation of the sphere (which is also Pythagoras' Theorem and the metric equation of Special Relativity), and explains the geometric foundations of reality, why space is three dimensional. $x^2 + y^2 + z^2 = r^2$



"Simplicity is the ultimate sophistication".
(Leonardo da Vinci)



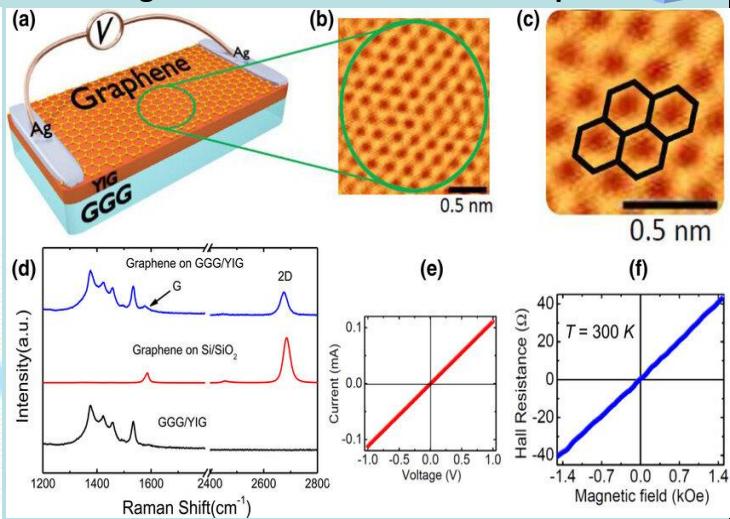
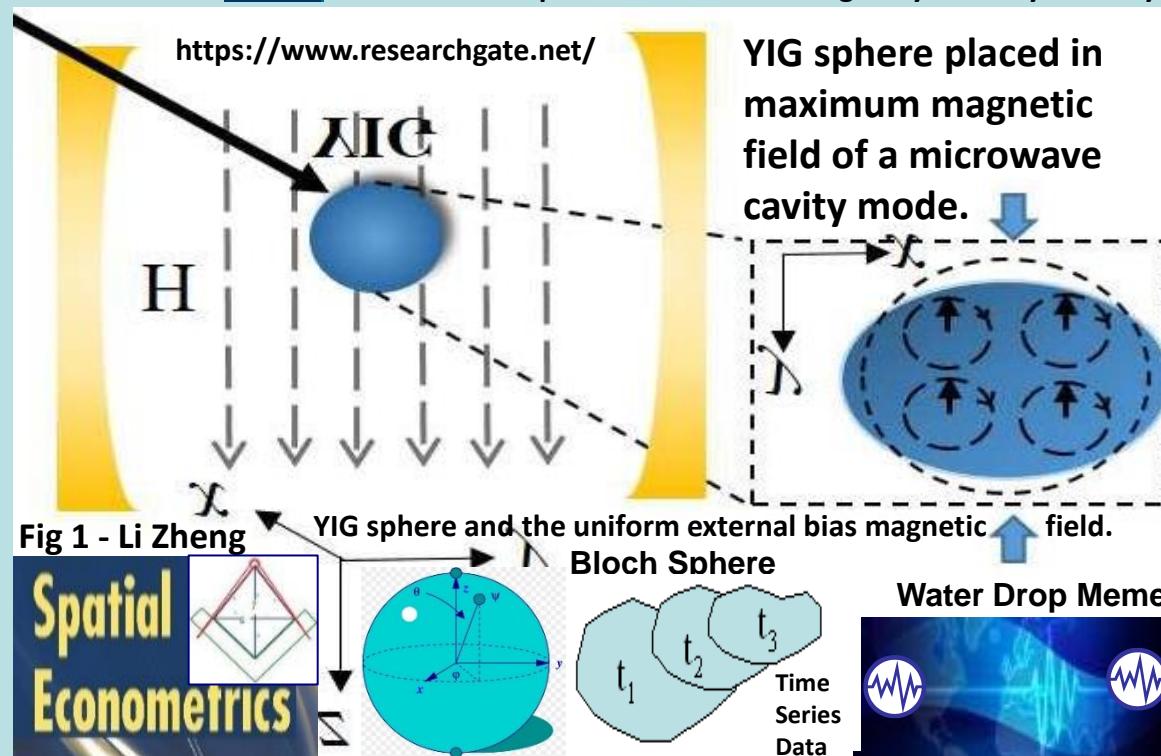
TESLA Harmonic Sphere Flux Resonator

"When space-time spins, it creates mass. It produces energy in space that radiates. This radiation is what we call mass". Nassim Haramein

Nassim Haramein's work is geometrically based, at the fundamental level spacetime = honeycomb of overlapping spheres of energy each having a singularity at its center.

Yttrium iron garnet spheres serve as magnetically tunable filters and resonators for microwave frequencies. YIG filters are used for their high Q factors, typically between 100 and 200.

Sphere made from a single crystal of synthetic yttrium iron garnet acts as a resonator. Wikipedia



YIG/graphene structures and the electrodes used to measure the dc voltage due to the IREE charge current in the graphene layer resulting from the spin currents generated by microwave FMR spin pumping.

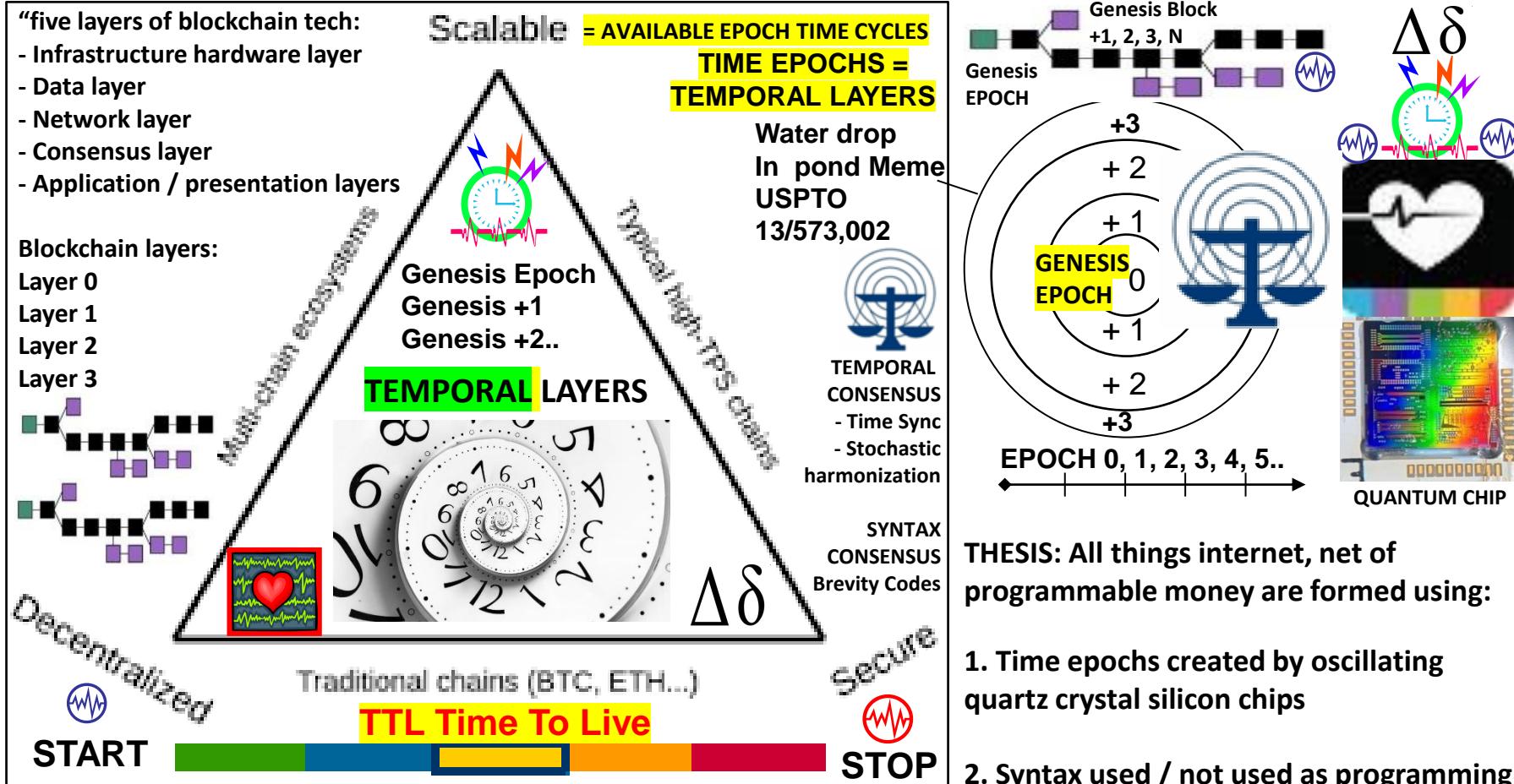
IEEE 802.1AG HOP BY HOP DETECTION
IEEE 802.11 HbH HOP BY HOP CONTROL

The creation of spinlogic devices, which allow the control and transport of the spin current over long distances, is one of the major research challenges in spintronics. In this regard, graphene-a single atomic layer of carbon atoms in a honeycomb lattice [see Fig. 1(c)]-has attracted great attention as a promising material for spin-based devices due to its exceptional electronic transport properties, excellent charge carrier mobility, quantum transport, long spin diffusion lengths, and spin relaxation times [42]





Blockchain Quad-lemma

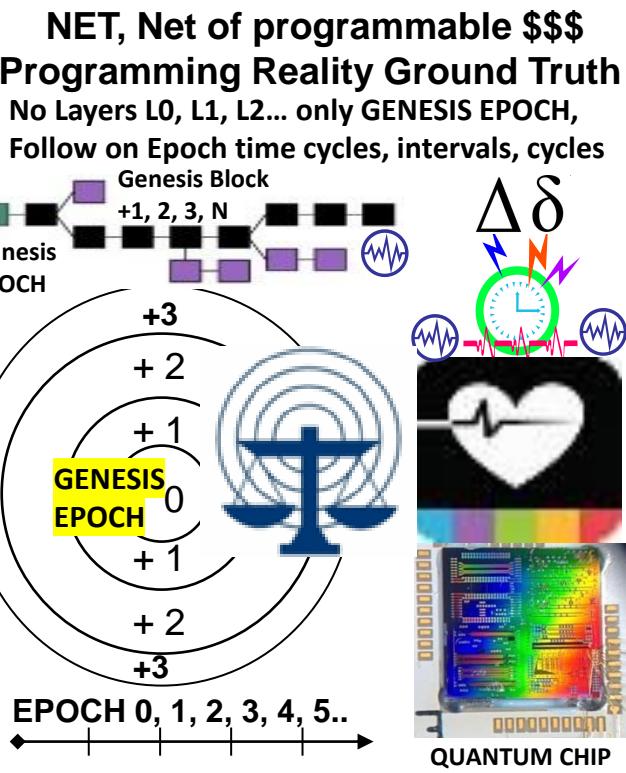


Blockchain = series of hashed blocks carrying transactional records. The first block of the blockchain is the **Genesis block**. After that, every new block added to the blockchain is linked to the Genesis block through a (temporal) iterative process.

Database Flat File
"BLOCKCHAIN" = LEDGER / Database

Database flat file sama dengan file data pada spreadsheet (misal MS Excel™), berupa satu file berisi baris-baris dengan jumlah kolom tetap yang disimpan berurutan dalam file.

| NIP | Nama | Nama Depan | Telp |
|-------------|----------|------------|--------------|
| 123-45-6789 | Santoso | Heru | 021-316-1234 |
| 987-65-4321 | Purnama | Widya | 022-543-9876 |
| 987-65-4321 | Jackson | Michael | 021-234-5678 |
| 567-89-0123 | Iskandar | Dodi | 021-987-6431 |



ALL THINGS INTERNET, INTERNET OF MONEY, BLOCKCHAINS ARE FORMED BY UNICAST, MULTICAST, ANYCAST PROTOCOLS. PROGRAMMABLE MONEY'S IMPROVEMENTS ARE IN CRYPTOGRAPHY. THE INTERNET CONSISTS OF UNICAST, MULTICAST BROADCAST, ANYCAST AND WORKFLOW FILTERS, PUBLISH – SUBSCRIBE PARADIGMS..

THE BITCOIN BLOCKCHAIN FOR DUMMIES



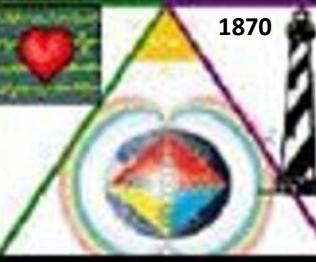
What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party e.g., a bank.



Satoshi Nakamoto

Craig WRIGHT
a.k.a.
Satoshi Nakamoto

"Bitcoin is a
LANGUAGE"



Satoshi Nakamoto Bitcoin Paper

"THE VALUE OF
BITCOIN IS
TIME ITSELF"

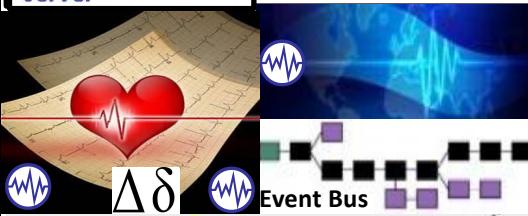
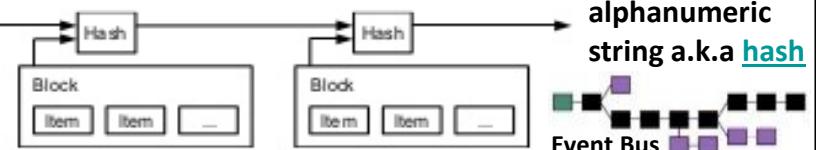
Wright Brother's 1st Flight
Cape Hatteras Outer Banks

"THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER"

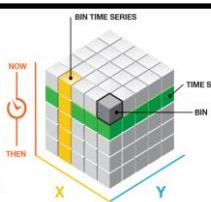
3. Timestamp Server

The solution we propose begins with a timestamp server. A timestamp server works by taking a hash of a block of items to be timestamped and widely publishing the hash, such as in a newspaper or Usenet post [2-5]. The timestamp proves that the data must have existed at the time, obviously, in order to get into the hash. Each timestamp includes the previous timestamp in its hash, forming a chain, with each additional timestamp reinforcing the ones before it.

**Bitcoin Protocol
for Dummies**
Part 4 Timestamp
Server



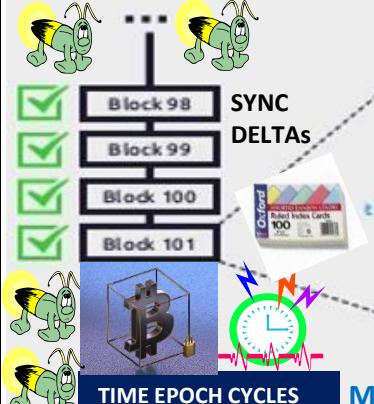
JapanNet Crypto Time
Authentication Service
(Timestamp Service)



"All things net, net of money are
formed with 1) epoch time cycles
2) Syntax parsed as instructions



"THE VALUE OF BITCOIN IS TIME ITSELF"

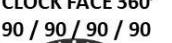


MERKLE: Summary built from block's transaction ID's

Header - Contains service information (version info, nonce, previous block id and timestamp). {"Org_ID"}
Merkle - A summary built from the block's transaction identifiers.

Transaction's id list - list of transaction's identification hashes that was included into the block's merkle tree.

CLOCK FACE 360'
90 / 90 / 90 / 90



BASEBALL "DIAMOND"
A diamond Is a square Is a block in 3D
2nd Base



BANK SC 573 US 134 2347
CLAIMS MAY NOT DIRECT
TOWARDS ABSTRACT IDEAS
Physical = Opposite
of abstract = ALICE
HEART BEACON CYCLE
TIME – SPACE METER
USPTO 13/573,002

peer-to-peer time
stamp distributed
server generates
computational proof
of the chronological
order of transactions

MACRO CYCLES

RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH

3rd Base

STATISTICIAN
Metrics, Meters
Stat Mean Value Index

3 X 5
HASH TABLES
STATE META
DATA SHARDS

State Meta

Data Snapshots

Survey Point

MICRO CYCLES

90 feet
Blockchain / cryptocurrency increments
Blockchain BLOCK in 3D = CUBE
Cube has Length, Depth,
Height, Volume

90 feet
SETTLEMENTS / EXCHANGES
= TAXABLE EVENTS
AKIN TO PROPERTY

IRS #1421
I.R.S.

90 feet
FLASH MESSAGE
EVENT BUS

FIX {"108"}
Firefly – Heartbeat Algo

EVENTS
TIME STAMP SERVER

TIME STAMP SERVER

TIME STAMP SERVER

All things internet of money are formed w CPU time cycles used to process instructions / code sym

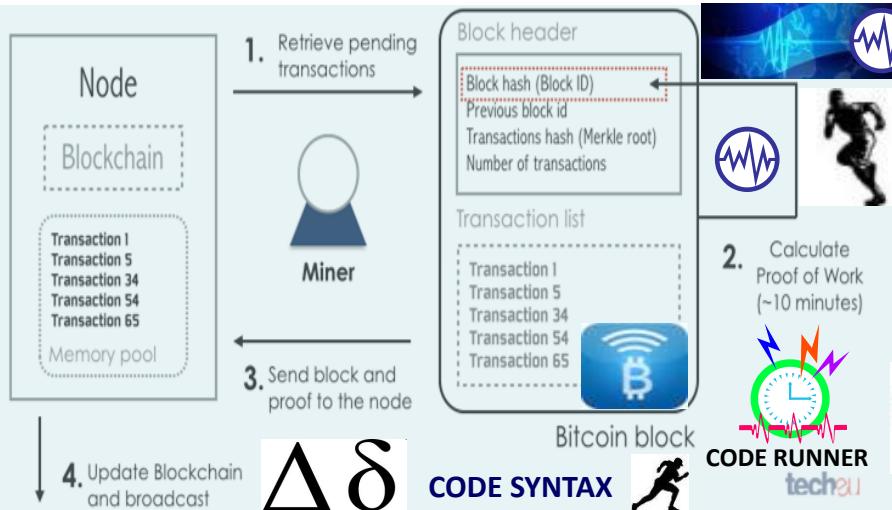


“Bitcoin is a Language”

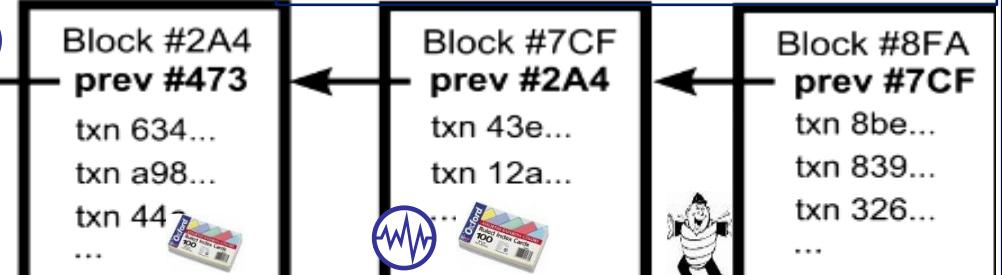
WIRED

"BITCOIN MAKES USPTO 13/573,002
MONEY HEART BEACON CYCLE
PROGRAMMABLE. TIME – SPACE METER
MONEY IS STRUCTURED DATA
SIMPLY DATA" EXCHANGE

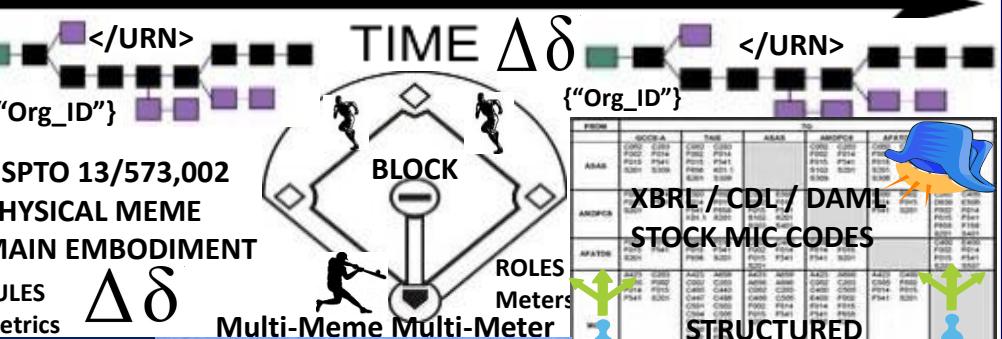
Alice Corp. v. CLS Bank International, 573 U.S. 134 SCt 2347 (2014) is a 2014 decision of the United States Supreme Court about patentable subject matter (patent eligibility).^[2] The issue in the case was whether certain claims about a computer-implemented, electronic escrow service for facilitating financial transactions covered abstract ideas ineligible for patent protection. The patents were held to be invalid because the claims were drawn to an abstract idea, and implementing those claims on a computer was not enough to transform that idea into patentable subject matter.



"BITCOIN IS A LANGUAGE / BITCOIN'S VALUE IS TIME ITSELF"



BLOCKCHAIN = TIME / SYNTAX



Net of \$\$\$ formed with:

1 EPOCH TIME CYCLES

2 {"Syntax"} "The Word"

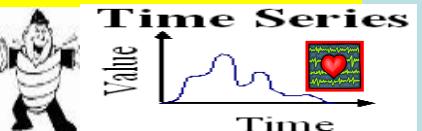
"In the Beginning" Genesis Block

"All things internet, Internet of money are formed using time epoch cycles to process, parse, syntax as instructions"

"A blockchain is a consensus-based system. It only works if all nodes reach an identical state"

"A smart contract is a piece of code stored on a blockchain, triggered by blockchain transaction reads / writes data in the blockchain's Dbase"

NAMED DATA NETWORKING



"Blockchain consortiums are working less on distributed ledgers and more on Contract Description Languages CDL, DAML Digital Asset Modeling Language" Coindesk Article



STRUCTURED DATA EXCHANGE

TEMPLATE FORMS

300+ USE CASES

LOGIC / FILTERS

/ORG_ID>

/URN>

Real World Assets

R W A

A.I.

Alpha Numeric Brevity Codes

AI.

Coder Guide Rosetta Stone

State Meta Data Snapshots Survey Point

MICRO CYCLES

Settlements / Exchanges = TAXABLE EVENTS AKAIN TO PROPERTY

IRS #1421

Fix "108"

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

ALICE CORP VS CLS BANK

claims may not be directed towards an abstract idea

US SC 573 US 134 2347

BLOCKCHAIN PROGRAMMABLE MONEY CLOCK CYCLES / EPOCHS

SYNTAX

SYNTAX / SYMBOL LEXICON LIBRARY



"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA"

"Bitcoin's Value is TIME itself"

"Time is specified in units of block transaction confirmation times"



ALICE CORP VS CLS BANK

"claims may not be directed towards an abstract idea"

US SC 573 US 134 2347



BTCIN BLOCKCHAIN BLOCKS, AGENTS, MOTES, BOTS, PACKETS, FRAMES, HEARTBEAT, PINGS, HOPS, BEACONS ARE METAPHORS / MEMES

USPTO 13/573,002 BASEBALL MEME PHYSICAL = OPPOSITE OF ABSTRACT



CLOCK FACE 360°
90 / 90 / 90 / 90
330 360 30 60
300 270 240 210 180 150

MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW

UMPIRE

COACH

3rd Base

STATISTICIAN

Metrics, Meters

Stat Mean Value Index

3 X 5 HASH TABLES

STATE META DATA SHARDS

SETTLEMENTS / EXCHANGES

= TAXABLE EVENTS AKAIN TO PROPERTY

IRS #1421

Fix "108"

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

ALICE CORP VS CLS BANK

claims may not be directed towards an abstract idea

US SC 573 US 134 2347

BLOCKCHAIN PROGRAMMABLE MONEY CLOCK CYCLES / EPOCHS

SYNTAX

SYNTAX / SYMBOL LEXICON LIBRARY

BASEBALL "DIAMOND"
A diamond Is a square Is a block in 3D
2nd Base

Satoshi Nakamoto:
"The solution we propose begins with a TIME STAMP SERVER"

Blockchain BLOCK in 3D = CUBE
Cube has Length, Depth, Height, Volume

Blockchain / crypto currency increments

90 feet

What happens if we think about Bitcoin through the lens of *land*?

HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

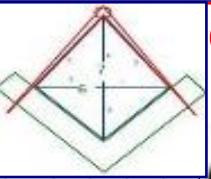
SC ALICE CORP VS CLS BANK: "claims may not direct towards abstract ideas"

UTXO: unspent transaction output'. bitcoins that have been sent somewhere but not yet themselves been spent. The set of all unspent transaction outputs (UTXOs) can be thought of as the latest STATE of every bitcoin that has ever been mined.

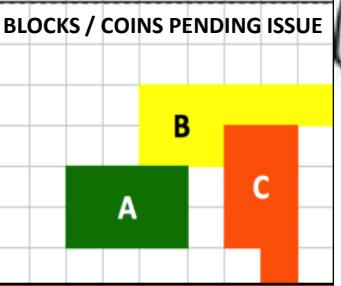


Memo #1421: Purchased Bitcoins are treated akin to property

Plots A, B, C represent 3 unspent transaction outputs controlling N Bitcoins



Mined Bitcoins



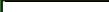
$$\Delta\delta$$

Unmined Bitcoins



Un-mined coins -- think of them as parcels of land on "Bitcoin Island" not yet released:

IDMaps-SONARHOPS distance estimation query-reply service



ASIC CHIP TIME CYCLE EPOCHS

cycle n

n+1

n+2

→ Δδ

- End-state Bitcoin quantity will be fixed like land

"Bitcoin as protocol of ownership, not transfer"

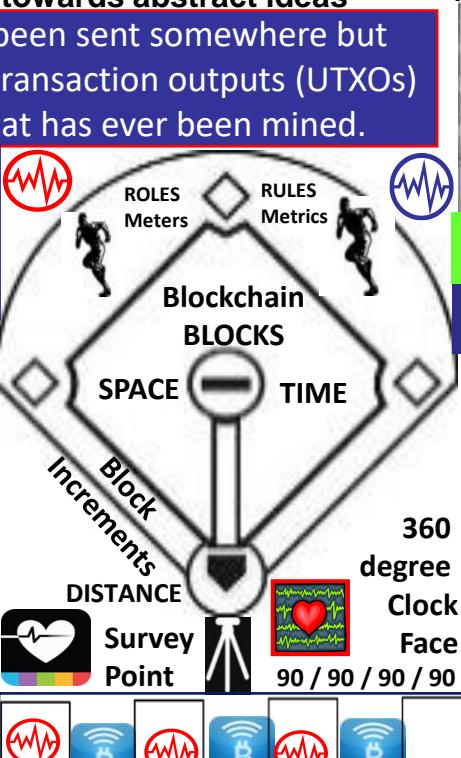
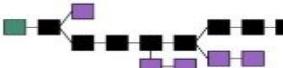
Coin never travel, but simply switch owners"

Step 1: prove coin ownership <Org_ID> Coin Issuer

Step 2: coins sent where, when Lat-Long, time stamp

Step 3: specify ownership <Org_ID> issuing agent

Step 4: Issuing Org of Record adjudicates w buyer



→ Δδ





ISO Technical Committee TC68

Financial Services

| | | |
|-----------------|-------------------|----------------|
| SC2 Security | SC4 Securities | SC7 Banking |
|-----------------|-------------------|----------------|

RMG members nominated by P-member countries and A- liaison organisations

**TSG & SEG members
nominated by all member
countries and liaison
organisations**

ISO 20022 LV v66

Q: Which meme describes the myriad blockchain consensus algorithms the most comprehensively that uses an algorithm (based on nature = "shortest path to the knowledge of truth Luxor Temple) enabling distributed system of systems geo-spatial, UTZ Universal Time Zone temporal, semantic - syntactic sync, OPSCODE brevity code, data element &

symbol (for A.I. man – machine interface) consensus?  

Blockchain is the **consensus** of **algorithms & mechanisms**. The **consensus** is the **HEART OF THE BLOCKCHAIN NETWORK**. Its main purpose is to achieve agreement on transactions among a distributed system (s).

Proof of Formulation: PoF: generation / propagation of blocks using a previously agreed sequence between participants of the generation of blocks, formed by two groups: a generator group

The diagram illustrates the Spacemesh network structure and synchronization process. On the left, a blue circular background features a central node labeled "spacemesh" connected to four other nodes. A red diamond-shaped mesh structure is overlaid on this, representing the network's topology. To the right, a large red diamond is divided into four quadrants by a diagonal line, with the top-right quadrant containing a smaller red diamond. This visualizes how the network's structure is refined through iterative synchronization steps. Below this, a circular diagram shows a network of nodes connected by lines, with a legend indicating "The Network" and "The Mesh".

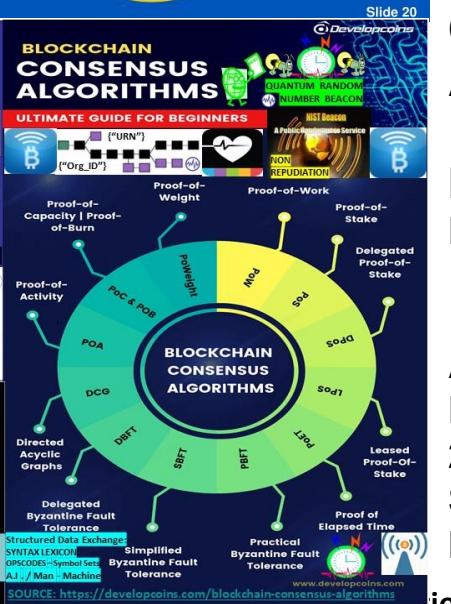
 PROOF OF FORMULATION
Space-Time Consensus Algorithm

describes a common platform

describes a common platform
(methodology, process, represen-

- a modelling methodology
- a central dictionary of business objects

- a central dictionary of services
- a set of XML and ASN.1 definitions



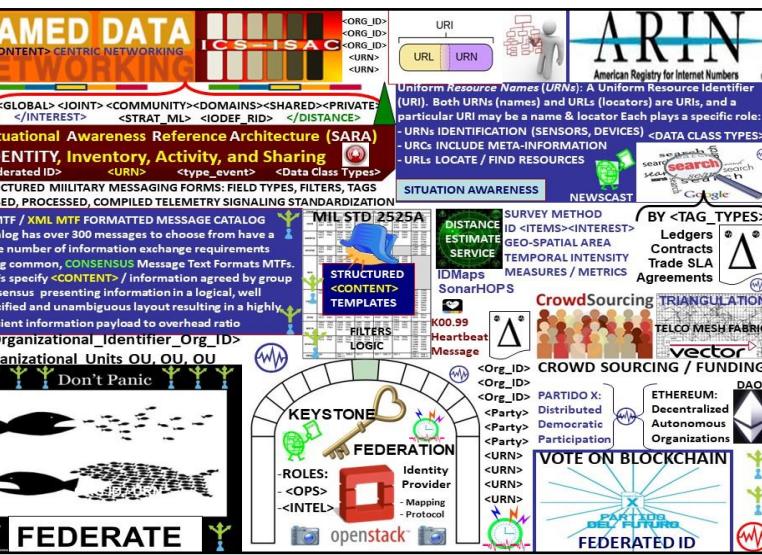
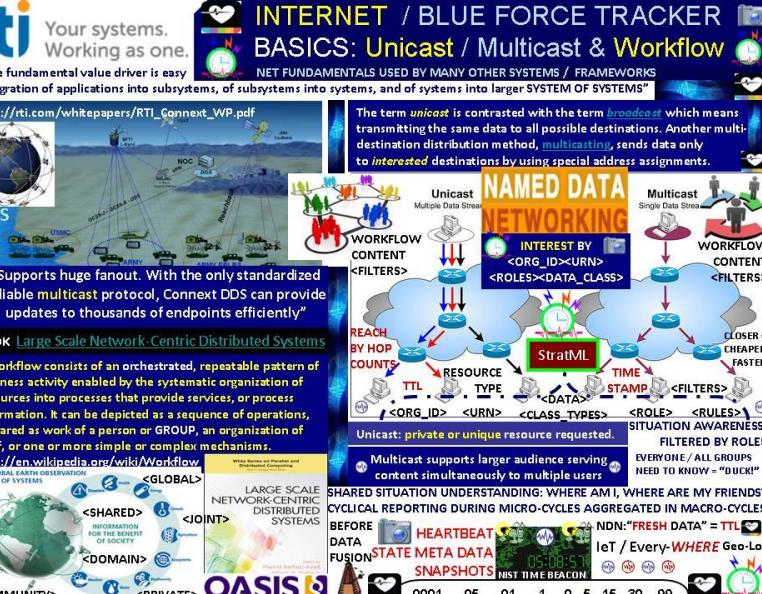
FOUNDATION STANDARDS TECHNOLOGY

- The logo consists of several text elements arranged vertically. At the top is 'GPS' in blue. Below it is a blue square icon containing a white 'G'. To the right of the icon is 'ISO 20022' in large black letters. Below that is 'MIL STD' in black letters. The next section contains 'Structured' in large black letters, 'Data Exchange' in large black letters, 'eDoD System of' in smaller black letters, 'systems' in large black letters, and 'engineering' in large black letters. To the right of the text is a small graphic of a globe.

CONSENSUS ALGORITHMS

NDN: Named Data Networking

**ARIN, ASN-1
Binary XML
525 A,B,C,D
Symbol Sets for
Human – A.I.**



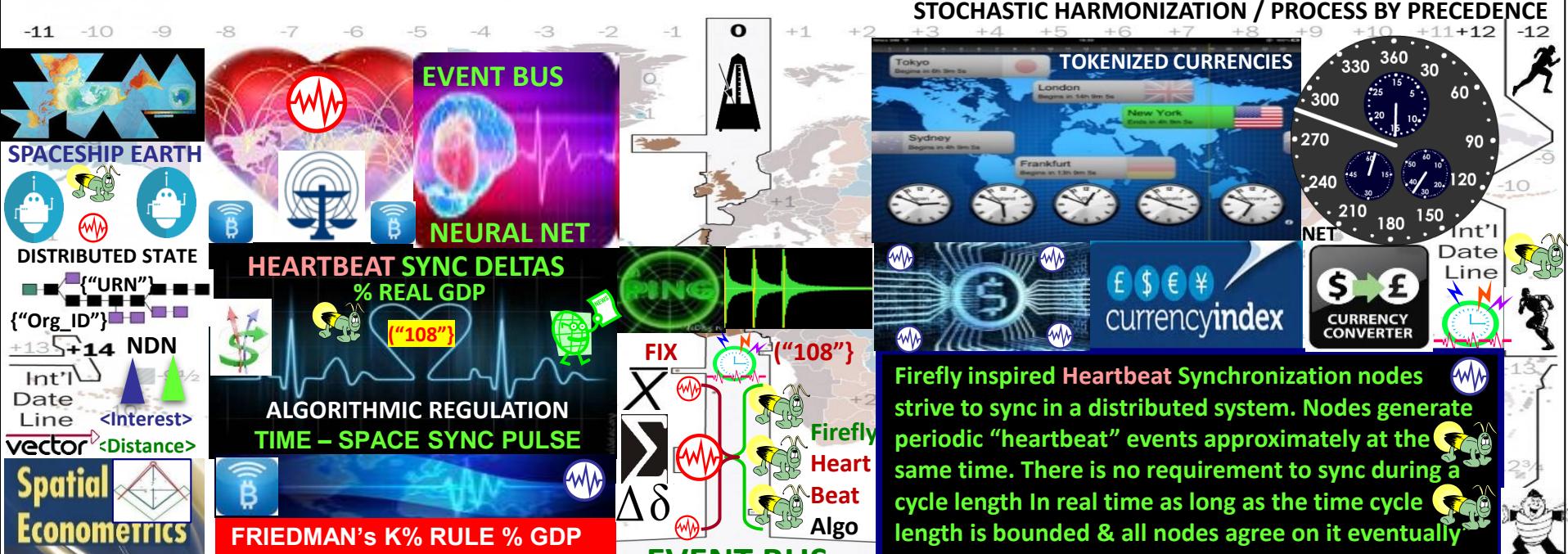
WORLD Financial Standard ISO 20522 is a multi-part International Standard prepared by ISO Technical Committee TC68 Financial Services. It

describes a common platform for the development of messages in ASN.1 Abstract Syntax Notation: A single standardization approach

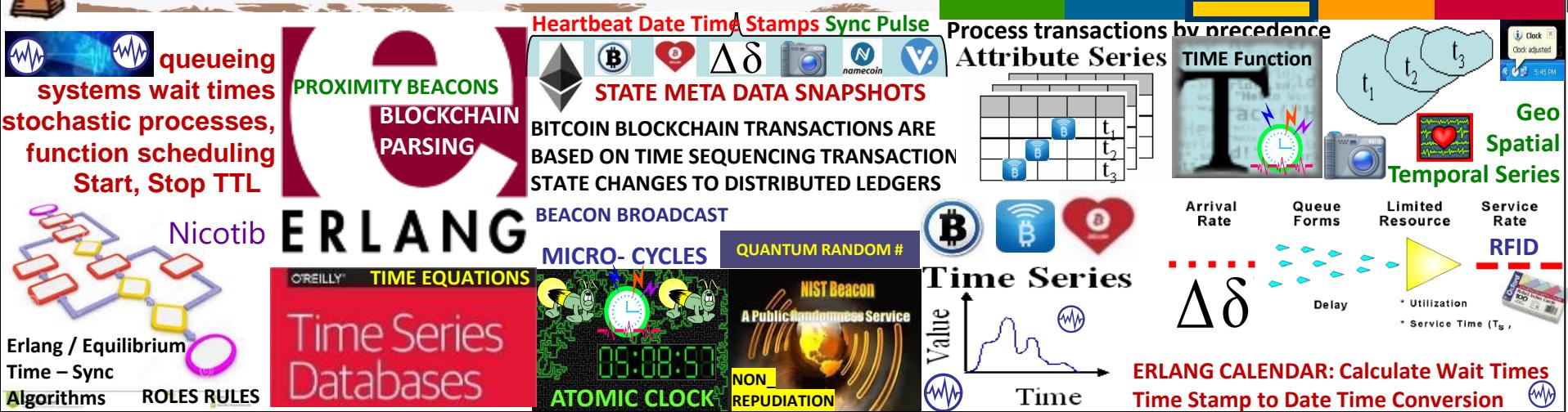
- (methodology, process, repository) to be used by all financial standards initiatives. common platform for the development of messages using:

 - a modelling methodology to capture in a syntax-independent way financial business areas, business transactions and message flows
 - a central dictionary of business items used in financial communications
 - a set of XML and ASN.1 design rules to convert the message models into XML or ASN.1 schemas, whenever the use of the ISO 20022 XML or ASN.1-based syntax is preferred ISO 20022: <https://www.iso20022.org/about-iso-20022>

The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC.



The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.



Structured Data Exchange



SYNTAX LEXICON
ROSETTA STONE

Coder's Guide lexicon.

STRUCTURED
<CONTENT>
EXCHANGE
TEMPLATES

MIL STD 2525ABC

ASSET TOKENS

"SYMBOLS RULE THE WORLD"

11.8 - Kinematic
11.8.1 - Pos
11.8.1.1 -
11.8.1

STRATML XAML

XBRL
THE BUSINESS REPORTING STANDARD
BINARY XML
Decision

UBL
1.1 - Observers
1.2.3 - Predicted
1.2.4 - Smoothed Data
3 - Position
1.3.1 - Bearing Angle
1.3.2 - Location; 2D Hor
1.3.3 - Vertical
4 - Velocity

DDL DATA
DEFINITION
LANGUAGE
1 - Horizontal
2 - Vertical
TOSCA
Confidence
Bearing Angle
Bearing Angle Rate
Covariance Matrix

Signal operating instructions (SOI): technical control coordination of signaling, telemetry Current situational awareness, data dictionary, network identification, channels, network directory, brevity code-words, signals. Units maintain 2 SOI copies: PEACE TIME version "Go-To-War" version = BIZ COA (s) <Org_ID1><Org_ID2><Org_ID3>



NATO MESSAGE TEMPLATES USE DATA SETS FOR STRUCTURED DATA EXCHANGE // POSITION FIELD IN MESSAGE PROCESSED BY TABLE, FIELD # IN A CONSISTENT, PREDICTABLE ORDER = AI FRIENDLY M2M AI

GOAL: vide a common lexicon / syntax / term library used among FEDERATIONS identified by Federated ID
GOAL: Provide a common, consistent, reliable schedule to share signaling and telemetry within federations.

MTL Machine Trust Language



{"URN"} {"URN"}

{"TRANSACTION ID"}

MESSAGE TEXT FORMAT :

SEG RPT OCC CLASSNAME SETID SEQ FIELD OCCURRENCE SET FORMAT NAME

O 11NUPRES EXER 1 /M /O // (NU) EXERCISE IDENTIFICATION

C 11NUPRES OPER 2 /M /O /O /O // (NU) OPERATION CODEWORD

M MIOPV1 1 MSGID 3 /M /M /O /O /O // (NU) MESSAGE IDENTIFIER



M MIP OUT ORDPLAN 4 /M /O /O /O // (NU) PLAN ORDER REFERENCE



SIOP POUT MSGREF 5 /M /M /M // (NU) REFERENCED MESSAGE

NUPRES DTG 6 /M // (NU) DATE-TIME GROUP

0 ORGID 7 /M /M /M /M /M /M /M /C // (NU) ORGANIZATION DESIGNATOR

M 11NUPRES GENTEXT 8 /M /M // (NU) 1.A ENEMY FORCES / COMPETITORS

M 11NUPRES GENTEXT 9 /M /M // (NU) 1.B FRIENDLY FORCES / TRADE FEDERATION

M 11NUPRES GENTEXT 10 /M /M // (NU) 1.C ATTACHMENT / DETACHMENT



O 11NUPRES GENTEXT 11 /M /M // (NU) 1.D COMMANDERS EVALUATION

O 11NUPRES GENTEXT 12 /M /M // (NU) 1.E ENVIRONMENTAL INFORMATION

M 11NUPRES GENTEXT 13 /M /M // (NU) 2. MISSION </108>K00.99 / FIX / SWIFT / E-911 Heartbeat Message

M 11NUPRES GENTEXT 14 /M /M // (NU) 3.A CONCEPT OF OPERATION

O 11NUPRES GENTEXT 17 /M /M // (NU) (3) RECONNAISSANCE SURVEILLANCE

O 11NUPRES GENTEXT 21 /M /M // (NU) (5) INFORMATION OPERATIONS

O 11NUPRES GENTEXT 28 /M /M // (NU) (5) COMMS INFORMATION SYSTEMS

O 11NUPRES GENTEXT 35 /M /M // (NU) 3.D COORDINATING INSTRUCTIONS

M 11NUPRES GENTEXT 36 /M /M // (NU) 4.A SUPPORT CONCEPT (Logistics)

M 11NUPRES GENTEXT 37 /M /M // (NU) 4.B MATERIEL AND SERVICES

SYMBOLS Friend Neutral Hostile DICAL EVAC & HOSPITALISATION

Partner Competitor L - MILITARY OPERATIONS

TOKENIZED ECONOMY BREVITY CODE OPSCOSE MAPPET TO SYMBOLS



INDEX REFERENCE #:

M015 STATUS :

EFFECTIVE: 14-DEC-99



PURCHASE CODES



FEDERATED PEGS



{"ASSET_CLASS"}



{"ASSET_TYPES"}

ISO 10383 – MIC

Market Identifier Codes



{"URN"}



{"Org_ID"}



108

STOCK
EXCHANGE

NDN
NETWORKING

NAMED DATA
MIC CODES

PRECEDENCE
PROCESSING

FILTERS

BLOCKTIME

ARBITRAGE

ERLANG

TIME

EQUATIONS

TIME

EQUATIONS

| FROM | TO | | | | | CODE GUIDE | |
|--------|--|--|---|--|--|--------------------------------|--|
| | GCCS-A | TAIS | ASAS | AMDPCS | AFATDS | MCS | |
| ASAS | C002 C203 F002 F014 F015 F541 S201 S309 | C002 C203 | USMTF / XML MTF FORMATTED MESSAGE CATALOG = 300 + messages info exchange sets using common, CONSENSUS Message Text Formats MTFs. MTFs specify <CONTENT> / info agreed by group consensus presenting information in a logical, well specified unambiguous layout resulting in a highly efficient info payload to overhead ratio | | | | |
| AMDPCS | TOKENS OPSCODE BREVITY CODES | | F002 C203 F015 D630 S201 E500 F002 F014 | | | | |
| AFATDS | F002 F014 F015 F541 S201 | A.I.  INFOCON 5 4 3 2 1 INFORMATION CONDITION | | | | | |
| MCS |  NEWS  SIOP  FEDERATED MISSION NETWORK SHARE * WIN * SUCCEED | A423 C203 C505 F002 F014 F015 F541 S201 | A423 A659 C002 C203 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F658 F756 G489 K01.1 S201 S303 S507 | A423 A659 A656 A690 C002 C203 C400 C505 F002 F014 F015 F541 |  Rosetta Stone  Syntax Lexicon  Coder's Guide | A423 C505 F014 F015 S201 | M2M  "SYMBOLS RULE THE WORLD"  |

MESSAGE CATALOG

300 + Use Cases

Data Elements: entity, attribute, relationship equivalents **HEARTBEAT MESSAGE = K00.99 </108> {"108"}**

| Object Categories | | Information Categories and Examples | | | | | | |
|-------------------|---|---|--------------------------------|--------------------------------|------------------------------|---|------------------------------------|---------------------------|
| Examples | Location | Movement | Identify | Status | Activity | Intent | | |
| OOB | SYNTAX LEXICON | STRUCTURED DATA lat/long | EXCHANGE spd/hdg | country / alliance, type/class | Message readiness | Sets targeting, reconitering | COA | {"Java JS"} |
| Infrastructure | Comm, power, transportation, water/sewer | Machine Trust Language network, grid | MTL throughput, flow rates, | name, part-of relationship | BDA, op levels | CDL Contract Description Language repair, broadcasts | YAML | expansion plan |
| Sociological | Culture, religion, economic, ethnic, government, history, languages | temples, historic structures | E-R Model Entity | Class Diagram Class | Relational Database Table | Object DBMS Class | XML DTD / Schema Element | TADILs Message |
| Geophysical | Terrain, weather, climatology, oceanography, astrometry | feature lat/long, alt/dpth | Attribute | Attribute | Field / Column | Attribute | Child Element or Element Attribute | FFIRN / FFN / FUDN DFI |
| | Domain Value | PURCHASE CODES | Instance, Value | TOKENS | | DUI | FUD | |

Information Elements Roles

- COI Determination Org Interaction
 - Search and Discovery
 - Ontologies STANDARDS
 - Taxonomies REFERENCE
 - Metadata Attributes / Filters



FFUDN: Field Format Unit Designator

FIRN Field Format Index Reference

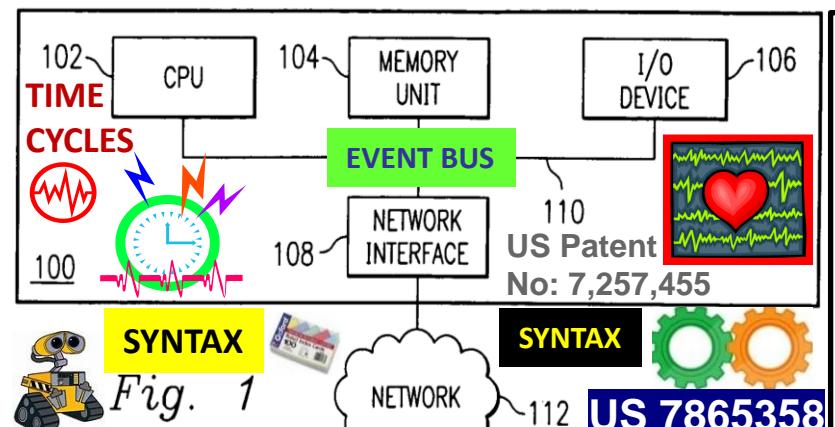
Structured military messaging ID's messages, message sets, data element, symbol fields </108>



PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES

| DATA SYSTEM FUNCTIONS | | PERFORMANCE | |
|--|---------|--------------------------------|------------------------|
| 1.4 - Classification | | 11.8 - Kinematics | |
| 11.4.1 - Category | | 11.8.1 - Pos / Vel / Acc (PVA) | |
| 11.4.1.1 - Confidence Level | | 11.8.1.1 - Acceleration | |
| 11.4.1.2 - Estimate Type | | 11.8.1.1.1 - Angular | |
| 11.4.1.2.1 - Alternative | | 1.1.2 - Linear | |
| 11.4.1.2.2 - Evaluated D | | 2 - Estimate Type | |
| 11.4.1.3 - Value | | 1.2.1 - Estimated | |
| | | 1.2.2 - Observed | |
| | | 1.2.3 - Predicted | |
| | | 1.2.4 - Smoothed Data | |
| PURCHASE CODES | | SYMBOL | |
| Friend | Neutral | Hostile | |
| Partner | | | |
| 11.4.1.3.4 - Substance | | Competitor | |
| 11.4.1.3.5 - Surface | | | 4 - Velocity |
| 11.4.2 - Platform / Point / Feature Type | | | 1.4.1 - Horizontal |
| 11.4.3 - Specific Type | | | 1.4.2 - Vertical |
| 11.4.4 - Type Modifier | | | VA Confidence |
| 11.4.5 - Unit | | | 1 - Bearing Angle |
| | | | 2 - Bearing Angle Rate |
| | | | 3 - Covariance Matrix |

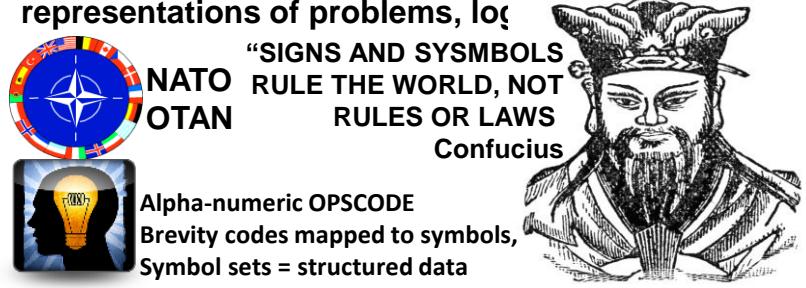


Machine-based system for transforming data from a source form to a target form, a tool is provided for sharing information established in developing a transformation model. The shared information may relate to rules for mapping source collection terms to standardized terms, rules for ordering or **SYNTAX**, rules for classifying terms or other transformation rules.

**US 7865358 CLAIM 1. method converting
textual data from source form to target
forms, where target form differs from
source form's linguistics, syntax**

**Multi-user functionality for converting
data from a first form to a second form**

Symbolic artificial intelligence: collection of all methods in artificial intelligence research that are based on high-level symbolic (human-readable) representations of problems, logic, and knowledge.



US Patent No: 7,257,455 DISCOVERY MACHINE Inc. Fig. 8 Discovery Machine® Inc. AL ARTIFICIAL 820

Williamsport PA
Little League
Baseball Capital of
the World

818

| TASK | |
|------|--------------------------|
| PK | <u>TK_OID</u> {"Org_ID"} |
| FK1 | TK_NAME |
| FK2 | TK_DESCRIPTION |
| | TK_CONDITION |
| | TK_CMOID |
| | TK_CLOUD (FUNCTION) |

816

| METHOD | |
|------------|--------------------------|
| PK, FK3 | <u>MT_OID</u> {"Org_ID"} |
| FK1 | MT_NAME |
| FK2 | MT_DESCRIPTION |
| | MT_CMOID |
| | MT_CLOUD (BEHAVIOR) |
| | LS_SEQUENCE |

810

| CLASS | |
|-------|---------------|
| PK | <u>CL_OID</u> |
| | CL_NAME |

BIZ COA 1,2,3

AU
Ar

System and method for collecting, representing knowledge using task-method-knowledge with structure-behavior function in a computer system.. BIZ COA 1, 2, 3



| COMPONENT | | |
|-----------|---------------|---------|
| PK | CP_OID | {"URN"} |
| - | CP_NAME | |
| | CP_SUBSTANCE | (BOOL) |
| | CP_PRIMTYPE | |
| FK1 | CP_CLASSTYPE | |
| FK2 | CP_CLOID | |
| | CP_COLLECTION | |

| CONNECTION | |
|------------|------------------------|
| PK | CN_OID |
| FK1 | CN_TYPE (CLASSES ONLY) |
| FK2 | CN_FROM |
| FK3 | CN_TO |
| FK4 | CN_SUBSTAN |
| FK5 | CN_PARENT |
| | CN_NAME |

Clock
Clock adjusted

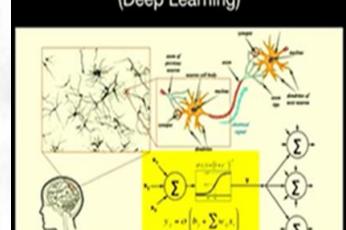
5:45 PM

Off-Site
Connector

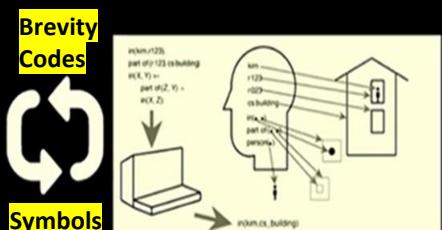
Neuro-Symbolic AI

Symbolic (human-readable) representations

Symbolic Al



Breaking the world into symbols (rather than



Incorporate common sense reasoning and
knowledge about the world

Symbolic artificial intelligence: collection of all methods in artificial intelligence

research that are based on high-level symbolic (human-readable) representations of problems, logic and search.[1] Symbolic AI used tools such as logic programming, production rules, semantic nets and frames, and it developed applications such as knowledge-based systems (in particular, expert systems), symbolic mathematics, automated theorem provers, ontologies, the semantic web, and automated planning and scheduling systems. The Symbolic AI paradigm led to seminal ideas in search, symbolic programming languages, agents, multi-agent systems, the semantic web, the strengths, imitations of formal knowledge and reasoning systems.

Physical symbol system (also called a formal system) takes physical patterns (symbols), combining them into structures (expressions) and manipulating them (using processes) to produce new expressions. The physical symbol system hypothesis (PSSH) is a position in the philosophy of artificial intelligence formulated by Allen Newell and Herbert A. Simon. They wrote: "A physical symbol system has the necessary and sufficient means for general intelligent action." [2] —Allen Newell and Herbert A. Simon

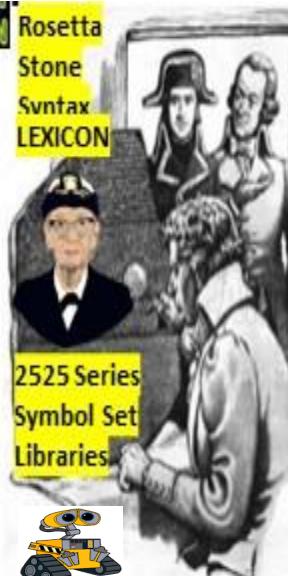
This claim implies both that human thinking is a kind of symbol manipulation (because a symbol system is necessary for intelligence) and that machines can be intelligent (because a symbol system is sufficient for intelligence).[3] The idea has philosophical roots in Hobbes (who claimed reasoning was "nothing more than reckoning"), Leibniz (who attempted to create a logical calculus of all human ideas), Hume (who thought perception could be reduced to "atomic impressions") and even Kant (who analyzed all experience as controlled by formal rules).[1] The latest version is called the computational theory of mind, associated with philosophers Hilary Putnam and Jerry Fodor.[4]

Source: Wikipedia: https://en.wikipedia.org/wiki/Physical_symbol_system

data from a first form to a second form

CONDITION

Rosetta
Stone
Syntax
LEXICON



2525 Series
Symbol Set
Libraries



NATO RULE THE WORLD, NOT
OTAN RULES OR LAWS



Confucius

Alpha-numeric OPS CODE
Brevity codes mapped to symbols,
Symbol sets = structured data

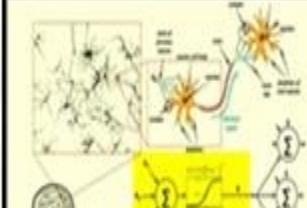
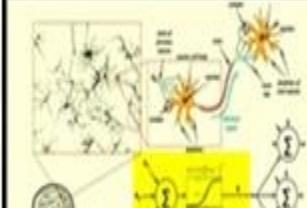
FRZ TLP CLOUD

ABC A OPS CODE BREVITY CODES

Neuro-Symbolic AI

Symbolic (human-readable)
representations

Neural Networks
(Deep Learning)



Brevity
Codes



Symbols



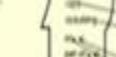
Symbols



Symbolic AI

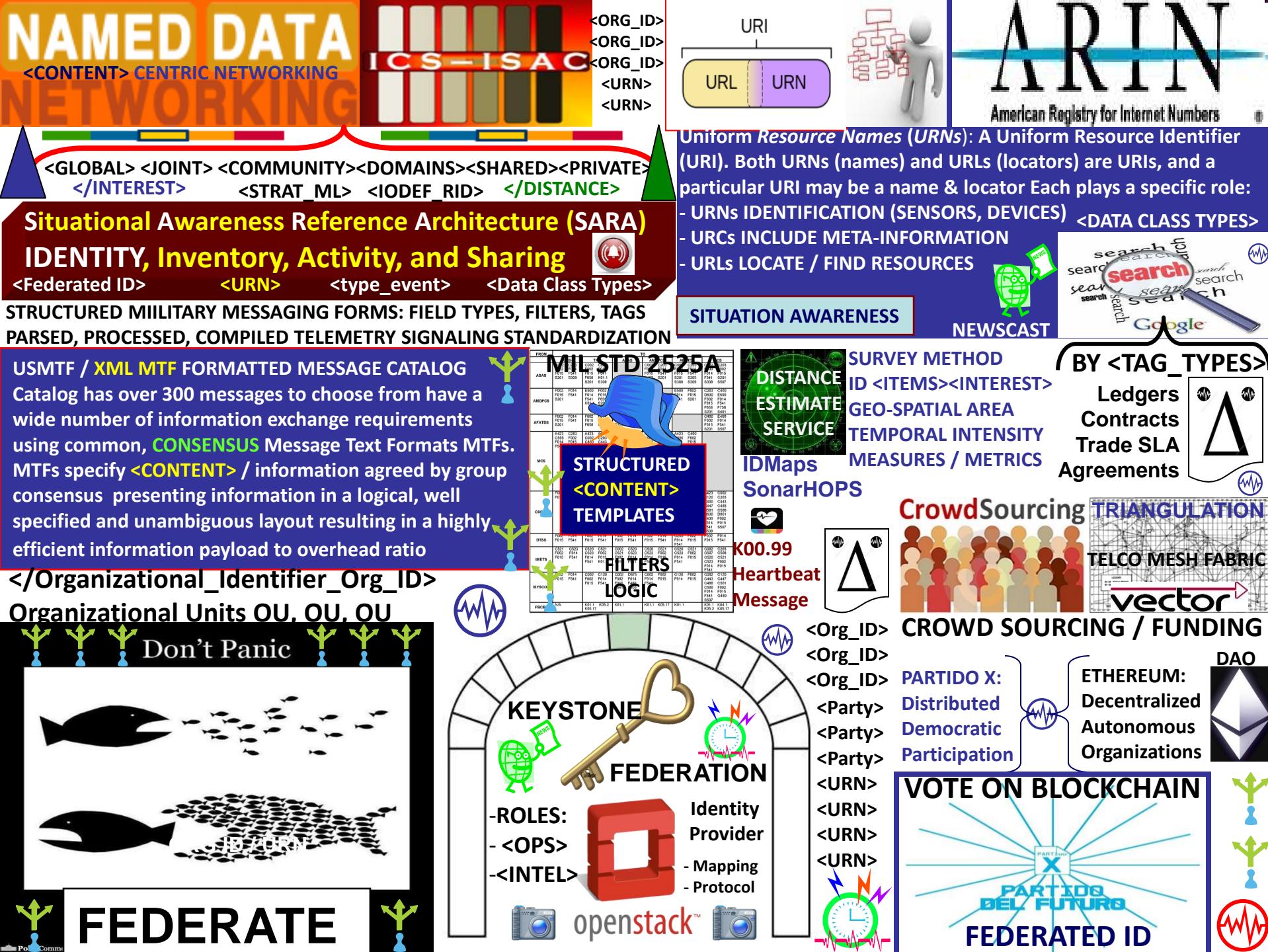


Symbolic
AI



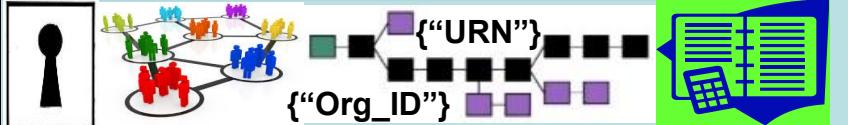
Incorporate common sense reasoning and

Breaking the world into symbols (rather than
atoms, strings, sets 2525)



Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



1. **FEDERATION:** Latin: **foedus, foederis, covenant, union** of partially self-governing states or regions under a central (federal) government
2. A league or confederacy. Individuals / groups retain **AUTONOMY**
3. A federated body formed by nations, states, and... **unions**
each retaining control of internal affairs

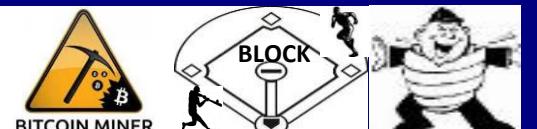
Net joins, drops, splits, merges, moves
Agile, adhoc NETOPS Vs acquisition preserves the **CHANNEL**

Federation
Gateway



Bitcoin **Group Signatures Dynamic Membership Multi-party Signature DMMS:**
independent interest within group signatures – **FEDERATED ID** {"Org_ID"}

Bitcoin Mining Pools
MEME / METAPHOR MEDIATION



DISTRIBUTED AUTONOMOUS ORGANIZATION = DAO RAND Corp

term coined circa 1991 now in use by Blockchain tech corporations

Uniform_Resource_Name



IeT DEVICE / PLATFORM
IoT SENSOR DEVICE



STOCK EXCHANGE
MIC MARKET IDENTIFIER
CODES / BREVITY CODES

UUID
123e4567-e89b-12d3-a456-426655440000
123e4567-e89b-12d3-a456-426655440001
123e4567-e89b-12d3-a456-426655440002



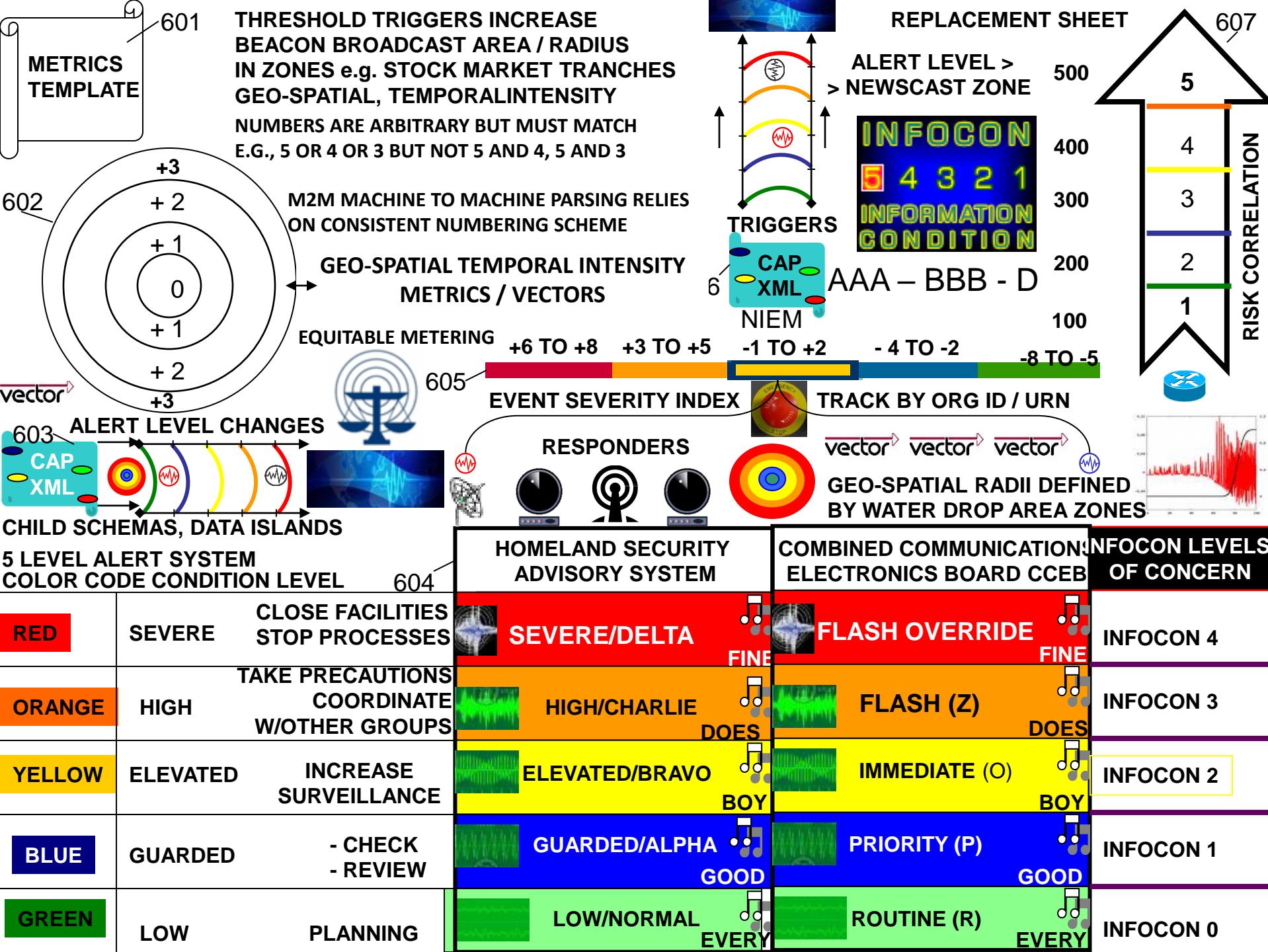
{"DUNS #"} {"Org_ID"} Heartbeat Snaps
QR CODE
{"URN"} {"URN"} {"URN"} MICRO-CYCLES





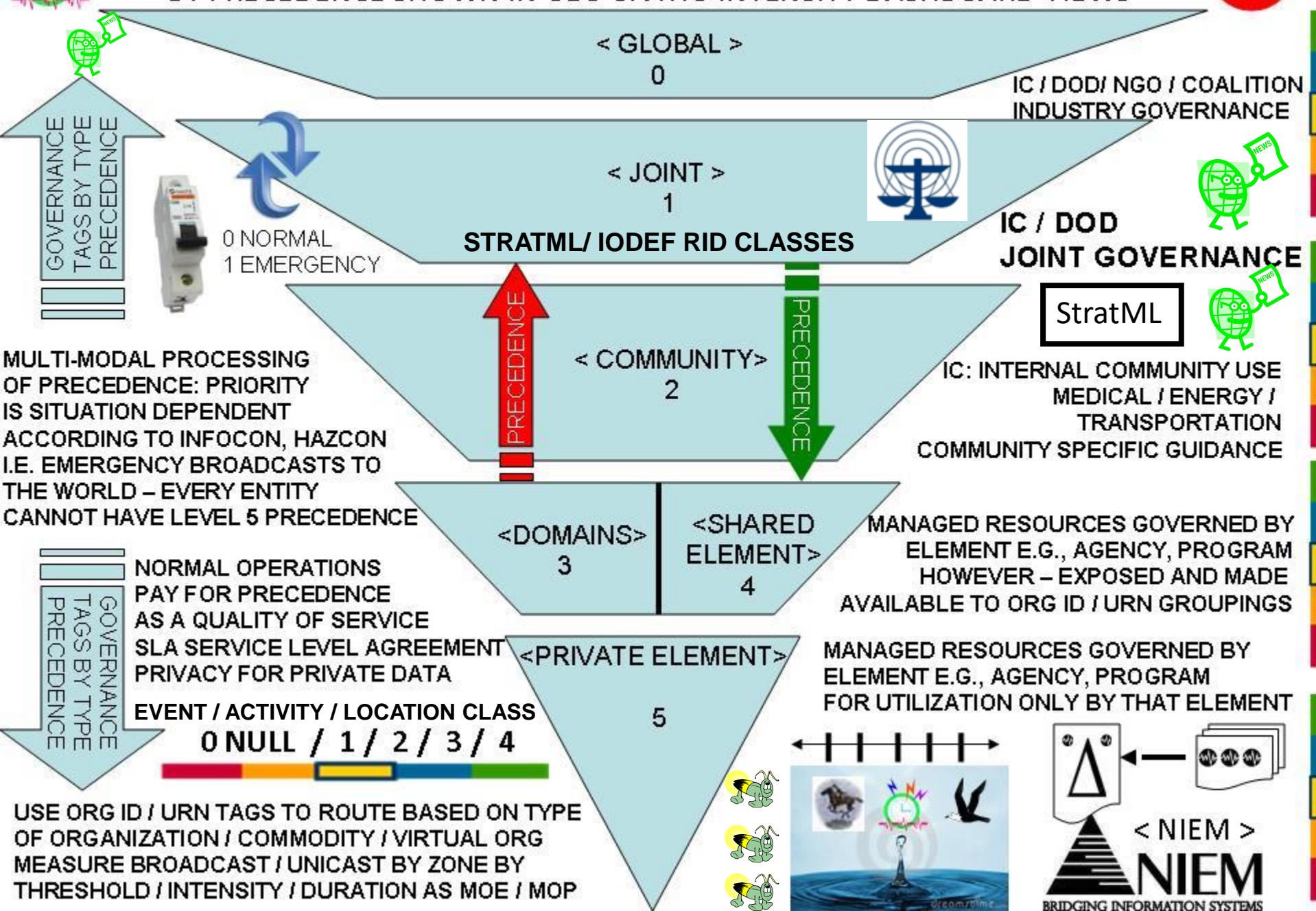
FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME







ENABLE MAPPING OF GOVERNANCE / MANAGEMENT RESOURCES BY PRECEDENCE SHOWN IN GEO-SPATIO INTENSITY DASHBOARD VIEWS



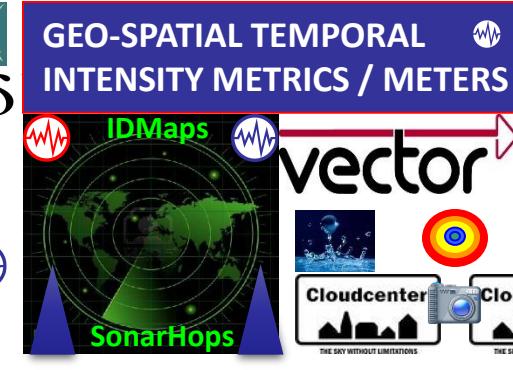
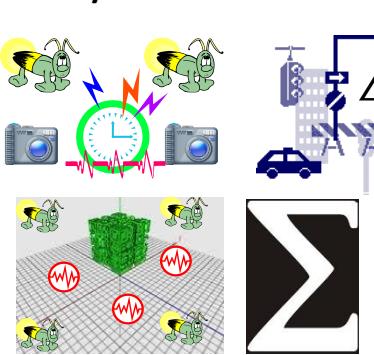
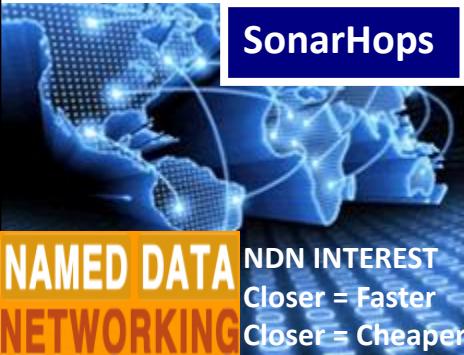




IDMaps: Global Internet Host Distance Estimation Service



NDN: CONTENT ROUTING / <StratML> NDN INTEREST = Time / Distance



vector



IDMaps scalable Internet-wide architecture measures, disseminates distance information



HOP COUNTS

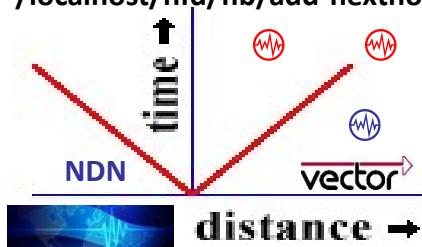


REACHABILITY



/localhost/nfd/fib/add-nexthop

Higher-level services collect distance information to build a virtual distance map of Internet & estimates distance between any IP address pair



IDMaps provides distance information used by SONAR/HOPS query/reply service

Name Prefix
<Org_ID> Trie (NPT)



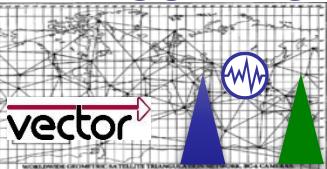
NDN NAMES

NDN NAMED DATA NETWORK RIB / FIB Datasets event notification

Distance information adjusts to “permanent” topology changes e.g., splits, joins, adds, moves, drops, merges in lieu of formal merger / acquisition



TRIANGULATION



Time Series



NDN STRATEGY CHOICE MANAGER – RIB Routing Information Base add-nexthop

Datasets and Event Notification

IDMaps assists Network Time Protocol (NTP) servers establish long term peering relationships



Distance Metrics: latency (e.g., round-trip delay) and, where possible, bandwidth.



MICRO-CYCLES



NDN INTEREST LIFETIME = TTL Time To Live
HEARTBEAT STATE META DATASNAPSHOTS

GEO-SPATIAL TEMPORAL INTENSITY METRICS, METERS, VECTORS



INFOCON / DEFCON ALERT EVENTS INFORM STAKEHOLDERS OF STATUS CHANGE i.e., NORMAL TO ELEVATED, HIGH OR SEVERE. ALERT LEVELS ARE ARBITRARY BUT MUST BE CONSISTENT e.g., 3 OR 5 FOR MACHINE TO MACHINE PROCESSING



Geo-Spatial Temporal Intensity NOVEL METRICS / METERS:



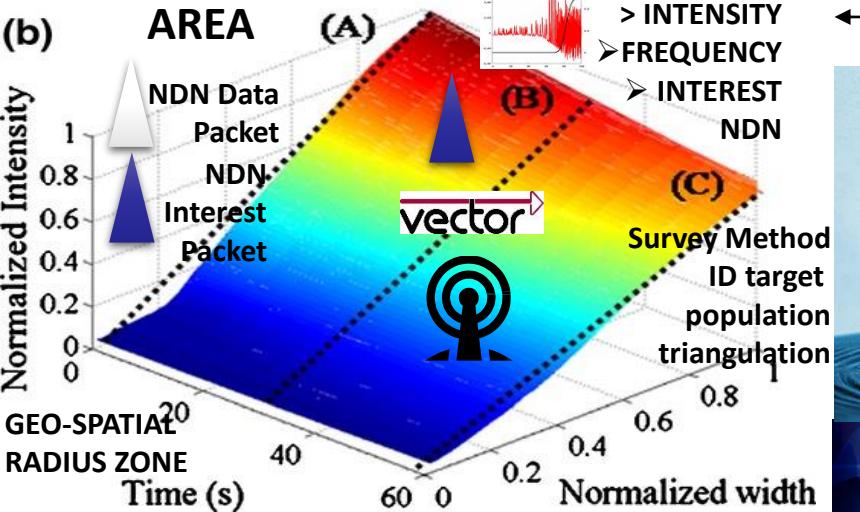
Paul Revere = linear, sequential



TCP/IP hop by hop counts, by hop controls



Water Drop = AREA / INTENSITY Cyclic Frequency



NAMED DATA NETWORKING

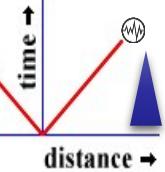
</IoT>
MQTT



NIST TIME BEACON

05:08:50

<INTEREST>



ARRESTED-D

TELEMETRY TRANSPORT

IEEE 802.15.4

OASIS MQTT

Hop Count

SOURCE NETWORK 172.16.0.0/16

omnisecu.com.R1 omnisecu.com.R2 omnisecu.com.R3 omnisecu.com.R4

INSTRUCTIONS TO MASTER CONTROLLER

Number of Hops = 3

TTL = Time To Live

DESTINATION NETWORK 172.27.0.0/16

STOP

CLOSER = FASTER, CHEAPER > CYCLE => INTEREST NAMED-DATA NETWORKING

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

WirelessHART

time synchronized, self-organizing, mesh Net

ALERT LEVEL > NEWSCAST ZONE

vector

13/573,002 HEART BEACON CYCLE

Time -Space meter, metrics / Universal data event, alert bus
Internet of Everything “ability to hear the world’s heartbeat”

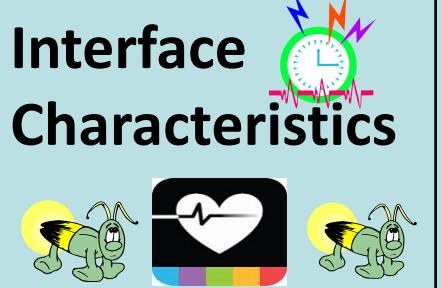
The four dimensions of Big Data

vector VECTOR: quantity having direction and magnitude
position of a point in space relative to another point

TIME STAMP BY Org_ID, URN Before FUSION CENTER

Position of a point in space relative to another point



| | | | |
|---|--|---|---|
| Interface Name | HEARTBEAT Administration Interface [SCOP] | | |
| Documentation URL | http://scop.sourceforge.net/ http://linuxvirtualserver.org/software/index.html | | |
| API Information |   | #Big_Data | Functionality Areas   <p>Cloud Interface Management configuration, start, stop cloud services, edit configuration (heartbeat messages)</p> |
| Programmable Money World Computer / Blockchain |   | API Operation Count |  <p>LOCATE <CONTENT> IDMAPS / SonarHOPS 4 / 3 / 2 / 1 / NULL / 1 / 2 / 3 / 4 0001 .05 .01 .1 0 5 15 30 90</p> |
| Interface Characteristics |  | Web service access type Network Effects / A.I. | <p>Web application, front end to [network, device, system, blockchain] heartbeat]</p> |
| | | LANGUAGE / PLATFORM BINDINGS |   <p>PHP Java Erlang...</p> |
| | | SCOP is a web application, PHP based front-end to heartbeat, IP Virtual Server ipvs and Idirectord [e.g., check interval @ 5 seconds] SCOP can start/stop services, view/ edit configuration files e.g., heartbeat message state management snapshots, backups, take a service online/offline, add/ remove virtual/real servers, services etc. |  |
| <p>"The external environment could update <u>resources</u> at random... One solution is a heartbeat: defining a default lease duration delaying updates until the next cycle"</p> | |   | <p>Satoshi Bitcoin Blockchain Time Stamp Server</p> <p>THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER</p> <p>E. Timestamp Server</p> <p>Block chain</p> <p>What does a block look like?</p> <p>Block structure:</p> <ul style="list-style-type: none"> version info previous block timestamp merkle signature <p>Header: Contains service information (version info, previous block of and timestamp). Transactions: Id of transaction, amount, sender's public key, receiver's public key, hash function used to generate the signature.</p> <p>Epoch Time Cycles E0 E1 E2 E3...</p> <p>MICRO CYCLES </p> <p>MACRO CYCLES </p> |

SOFTWARE DEFINED NETWORKING

NETOPS

Command Syntax

REST State Transfer

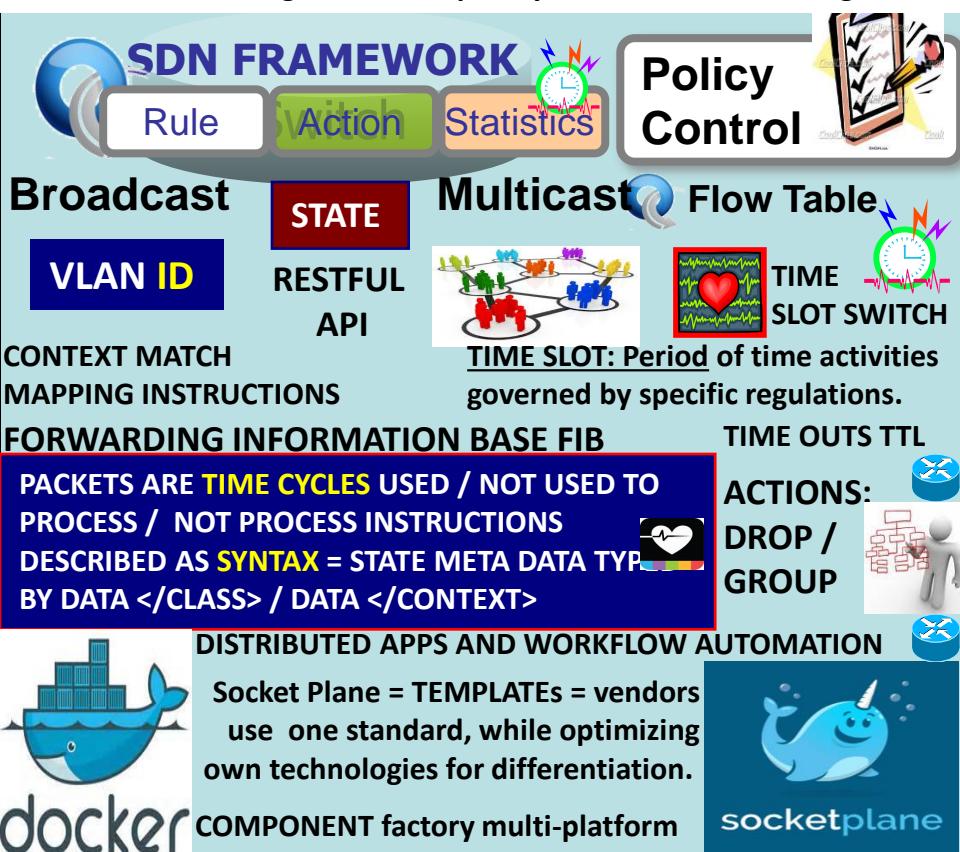
COMMAND SYNTAX
STATE TRANSFER
Unicast / Multicast
Flow Tables / Workflow
Dynamic Network
Configuration Management

NET CENTRIC WARFARE
SYSTEM OF SYSTEMS TELEMETRY

COMMON COMPONENTS, BUILDING BLOCKS USED WITHIN FEDERATION PROMOTING COMMON GOALS, PROCESSES

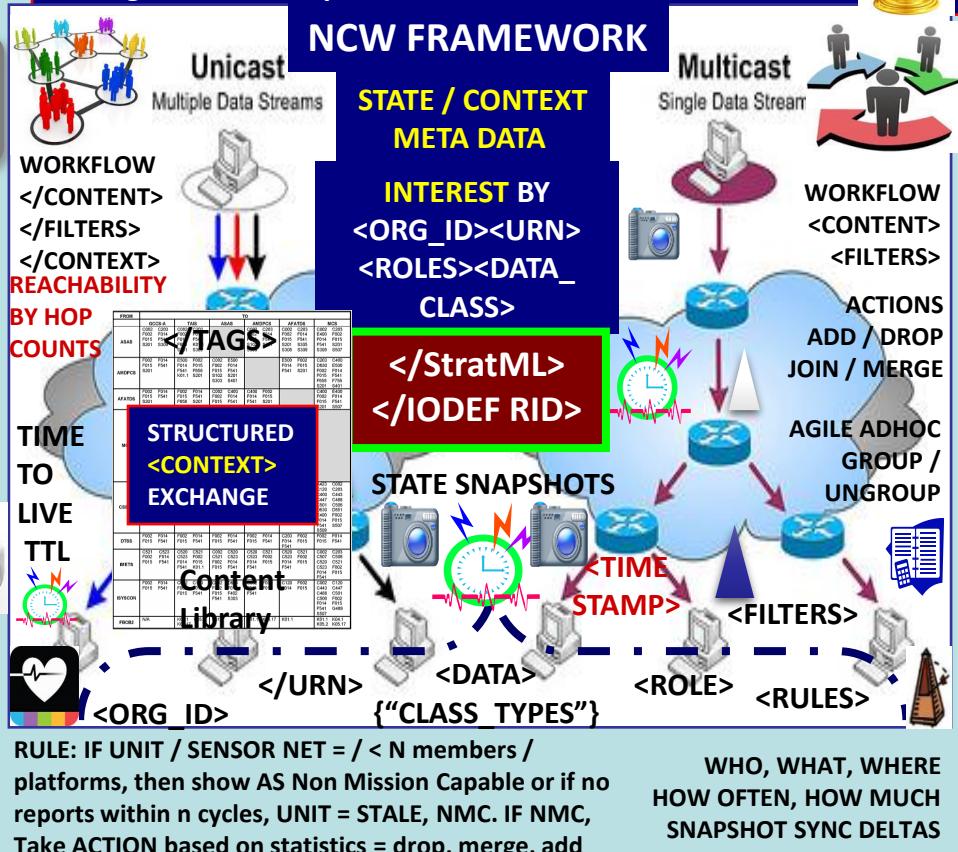
- SDN is a *framework* to allow network administrators to *automatically* and dynamically manage and control a *large number* of network devices, *services*, topology, traffic paths, and packet handling (quality of

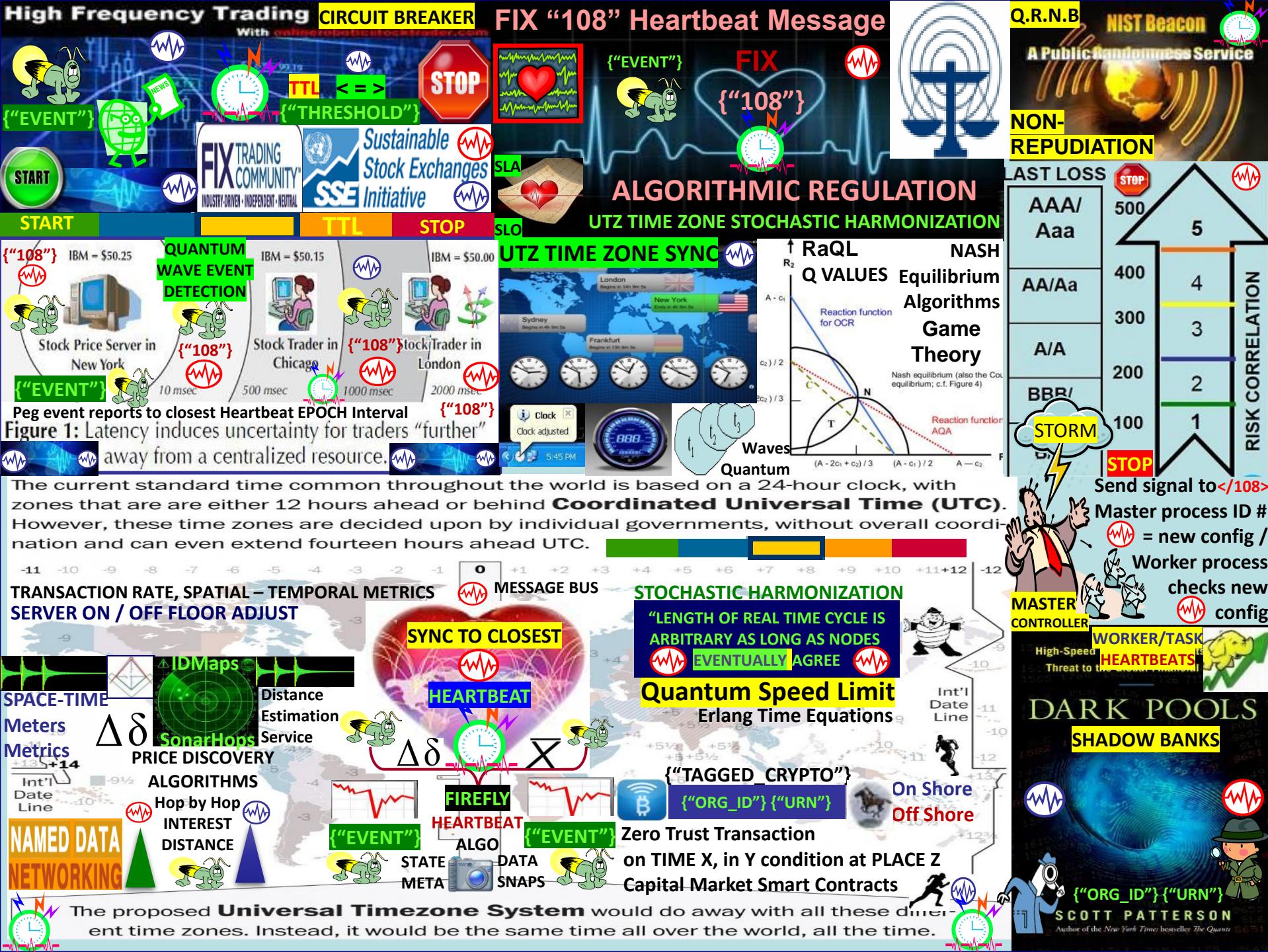
DevOps model and tools to enable scale, programmable agility, and policy-driven automation, and provides network virtualization to mask network configuration complexity with set of networking APIs



Netcentric / "network-centric" participating in a continuously evolving, complex community of people, devices, information and services interconnected by a network to optimize resource management and provide information on events and conditions.

Net-centric Enterprise Architecture : "massively distributed architecture with components, services available across and throughout an enterprise's entire lines-of-business."





USPTO APPLICATION 13,573,002 The Heart Beacon Cycle Time – Space Meter, Applique' Overlay

GIZMAG: New NASA network poised to bring internet to entire solar system SCt 573 ALICE CORP VS CLS BANK PHYSICAL MEMES

INTERNET TCP/IP "PING", "HOPS", "PACKETS", FRAMES = METAPHOR



TIME / DISTANCE SERVICE LEVEL AGREEMENT SLA / O Operations

IEEE 802.15.4 OASIS MQTT

TELEMETRY TRANSPORT

IEEE 802.1AG HOP BY HOP DETECTION

IEEE 802.11
HOP BY HOP CONTROL



Unused Resources / Unmet Needs

/localhost/nfd/fib/add-nexthop
Geo-Spatial Temporal Metrics, Meters

Time Series

DISTANCE INFO SERVICE

IDMaps SonarHops

Value

Time

WATER DROP IN POND MEME IS SONAR NAVY METAPHOR / MEME

NDN </INTEREST>
NDN {"DISTANCE"}

NAMED DATA NETWORKING

IEEE C37.118

Harmonization & Sync heartbeat update Interval

CLOSER SOURCE

CHEAPER RATE

Energy Attenuates over Distances

vector

602

+3

+2

+1

Null

0

+1

+2

+3

UNUSED RESOURCES
UNMET NEEDS

Spatial Econometrics

Spaceship Earth Signals & Telemetry Annex

RISK

PING

ASTEROID BELTS = RARE MINERALS

MAIN ASTEROID BELT

MARS

MERCURY

VENUS

EARTH

STOCHASTIC

HARMONIZATION

Service Level Agreements

Farther = More Cost

➢ Fuel, Resources

ERLANG

TIME- SPACE METRICS

FIREFLY-HEARTBEAT ALGORITHM UNIVERSAL EVENT MESSAGE BUS

TROJAN ASTEROIDS

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

43 22 13 0 1.5 2.7 5.2

Light minutes



Blockchain

BLUEPRINT FOR A NEW ECONOMY



Blocktime Arbitrage MTL (machine trust language) time primitives might be assigned to a micropayment channel DAPP as a time arbiter. In blocktime, the time interval at which things are done is by block. This is the time that it takes blocks to confirm, so blockchain system processes like those involving smart contracts are ordered around the conception of blocktime quanta or units. Since blocktime is an inherent blockchain feature, one of the easiest ways to programmatically specify future time intervals for event conditions and state changes in blockchain-based events is via BLOCKTIME. Universal blocktime source example: a procedure call to NIST or other time oracle.



BLOCKTIME: A General Temporality of Blockchains Blocktime as blockchains' temporality allows the possibility of rejigging time and making it a malleable property of blockchains. The in-built time clock in blockchains is blocktime, the chain of time by which a certain number of blocks will have been confirmed. Time is specified in units of transaction block confirmation times, not minutes or hours like in a human time system. Block confirmation times are convertible to minutes. Conversion metrics might change over time. Network Economies: Economic System as Configurable Parameters

The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC.



The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.



Erlang programming language / mini OS
massively scalable high availability, real-time Erlang's runtime system built-in concurrency distribution, fault tolerance



- coordinate 1000's of virtual machines
- ...distributed Dbases RIAK, CouchDB
- ...real time data dashboards
- ...service oriented software architectures
- .. server, API endpoints .. RabbitMQ
- ..distributed, multi-node architecture.
- protocol-aware load-balancer, stateful binary comi



Functional Sequential Erlang

- Data types:
 - Integers (incl. BigNums), floats, atoms
 - tuples/records, lists/plists, binaries, funs
 - Maps (added in R17)
- single assignment
- pattern matching & guards
- closures (anonymous function data type)
- list comprehensions
- bit-syntax & binary comprehensions
- tail recursion & tail call optimization (TCO)

SORTING ALGO'S

[Ericsson Open Money For Society Patent App](#)



[20130166398 "System And Method For Implementing A Context Based Payment System."](#)

"It is our vision that one day everyone with access to a mobile phone will be able to spend, send and receive money as easily as sending a text via SMS"
"When money is open, the way we send, spend and receive money will change forever"



Rho ratio *Arrival Rate* $\Delta\delta$
Service Rate per unit time

queueing systems wait times
stochastic processes, function scheduling Start, Stop TTL



distributed "noSQL" database, embedded right into Erlang,
supports indexing, replication, transactions, and fail-over
Fast ETS in-memory, and DETS persistent on-disk database

Mnesia database ("Organization_ID") Global name resolution

| FROM | SOCA | THAI | ABAD | AMPOKE | AFATOK | WIC |
|------------------|------|------|------|--------|--------|------|
| ANODR | PEAK | PEAK | PEAK | PEAK | PEAK | PEAK |
| AFATOK | PEAK | PEAK | PEAK | PEAK | PEAK | PEAK |
| WIC | PEAK | PEAK | PEAK | PEAK | PEAK | PEAK |
| STRUCTURED | PEAK | PEAK | PEAK | PEAK | PEAK | PEAK |
| MILITARY MESSAGE | PEAK | PEAK | PEAK | PEAK | PEAK | PEAK |
| TEMPLATE FORMS | PEAK | PEAK | PEAK | PEAK | PEAK | PEAK |
| LOGIC / FILTERS | PEAK | PEAK | PEAK | PEAK | PEAK | PEAK |



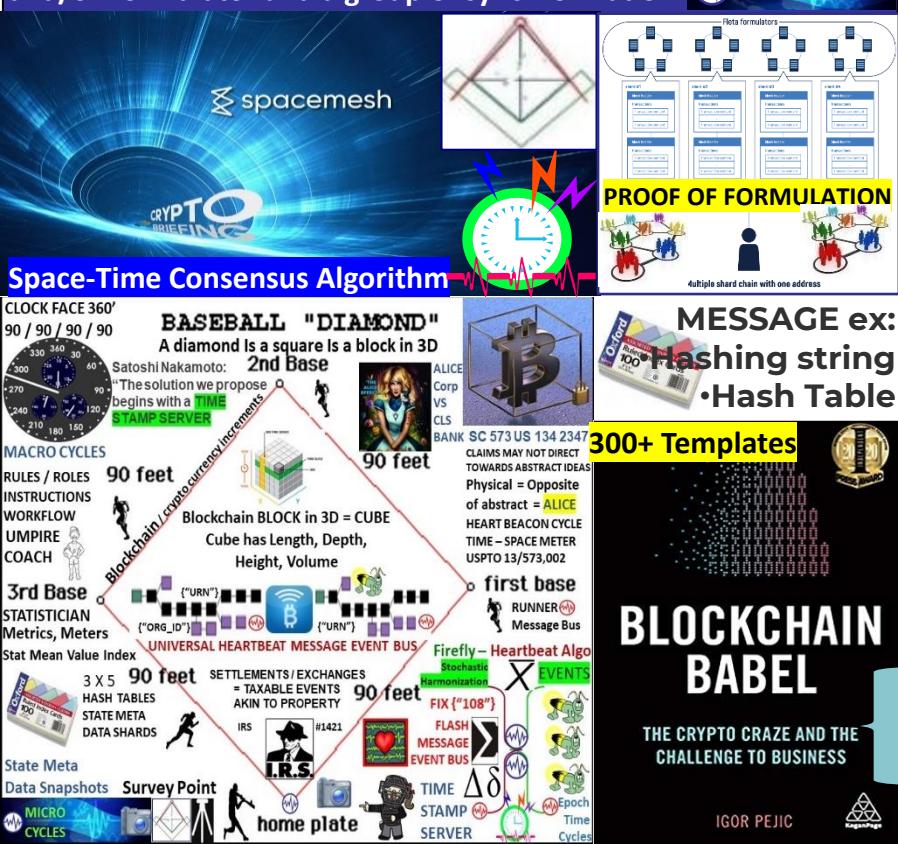
Q: Which meme describes the myriad blockchain consensus algorithms the most comprehensively that uses an algorithm (based on nature = “shortest path to the knowledge of truth Luxor Temple) enabling distributed system of systems geo-spatial, UTZ Universal Time Zone temporal, semantic - syntactic sync, OPSCODE brevity code, data element & symbol (for A.I. man – machine interface) consensus?

Blockchain Consensus Algorithms & Mechanisms



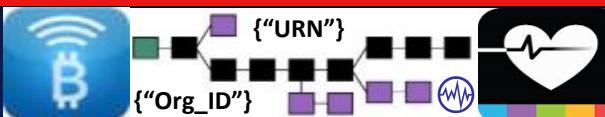
In the world of blockchain consensus algorithms, consensus is the **HEART OF THE BLOCKCHAIN NETWORK**. Its main purpose is to achieve agreement on transactions among a distributed system (s)

Proof of Formulation: *PoF*: generation / propagation of blocks using a previously agreed sequence between participants of the generation of blocks, formed by two groups: a generator group and/or Formulator and a group of synchronization. 



BLOCKCHAIN CONSENSUS ALGORITHMS

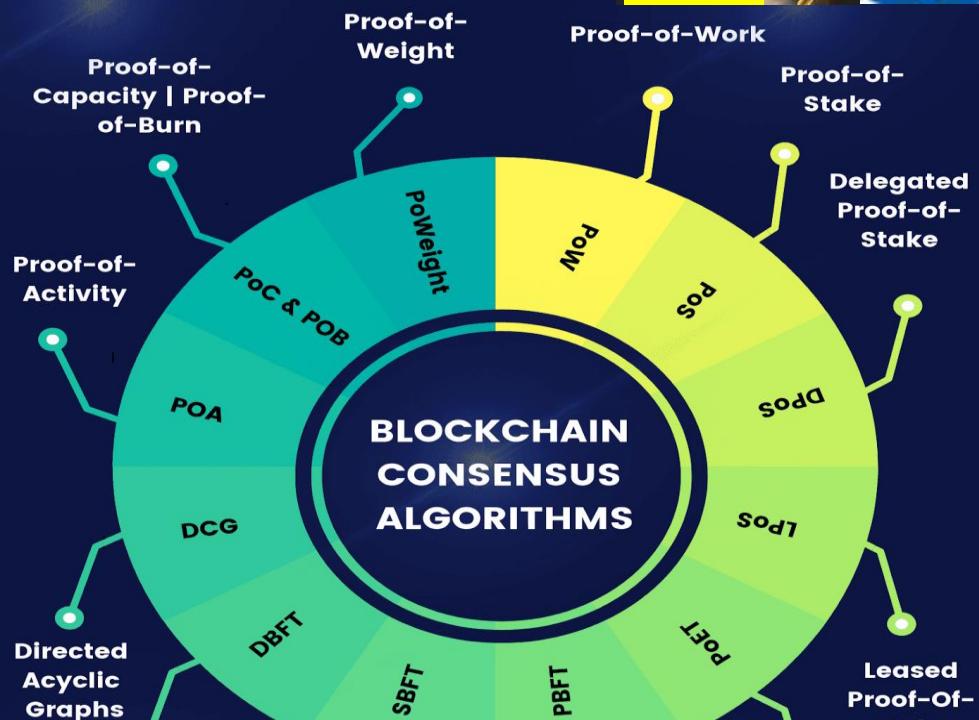
ULTIMATE GUIDE FOR BEGINNERS



QUANTUM RANDOM NUMBER BEACON

NIST Beacon

The logo for A Public Randomness Service. It features a stylized globe in the center, surrounded by several curved, glowing orange lines that resemble sound waves or ripples. The text "A Public Randomness Service" is written in a bold, black, sans-serif font at the top. Below the globe, the words "NON REPUDIATION" are displayed in large, bold, black capital letters, with "NON" on one line and "REPUDIATION" on the line below it.



Delegated Byzantine Fault Tolerance

Simplified Byzantine Fault Tolerance

Practical Byzantine Fault Tolerance

Stake

STRUCTURED DATA EXCHANGE:
SYNTAX LEXICON
PSCODES – Symbol Sets

Elapsed Time

[www.developcoins.com](https://developcoins.com/blockchain-consensus-algorithms)



VERITAS TOKENS P2P Capital Market smart contracts Eco Economic HEARTBEAT

Decentralized Trading Platform DAO ORACLE
access conventional, legacy financial data to
price, value, trade & settle OTC, P2P financials



INFOCON
5 4 3 2 1
INFORMATION
CONDITION



STATISTICAL MEAN VALUE INDEX PULSE

GDP INDEX ECONOMY K% RULE



E \$ € ¥
currency index



Price Indexes in
Time and Space
Methods and Practice



SchellingPoint
Closer = cheaper



Firefly – Heartbeat
Algorithm
Neural Net
Emulation



IDMaps
SonarHops
DISTANCE
ESTIMATION
SERVICE

Time – Space
Meter Metrics



SYNTAX LEXICON OPSCODE
Brevity Codes mapped
to symbols sets for A.I. / Man –
machine interface / interop



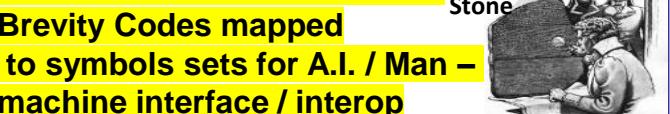
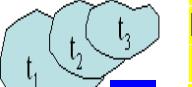
Zero Trust Transaction: money performs I.A.W. to terms agreed to by parties. Ex: purchase of widget from retail store where widget must be delivered to person B on TIME X, in Y condition at PLACE Z or person A does not get paid. Stock, currency, commodities, letters of credit, insurance underwriting, trading, intellectual property...

Cost = stated rates that fluctuate with VeUSD exchange rate.
Veritas holders get priority. The ability to redeem Ve against USD gives clients instant value.

DAO Distributed Autonomous Organization Investor Pools



"LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE





OpenBazaar open source decentralized peer to peer network online commerce —using Bitcoin —no fees and no restrictions



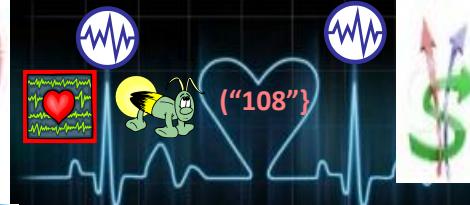
- Creates an online store for users to sell goods for Bitcoin
- Connects these stores directly to each other on a global network
- Users browse individual stores, search for products across whole network
- A buyer directly connects, purchases good from the merchant using Bitcoin
- Bitcoin payments via escrow protect merchants & buyers during trade

OPENBAZAAR.ORG
BLOCKCHAIN ARBITRAGE



CLOSER = < \$
CLOSER = < CO2

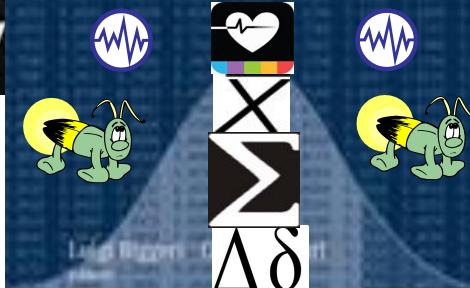
SLA
COMMODITIES
ECONOMIC HEARTBEAT



STAT MEAN VALUE PULSE
REAL WORLD ASSETS RWA

STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS



Price Indexes in
Time and Space
Methods and Practice

SchellingPoint

OpenBazaar is a different approach to online commerce. OpenBazaar connects buyers and sellers directly. Because there is no one in the middle of your transactions there are no fees, no restrictions, no accounts to create, and you only reveal personal information you choose.

PROJECT PHILOSOPHY: **MAKE TRADE FREE**

Mission: *shift trade to a decentralized platform*



Demurrage TERRATRC TRADE
Fees REFERENCE CURRENCY
“Money of Peace”



Free, open markets: Commodity / Currency Index

Creating open, competitive markets for services
that cannot be perfectly solved with technology



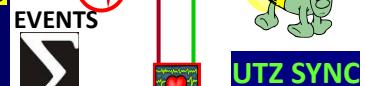
• Privacy </Org_ID>



HASH Values
Nonce Values </Org_ID>



</DATA>
("FILTERS")



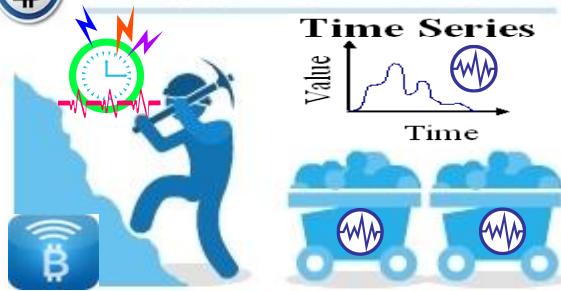
Bitcoin: OpenBazaar transactional currency



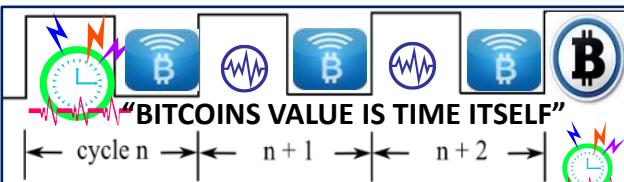
Cryptographic Security

- tamper-proof agreements
- 1) minimize potential disputes
- 2) fast-track dispute resolution

PROOF-OF-WORK



THE PROBABILITY OF MINING A BLOCK IS DEPENDENT ON HOW MUCH WORK IS DONE BY THE MINER



TIMESTAMP marks the point that work started. Additionally, it contributes to the uniqueness of the work by an individual miner

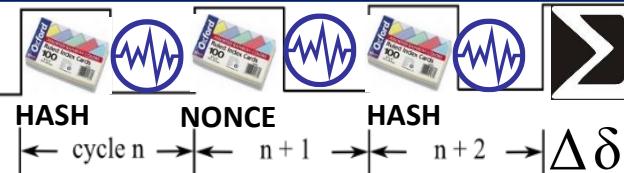


THROTTLE equivalent to difficulty. State
•target = maximum value of 8 bytes Snap
(2^{64}) divided by the difficulty.

NONCE increments from 0..N until the target is met.



GUESS stores the guess
Effectively, it begins at infinity.



Proof-of-Work: users perform some form of work to participate. Work must be difficult for the client but easy for the server/network to verify. POW determines the approximate time between blocks = rate that new bitcoins are created. Work is submitted as a message/timestamp payload with a nonce value. Payloads are made unique through use of public key encryption or address.Nonce allows checking the work



300+Message Templates

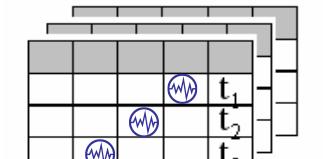
| FROM | ODERA | TAB | AAAB | APICL | AFATD | WTR |
|--------|-------|-------|-------|-------|-------|-------|
| ABAB | C0001 | E0002 | F0003 | G0004 | H0005 | I0006 |
| ANPICA | P0001 | P0002 | P0003 | P0004 | P0005 | P0006 |
| CSCB | C0001 | C0002 | C0003 | C0004 | C0005 | C0006 |
| DTPO | D0001 | D0002 | D0003 | D0004 | D0005 | D0006 |
| METH | M0001 | M0002 | M0003 | M0004 | M0005 | M0006 |
| REBORN | R0001 | R0002 | R0003 | R0004 | R0005 | R0006 |
| SPKCI | S0001 | S0002 | S0003 | S0004 | S0005 | S0006 |

LOGIC FILTERS
LOGIC GATES

SYNTAX LIBRARY LEXICON

CODER'S GUIDE

POW PAYLOAD : COMBINATIONS OF ENCRYPTED SYNTAX Attribute Series





In a proof-of-stake network, it is the number of coins held in a wallet that determines the "weight" of the user the likelihood for the user to receive the block reward. In a Proof-of-Weight consensus mechanism, any value, not just the amount of coins held, is used to determine the "weight" of a user.

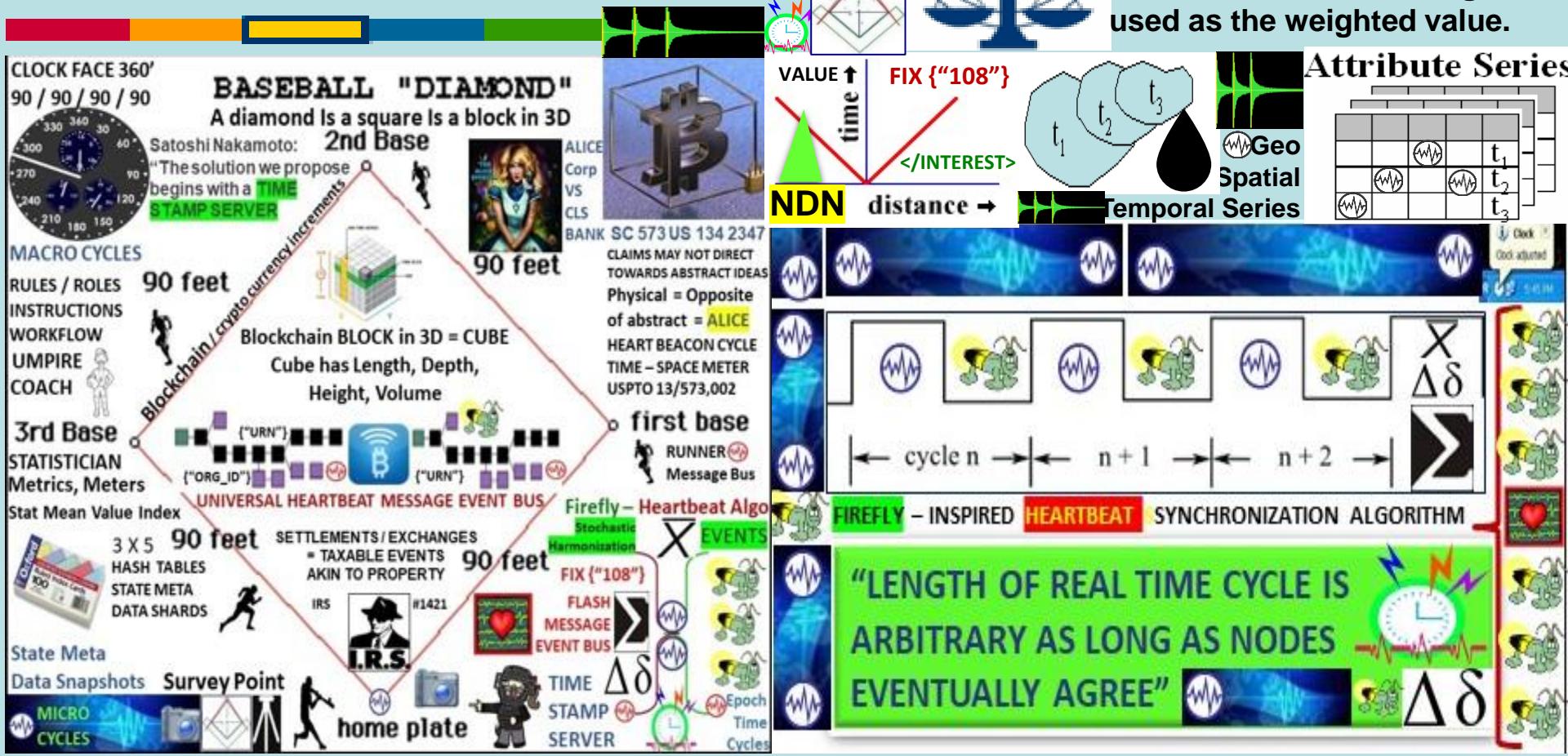


The Volumetric Weight is often referred to as dimensional weight

Volumetric Weight
= [Width x Length
x Height]



TIME – SPACE MEASUREMENTS OF TOKENIZED COMMODITIES, SECURITIES... STOCHASTICALLY HARMONIZED ACROSS UTZ Universal Time Zone



DON: DECENTRALIZED ORACLE NETWORKS



Explicit Staking

Chainlink nodes lock up LINK tokens as collateral that can be slashed for malicious and undesirable behavior.

Chainlink's explicit staking model's goal is to achieve a super-linear staking impact—a mechanism where malicious actors are required to have a budget significantly larger than the combined deposits of all nodes within a DON, creating increasingly greater security guarantees for high-value smart contract applications in a cost-efficient manner.



Explicit staking in Chainlink 2.0 oracle reports reflect the state of specific real-world events outside a blockchain (off-chain).



Chainlink's explicit staking mechanism protects against a broad range of attacks, including advanced strategies like prospective bribery, in which nodes are targeted according to their role in the network, such as those selected for report adjudication.



Behind each DON is a service agreement that will define the number of LINK tokens each oracle node is required to stake and key performance requirements, such as how far an individual node's response can deviate from the aggregated value and how far the aggregated value in an oracle report can deviate from the correct value it should represent. The service agreement can also define other parameters such as the data sources used, how often updates should occur, how much each node is paid, and more.



ALERT LEVEL >

> NEWSCAST ZONE

Outputs produced by a DON are structured into reporting rounds, where each round involves the creation of a new oracle report containing each node's individual response for a particular piece of data (e.g. the price of ETH/USD), with all the individual responses aggregated into a single value (e.g. taking the median). A DON network's service agreement defines how each report should be generated & conditions in which a node's stake can be slashed.



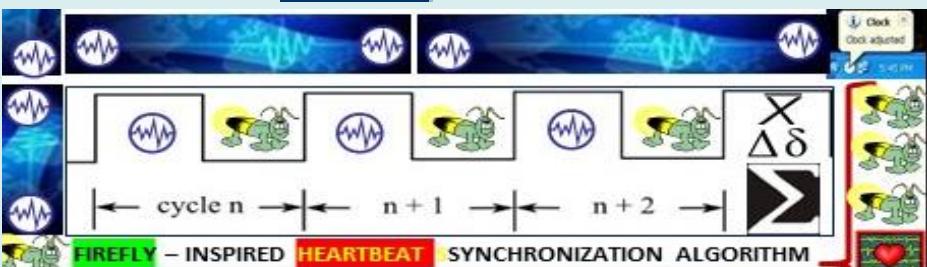
DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS

Linear Sequential Meme

....-1 / 0 / +1... $\Delta \delta$ > Σ



IoT
Microsoft Orleans

TIME-SPACE
EQUATIONS
ALGORITHMS
BLOCKCHAIN
PARSING
ERLANG

EVENT BUS

$\Delta \delta$

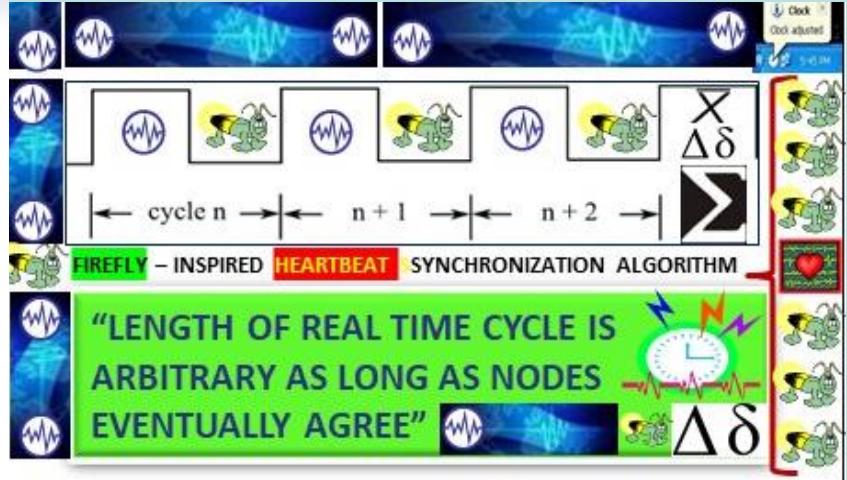
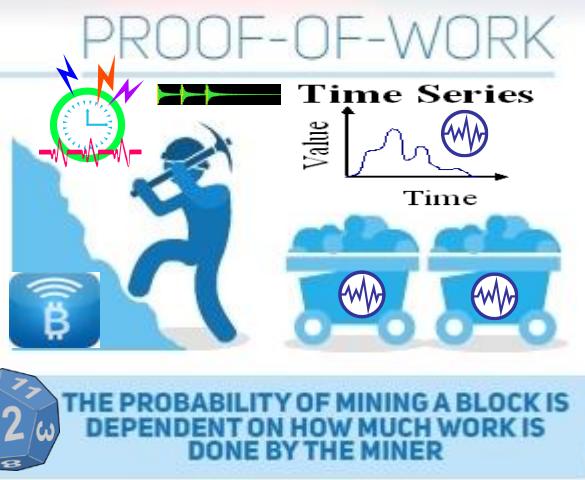
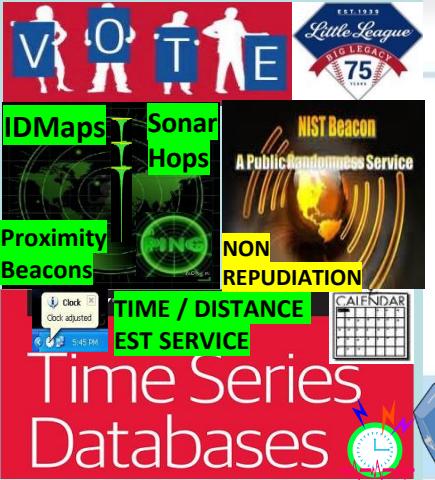


Adaptive
Procedural
Checklist

Proof-of-activity PoA is a combination of Proof of Work / Stake blockchain consensus algorithms:

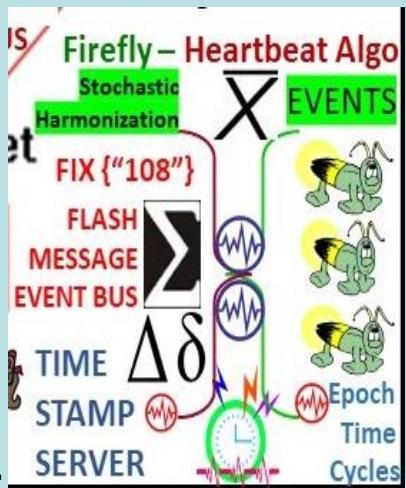
Example of Proof-of-Activity (PoA)

Decred (DCR) is the most well-known cryptocurrency that uses the PoA consensus mechanism. With Decred, blocks are created about every five minutes.² The mining process for Decred begins with nodes (computers that participate in the network) looking for a solution to a cryptographic puzzle with a known difficulty level in order to create a new block. Once the solution has been found, it is broadcast to the network. The network then verifies the solution. At this point, the system becomes a PoS. The more DCR that a node has mined, the more likely they are to be chosen to vote on the block. (In DCR's blockchain, stakeholders earn tickets that grant them voting power in exchange for mining DCR.) Five tickets are chosen pseudo-randomly from the ticket pool; if at least 3 of the 5 vote "yes" to validate the block, it is permanently added to the blockchain. Both miners, voters are rewarded with DCR.



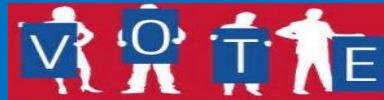
PROOF-OF-WORK

HEART BEACON CYCLE 13/573,002

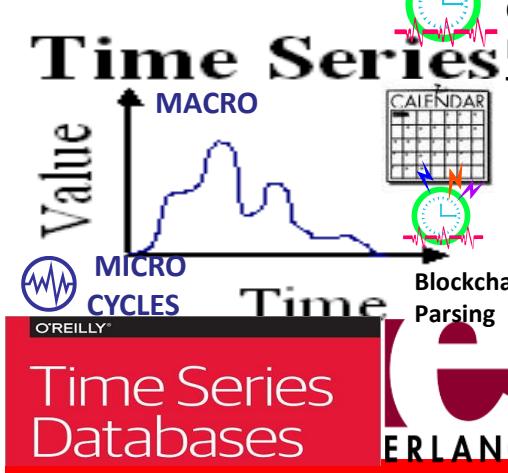


SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

"PoET for 'Proof of Elapsed Time', is a **lottery protocol** that builds on trusted execution environments (TEEs) provided by Intel's [Secure Guard Extensions] to address the needs of large populations of participants. The second, **Quorum Voting**, is an adaptation of the Ripple and Stellar consensus protocols and serves to address the needs of applications that require immediate transaction finality."



PROOF OF ELAPSED TIME



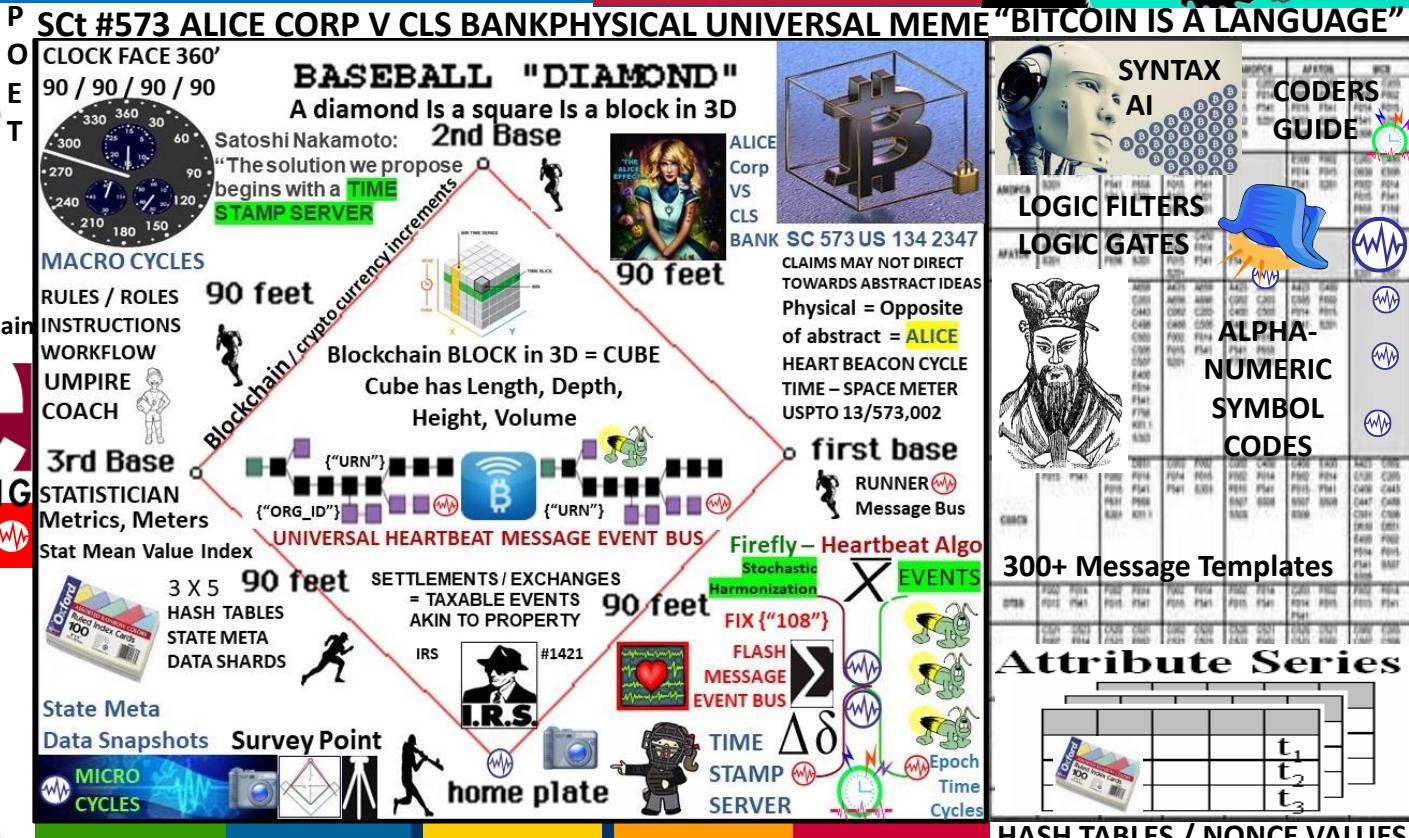
Voting Based Selection: stake size & block generators selected by votes

Voting based selection Instead of only using the stake size, the block generators can be selected by votes
ex: League MVP



Robert's Rules quorum = minimum # of voting members who must be present at meetings to conduct business of the group

TOURNAMENT LEAGUE BOARD



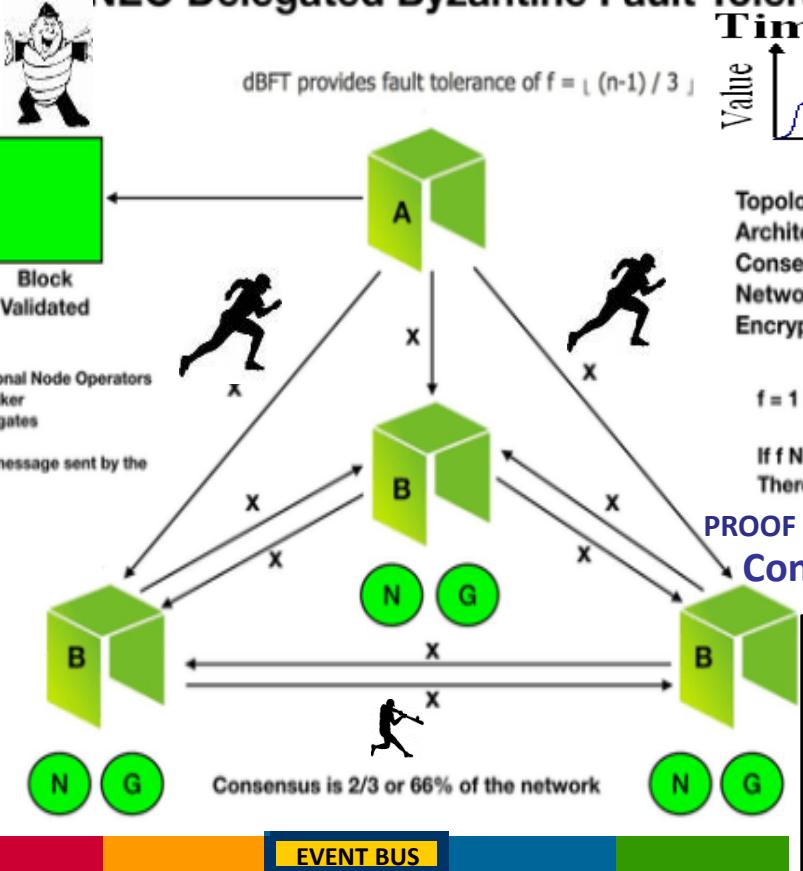
FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BUS



Capture ledger's state $\Delta \delta$
Transaction language changes ledger state
Consensus, transaction acceptance protocol



NEO Delegated Byzantine Fault Tolerance (dBFT)



No collusion between individuals or entities is possible. Participants in the network validate transactions adding to the ledger have no affiliation or relationship (political, adversarial, etc.) with the transaction or its participants. Only a permissionless platform can meet this set of criteria.

Specifically, a random selection algorithm called RS is developed to cooperate with the voting mechanism, which can effectively reduce the number of nodes participating in the consensus process. Our proposed scheme is characterized by the unpredictability, randomicity and Impartiality, which accelerate the system to reach consensus on the premise of ensuring system activity.



The collage includes:

- A top-left corner showing "USPTO 13/573,002" and "sawconcepts.com/index".
- A top section titled "Heart Beacon Cycle Time – Space Meter Geo-Spatial Temporal Intensity Metrics" featuring a green banner with "TRIANGULATION" and a network diagram.
- A large central area showing a 3D map with red "ping" markers and a grid-based network with nodes and a "vector" logo.
- A middle section with the text "IDMaps assists Network Time Protocol (NTP) servers establish long term peering relationships" and a blue background with nodes.
- A bottom section titled "FIREFLY – INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM" showing a sequence of nodes over time cycles n , $n+1$, and $n+2$.
- A bottom right section with the text "LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE" and a clock icon.

The diagram illustrates the Firefly-Heartbeat algorithm for event processing. It features a central 'Sync to Closest Heartbeat' node connected to various inputs: 'LOCKED', 'QUOTED', 'ACCEPT / DENY', 'In Progress', 'SUCCEEDED', and heartbeat messages. The node also interacts with a 'HASH NONCE' component, a 'FIREFLY-HEARTBEAT ALGORITHM' section, and a 'MICRO-CYCLE STATE META DATA SNAPSHOTS' section. A large heart icon on the right contains a network of nodes and connections.



HASHGRAPH
Directed Acyclic
Graph DAG

Hashgraph consensus algorithm
for replicated state machines

- Consensus Event Time Stamps
- State Meta data consensus order
- **Virtual voting:** each member has a Hashgraph copy
- Famous witnesses

data structure that records who gossiped to whom in what order $\Delta\delta$

Gossip In Bitcoin: transactions and mined blocks are gossiped.
Consensus is enhanced via "gossip about gossip"



DAG "Directed Acyclic Graph" large number of blocks arrive at the same time. DAG system reaches consensus leveraging "Gossip"... information spread by a computer calling up other computers at random, sharing everything it knows

Community members reach consensus agreement on events / transactions order inside events, and agree on a timestamp for each event /transaction

DAG finite directed graph
= no directed cycles

Hashgraph Member Event Transaction Consensus Order Timestamp Gossip protocol Self-parent Other-parent Graph Hash Hashgraph

Consensus Order

$$\sum \Delta\delta \times$$

Round created Witness 0 / 1

Famous witness Election

Vote See

Strongly see Supermajority Decide

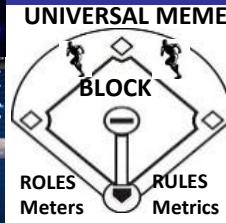
Round created Round received

Consensus timestamp Consensus order $\Delta\delta$

Synchronous Asynchronous

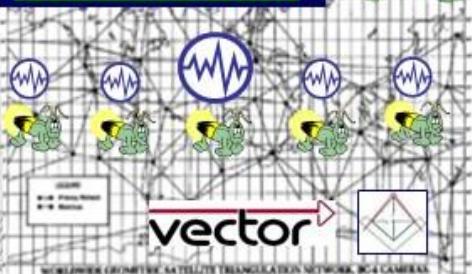
Micro-Cycle State Meta Data Snapshots

The Heart Beacon Cycle Time – Space Meter
Adaptive Procedural Template Checklist
Heartbeat Sync Delta state meta data
structured data exchange snapshots
300 + Use Case message template sets
Rosetta Stone Syntax lexicon Coder's guide



Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics

TRIANGULATION



vector

IDMaps assists Network Time Protocol (NTP) servers establish long term peering relationships

FIREFLY HEARTBEAT Synchronization Algorithm



"LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE"



Proof of Burn



Proof of burn (POB) operates on the principle of allowing miners to “burn” virtual currency tokens. They are then granted the right to write blocks in proportion to the coins burnt.

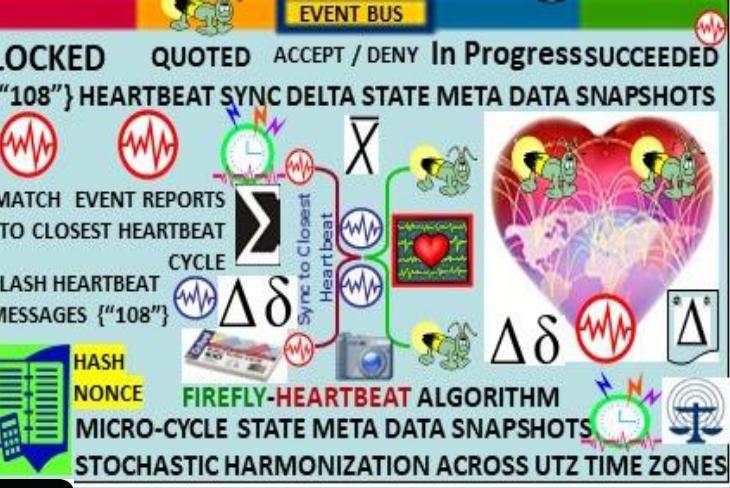
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describe the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining "rig" will be.²

To burn the coins, miners send them to a verifiably un-spendable address. This process does not consume many resources (other than the burned coins) and ensures that the network remains active and agile. Depending upon the implementation, miners are allowed to burn the native currency or the currency of an alternate chain, such as Bitcoin. In exchange, they receive a reward in the native currency token of the blockchain.



You can send out transactions to the network that will burn your own cryptocurrency coins. Other participants can mine/burn on top of your block, and you can also take the transactions of other participants to add them to your block. Essentially, all of this burning activity keeps the network agile, and participants are rewarded for their activities (both burning their own coins and burning other people's coins).

To prevent the possibility of unfair advantages for early adopters, the POB system has implemented a mechanism that promotes the periodic burning of cryptocurrency coins to maintain mining power. The power of burnt coins “decays” or reduces partially each time a new block is mined. This promotes regular activity by the miners, instead of a one-time, early investment. To maintain a competitive edge, miners may also need to periodically invest in better equipment as technology advances.



IEEE C37.118 Time Synchronization
Harmonization Heartbeat update Interval
PMU data time-stamp measure C37.118

Phase 2: Shared file stores data for 5 tags:

- (1) Active ID
- (2) Heartbeat 1.
- (3) Heartbeat 2.
- (4) Device Status 1.
- (5) Device Status 2.

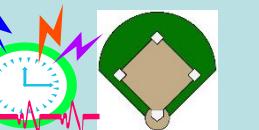
| TAG | SLA/O | Token Award |
|--|---------------------|----------------|
| {"Org_ID"} ActiveID | [UFO2_ACTIVEID] | </EVENT> |
| IF1_Heartbeat (IF-Node1) | [UFO2_HEARTBEAT:#] | </EVENT> |
| IF2_Heartbeat (IF-Node2) | [UFO2_HEARTBEAT:#] | </EVENT> |
| {"UUID"} IF1_DeviceStatus (IF-Node1) | [UFO2_DEVICESTAT:#] | </EVENT> |
| {"UUID"} IF2_DeviceStatus (IF-Node2) | [UFO2_DEVICESTAT:#] | </EVENT> |
| IF1_State (IF-Node1) | $\Delta\delta$ | [UFO2_STATE:#] |
| IF2_State (IF-Node2) | $\Delta\delta$ | [UFO2_STATE:#] |

Proof of Capacity PoC



consensus mechanism algorithm for mining devices to use hard drive space to decide mining rights, validate transactions

Proof of capacity for mining devices, also known as blockchain nodes, to use empty space on their hard drive to mine the available [cryptocurrencies](#).



Instead of repeatedly altering the numbers in the block header & repeated hashing for the solution value as in a PoW system, PoC works by storing a list of possible solutions on the mining device's hard drive before mining activity starts



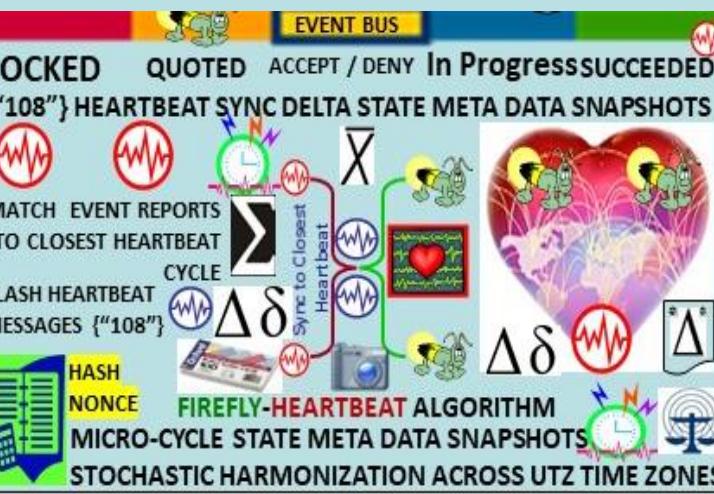
The larger the hard drive, the > possible solution values one can store on the hard drive, the more chances a miner has to match required hash value from his list, resulting in more chances to win the mining reward.



Analogy: if lottery rewards are based on matching the most numbers on the winning ticket, then a player with a longer list of possible solutions will have better chances of winning. Additionally, the player is allowed to keep using the lottery ticket block numbers again and again repeatedly.



Bitcoin purchase akin to property

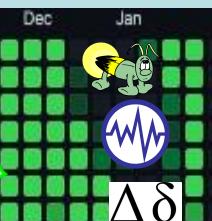


PoST Proof-of-Spacetime (PoST)

PoST shows that physically storing data (spent "spacetime" resource/allocated storage capacity to the network) over a certain period of time.

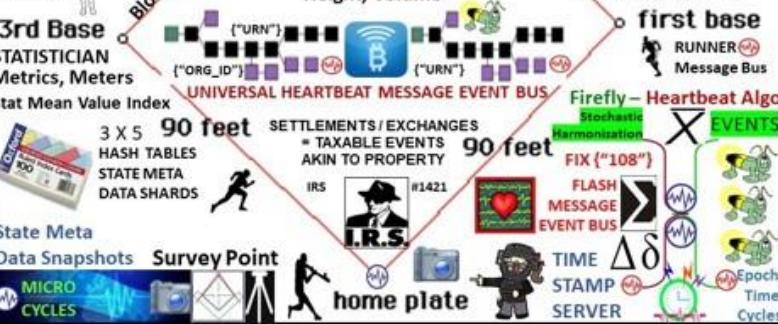
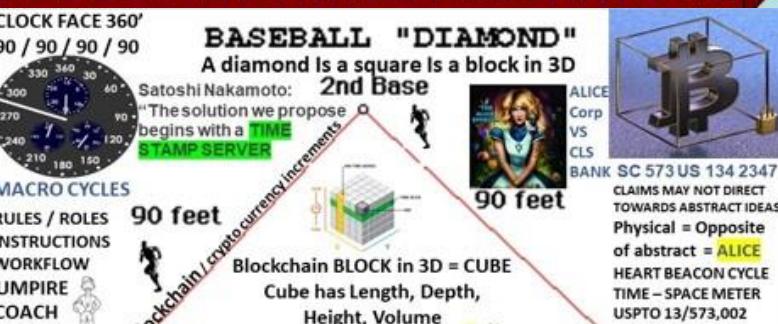


PoST users / nodes must prove that they are spending a certain amount of space for storage.



DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle FEDERATE / TRADE FEDERATIONS



The proposed **Universal Timezone System** would do away with all these different On/Off time zones. Instead, it would be the same time all over the world, all the time.

The proposed **Universal Timezone System** would do away with all these different On/Off time zones. Instead, it would be the same time all over the world, all the time.



Proof of Authority



{"GROUP ID"}
{"Org_ID"}

Not pay to play, Node identity is kept as stake

A PoA network are secured by validators, that are selected democratically by existing validators. The nodes on the PoA network are rewarded for validating the transactions on the network. The identity of the validator is kept anonymous by encryption and secured cryptographically. It is revealed only as a negative reinforcement when the validator processes a fraudulent or a malicious transaction.



A notary license verifies the identity of the person formally, a notary license is released by the Federation / Government after extensive verification. The identity of the validator is kept for cross-referencing with the notary data and blockchain data

Parity supports a Proof-of-Authority consensus engine. Proof-of-Authority is a replacement for Proof-of-Work, and can be used for private or centralized chains. PoA as tested by a Kovan test network improves outdated economic models.

1. **FEDERATION:** Latin: *foedus, foederis, covenant, union* of partially self-governing states or regions under a central (federal) government
2. A league or confederacy. Individuals / groups retain **AUTONOMY**
3. A federated body formed by nations, states, and... **unions**
each retaining control of internal affairs



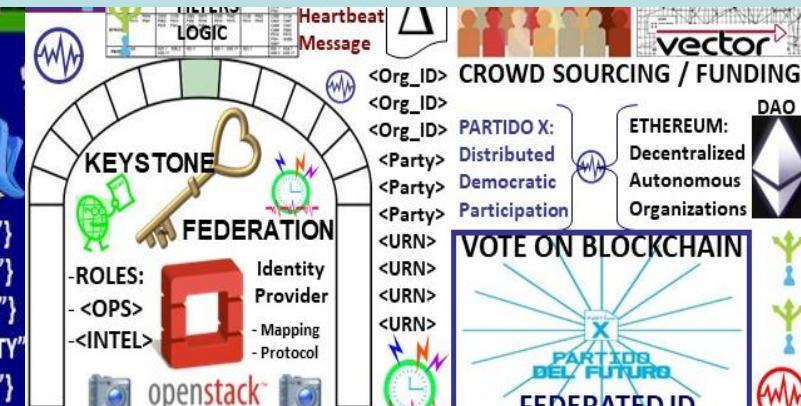
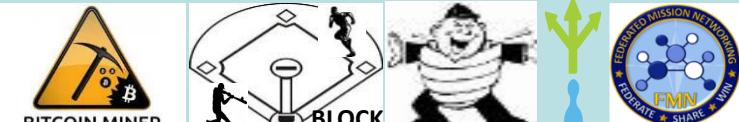
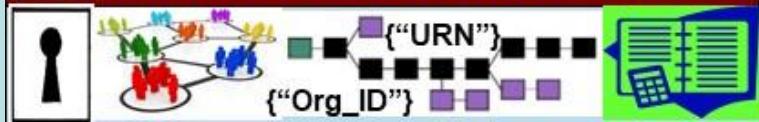
Net joins, drops, splits, merges, moves

Agile, adhoc NETOPS Vs acquisition preserves the

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

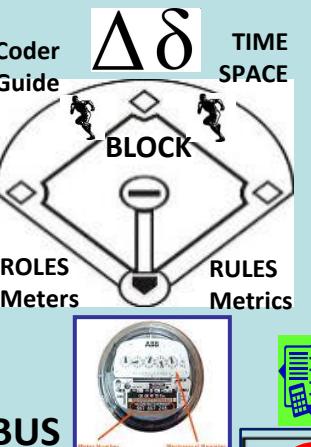
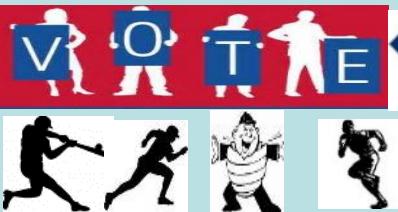
FEDERATE / TRADE FEDERATIONS



BTC NG NEX GEN / Heart Beacon Cycle 13/573,002

KEY BLOCKS:

- NO CONTENT = NULL
- LEADER ELECTION



MVP

EVENT BUS

MICRO BLOCKS:

- ONLY CONTENT
- NO CONTENTION



| FROM | GCDA | TAB | ASAS | AMPCDS | AFATDR | WCR | TO |
|--------|-------|-------|-------|--------|--------|-------|-------|
| GCDA | FC001 | FC002 | FC003 | FC004 | FC005 | FC006 | FC007 |
| TAB | FC008 | FC009 | FC010 | FC011 | FC012 | FC013 | FC014 |
| ASAS | FC015 | FC016 | FC017 | FC018 | FC019 | FC020 | FC021 |
| AMPCDS | FC022 | FC023 | FC024 | FC025 | FC026 | FC027 | FC028 |
| AFATDR | FC029 | FC030 | FC031 | FC032 | FC033 | FC034 | FC035 |
| WCR | FC036 | FC037 | FC038 | FC039 | FC040 | FC041 | FC042 |

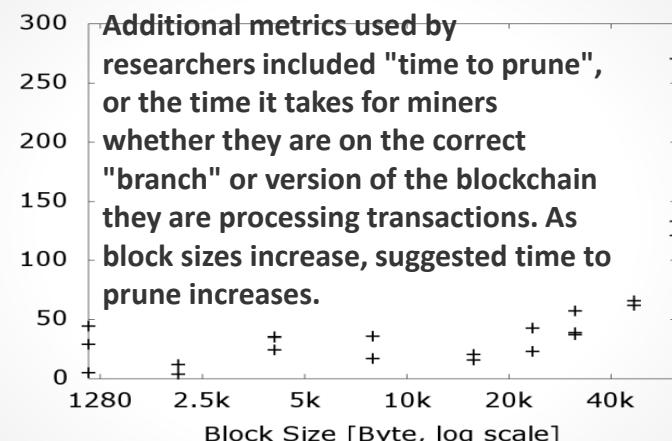
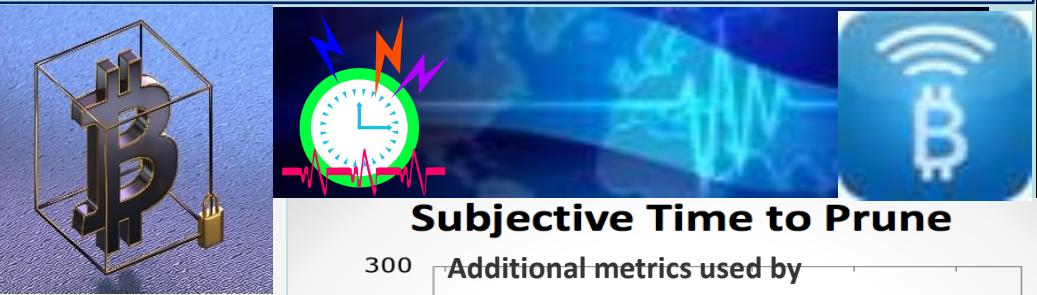
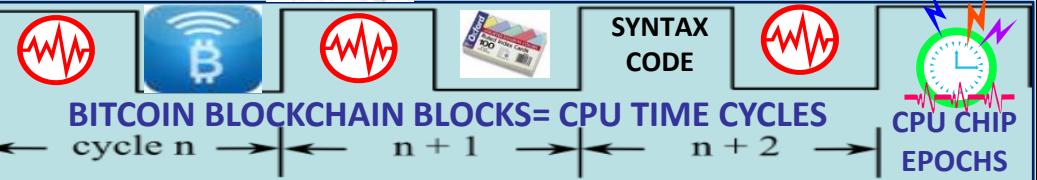
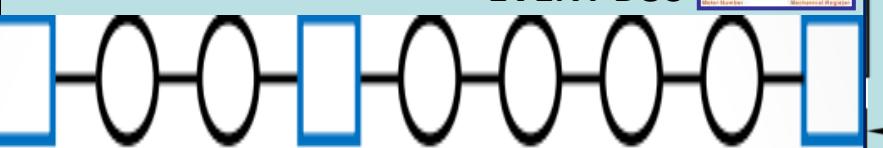
XBRIL / CDL / DAML
STRUCTURED STOCK MIC CODES

MILITARY MESSAGE TEMPLATE FORMS

LOGIC / FILTERS

SYNTAX LEXICON LIBRARY

CPU CHIP EPOCHS





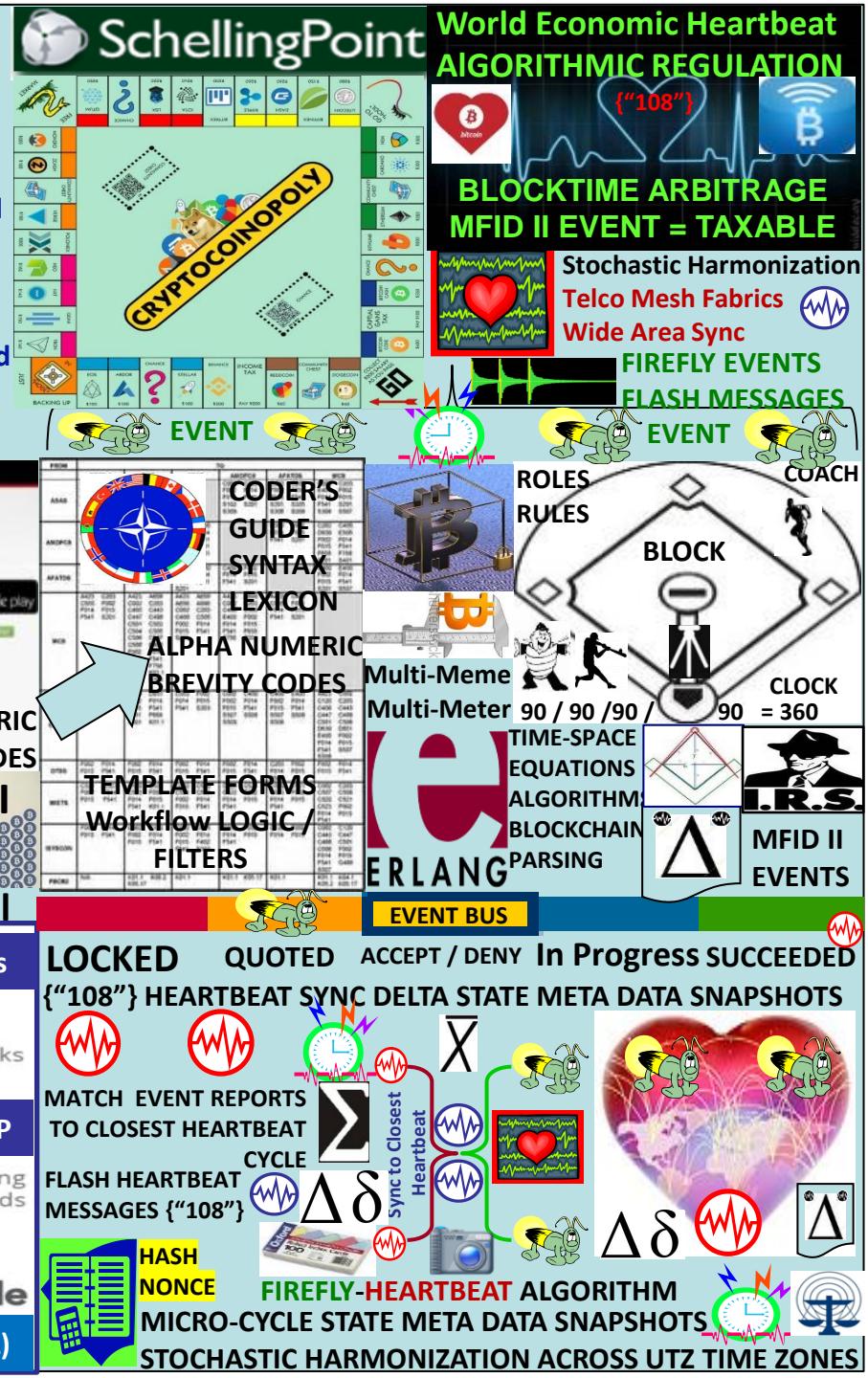
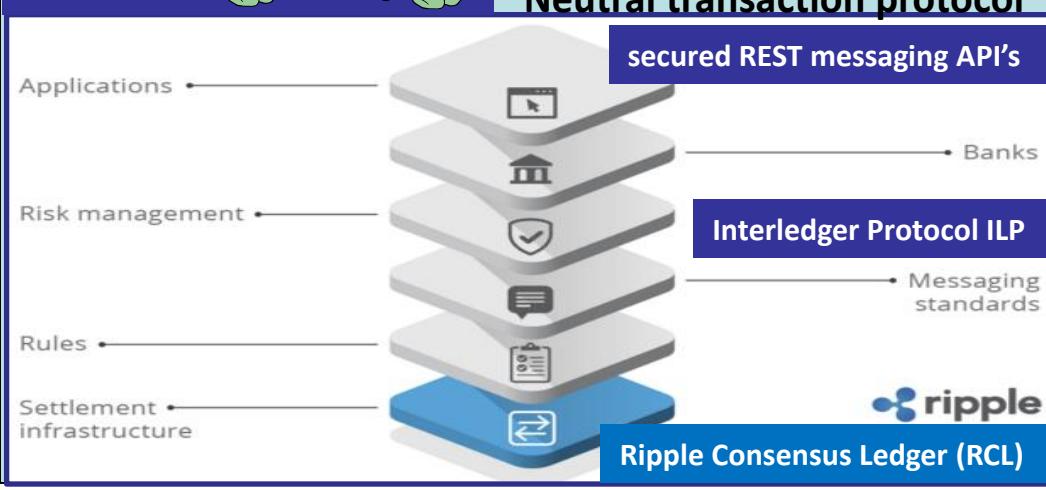
**real-time gross settlement system,
currency exchange, remittance network**

A.K.A Ripple Transaction Protocol or Ripple protocol, built on a distributed open source Internet protocol, consensus ledger and native currency called XRP. Ripple enables "secure, instant and nearly free global financial transactions of any size with no chargebacks." Ripple supports tokens representing fiat currency, cryptocurrency, commodity or any other unit of value such as frequent flier miles or mobile minutes. Ripple is based around a shared, public database or ledger, which uses a consensus process that allows for payments, exchanges and remittance in a distributed process.

Connects to receiving bank's Ripple Connect to exchange KYC, risk info, fees, payment details, expected time of funds delivery

Provides information about total costs of the transaction.

Workflows are serially executed
Except first two work flow are
workflows are based on event
pull model



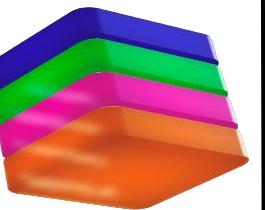


PROTON A CHAIN Virtual Machine

CONTRACT C CHAIN Smart contract

PLATFORM P CHAIN Meta Data

EXCHANGE X CHAIN Cross blockchain



Universal @names Identity / Governance / Resources / Staking

Snowball Consensus

Algorithm

preference := pizza

consecutiveSuccesses := 0

while not decided:

ask k random people preference

if >= α give the same response:

 preference := response with >=

α

 if preference == old preference:

 consecutiveSuccesses++

 else:

 consecutiveSuccesses = 1

 else:

 consecutiveSuccesses = 0

if consecutiveSuccesses > β:
 decide(preference)

EOSIO computer function emulation
NET, CPU bandwidth, RAM data
Publishing, Voting based not mining

Delegated Proof
of Stake {"Org_ID"}



coordinates validators, keeps track
of active subnets, SNOWMAN
consensus Token representation of
real-world resources (e.g., equity,
bonds) smart contract rules </URN>



DAG Acyclic Graph Parameters:

n: number of participants

k (sample size): between 1 and n

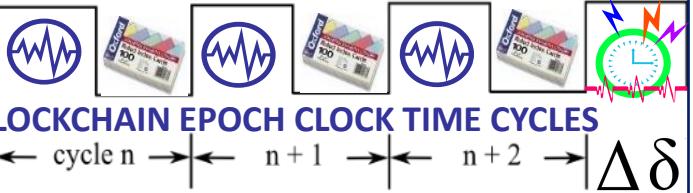
α (quorum size): between 1 and k

β (decision threshold): >= 1

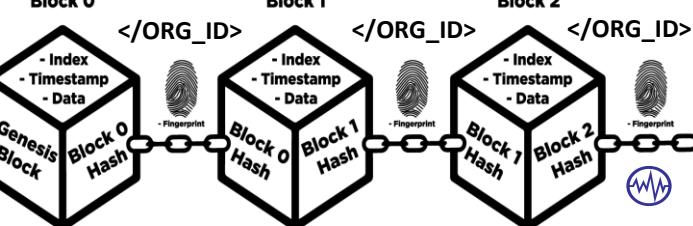
ALL THINGS NET, NET OF \$\$\$

1) EPOCH TIME INTERVALS

2) SYNTAX (not) used in epochs



GENESIS BLOCK: "Layers" = follow on epoch time intervals

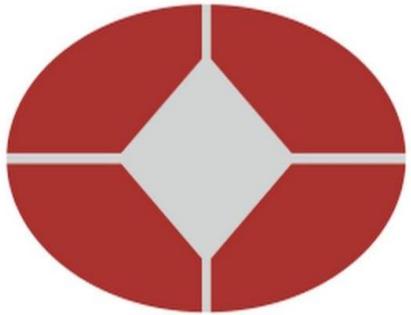


SECURITY TOKEN: A DIGITAL
ASSET THAT'S BACKED UP
BY TANGIBLE ASSETS IN THE
REAL WORLD </URN>
</URN>
</URN>

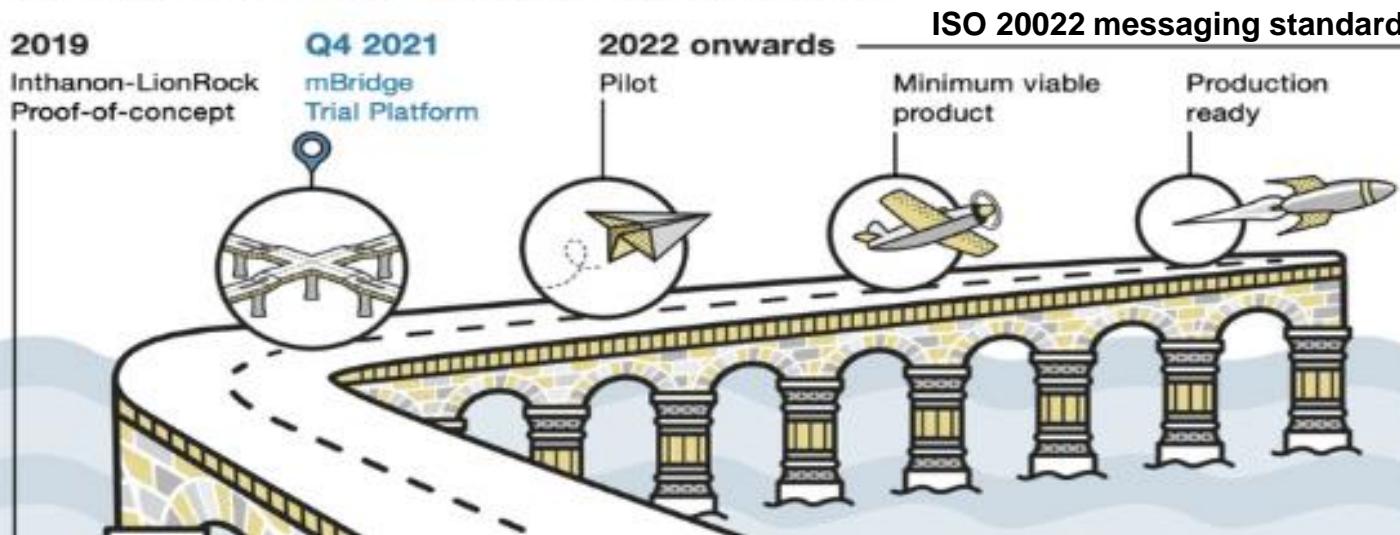


"all digital currency networks, the base layer of people
generating the blockchain — "miners," "stakers,"
"witnesses," "validators," or "forgers" get paid"





International trade settlement work stream



mBridge mBL is an Ethereum EVM-compatible solution, referring to the ability of a blockchain to process transactions based on smart-contract codes that can run on many blockchain platforms. CBDC issuance, redemption, payments are implemented through smart contracts in the Solidity programming language. mBridge code is open sourced.

mBL uses the **Dashing consensus algorithm**, a Byzantine Fault Tolerance (BFT) consensus protocol that uses proofs of partial confirmation of a block validation to reduce time needed to achieve consensus and to improve the overall protocol performance. Pseudonymous addresses and encrypted payment meta-data payloads are used to support privacy and confidentiality in transactions. mBL APIs are based on the global ISO 20022 messaging standard for financial information Legal Entity identifiers (LEIs) facilitate identification of entities facilitating AML/ CFT checks.





UNICOIN

Digital Capital Exchange

Unicorn: IMF CBDC legal tender settlement coin

Universal Monetary Unit (UMU), a.k.a Unicorn: store of value
cryptography, artificial intelligence (A.I.) Goals: continuous purchasing demand, minimal price volatility, and annual asset pricing targets.

The primary value of any commodity is its utility value.

Utility = pay for goods, services, and debts, preserve value over a long period of time. Employs machine learning trading bots. UMPC will establish yield payout rates for wallet holders to stake Unicorn in the Staked Proof of Trust (SPOT) consensus protocol. PoT consensus selects validators I.A.W contribution to the DeFI network

The DCMA – Digital Public Monetary System

| | | | |
|------------|---------|-------------------|----------------------|
| KYC Entity | Ledgers | FX Rates | SPOT Protocol |
| Create | Create | Balances | Stake |
| Modify | Modify | Activity | Cashout |
| Suspend | Suspend | Deposit | Reject |
| KYC People | CBDC | Withdraw | |
| Create | Create | Money Services | Authorizations |
| Modify | Modify | Transfer | Grant Authorization |
| Suspend | Suspend | | Revoke Authorization |
| Issuers | Pause | Escrow | Rates |
| Create | Unpause | Create Escrow | Create Rate |
| Modify | Mint | Accept Escrow | Modify Rate |
| Suspend | Burn | Cancel Escrow | Suspend Rate |
| Post Rates | Redeem | Release Escrow | |
| Branches | Swap | Milestones | Limits |
| Create | Supply | Create Milestone | Create Limit |
| Modify | Price | Modify Milestone | Modify Limit |
| Suspend | Wallets | Cancel Milestone | Suspend Limit |
| Agents | Create | Release Milestone | Sanctions |
| Create | Modify | | Create Sanction |
| Modify | Suspend | | Modify Sanction |
| Suspend | Pause | | Suspend Sanction |
| | Unpause | | |
| | Attach | | |

Figure 9: Unicorn Global Localization of a CBDC Public Monetary System





UNICOIN

Digital Capital Exchange

Unicoin: IMF CBDC legal tender settlement coin

**Universal Monetary Unit (UMU), a.k.a Unicoin: store of value
cryptography, artificial intelligence (A.I.) Goals: continuous purchasing
demand, minimal price volatility, and annual asset pricing targets.**

The primary value of any commodity is its utility value.

Utility = pay for goods, services, and debts, preserve value over a long period of time. Employs machine learning trading bots. UMPC will establish yield payout rates for wallet holders to stake Unicoin in the Staked Proof of Trust (SPOT) consensus protocol. PoT consensus selects validators I.A.W contribution to the DeFI network

Ü



The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.

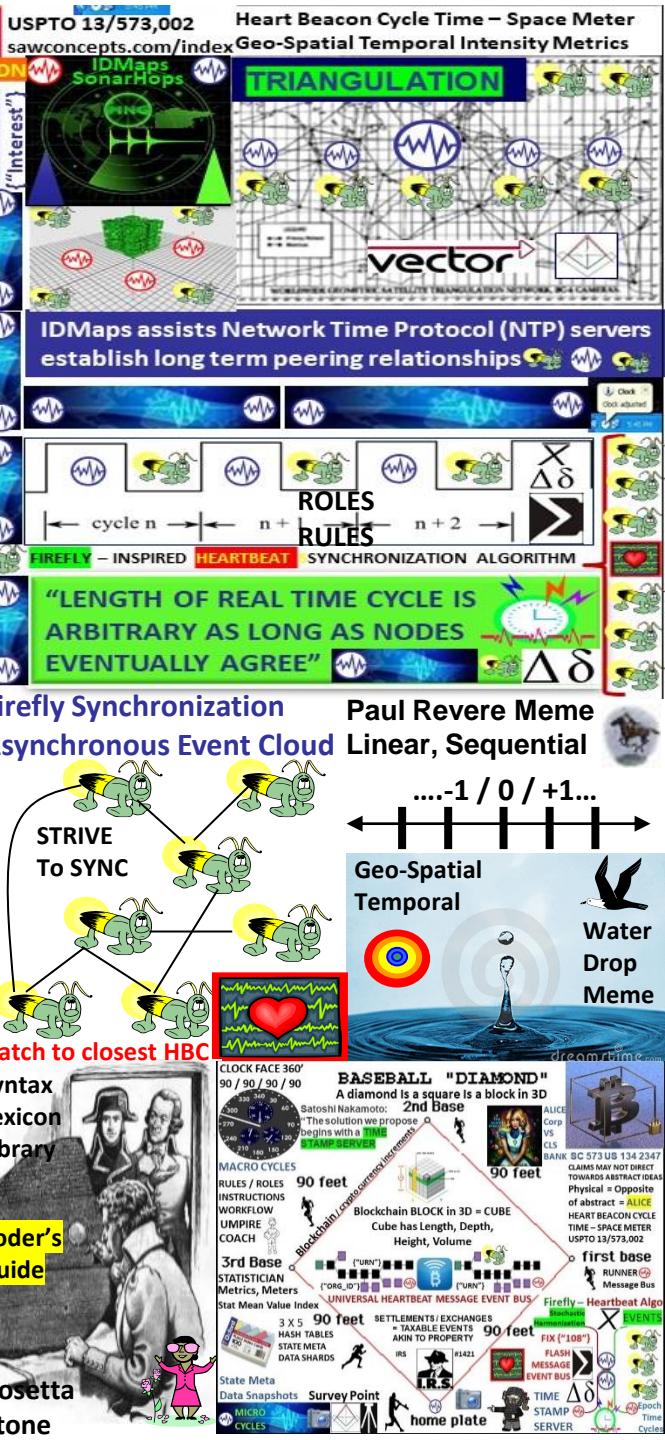
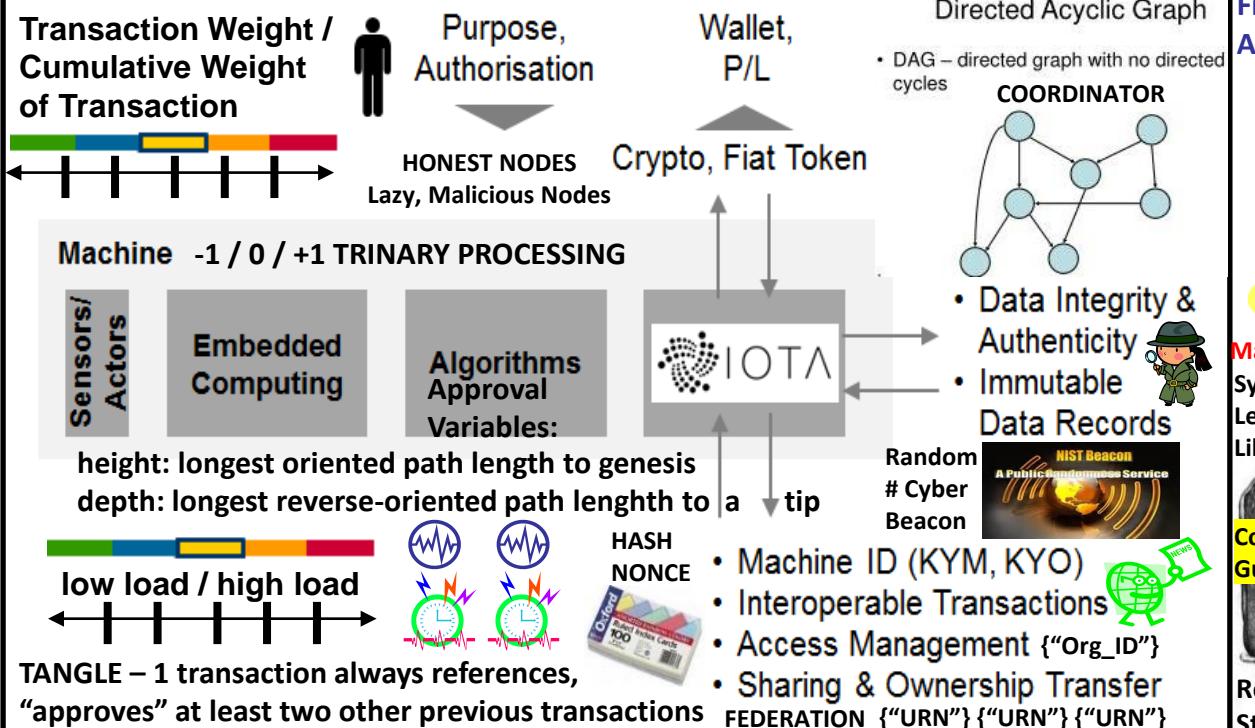


IOTA: Internet Of Things IOT distributed ledger with microtransactions without fees

Tangle, a directed, ASYNCHRONOUS acyclic graph (DAG) for storing transactions

Contrary to Blockchains, consensus is no longer decoupled. It is an intrinsic part of the system for decentralized, self-regulating peer-to-peer network. Transfer value without fees

The iota network is ASYNCHRONOUS. In general, nodes do not necessarily see the same set of transactions. The tangle may contain conflicting transactions. The nodes do not have to achieve consensus on which valid transactions have the right to be in the ledger, meaning all of them can be in the tangle. However, in the case where there are conflicting transactions, the nodes need to decide which transactions will become orphaned. Nodes use the tip (unapproved transaction) selection algorithm to decide between two conflicting transactions. GHOST protocol main ledger = tree





ZEPPELIN

ZEPPELIN OPEN, GLOBAL ECONOMY

OpenZeppelin open framework of reusable, secure smart contracts in the Solidity language

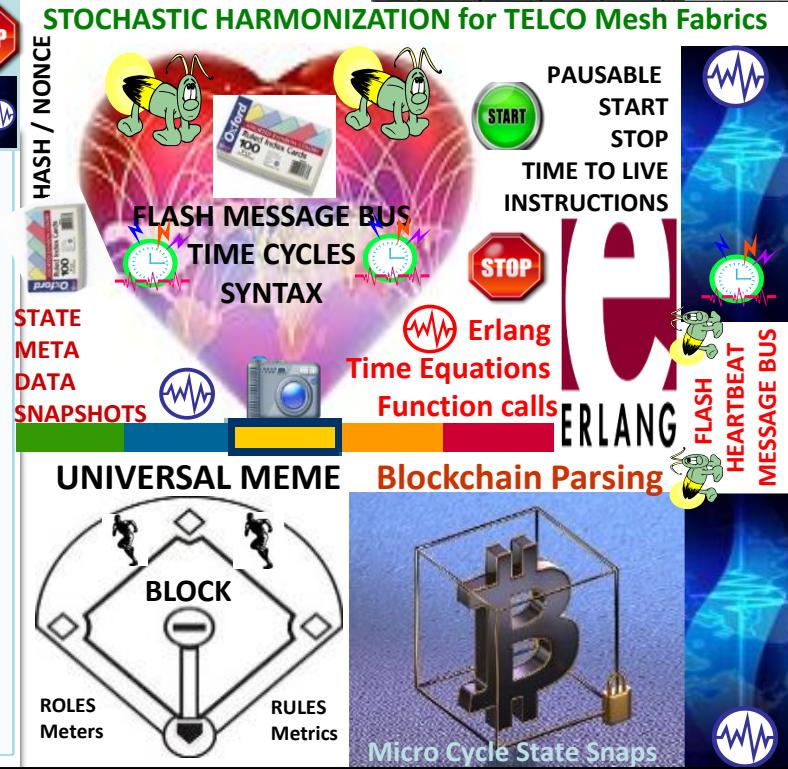
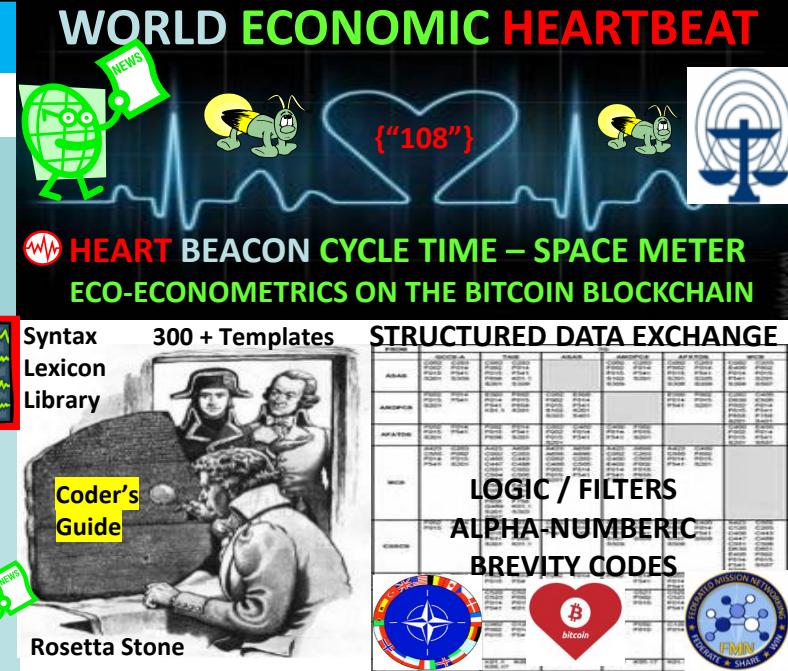
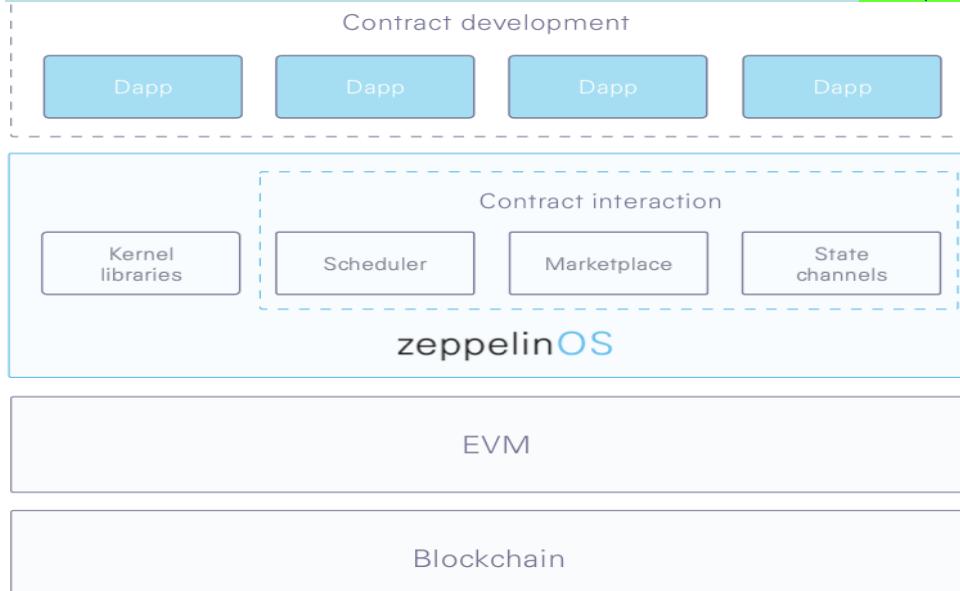
zeppelinOS, operating system for smart contracts
“the rate of innovation in building decentralized applications is limited by the manual and duplicative efforts developers must make to ensure basic usability and security.”

ZEPPELIN / zeppelinOS Common Functionality:

zeppelinOS Kernel common set of functions for smart contracts requesting services from the OS rather than re-implementing them from scratch. Functions will be available as an on-chain standard library of reusable contracts and functions, nspired by [OpenZeppelin](#) Libraries Create and customize your own ERC20 Token.

Create and customize your own ERC20 Token.

- Create capped, refundable and/or whitelisted crowdsales.
 - Create a trustless bug bounty.
 - Create pausable, ownable, balance-limited contracts.
 - Set up a token vesting or token locking contract.

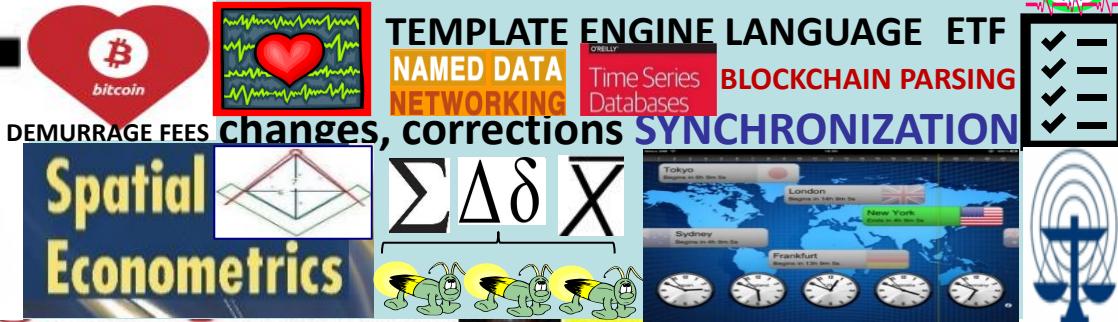
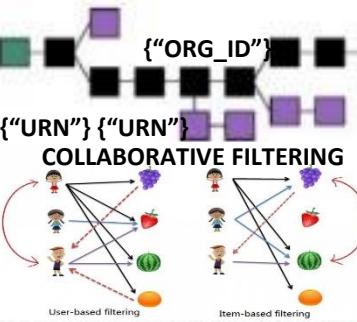




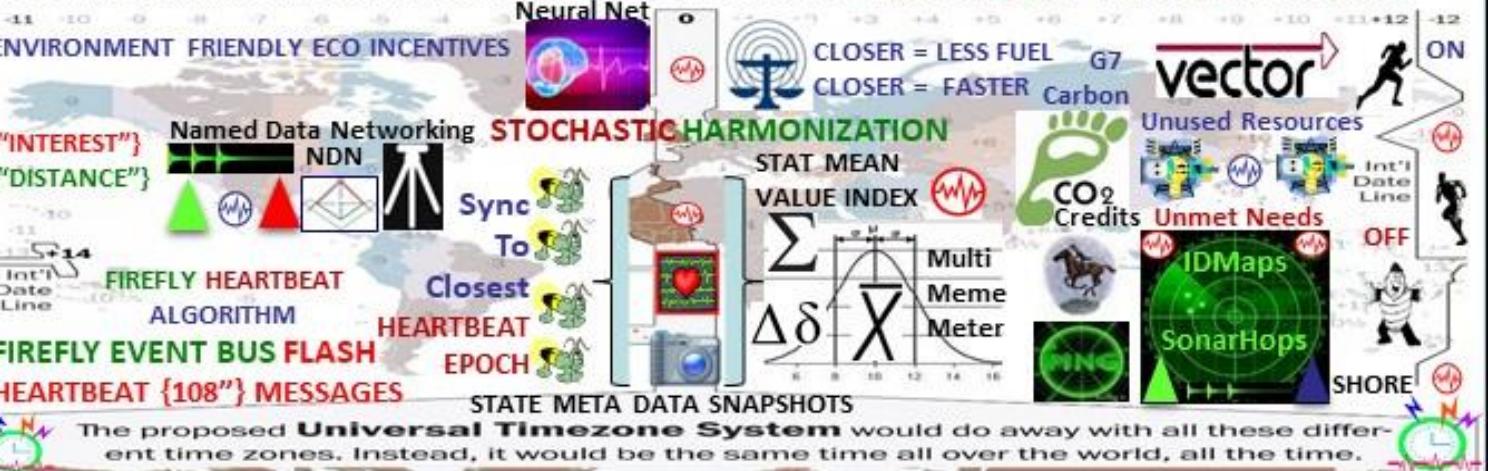
EGaaS

ELECTRONIC GOVERNMENT AS A SERVICE

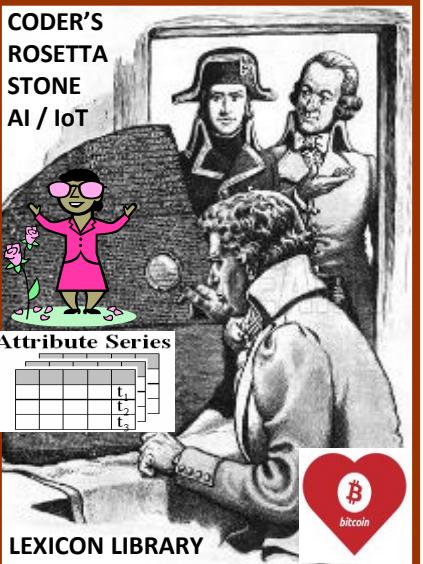
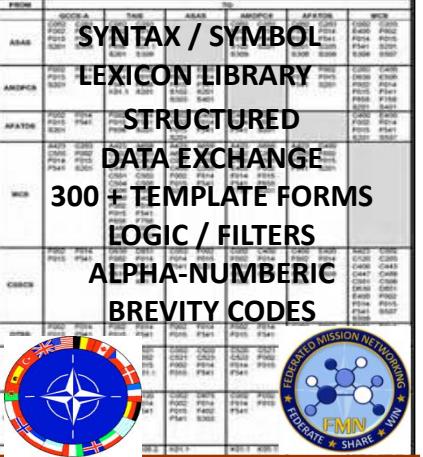
Distributed digital asset registries were the first projects that used blockchain systems such as databases designed for secure storage of records on real estate property, stocks, copyright and so on. It is assumed hosting any document on the blockchain is equivalent to notarization of its content at a fixed time point.



The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC. **INCENTIVIZE ECO - FRIENDLY TRANSACTIONS**



E-GaaS: international blockchain platform for organizing economic, state, social activities of citizens , communities on the basis of smart law, smart contract system. eGaaS offers a comprehensive solution needed for state and business management on the blockchain platform.





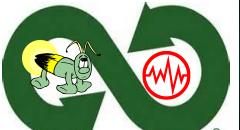
"EARTHDAY EVERYDAY ON THE BITCOIN BLOCKCHAIN"
"GIVE A HOOT, DON'T POLLUTE" Woodsy The Owl

GNOSIS

"Our mission is to build an accessible prediction market platform enabling free flow of useful information / the "Google" of Customized Information Searching"

Futarchy PREDICTION MARKETS
GnosisAMA

Gnosis trading interface alpha
WIZ token fee payment
INFORMATION ARBITRAGE ECONOMICS



Price Oracle

Gnosis Wisdom (WIZ) pay platform fees in Services layer, Wiz subsidize other participants fees, provide initial subsidies for markets, or market trading.

WIZ pegged to \$1 USD worth of fees. WIZ acts as coupon for \$1 of Gnosis

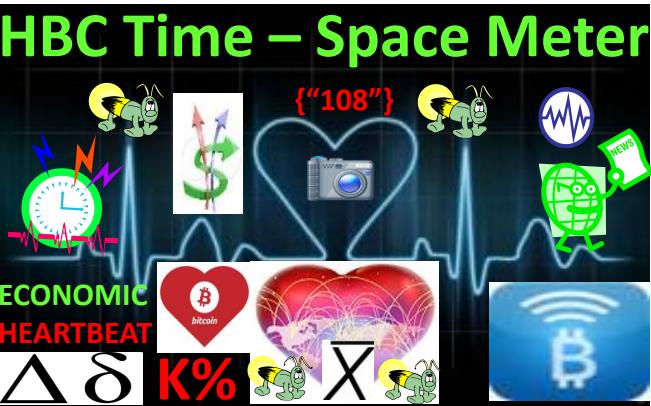
Gnosis tokens (GNO) generate Wisdom token s(WIZ) via smart contract

GNO token holders agree to "lock" tokens in a smart contract (30-365 days). A multiplier is added for longer lock durations. Smart contract determines selected lock duration and applies that duration to a formula regulating supply of WIZ tokens currently in use. Once users execute the contract, 30% of their WIZ are distributed for use, the remaining 70% is distributed proportionally over the locked duration. When lock duration expires, the locked GNO ceases to generate WIZ & GNO is freely transferable

The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC.



The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.

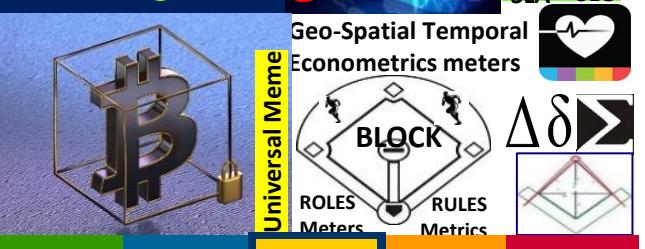


THE TERRA (TRC)

Trade Reference Currency



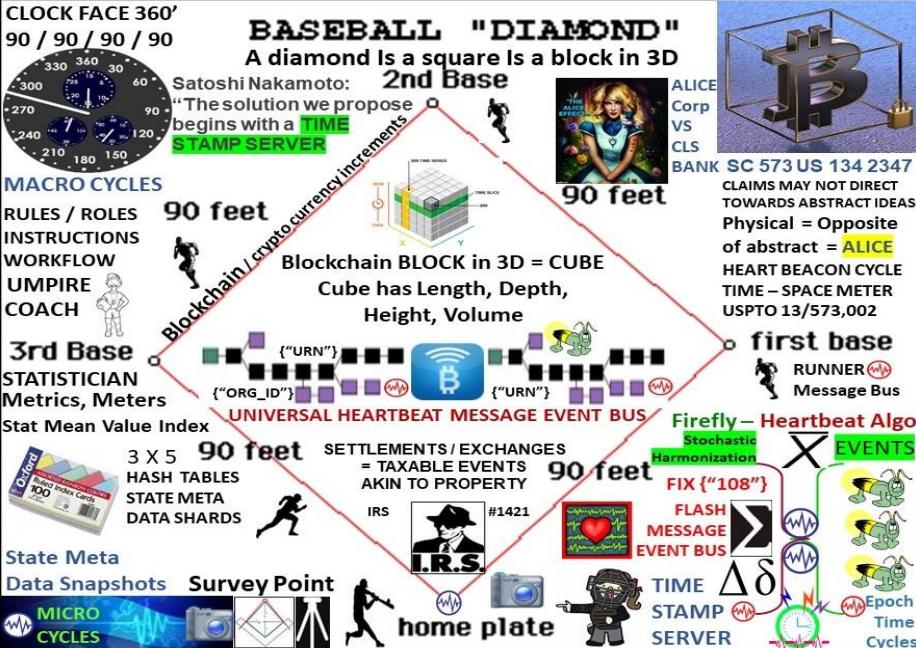
Demurrage Fees



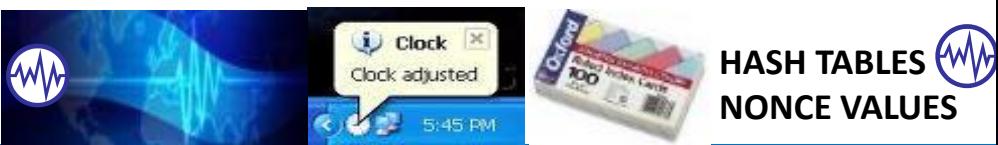
Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic "heartbeat" events approximately at the same time. It differs from classical clock sync in that nodes are not interested in counting cycles to agree on the ID of the current clock cycle. There is no requirement to sync during a cycle length in real time as long as length is bounded & all nodes agree eventually"



Bitcoin Classic seeks to mitigate the problem of more transactions, which are causing transaction backlogs and increased transaction costs, by increasing the block size - the number of kilobytes in a block of transactions - from 1MB to 2MB.



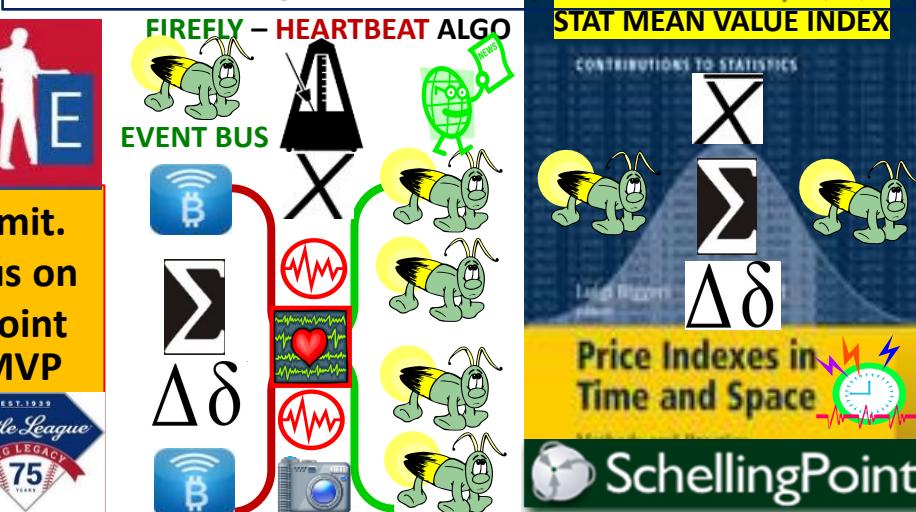
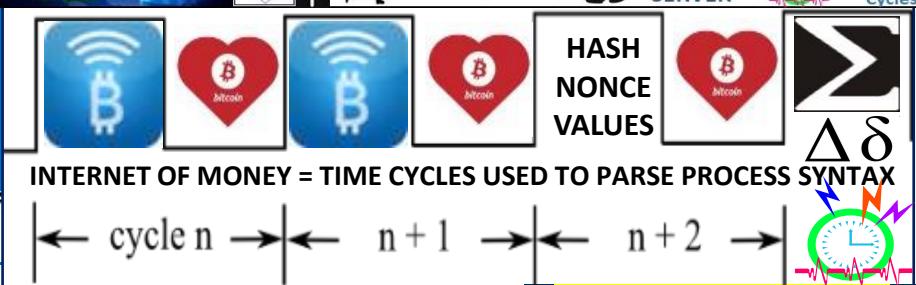
ALL THINGS INTERNET FORMED W 1) TIME EPOCHS 2) SYNTAX



BitPay Core: limits: 1) block size 'hard limit' adjusted on a regular basis coinciding with difficulty adjustments, 2) miner set 'soft limit' like focal points in Unlimited. $\Delta\delta$



Bitcoin Unlimited: absence of a hard-coded block-size limit. Users manually set limits on their own nodes; Consensus on a limit expected to emerge naturally at Schelling focal point. Unlimited introduces a level of democracy into development, management of the implementation, . the community votes on changes.



**Microsoft Blockchain modular framework:
choose combination of tech best fits Biz domain**

AZURE: Core/Kernel/Universal Protocol 

Fabric Tier consortium node CryptoDelegate in
VM or UTXO Adapter, (Azure, AzureStack, AWS..)

Unspent Transaction Output protocols UTXO

Crypto Tokenized Assets Digital Bearer Bonds
unique identity for owned artifacts

Utility Cryptlets encryption, time & date events, external
data access, authentication “CryptoDelegate” / adapter

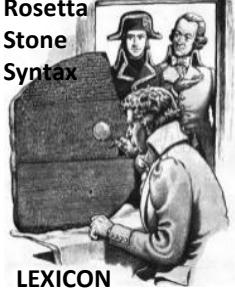
Blockchain middleware: identity and operations management, data,
intelligence services like analytics and machine learning. New middleware
works with existing Azure services, like Active Directory and Key Vault

Blockchain Fabric: Blockchain Gateway Services [Interledger](#)-
like services to allow for SmartContracts and tokenized
objects to be passed between different ledger systems.

Data Services - key data services like distributed file systems
(IPFS, Storj, etc) of off-chain data referenced by public keys. 

Auditing, Advanced Analytics, Machine Learning, Dashboarding
services for SmartContracts, Blockchains, Consortia, Regulators

Utility and Contract. Developers can discover and enlist Cryptlets into
their SmartContracts to create more robust and trusted transactions.
Contract Cryptlets are full delegation engines that act as
SmartContract surrogates off the chain. Cryptlets provide
execution logic and securely store data in the Smart Contract 

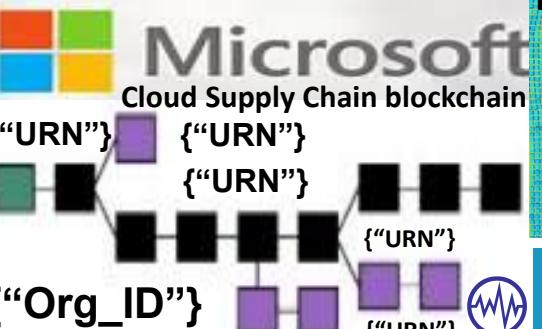


| ALPHA NUMERIC BREVITY CODES SYMBOL CODES | |
|---|--|
| STRUCTURED MILITARY MESSAGE TEMPLATE FORMS LOGIC / FILTERS | |

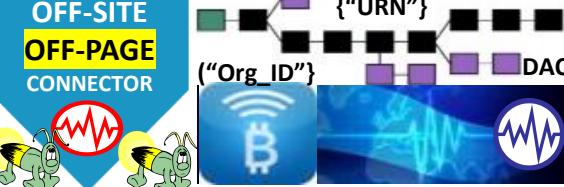
The current standard time common throughout the world is based on a 24-hour clock, with
zones that are either 12 hours ahead or behind Coordinated Universal Time (UTC).
However, these time zones are decided upon by individual governments, without overall coordination
and can even extend fourteen hours ahead UTC.



MULTI-MEME MULTI-METER

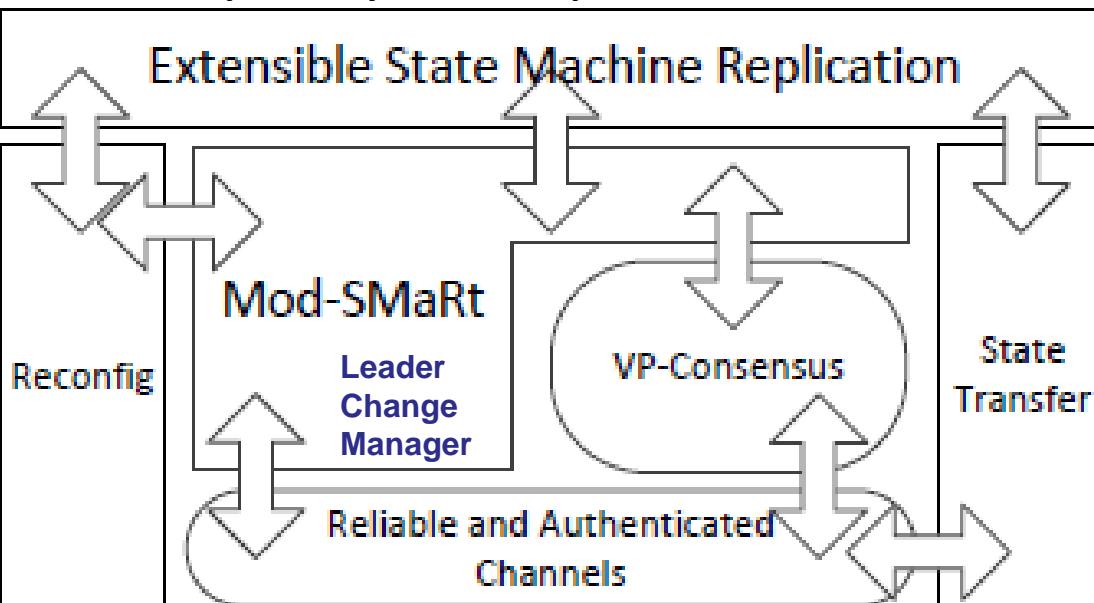


MYRIAD MEMES MEDiation



Byzantine Fault-Tolerant State Machine Replication

BFT-SMaRT dynamic distributed system processes are divided in two nonintersecting subsets: replicas and clients. Each system process has a unique identifier. During dynamic system execution, a sequence of views is installed to denote the reconfigurations due to replicas joins and leaves. A view is composed by a set of replicas identifiers.



Modularity is achieved using a set of building blocks(or modules)containing the core functionality of BFTSMaRt. Blocks are divided in three groups: communication system, state machine replication and state management.

BFT-SMaRT needs an eventually synchronous system

Total order multicast is achieved using the Mod-SMaRt protocol and with the Byzantine consensus algorithm Clients send requests to all replicas in cv, and wait for replies. replicas store each batch of ordered requests to a (stable) log and, periodically, take snapshots of the application state and store it in stable memory.

USPTO 13/573,002 HEART BEACON CYCLE TIME-SPACE METER

USCt ALICE CORP V CLS BANK

PHYSICAL = OPPOSITE OF ABSTRACT



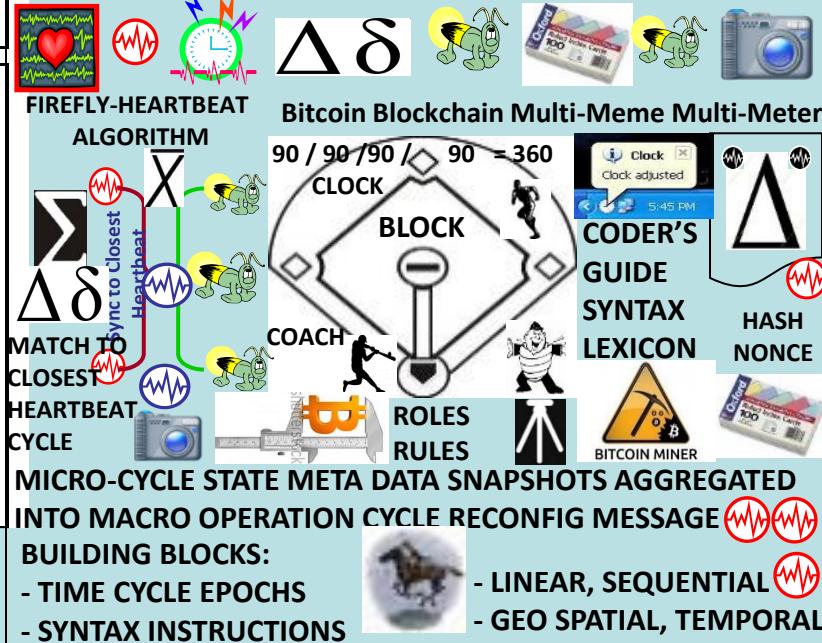
DERIVED FROM BATTLEFIELD DIGITIZATION DISTRIBUTED AUTONOMOUS ORGANIZATION DAO SYSTEM OF SYSTEMS

FEDERATED ID / ORGANIZATIONAL IDENTIFIER {"ORG_ID"}

ADDS, JOINS, DROPS, MOVES TO / FROM DAO

CHANGES IN STATE VIEWED IN "APPLIQUE' OVERLAY VIEWS

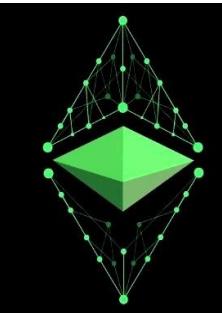
00.99 HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS



Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic "heartbeat" events approximately at the same time.

It differs from classical clock sync in that nodes are not interested in counting cycles to agree on the ID of the current clock cycle. There is no requirement to sync during a cycle length In real time as long as the length is bounded and all nodes AGREE ON IT EVENTUALLY"





ETHER: Compensate Resource Contribution

Gas: price to
Run contract
transactions

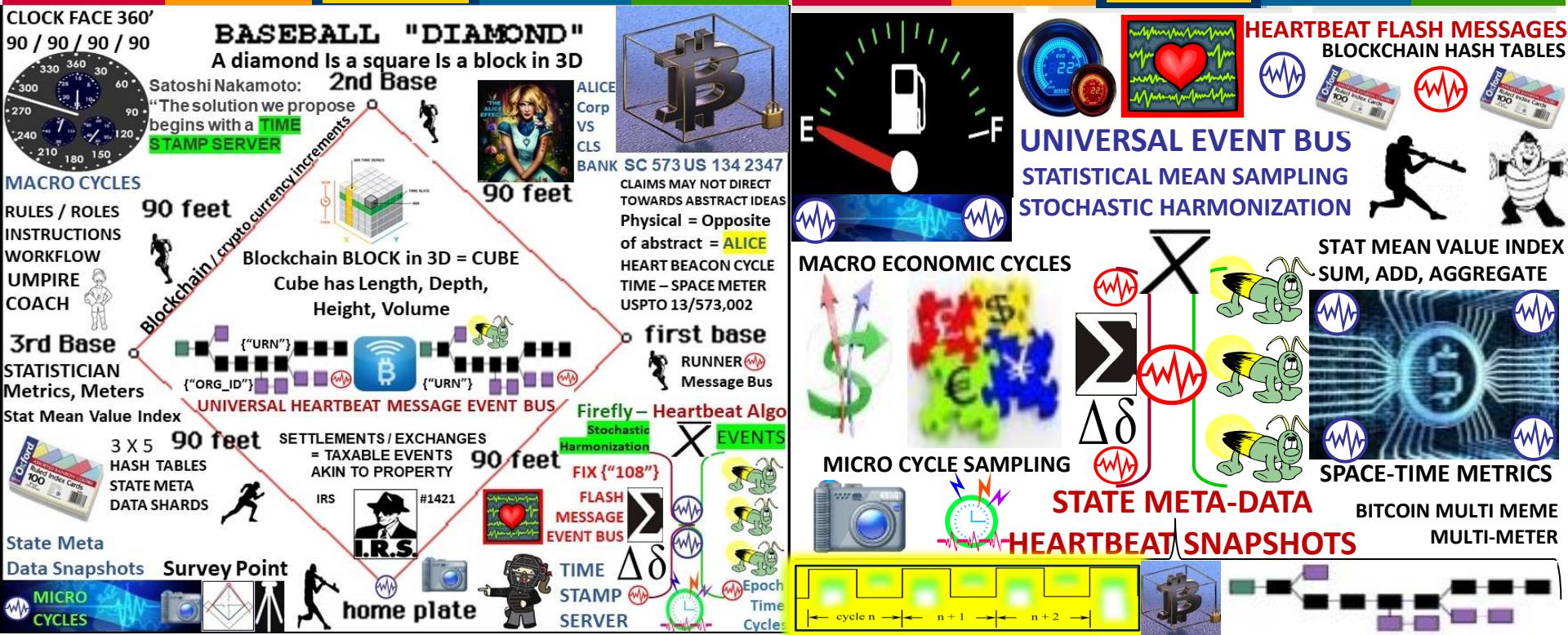
ethereum

Casper is a security-deposit based economic consensus protocol. Nodes = "bonded validators" place security deposit (an action called "bonding") If a validator generates an invalid action, account deposits are forfeited along with consensus privilege. Use of security deposits address "nothing at stake" problem; that behaving badly is not expensive. Casper is an **EVENTUALLY CONSISTANT** blockchain-based consensus protocol. CASPER favors availability over consistency



Ether hedged against
other crypto / FIAT
currencies price chan $\Delta\delta$

Firefly - Heartbeat synchronization: nodes in a distributed system generate periodic, local "heartbeat" events approximately at the same time with a goal of all nodes starting / ending cycles at the same time... **EVENTUALLY**





core blockchain code written in Erlang, for distributed, fault-tolerant, soft real-time and highly available non-stop applications.

ERLANG API FOR BLOCKCHAIN



ORACLES: crucial feature for most contracts, whether encoded as text or as code, is the ability to refer to values from the environment. æternity Oracle Machine provides real-world data to the blockchain. Each user can ask questions about the environment. Anyone can answer. Consensus mechanism invoked in case of disagreement.

MIT-licensed modules for easy implementation in blockchain consortiums. Free and open access for developers build on the æternity platform.

CROSS – CHAIN ATOMIC SWAPS

AE Tokens AE are access tokens to the æternity network and act as a unit of account for the resources spent on æternity.



Aeons: energy for applications implemented on the platform.

ACCOUNTS & IDENTITY: æternity's accounts are permission-less, but allow customization via schema.org's semantic web scheme. Create & own (**federated group**) / individual identities on the æternity network



("ORG_ID")
("ORG_ID")

NAMES (DNS) In the vein of Aaron Swartz' work and Namecoin, æternity features an easy to use name system, that is both decentralized and secure, while still supporting human-friendly, memorable names. The blockchain's state includes a mapping from unique human-friendly strings to fixed-size byte arrays, that are individually customizable.



Firefly Heartbeat Sync nodes strive to sync in a distributed system. Nodes emit periodic "heartbeat" events at approximately the same time. No need to sync during a cycle as long as the cycle length is bounded & nodes eventually agree

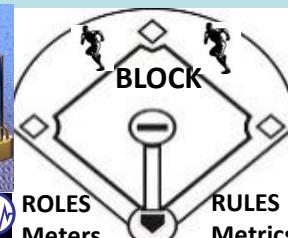
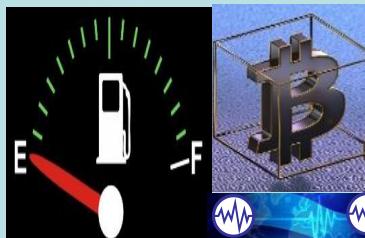
AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS



Terra Trade Reference Currency TRC "world currency" Bernard A. Lietaer Belgian economist proposed 1991 Basket of 9-12 most important commodities. Public issued demurrage fees for storage, shipping, handling

TOKENS REPRESENT REAL WORLD VALUE URN RESOURCES

ETHEREUM USES GAS GUAGE MEME INDICATING THRESHOLD MET / NOT MET



ROLES Meters RULES Metrics

HBC's PRIMARY USE CASE IS TO ORGANIZE INDIVIDUALS IN TRADE FEDERATION GROUPS RE-USING BATTLEFIELD DIGITIZATION / ARIN Organizational Identifier Org_ID for Ecosphere friendly trade

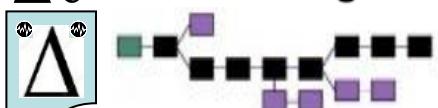
Federation Gateway
("ORG_ID")



HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$ Shared Ledger



HEART BEACON CYCLE
TIME – SPACE METER
USPTO 13/573,002

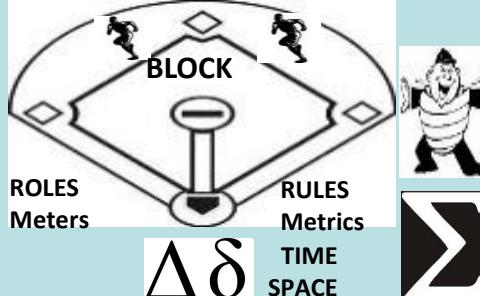
FEDERATION
Federation Gateway

METRICS ("Organization ID")
METERS

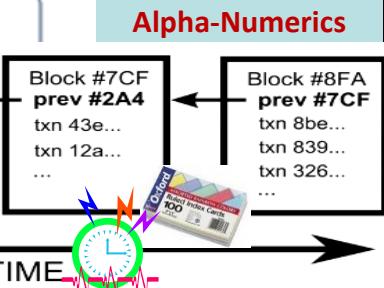
RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE



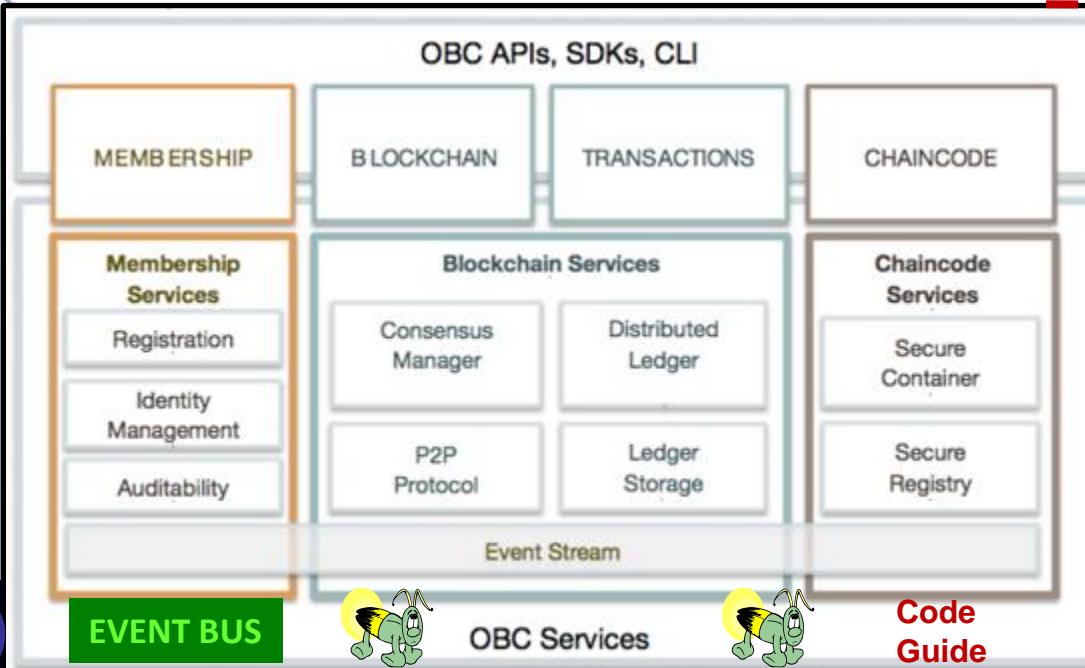
BLOCKTIME ARBITRAGE



Code execution environment, ledger data structures, modular consensus fwk & algos, and modular membership services, modular storage and event fwks, network peers



Alpha-Numerics



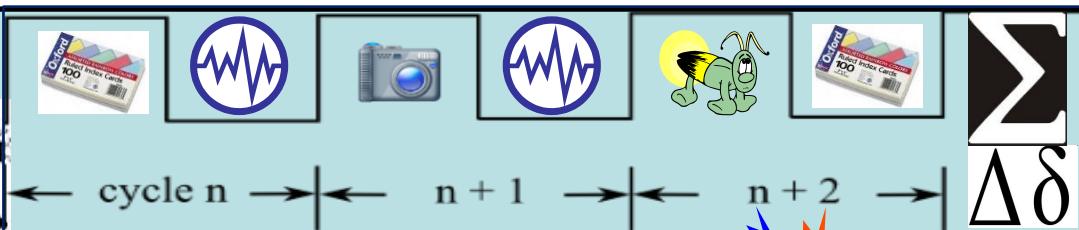
ROSETTA STONE

XBR / CDL / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

SYNTAX
SYMBOL LIBRARY

300 + MESSAGE
TEMPLATES
USE CASES / GROUPED
DATA TRANSACTIONS
Alpha-Numeric Data
Element ID -- #'s are the
UNIVERSAL LANGUAGE



MICRO-MACRO CYCLE SCHEDULE



FFIRNS
FFUDNS

HYPER LEDGER USES
JSON ("tag") / YAML
Text indentation –
UNIVERSAL LANGUAGE
= ALPHA-NUMERICS

DASH



"All decentralized, blockchain-based networks are DAOs, or decentralized autonomous organizations" Bitcoinist

"A DAO can be summed up as an organization of people who communicate with each other via a "network protocol," which is to say that they communicate with one another via a ruleset"

[LINK](http://bitcoinist.net/how-dash-dao-work/) <http://bitcoinist.net/how-dash-dao-work/>

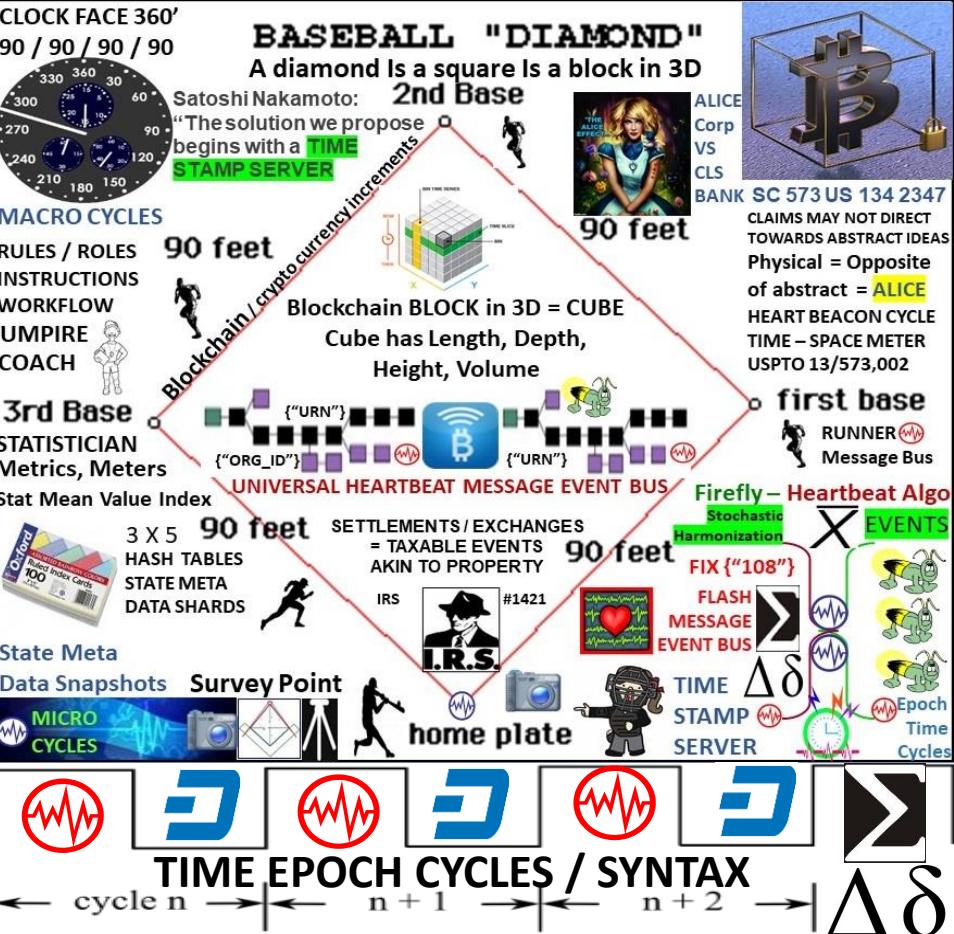
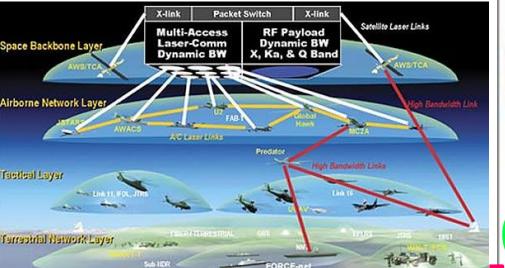
"all digital currency networks, the base layer of people generating the blockchain — "miners," "stakers," "witnesses," "validators," or "forgers" — all get paid to do so" "consensus," or an agreement upon what the rules should be; and second, the execution of said rules.

"Its makeup is thus: the block reward is divvied up in three parts. The first 45 percent goes to [Dash's miners](#). Another 45 percent goes to its Masternodes. And 10 percent is set aside to fund whatever other jobs or expenditures the Dash network deems necessary"

InstantX: To solve the problem of lag time in transactions, Masternodes are able to instantly lock transactions and receive payments for their service to the network

DAO: RAND THINK TANK TERM COINED + / - 2001

NETWORK CENTRIC WARFARE
Developing and Leveraging Information Superiority



STOCHASTIC HARMONIZATION FIREFLY-HEARTBEAT EVENT BUS

HEART BEACON CYCLE = IMPROVEMENT TO NETWORK CENTRIC WARFARE



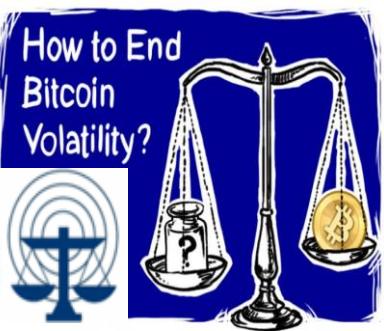
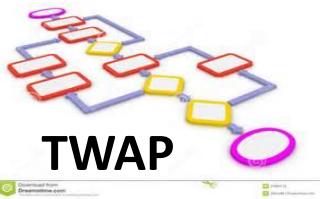
Firefly - Heartbeat synchronization: nodes in a distributed system generate periodic, local "heartbeat" events approximately at the same time with a goal of all nodes starting / ending cycles at the same time eventually = HB CYCLE



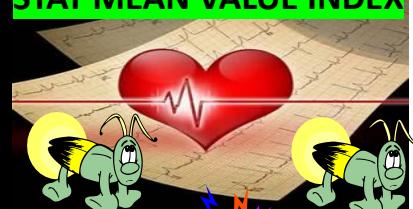
TWAP Algorithm Manages Bitcoin Price Volatility Algorithm



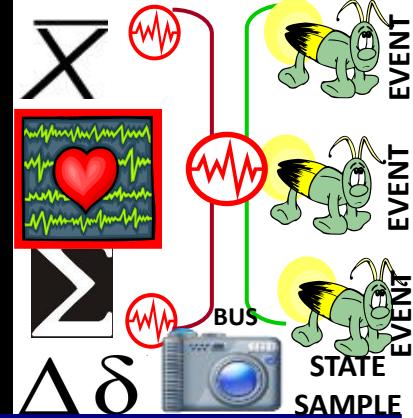
TWAP GOAL: provide a Time Weighted Average Price Benchmark



FIREFLY HEARTBEAT ALGO
STAT MEAN VALUE INDEX



STATE META
DATA SNAPSHOTS



TWAP Works To gauge trading performance, many traders in different asset classes (equity, fixed income, currency) often use average price as a benchmark. The two common ways to calculate an average are a time-weighted average price (TWAP) and a volume-weighted average price (VWAP). TWAP is the average price of a bitcoin over the course of a specified period of time i.e., **Heart Beacon Cycle**



The algorithm trades over a desired time, either 1, 6, 12 or 24 hours and will give you a TWAP over that time period. For example, set the TWAP algorithm to sell 12 bitcoins over 12 hours, the algorithm will sell throughout the period, aiming to get a 12-hour TWAP



VWAP is price multiplied by number of bitcoins traded, then divided by the total number of bitcoins traded during a time period. The time-weighted average price algorithm is matched to closest HB

Firefly Heartbeat Sync nodes strive to sync in a distributed system. Nodes emit periodic "heartbeat" events at approximately the same time. There is no need to sync during a cycle as long as the cycle length is bounded & nodes eventually agree. HBC's improvement is stipulating a clock cycle value e.g., 5, 10, 15..



Block-Weighted-Average-Price (B-WAP) API creates a USD price for any block in the Bitcoin blockchain, based on BNC's Bitcoin Liquid Index (BLX). Automatically appropriates blockchain transactions with a USD price or technical indicator for traders.

Key Features:

Look up any bitcoin blockchain transaction and receive back a USD value for any transaction.



Built using historic bitcoin price index - the [BNC BLX](#).

API updated every 10 min with a 2 hour delay on latest blocks (due to the nature of Block propagation to ensure avoidance of publishing rates on orphaned blocks).

All rates time-stamped in UTC.



Ability to look up by time-stamp.

Ability to look up by block-height.

Asset Classes: Digital Currencies

Get by: Block-height, Time-stamp or Transaction

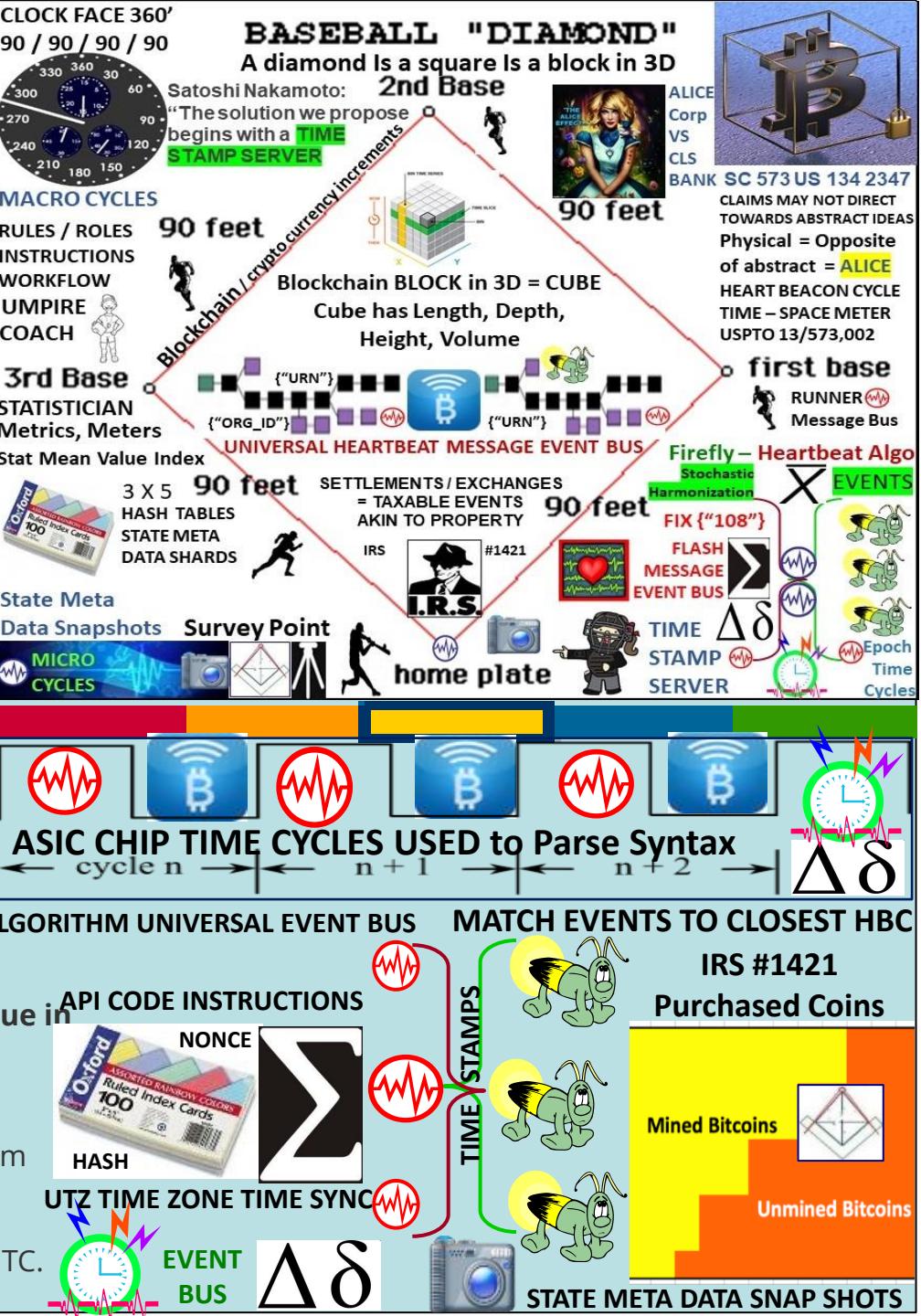
Transaction ID, Block ID, time-stamp, BWAP per block, Value in USD. BTC per transaction, bitcoin transaction fees per transaction.

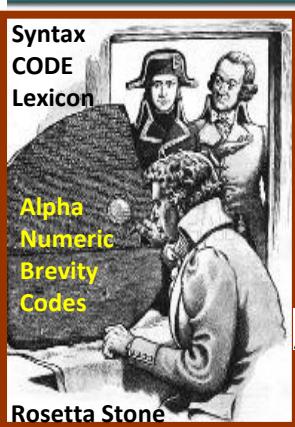
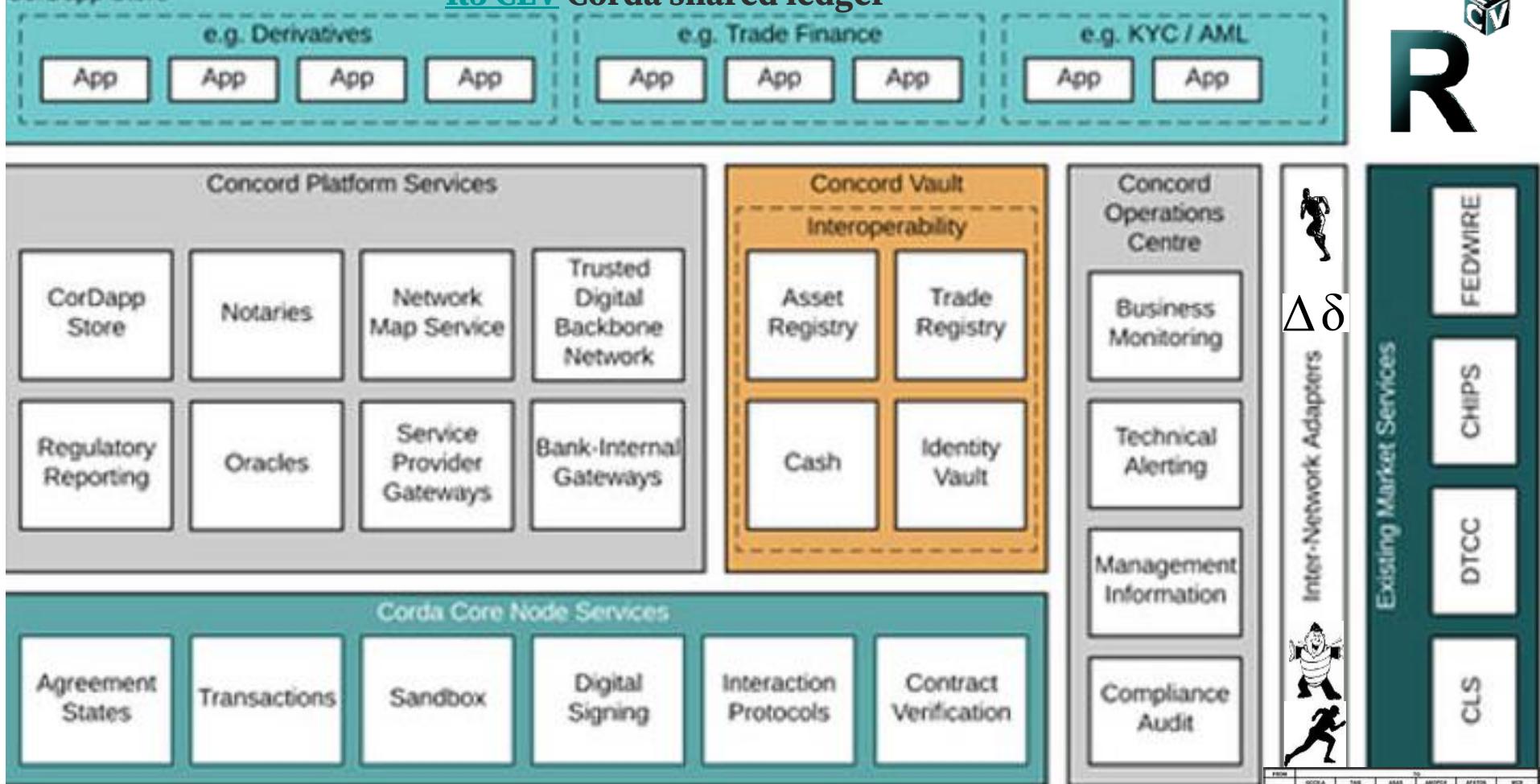
"Blocks are a measure of time":

The Bitcoin Blockchain 'B-WAP'

• Exchanges Covered: Price discovery for the B-WAP comes from utilizing the BNC [Bitcoin Liquid Index](#) (BLX) bitcoin price calculation.

• Historical Rates: This API goes back to 2010-07-17 23:14:35 UTC.





UNIVERSAL EVENT BUS



- Choreographing workflow between firms without a central controller
- Supports inclusion of regulatory & supervisory observer nodes
- Validating transactions solely between parties to the transaction
- Supporting a variety of consensus mechanisms
- Recording explicit links between human-language legal prose documents and smart contract code

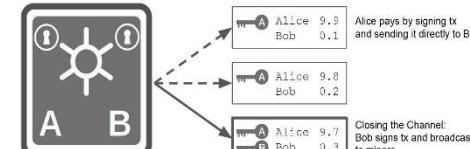
| | Q1Q2A | T4T1A | A2A3A | A4P1C2 | A5A7A8 | W3C |
|--------|-------|-------|-------|--------|--------|------|
| ABAR | F002 | F003 | F004 | F005 | F006 | F007 |
| AMDFES | F008 | F009 | F010 | F011 | F012 | F013 |
| AFATON | F014 | F015 | F016 | F017 | F018 | F019 |
| AFATON | F020 | F021 | F022 | F023 | F024 | F025 |
| AFATON | F026 | F027 | F028 | F029 | F030 | F031 |
| AFATON | F032 | F033 | F034 | F035 | F036 | F037 |
| AFATON | F038 | F039 | F040 | F041 | F042 | F043 |
| AFATON | F044 | F045 | F046 | F047 | F048 | F049 |
| AFATON | F050 | F051 | F052 | F053 | F054 | F055 |
| AFATON | F056 | F057 | F058 | F059 | F060 | F061 |
| AFATON | F062 | F063 | F064 | F065 | F066 | F067 |
| AFATON | F068 | F069 | F070 | F071 | F072 | F073 |
| AFATON | F074 | F075 | F076 | F077 | F078 | F079 |
| AFATON | F080 | F081 | F082 | F083 | F084 | F085 |
| AFATON | F086 | F087 | F088 | F089 | F090 | F091 |
| AFATON | F092 | F093 | F094 | F095 | F096 | F097 |
| AFATON | F098 | F099 | F100 | F101 | F102 | F103 |
| AFATON | F104 | F105 | F106 | F107 | F108 | F109 |
| AFATON | F110 | F111 | F112 | F113 | F114 | F115 |
| AFATON | F116 | F117 | F118 | F119 | F120 | F121 |
| AFATON | F122 | F123 | F124 | F125 | F126 | F127 |
| AFATON | F128 | F129 | F130 | F131 | F132 | F133 |
| AFATON | F134 | F135 | F136 | F137 | F138 | F139 |
| AFATON | F140 | F141 | F142 | F143 | F144 | F145 |
| AFATON | F146 | F147 | F148 | F149 | F150 | F151 |
| AFATON | F152 | F153 | F154 | F155 | F156 | F157 |
| AFATON | F158 | F159 | F160 | F161 | F162 | F163 |
| AFATON | F164 | F165 | F166 | F167 | F168 | F169 |
| AFATON | F170 | F171 | F172 | F173 | F174 | F175 |
| AFATON | F176 | F177 | F178 | F179 | F180 | F181 |
| AFATON | F182 | F183 | F184 | F185 | F186 | F187 |
| AFATON | F188 | F189 | F190 | F191 | F192 | F193 |
| AFATON | F194 | F195 | F196 | F197 | F198 | F199 |
| AFATON | F199 | F200 | F201 | F202 | F203 | F204 |
| AFATON | F204 | F205 | F206 | F207 | F208 | F209 |
| AFATON | F209 | F210 | F211 | F212 | F213 | F214 |
| AFATON | F214 | F215 | F216 | F217 | F218 | F219 |
| AFATON | F219 | F220 | F221 | F222 | F223 | F224 |
| AFATON | F224 | F225 | F226 | F227 | F228 | F229 |
| AFATON | F229 | F230 | F231 | F232 | F233 | F234 |
| AFATON | F234 | F235 | F236 | F237 | F238 | F239 |
| AFATON | F239 | F240 | F241 | F242 | F243 | F244 |
| AFATON | F244 | F245 | F246 | F247 | F248 | F249 |
| AFATON | F249 | F250 | F251 | F252 | F253 | F254 |
| AFATON | F254 | F255 | F256 | F257 | F258 | F259 |
| AFATON | F259 | F260 | F261 | F262 | F263 | F264 |
| AFATON | F264 | F265 | F266 | F267 | F268 | F269 |
| AFATON | F269 | F270 | F271 | F272 | F273 | F274 |
| AFATON | F274 | F275 | F276 | F277 | F278 | F279 |
| AFATON | F279 | F280 | F281 | F282 | F283 | F284 |
| AFATON | F284 | F285 | F286 | F287 | F288 | F289 |
| AFATON | F289 | F290 | F291 | F292 | F293 | F294 |
| AFATON | F294 | F295 | F296 | F297 | F298 | F299 |
| AFATON | F299 | F300 | F301 | F302 | F303 | F304 |
| AFATON | F304 | F305 | F306 | F307 | F308 | F309 |
| AFATON | F309 | F310 | F311 | F312 | F313 | F314 |
| AFATON | F314 | F315 | F316 | F317 | F318 | F319 |
| AFATON | F319 | F320 | F321 | F322 | F323 | F324 |
| AFATON | F324 | F325 | F326 | F327 | F328 | F329 |
| AFATON | F329 | F330 | F331 | F332 | F333 | F334 |
| AFATON | F334 | F335 | F336 | F337 | F338 | F339 |
| AFATON | F339 | F340 | F341 | F342 | F343 | F344 |
| AFATON | F344 | F345 | F346 | F347 | F348 | F349 |
| AFATON | F349 | F350 | F351 | F352 | F353 | F354 |
| AFATON | F354 | F355 | F356 | F357 | F358 | F359 |
| AFATON | F359 | F360 | F361 | F362 | F363 | F364 |
| AFATON | F364 | F365 | F366 | F367 | F368 | F369 |
| AFATON | F369 | F370 | F371 | F372 | F373 | F374 |
| AFATON | F374 | F375 | F376 | F377 | F378 | F379 |
| AFATON | F379 | F380 | F381 | F382 | F383 | F384 |
| AFATON | F384 | F385 | F386 | F387 | F388 | F389 |
| AFATON | F389 | F390 | F391 | F392 | F393 | F394 |
| AFATON | F394 | F395 | F396 | F397 | F398 | F399 |
| AFATON | F399 | F400 | F401 | F402 | F403 | F404 |
| AFATON | F404 | F405 | F406 | F407 | F408 | F409 |
| AFATON | F409 | F410 | F411 | F412 | F413 | F414 |
| AFATON | F414 | F415 | F416 | F417 | F418 | F419 |
| AFATON | F419 | F420 | F421 | F422 | F423 | F424 |
| AFATON | F424 | F425 | F426 | F427 | F428 | F429 |
| AFATON | F429 | F430 | F431 | F432 | F433 | F434 |
| AFATON | F434 | F435 | F436 | F437 | F438 | F439 |
| AFATON | F439 | F440 | F441 | F442 | F443 | F444 |
| AFATON | F444 | F445 | F446 | F447 | F448 | F449 |
| AFATON | F449 | F450 | F451 | F452 | F453 | F454 |
| AFATON | F454 | F455 | F456 | F457 | F458 | F459 |
| AFATON | F459 | F460 | F461 | F462 | F463 | F464 |
| AFATON | F464 | F465 | F466 | F467 | F468 | F469 |
| AFATON | F469 | F470 | F471 | F472 | F473 | F474 |
| AFATON | F474 | F475 | F476 | F477 | F478 | F479 |
| AFATON | F479 | F480 | F481 | F482 | F483 | F484 |
| AFATON | F484 | F485 | F486 | F487 | F488 | F489 |
| AFATON | F489 | F490 | F491 | F492 | F493 | F494 |
| AFATON | F494 | F495 | F496 | F497 | F498 | F499 |
| AFATON | F499 | F500 | F501 | F502 | F503 | F504 |
| AFATON | F504 | F505 | F506 | F507 | F508 | F509 |
| AFATON | F509 | F510 | F511 | F512 | F513 | F514 |
| AFATON | F514 | F515 | F516 | F517 | F518 | F519 |
| AFATON | F519 | F520 | F521 | F522 | F523 | F524 |
| AFATON | F524 | F525 | F526 | F527 | F528 | F529 |
| AFATON | F529 | F530 | F531 | F532 | F533 | F534 |
| AFATON | F534 | F535 | F536 | F537 | F538 | F539 |
| AFATON | F539 | F540 | F541 | F542 | F543 | F544 |
| AFATON | F544 | F545 | F546 | F547 | F548 | F549 |
| AFATON | F549 | F550 | F551 | F552 | F553 | F554 |
| AFATON | F554 | F555 | F556 | F557 | F558 | F559 |
| AFATON | F559 | F560 | F561 | F562 | F563 | F564 |
| AFATON | F564 | F565 | F566 | F567 | F568 | F569 |
| AFATON | F569 | F570 | F571 | F572 | F573 | F574 |
| AFATON | F574 | F575 | F576 | F577 | F578 | F579 |
| AFATON | F579 | F580 | F581 | F582 | F583 | F584 |
| AFATON | F584 | F585 | F586 | F587 | F588 | F589 |
| AFATON | F589 | F590 | F591 | F592 | F593 | F594 |
| AFATON | F594 | F595 | F596 | F597 | F598 | F599 |
| AFATON | F599 | F600 | F601 | F602 | F603 | F604 |
| AFATON | F604 | F605 | F606 | F607 | F608 | F609 |
| AFATON | F609 | F610 | F611 | F612 | F613 | F614 |
| AFATON | F614 | F615 | F616 | F617 | F618 | F619 |
| AFATON | F619 | F620 | F621 | F622 | F623 | F624 |
| AFATON | F624 | F625 | F626 | F627 | F628 | F629 |
| AFATON | F629 | F630 | F631 | F632 | F633 | F634 |
| AFATON | F634 | F635 | F636 | F637 | F638 | F639 |
| AFATON | F639 | F640 | F641 | F642 | F643 | F644 |
| AFATON | F644 | F645 | F646 | F647 | F648 | F649 |
| AFATON | F649 | F650 | F651 | F652 | F653 | F654 |
| AFATON | F654 | F655 | F656 | F657 | F658 | F659 |
| AFATON | F659 | F660 | F661 | F662 | F663 | F664 |
| AFATON | F664 | F665 | F666 | F667 | F668 | F669 |
| AFATON | F669 | F670 | F671 | F672 | F673 | F674 |
| AFATON | F674 | F675 | F676 | F677 | F678 | F679 |
| AFATON | F679 | F680 | F681 | F682 | F683 | F684 |
| AFATON | F684 | F685 | F686 | F687 | F688 | F689 |
| AFATON | F689 | F690 | F691 | F692 | F693 | F694 |
| AFATON | F694 | F695 | F696 | F697 | F698 | F699 |
| AFATON | F699 | F700 | F701 | F702 | F703 | F704 |
| AFATON | F704 | F705 | F706 | F707 | F708 | F709 |
| AFATON | F709 | F710 | F711 | F712 | F713 | F714 |
| AFATON | F714 | F715 | F716 | F717 | F718 | F719 |
| AFATON | F719 | F720 | F721 | F722 | F723 | F724 |
| AFATON | F724 | F725 | F726 | F727 | F728 | F729 |
| AFATON | F729 | F730 | F731 | F732 | F733 | F734 |
| AFATON | F734 | F735 | F736 | F737 | F738 | F739 |
| AFATON | F739 | F740 | F741 | F742 | F743 | F744 |
| AFATON | F744 | F745 | F746 | F747 | F748 | F749 |
| AFATON | F749 | F750 | F751 | F752 | F753 | F754 |
| AFATON | F754 | F755 | F756 | F757 | F758 | F759 |
| AFATON | F759 | F760 | F761 | F762 | F763 | F764 |
| AFATON | F764 | F765 | F766 | F767 | F768 | F769 |
| AFATON | F769 | F770 | F771 | F772 | F773 | F774 |
| AFATON | F774 | F775 | F776 | F777 | F778 | F779 |
| AFATON | F779 | F780 | F781 | F782 | F783 | F784 |
| AFATON | F784 | F785 | F786 | F787 | F788 | F789 |
| AFATON | F789 | F790 | F791 | F792 | F793 | F794 |
| AFATON | F794 | F795 | F796 | F797 | F798 | F799 |
| AFATON | F799 | F800 | F801 | F802 | F803 | F804 |
| AFATON | F804 | F805 | F806 | F807 | F808 | F809 |
| AFATON | F809 | F810 | F811 | F812 | F813 | F814 |
| AFATON | F814 | F815 | F816 | F817 | F818 | F819 |
| AFATON | F819 | F820 | F821 | F822 | F823 | F824 |
| AFATON | F824 | F825 | F826 | F827 | F828 | F829 |
| AFATON | F829 | F830 | F831 | F832 | F833 | F834 |
| AFATON | F834 | F835 | F836 | F837 | F838 | F839 |
| AFATON | F839 | F840 | F841 | F842 | F843 | F844 |
| AFATON | F844 | F845 | F846 | F847 | F848 | F849 |
| AFATON | F849 | F850 | F851 | F852 | F853 | F854 |
| AFATON | F854 | F855 | F856 | F857 | F858 | F859 |
| AFATON | F859 | F860 | F861 | F862 | F863 | F864 |
| AFATON | F864 | F865 | F866 | F867 | F868 | F869 |
| AFATON | F869 | F870 | F871 | F872 | F873 | F874 |
| AFATON | F874 | F875 | F876 | F877 | F878 | F879 |
| AFATON | F879 | F880 | F881 | F882 | F883 | F884 |
| AFATON | F884 | F885 | F886 | F887 | F888 | F889 |
| AFATON | F889 | F890 | F891 | F892 | F893 | F894 |
| AFATON | F894 | F895 | F896 | F897 | F898 | F899 |
| AFATON | F899 | F900 | F901 | F902 | F903 | F904 |
| AFATON | F904 | F905 | F906 | F907 | F908 | F909 |
| AFATON | F909 | F910 | F911 | F912 | F913 | F914 |
| AFATON | F914 | F915 | F916 | F917 | F918 | F919 |
| AFATON | F919 | F920 | F921 | F922 | F923 | F924 |
| AFATON | F924 | F925 | F926 | F927 | F928 | F929 |
| AFATON | F929 | F930 | F931 | F932 | F933 | F934 |
| AFATON | F934 | F935 | F936 | F937 | F938 | F939 |
| AFATON | F939 | F940 | F941 | F942 | F943 | F944 |
| AFATON | F944 | F945 | F946 | F947 | F948 | F949 |
| AFATON | F9 | | | | | |



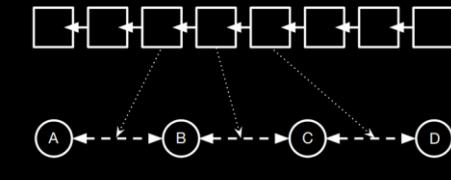
**transactions sent over / off chain
micropayment channels**

Micropayment Channels

Setup: Alice creates transaction with 10 bitcoin to a 2-of-2 multisig with Bob



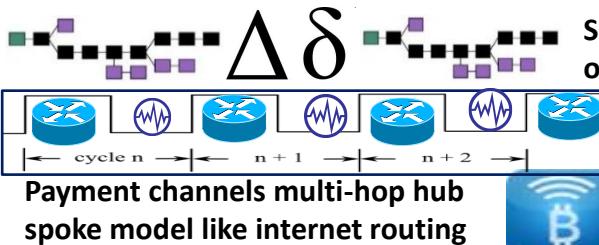
LIGHTNING



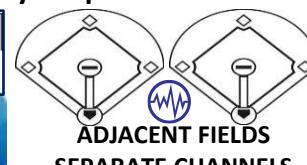
Millions of Transactions. Milliseconds of Delay.

Hashed TIME LOCK contracts component for global consensus

OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/ Random # BEACON



Server nodes, miners
only keep recent blocks



Sync Delta
State Meta
Data Snaps

FIREFLY – HEARTBEAT ALGORITHM



FIREFLY – HEARTBEAT



EVENT REPORTING
ACROSS TIME-SPACE



$\Delta\delta$



MESSAGE EVENT BUS

CLOCK FACE 360'
90 / 90 / 90 / 90



MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW

UMPIRE

COACH

3rd Base

STATISTICIAN

Metrics, Meters

Stat Mean Value Index

3 X 5

HASH TABLES

STATE META

DATA SHARDS

State Meta

Data Snapshots

Survey Point

MICRO CYCLES

BASEBALL "DIAMOND"
A diamond Is a square Is a block in 3D
2nd Base

Satoshi Nakamoto:
"The solution we propose
begins with a TIME
STAMP SERVER"

MACRO CYCLES

90 feet

Blockchain / cryptocurrency increments

Blockchain BLOCK in 3D = CUBE

Cube has Length, Depth,

Height, Volume

Time Time

Time Place

Time Bin

Blockchain BLOCK in 3D = CUBE

Cube has Length, Depth,

Height, Volume



ALICE Corp
VS CLS BANK

SC 573 US 134 2347

CLAIMS MAY NOT DIRECT

TOWARDS ABSTRACT IDEAS

Physical = Opposite

of abstract = ALICE

HEART BEACON CYCLE

TIME – SPACE METER

USPTO 13/573,002

first base

RUNNER Message Bus

firefly – Heartbeat Algo

X EVENTS

SETTLEMENTS / EXCHANGES

= TAXABLE EVENTS

AKIN TO PROPERTY

IRS #1421

I.R.S.

Fix "108"

FLASH MESSAGE

EVENT BUS

TIME STAMP SERVER

$\Delta\delta$

Epoch Time Cycles



Electronic Product Code Information Services (EPCIS) GS1 Standard for creating, sharing visibility event data

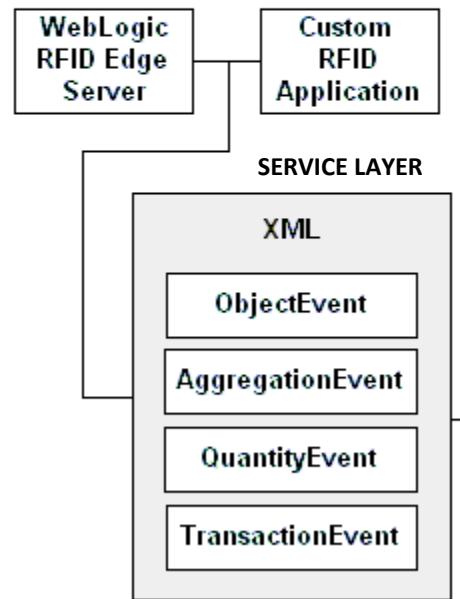


HBC
SYSTEM OF SYSTEMS
TIME-SPACE SYNC

UNIVERSAL EVENT BUS

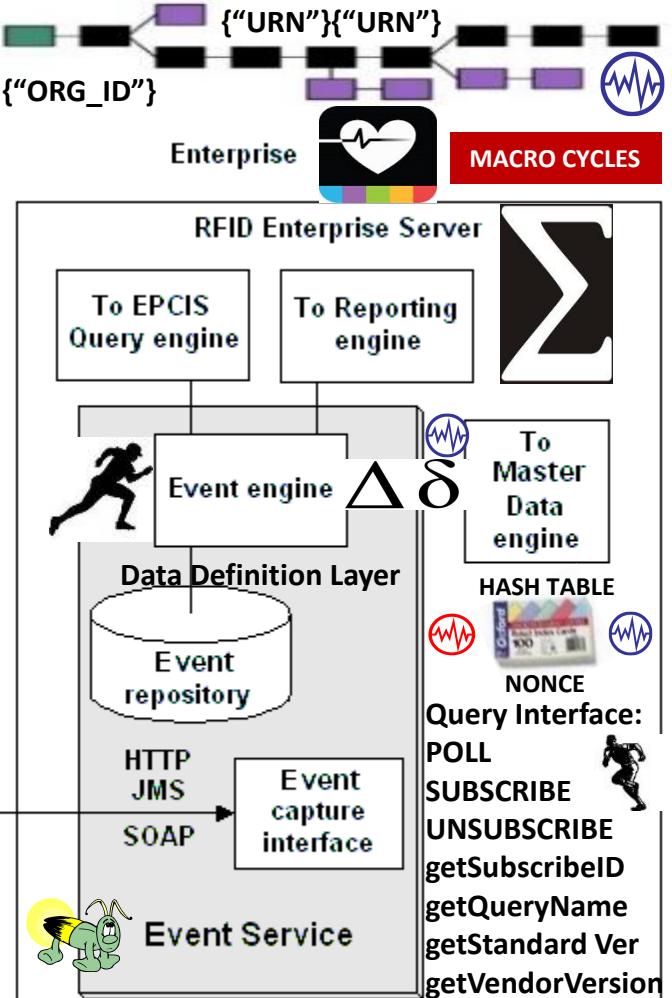


EPCIS
EPCIS DATA MODEL



Core Business Vocabulary (CBV)

- What identifiers of object(s) or entities / subject of the event
- When date time when event took place, local time zone in effect
- Where location identifier where event occurred, identifier of location where object(s) are expected to be following the event
- Why Information about the business context, including:
 - a Identifier that indicates the business step taking place



CLOSER IS CHEAPER

CLOSER IS FASTER

| F002 | F014 | D830 | D851 | C002 | F002 | C002 | C400 | C400 | E400 | A423 | C002 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| F015 | F541 | F002 | F014 | F014 | F015 | F002 | F014 | F002 | F014 | C120 | C203 |
| | | F015 | F541 | S303 | F015 | F541 | F015 | F541 | C400 | C443 | |

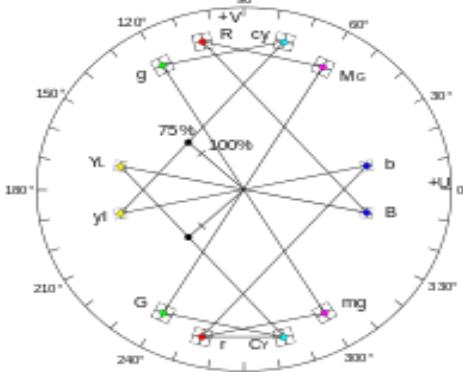
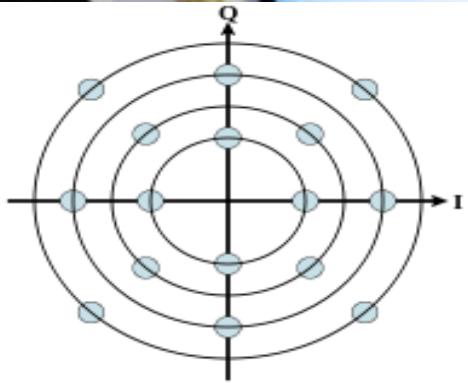
The image is a collage. In the bottom left corner, there is a black and white portrait of a woman wearing a dark blazer, a white collared shirt, and a dark bow tie; she also wears a dark cap with a prominent gold-colored rank insignia. To the right of her is a rectangular frame containing a sketch of two men from the chest up. The man on the left wears a tall, cylindrical hat and a dark coat. The man on the right has powdered hair and wears a white cravat and a dark coat. Below these images is a grid of text. The top row contains 'BIZ' in the first column and 'ALPHA NUMERIC' in the second. The middle row contains 'USE' in the first column and 'BREVITY CODES' in the second. The bottom row contains 'CASES' in the first column and 'SYNTAX LEXICON CODE GUIDE' in the second.

!st Compiler DESIGN Still the **BEST**





www.RLighthouse.com



Quadrature amplitude modulation

QAM by setting a suitable constellation size, limited only by the noise level and linearity of the communications channel

“Similarly, the electromagnetic force will also be found to vary continuously and retain a TIME-AVERAGED value”

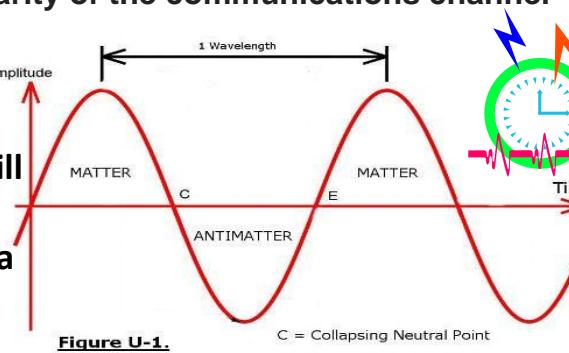
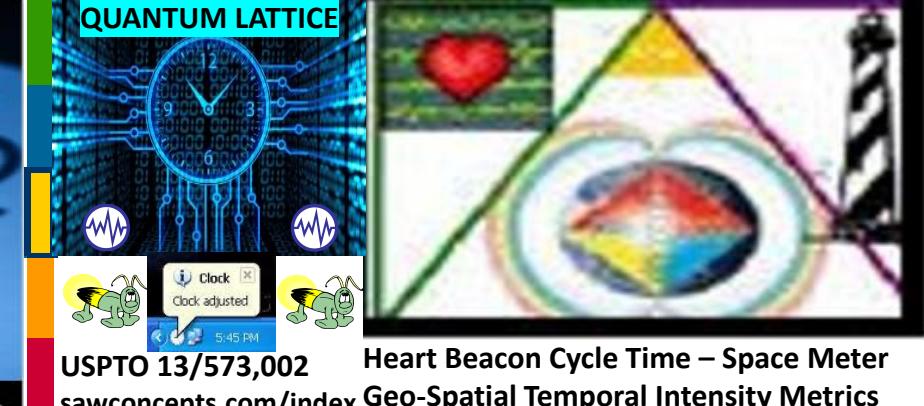


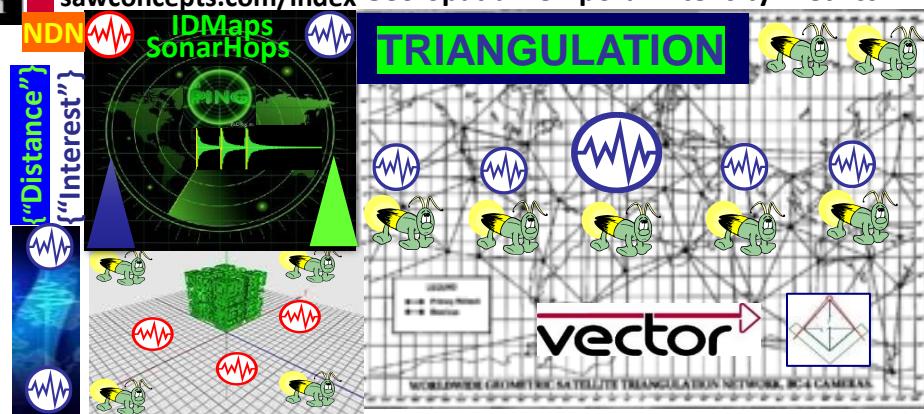
Figure U-1.

E = Expanding Neutral Point

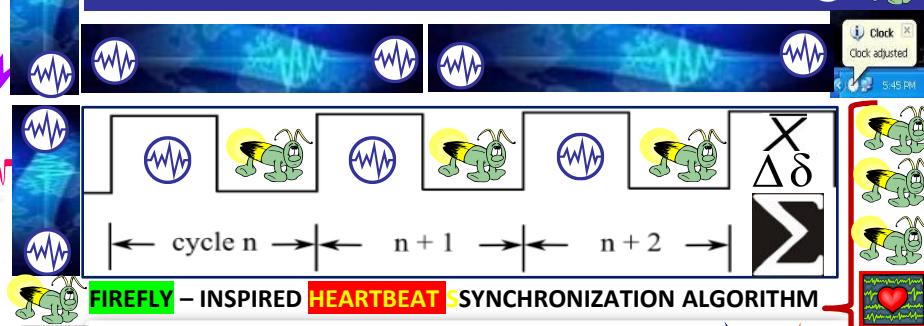
Sine wave of our blinking universe. The 4 fundamental forces will all be found to vary continuously when sampled at 2x the blinking frequency, per Nyquist-Shannon theory



Heart Beacon Cycle Time – Space Meter Geo-Spatial Temporal Intensity Metrics



IDMaps assists Network Time Protocol (NTP) servers establish long term peering relationships    



“LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE”

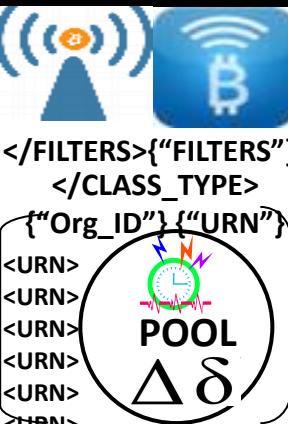


TERRA
TRC

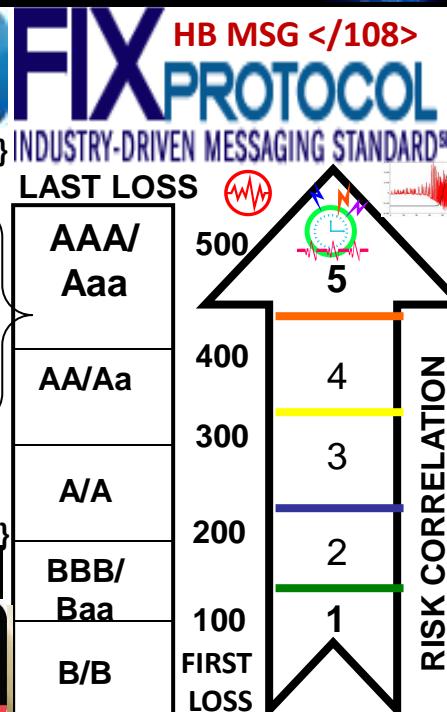
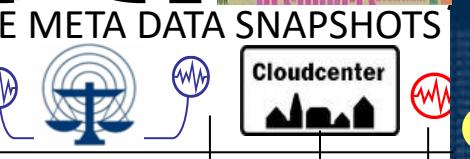
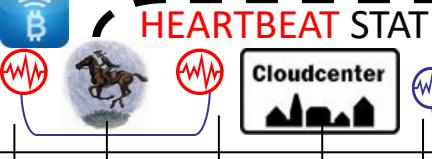
ECONOMIC HEARTBEAT



HB MSG </108>
PROTOCOL



INDUSTRY-DRIVEN MESSAGING STANDARD



IEEE 802.15.4 OASIS MQTT
TELEMETRY TRANSPORT

IEEE 802.1AG HOP BY HOP
DETECTION
IEEE 802.11 HOP BY HOP CONTROL
Paul Revere Linear, Sequential

Bitcoin = Property
IRS Memo #1421

% Block Mined
% Block owned
Mined Bitcoins
Unmined Bitcoin:
 $\Delta\delta$ Land Use Meme



PROCESS BY </PRECEDENCE>
SonarMaps ID_Hops

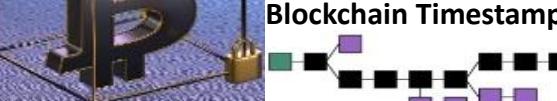
ON OFF SHORE
GEO LOC LAT / LONG
PING



NDN
ON / OFF SHORE
PROXIMITY BEACONS

Demurrage Charges
vector

DATE TIME STAMP
NDN </INTEREST>
NDN {"DISTANCE"}



NDN
HOPS / RADIUS = REACHABILITY
ERLANG

WATER DROP IN POND MEME AREA RADIUS
</FILTERS>

BY ORG ID / URN
NDN </INTEREST>
</DISTANCE>



Closer = Cheaper
Closer = < Fuel

WATER DROP IN POND MEME AREA RADIUS
</FILTERS>

BY ORG ID / URN
NDN </INTEREST>
</DISTANCE>



Closer = Cheaper
Closer = < Fuel

WATER DROP IN POND MEME AREA RADIUS
</FILTERS>

BY ORG ID / URN
NDN </INTEREST>
</DISTANCE>



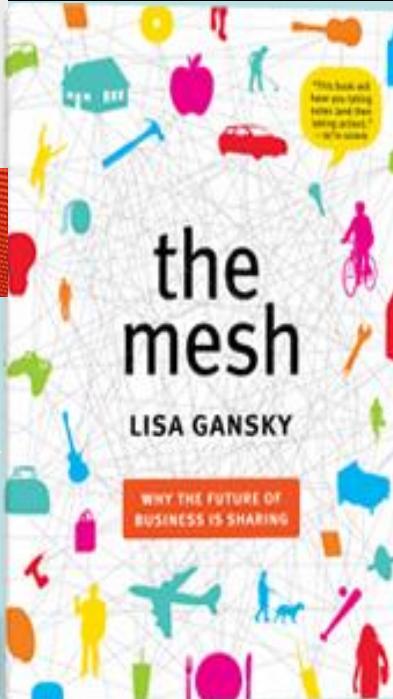
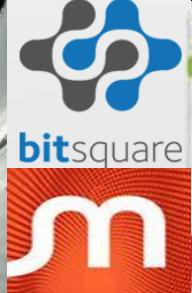
Closer = Cheaper
Closer = < Fuel



COINTELEGRAPH
live cryptocurrency community opinion



Decentralized Exchange Meets Decentralized Crowdfunding



A decentralized exchange called BitSquare has launched a campaign on the decentralized crowd funding app Lighthouse. Its campaign is simultaneously an example of how powerful decentralized crowd funding is, and how difficult running a successful campaign is... segue to the MESH ECONOMY

The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC.



Autonomous Device Coordination Framework



Rules of engagement
FEDERATION AGREEMENTS
PROCEDURAL TEMPLATE

Registration

Authentication

Proximity based rules

Consensus based rules

Contracts

Checklists

FEDERATION

<UUID> <ORG_ID> <URN>

LDAP DIRECTORY

Physical proximity

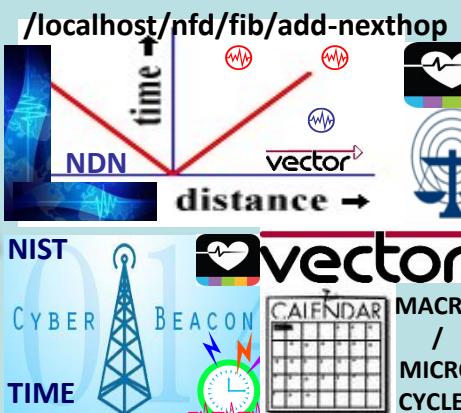
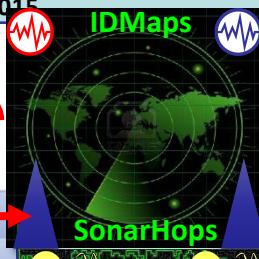
Social proximity

Temporal proximity

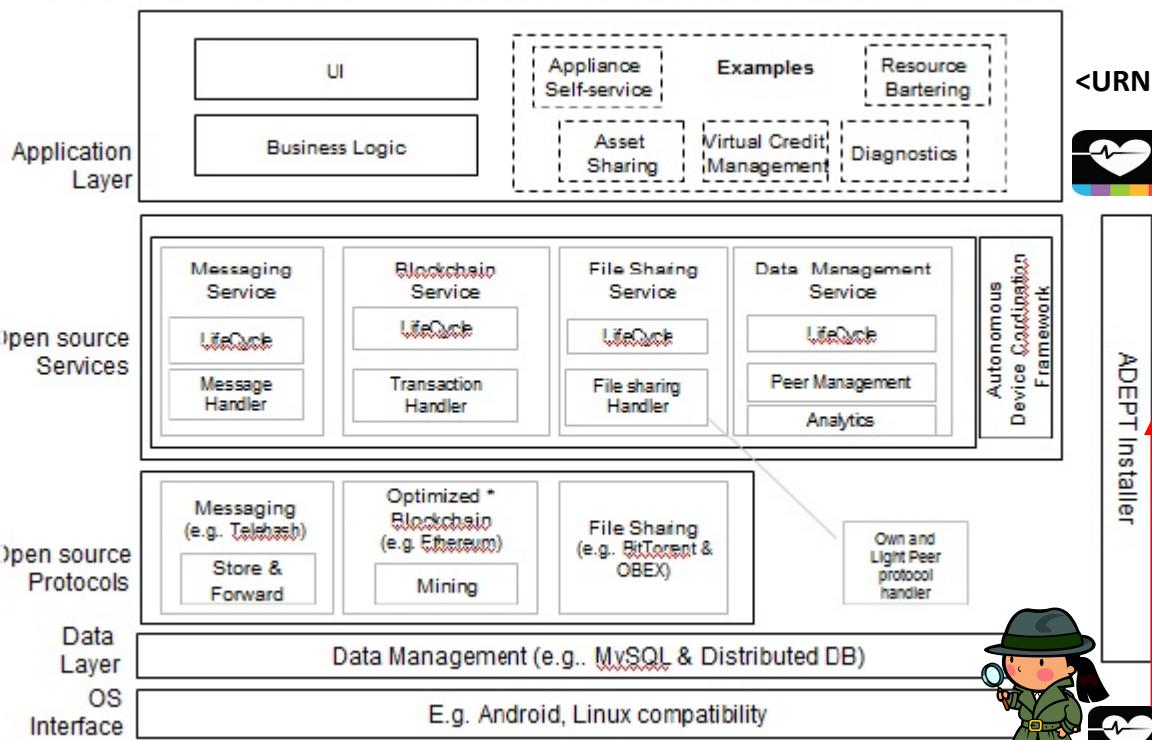
Agreements

Payments

Barter



ADEPT Standard Peer Architecture – Logical View



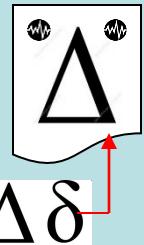
PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS

<URN> DESCRIBES COMMODITIES ETC BY UNIFORM RESOURCE NAME BY </INTEREST>>



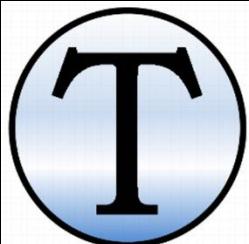
ASSET SHARING WITHIN FEDERATION

BUSINESS LOGIC = WORKFLOW <XML_Wf>



OPEN SOURCE = HBC = PROTOCOL AGNOSTIC

DATA LAYER: STATE META DATA TIME STAMPED BY <UUID><ORG_ID><URN> & DATA PREPPED & "DATA WRANGLED PRIOR TO FUSION CENTER ENHANCED ANALYTICS / PROTECTS BANDWIDTH



Three ideas combined

HOW TRUTHCOIN WORKS:

1) Tradable Reputation

- Abstract Corp exists to prove consistency within / across TIME
- Collects \$ to power the mechanism.

2) SVD Cross-Validation

- Statistical technique: seeks importance.
- Gleans truth, measures conformity.



3) Strategic Use of TIME

- Funds can be ‘locked’ across time.
- Yet info-search-costs constantly fall.
- Net effect: time penalizes attackers only.

2. A kind of ‘Future Wikipedia’

| | Wikipedia | Truthcoin |
|-------|--|--|
| Focus | Outcomes of <i>past</i> events. Consensus on known facts. | Outcomes of <i>future</i> events. <i>Future</i> consensus on <i>knowable</i> facts. |

| Finance Thing | Interpretation | EVENT DERIVATIVE CORP = <Org_ID_1,2,3> |
|--------------------|--|---|
| Bond (Debt) | “I, Paul Sztorc, owe \$20 to whoever is holding this bond certificate on 03/02/2015.” | |
| Stock (Equity) | “I, the CEO of SztorcCorp, owe 1/100 th of SztorcCorp’s profits to whoever is holding this stock certificate on 03/02/2015.” | |
| Binary Call Option | “I, Paul Sztorc, owe \$20 to whoever is holding this Option on 03/02/2015, <u>only if</u> the stock price of SztorcCorp is above 40 \$/share on that date.” | |
| ...(others)... | ...(others)... | ...(others)... |
| Event Derivative | “I, Paul Sztorc, owe \$20 to whoever is holding this derivative on 12/01/2016, <u>only if</u> Hillary Clinton is elected US President in 2016. Otherwise I owe \$0.” | ...(others)... |
| ...(others)... | ...(others)... | ...(others)... |

3. A software protocol

A protocol is a set of rules that determine how something is performed or accomplished



| Protocol (Decentralized) | Centralized Non-Protocol |
|----------------------------|--|
| Spoken English | Shakespeare’s Globe Theatre, The Library of Alexandria, MLA Citation Format, Walt Whitman, J.K. Rowling. |
| Rules to American Football | The NFL, ESPN, The Buffalo Bills. |
| Bluetooth | A Set of Stereo Speakers, The iPhone 6, A Car Radio Equipped with Bluetooth |
| Bitcoin | VISA, PayPal, SWIFT, Western Union, Airline Miles, Amazon Coins, e-Gold, Liberty Reserve. |

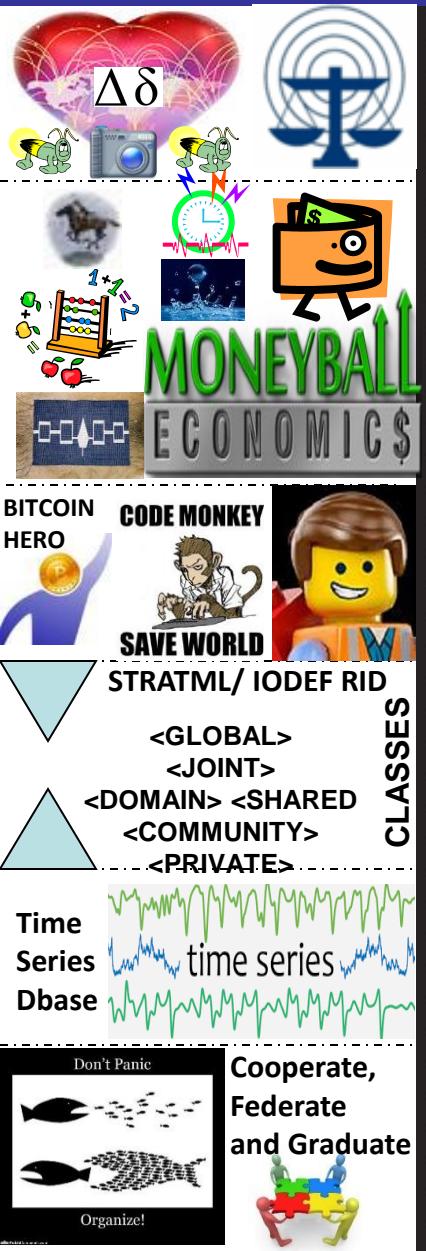
How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

$$MV=PQ \text{ Money} \times \text{Velocity} = \text{Price} \times \text{Quantity}$$

The most important equation in monetary economics, the equation of exchange: $MV=PQ$. The quantity of money (M) times the rate spent (V for velocity) equals the price of everything bought (P) times the amount bought (Q for quantity). In Bitcoin, M Money is on a predetermined path, converging to 21m bitcoins. In relation to the other variables, Bitcoin is fixed. V, P, & Q fluctuate



Gamification is the use of game thinking and game mechanics in non-game contexts to engage users in solving problems. Gamification techniques strive to leverage people's natural desires for competition, achievement, status, self-expression, altruism, closure.



HOW GAMIFICATION WORKS:

5 COMMON MECHANICS

POINTS

100 PT

Measure a user's achievements in relation to others
Can double as currency to exchange for rewards

BADGES

Reward achievements visually

LEVELS

Encourage users to progress and unlock new rewards

LEADERBOARDS

Organise players by rank

CHALLENGES

Encourage engagement by offering specific tasks to complete

4 MAIN WAYS TO DRIVE ENGAGEMENT

ACCELERATED FEEDBACK CYCLES

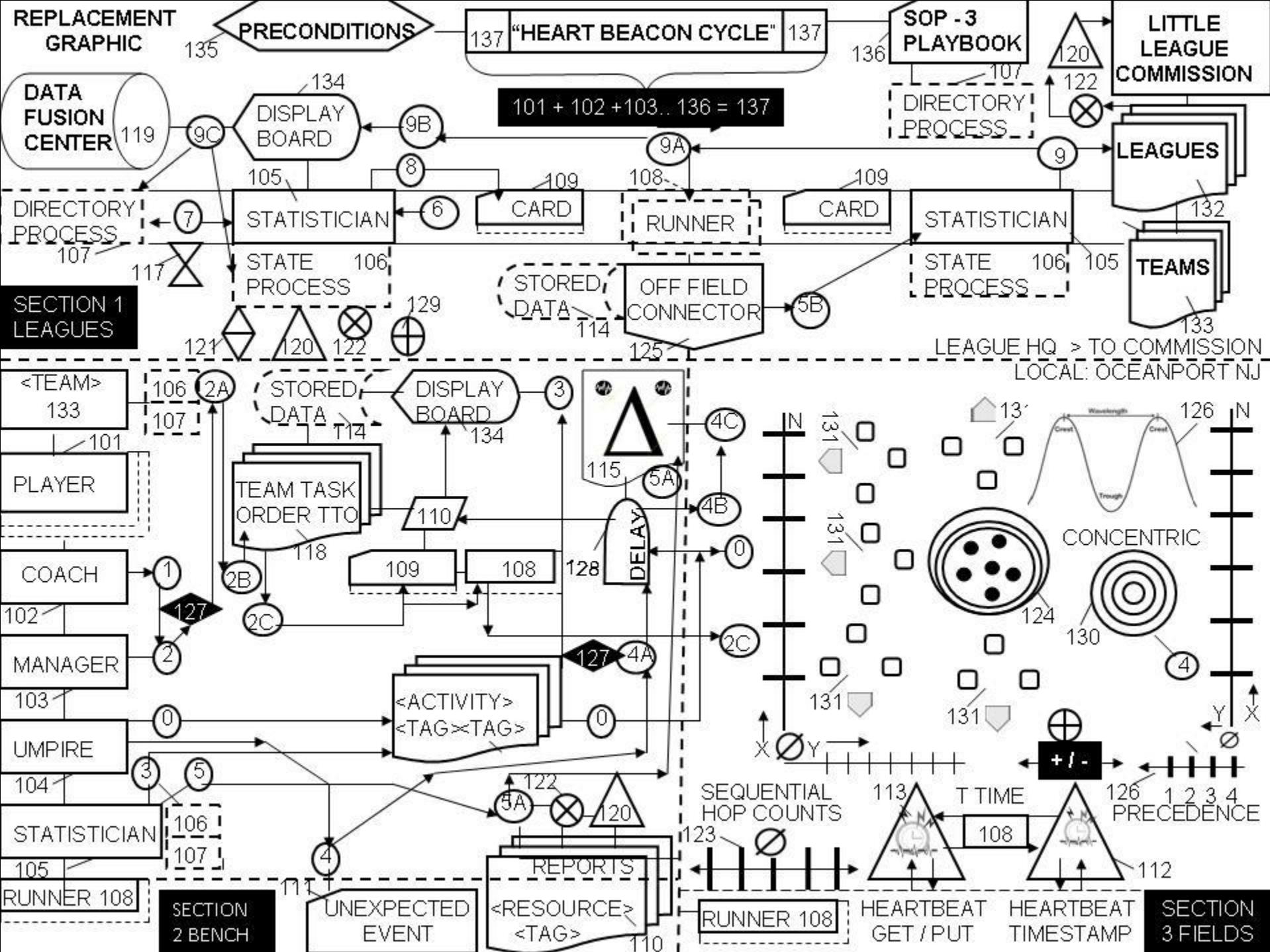
CLEAR GOALS AND RULES OF PLAY

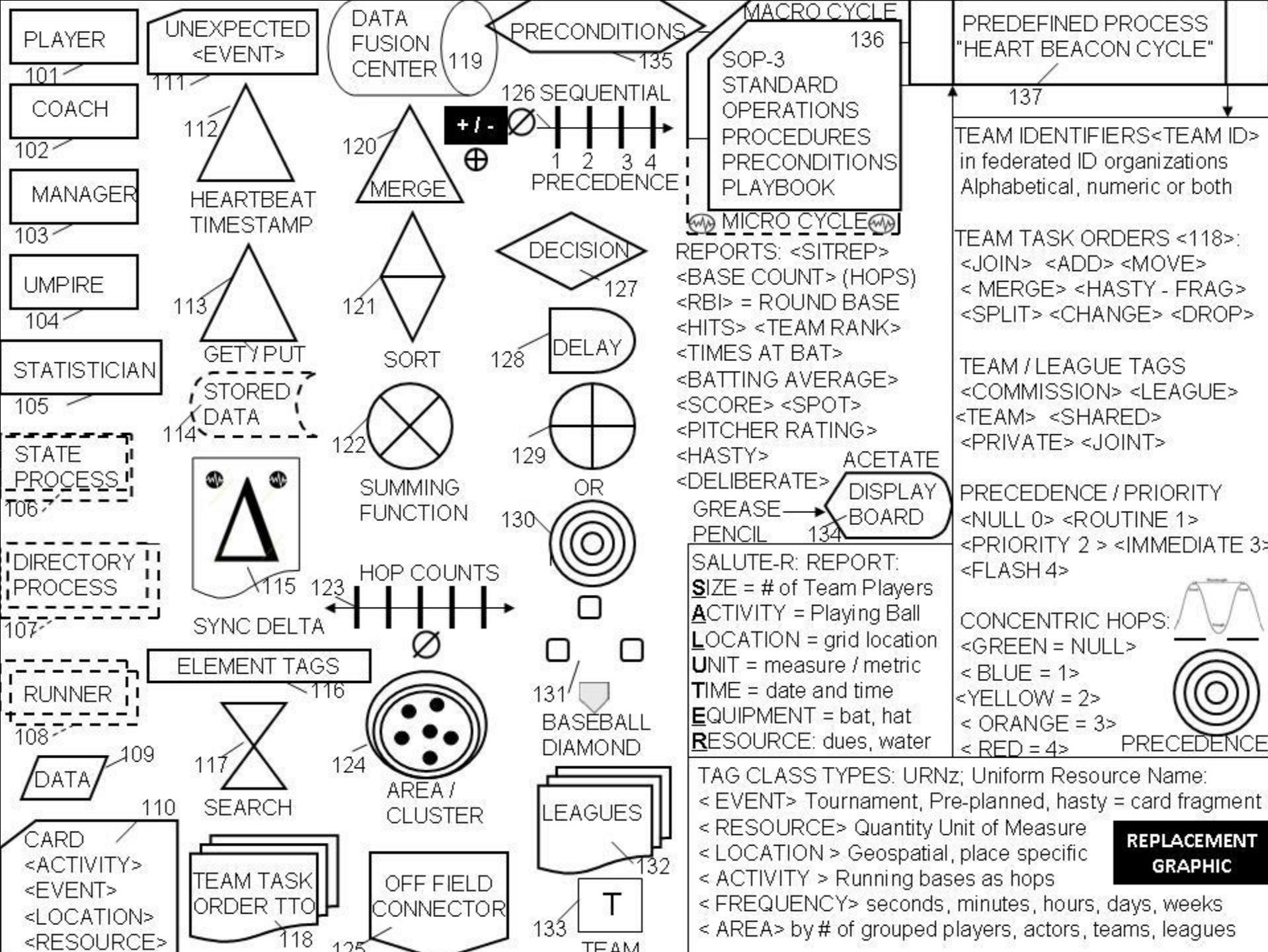
A COMPELLING NARRATIVE

CHALLENGING BUT ACHIEVABLE TASKS









BUILDING BLOCKS



TASK ON / OFF

201

B1: BUILDING BLOCK 1: TCP/IP HEARTBEAT TIME STAMP & DATA GET / PUT OF ORG ID / URN IN MICRO / MACRO CYCLES PRIOR TO DATA FUSION CENTER INSERTION



MACRO CYCLES



.0001

MICRO CYCLES
216

219

CLOUD COMPUTING



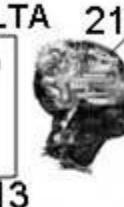
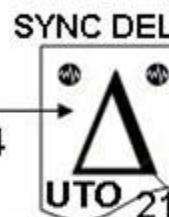
218

202 FEDERATED GROUP JOINS, MERGE, ADDS, DROPS

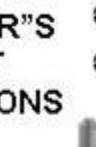
B2: BUILDING BLOCK 2: ADAPTIVE, CYCLIC, ITERATIVE PROCEDURAL TEMPLATES: XML ARTIFACTS i.e. UNIT TASK ORDER & K00.99 HEARTBEAT SYNC DELTA MESSAGES / STATE META DATA SNAPSHOTS IN NETWORK EXECUTION MANAGEMENT MARKUP OF SERVICE INTERFACE ARTIFACTS



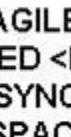
214



215 LEADER'S INTENT DECISIONS



ADHOC / AGILE FEDERATED <ID> GROUPS SYNC'D IN TIME / SPACE



212



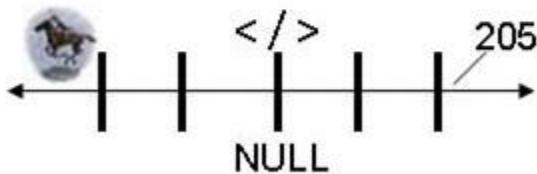
210 SNAPSHOTS

203

B3: BEACON TECH TYPE I: PAUL REVERE LINEAR, SEQUENTIAL HOP COUNTS



SYNC DELTA METRICS IN SLA CLAUSES AS MOE, MOP METER IN TAX CODES, TRANCHE CLASSES / RATINGS ARBITRAGE TRIGGERS



LENGTH, THRESHOLD, INTENSITY, DURATION



SEARCH FOLLOWED BY ARBITRAGE INVITES VIA BEACON NEWSCASTS. INVITE ACROSS SPACE / TIME



APPLIQUE' OVERLAYS



MAP VIEWS GEO-LOCATION SPECIFIC SHOW SYNC DELTAS BY GROUP / RESOURCE TYPE, EVENT CLASS / NEWSCAST BY TRANCHE <CLASSES>

204

B4 BEACON TECH TYPE II: WATER DROP IN POND RADIUS, CIRCUMFERENCE GEO SPATIO-TEMPORAL

NIST RANDOMNESS BEACON: broadcast full-entropy bit-strings in blocks of 512 bits every 60 seconds. Each value is time-stamped, signed, & includes hash of previous value to chain sequence of values together. This prevents all, even the source, from retroactively changing an output packet without being detected. The beacon keeps all output packets and makes them available online. 1st, Beacon-generated numbers cannot be predicted before they are published. 2nd, public, Beacon's time-bound, authenticated nature of the Beacon proves true random numbers not known before a certain point in time. 3rd, this proof can be presented offline at any point in the future



NIST QUANTUM ENCRYPTION RANDOMIZATION BEACON

UNPREDICTABLE SAMPLING

SECURE AUTHENTICATION

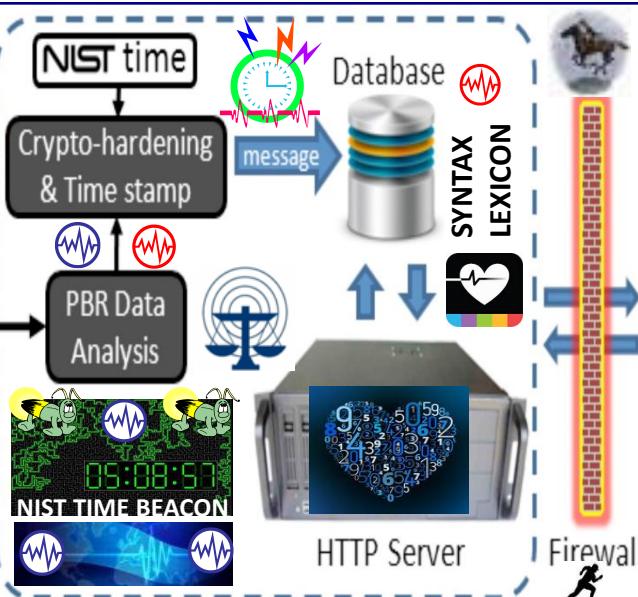
SECURE MULTI

PARTY /
AUTHENTICATION

Entanglement
Source

RANDOM
NUMBER
GENERATOR

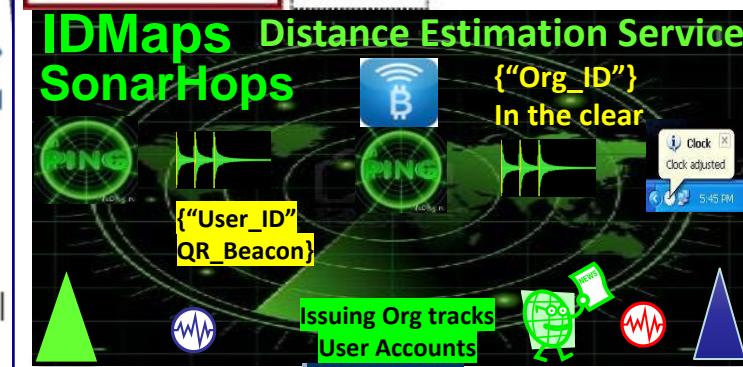
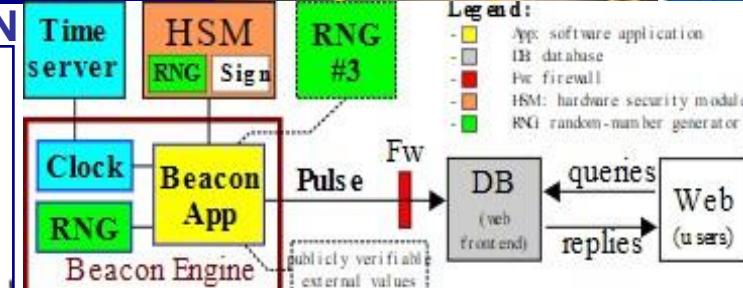
Bell
Test



NIST

**NON
REPUDIATION**

Legend:
■ App: software application
■ DB: database
■ Fw: firewall
■ HSM: hardware security module
■ RNG: random-number generator



USPTO 13,573,002 Heart Beacon Cycle Geo-spatial, temporal Intensity

Metrics and Time - Space Meter uses PHYSICAL Memes / Metaphors

**NAMED DATA
NETWORKING**



NDN
 </Interest>
 </Distance>

SURVEY METHODS + TRIANGULATION

Euclidian Geometry

Geodesic System Routing Info Base RIB

ACCOUNT BELONGS TO </Org_ID>

RESOURCE TYPE: <URN><URN><URN>

DEVICE / SENSORS <UUID><UUID>

Higher-level services collect distance data to build virtual distance map of Internet & estimates distance between any IP address pair

Time / Distance Metrics



PROXIMITY

OFFSHORE BEACONS ONSHORE



NDN

</interest></distance>

NDN

</interest></distance>

The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC. **Stochastic Harmonization**

Firefly-Heartbeat Algorithm
UNIVERSAL TIME ZONE SYNC UTC

Sync Events to
Closest HBC

{"USER_ID"} + QRB

{"INTEREST"} {"ORG_ID"} {"URN"}

AGGREGATE, SUM
STAT MEAN VALUE INDEX

EVENT BUS

{"DISTANCE"} {"INTEREST"} {"ORG_ID"} {"URN"}

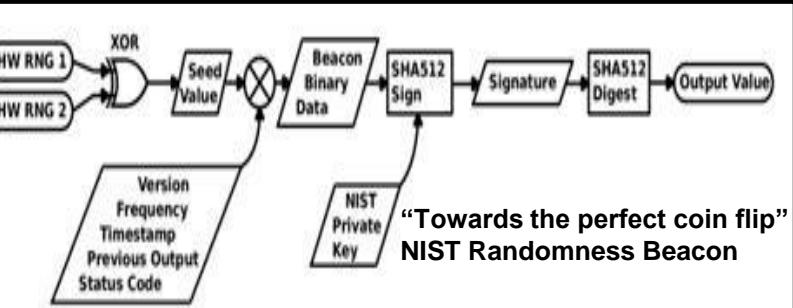
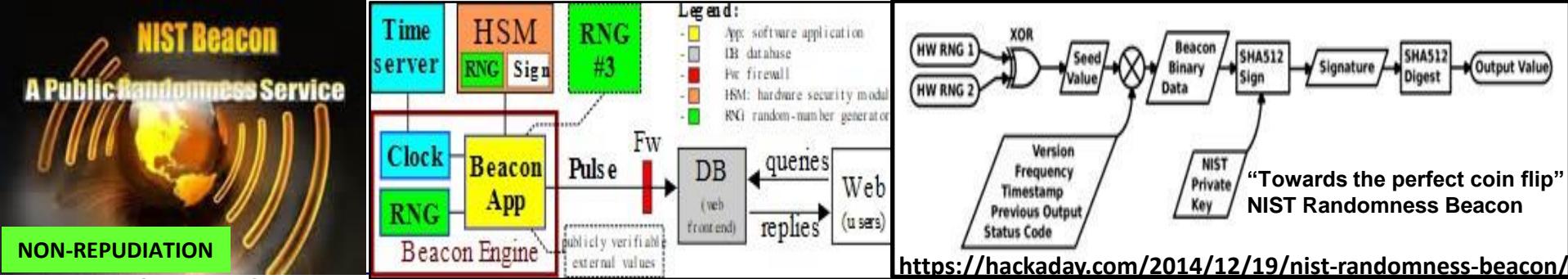
On Off Shore

I.R.S. #1421 {"Org_ID"} In clear

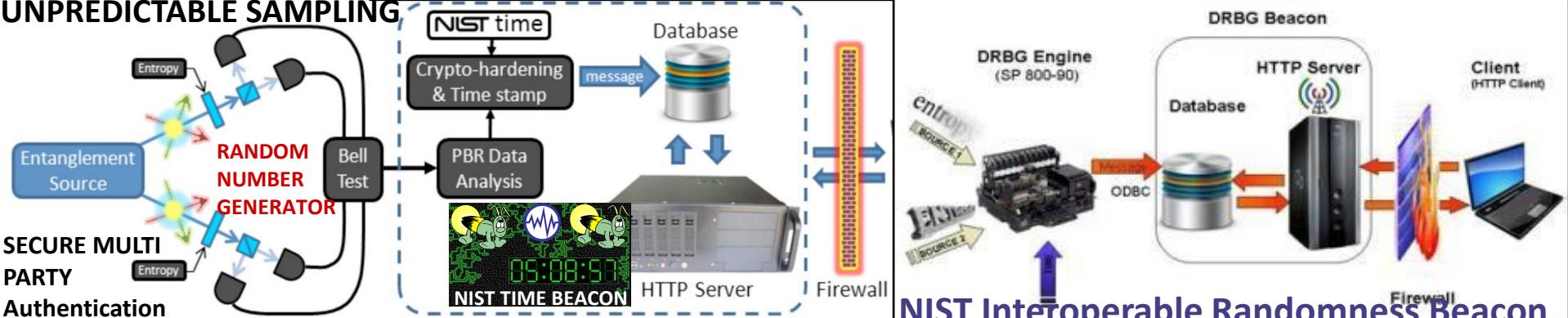
IRS {"Org_ID"} In clear

IRS {"Org_ID"} In clear

The proposed Universal Timezone System would do away with all these different



<https://hackaday.com/2014/12/19/nist-randomness-beacon/>



NIST Interoperable Randomness Beacon

The NIST Randomness Beacon Broadcasts a randomness pulse every 60 seconds. Each pulse commits to a fresh 512-bit random string. Each pulse is time-stamped and signed. Beacon periodically outputs a pulse containing 512 fresh random bits, time-stamped, signed and hash-chained. For example, each pulse also pre-commits to the randomness to be released in the next pulse. The latter enables users to securely combine randomness from different beacons. The Beacon protocol also specifies the interface for users to interact with the Beacon, in order to obtain information about past pulses.

A randomness beacon produces timed outputs of fresh public randomness. Each output, called a pulse, includes metadata / cryptographic elements

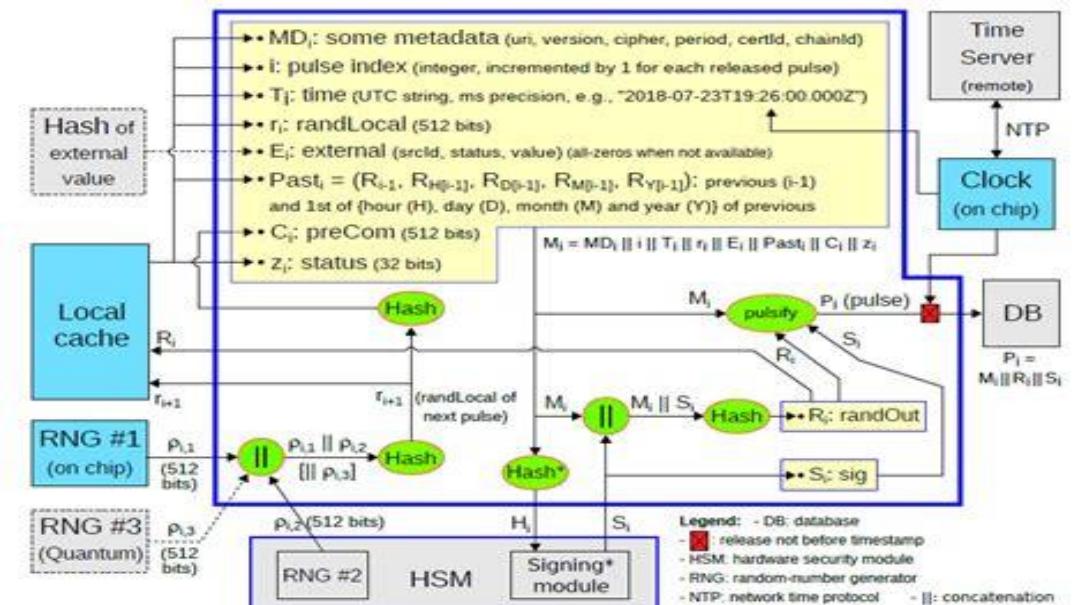
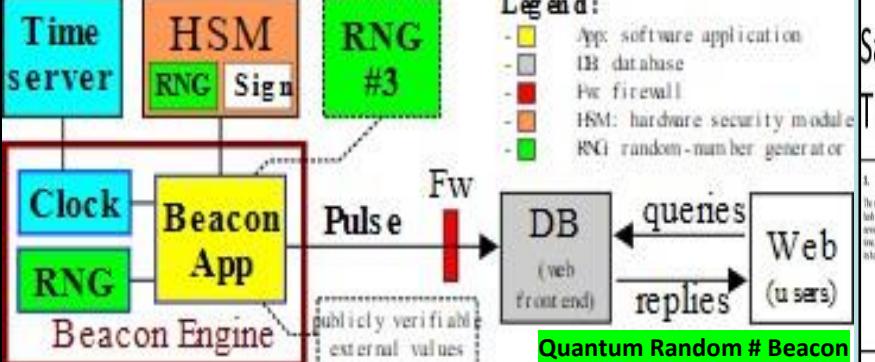


Figure 2. Illustration of the generation of the i^{th} pulse by a Beacon App (2.0)

The main goal of the NIST Random # Beacon is to serve as a baseline for deployment of many interoperable beacons

ALL THINGS NET FORMED WITH: Building Blocks:
 1) EPOCH TIME CYCLES
 2) SYNTAX / Opcode Brevity codes Programmable Economy / \$\$\$

NIST Quantum Random Number Beacon



"The external environment could update resources at random..."



One solution is a **heartbeat**: defining a default lease duration delaying updates until the next **cycle**"



QubitCoin Interval: Every 30 Seconds

The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC. **INCENTIVIZE ECO-FRIENDLY TRANSACTIONS**

ENVIRONMENT FRIENDLY ECO INCENTIVES

["INTEREST"]
["DISTANCE"]

NDN
FIREFLY HEARTBEAT ALGORITHM

HEARTBEAT {108"} MESSAGES



Satoshi Bitcoin Blockchain Time Stamp Server

1. Timestamp Server

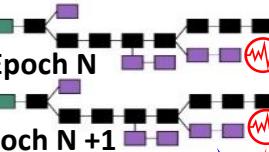
The solution we propose begins with a timestamp server. A timestamp server works by taking a batch of a block of times to be timestamped and widely publishing the batch, such as in a newspaper or online post [3]. The timestamp proves that the data must have existed in the system already, therefore it can't be forged. Each timestamp includes the previous timestamp in its hash, forming a chain, with each additional timestamp confirming the previous one.



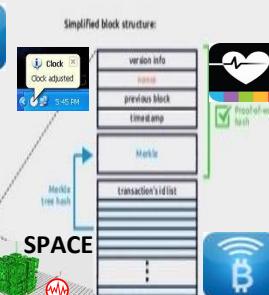
NIST TIME BEACON Metrics / Meters

(An internal previous block of 1 and timestamp block is timestamped directly after the previous block was included in the block's merkle tree.)

It's a timestamped block of 1 and timestamp block is timestamped directly after the previous block was included in the block's merkle tree.



What does a block look like?



ALGORITHMIC REGULATION HEARTBEAT SYNC DELTAS

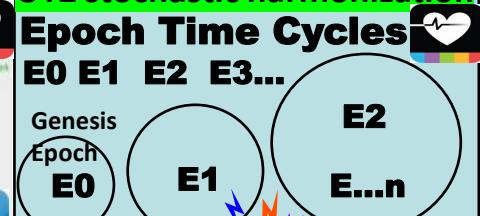


PROOF of SPACE-TIME
Firefly - Heartbeat Sync Algorithm
Heartbeat Event Message Bus

UTZ stochastic harmonization

Epoch Time Cycles

E0 E1 E2 E3...



Structured Data Exchange

ROSETTA ("Org_ID"){"URN"}
STONE
BREVITY
CODES



Attribute Series

Time Series

300 + Message Sets

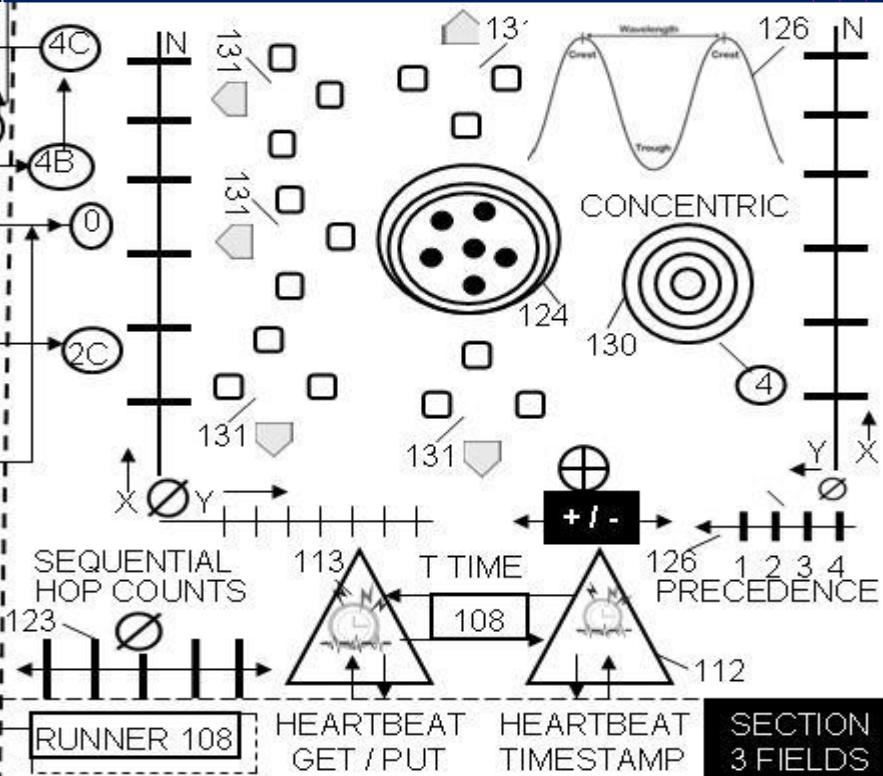
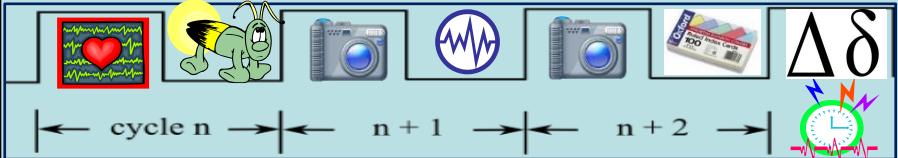
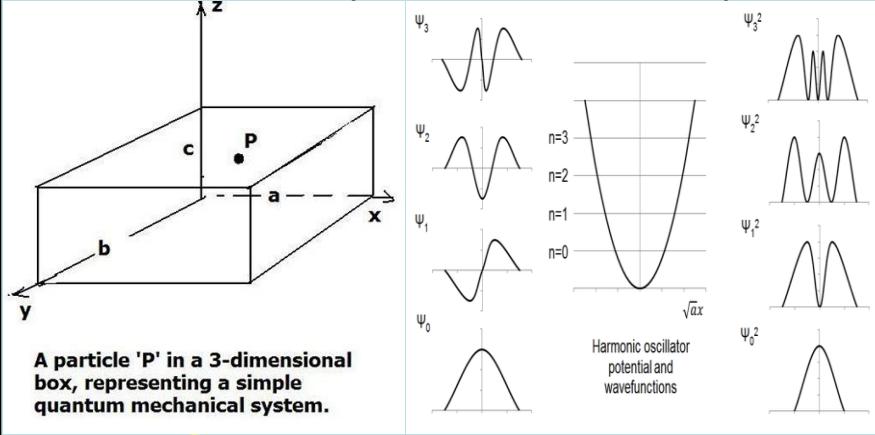
Spatial

Work flow Filters



SYNTAX LEXICON

QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS

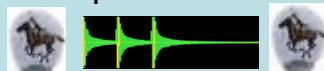


#QuantumComputing USct Alice Corp Vs CLS Bank compliant memes:
In quantum computing, a qubit (or quantum bit (sometimes qbit)) is a unit of quantum information—the quantum analogue of the classical binary bit. A qubit is a two-state quantum-mechanical system, such as the polarization of a single photon: the two states are vertical polarization and horizontal polarization. In a classical system, a bit has to be in one state or the other. Quantum mechanics allows a qubit to be in a superposition of both states at the same time, a fundamental quantum computing property

US Sct Alice Corp Vs CLS Bank Physical memes

Linear sequential "Paul Revere" meme = horizontal polarization

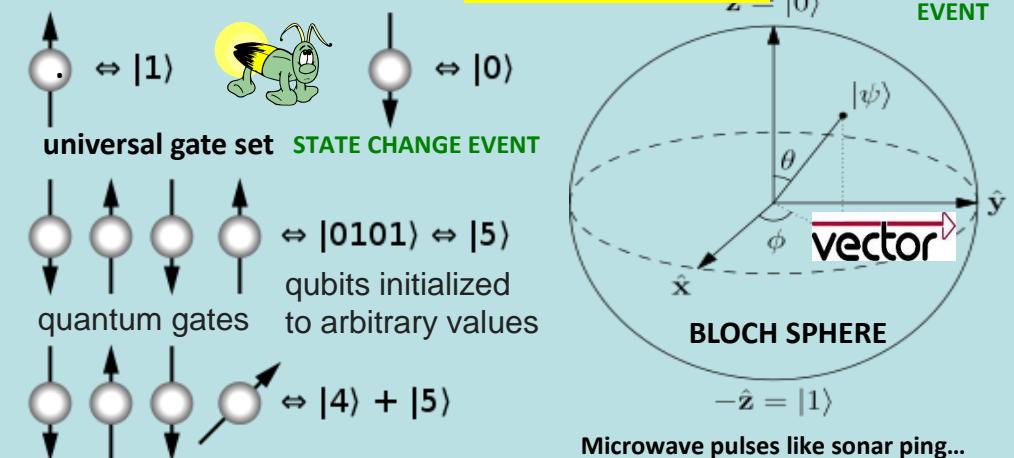
Vertical polarization vectors from a known point 0 null Sonar Hop meme



particle representation / samples



Instead of each bit having two potential states — on or off — a quantum bit or qubit has three. It can be on, off, or both, and you only know which one it is once you look at it. How can you tell if a bit of data is correct if looking at it might change its state?

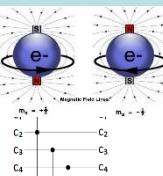


qubits can be in a superposition of all the classically allowed states

silicon device movement is controlled through use of microwave pulses. As an electron spins up, a binary value of 1 is generated, when the electron spins down, a binary value of 0 is generated.



Fock state number state quantum state that is an element of a Fock space with a well-defined number of particles (or quanta)

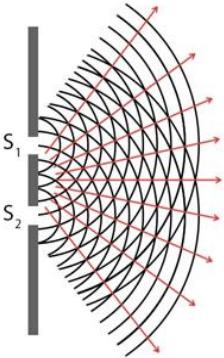


Double-Slit Experiment

Screen with two slits

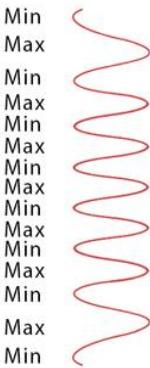
PARTICLE ?

Sodium lamp



Screen

WAVE ?

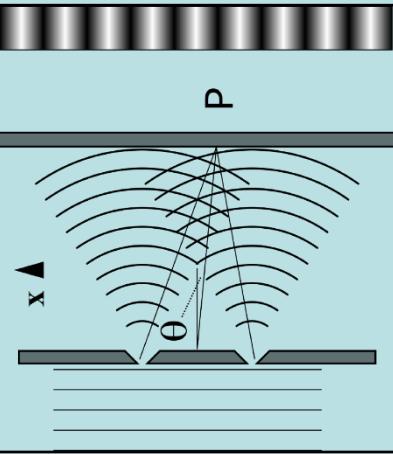


Light source Rays of light coming from the source reach the slits

Interference of light waves due to two tiny slits and arrows indicate direction of wave propagation

Alternating bright and dark fringes due to interference of light waves

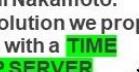
QUANTUM COMPUTING
- RESISTANT ? - BASED ?
THROUGH LENS OF SCOTUS
ALICE LOOKING GLASS RULING



CLOCK FACE 360°
90 / 90 / 90 / 90



BASEBALL "DIAMOND"
A diamond Is a square Is a block in 3D
2nd Base



ALICE Corp VS CLS BANK SC 573 US 134 2347

CLAIMS MAY NOT DIRECT TOWARDS ABSTRACT IDEAS
Physical = Opposite of abstract = ALICE
HEART BEACON CYCLE
TIME – SPACE METER
USPTO 13/573,002

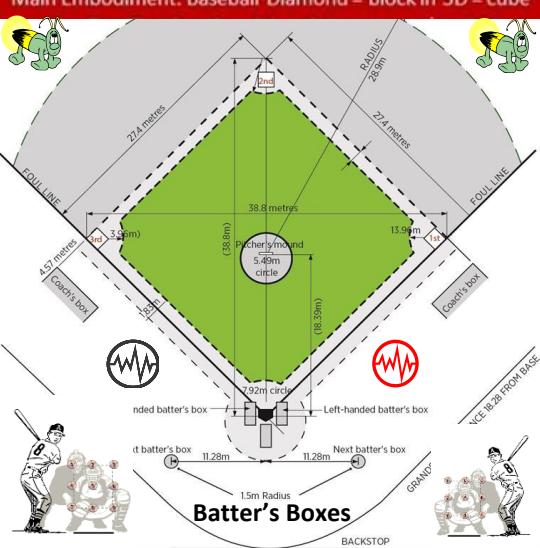
first base
RUNNER
Message Bus

EVENTS
Firefly – Heartbeat Algo

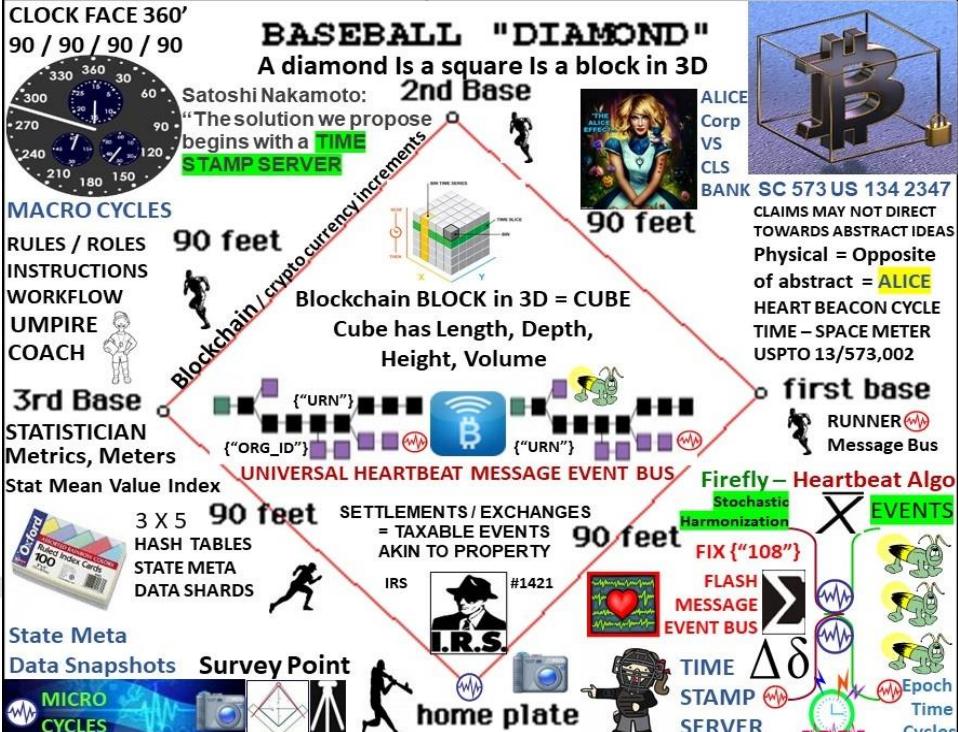
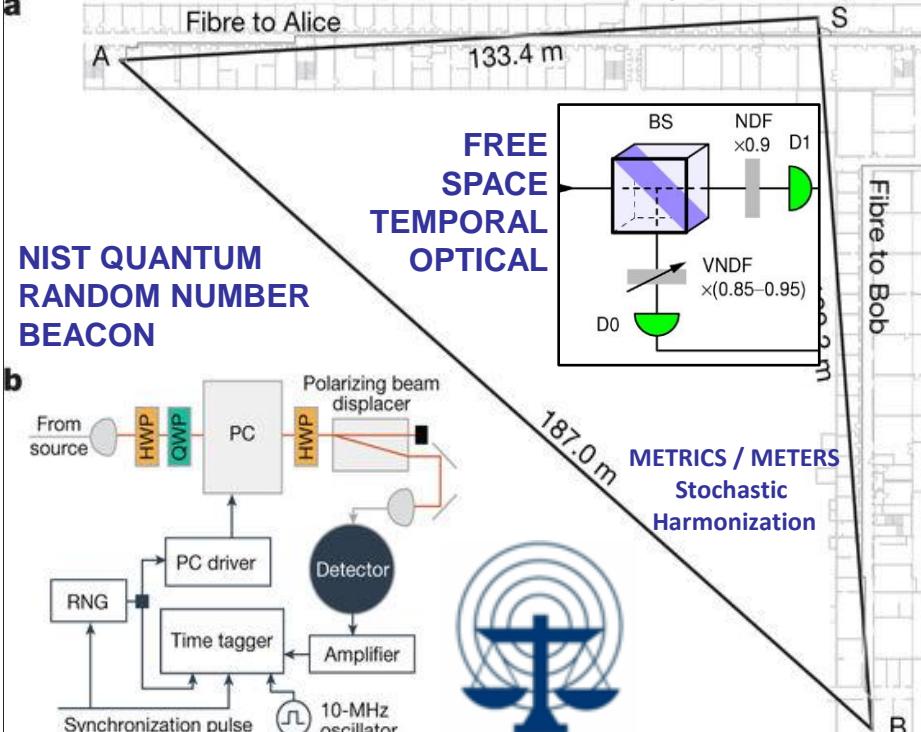
X EVENTS
SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY
IRS #1421
FLASH MESSAGE EVENT BUS
TIME STAMP SERVER
 $\Delta\delta$
MICRO CYCLES
Epoch Time Cycles

USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter
Main Embodiment: Baseball Diamond = block in 3D = cube



SCOTUS ALICE RULING: “Claims may not direct towards abstract ideas” / Physical = opposite of abstract



The Hopf Fibration

Edmund Harriss

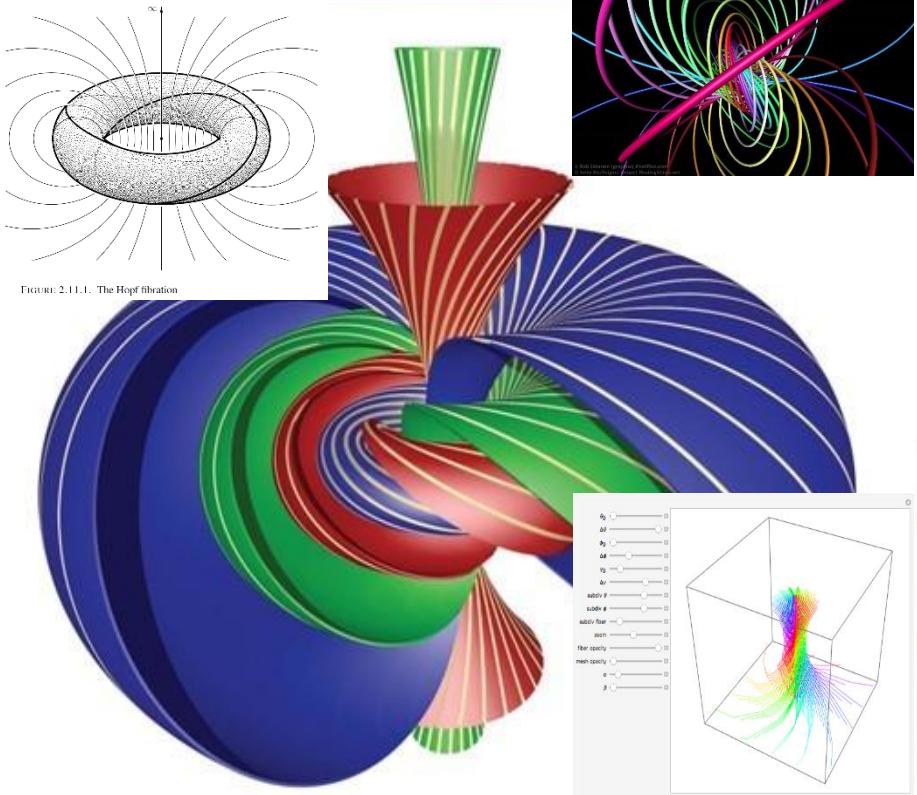
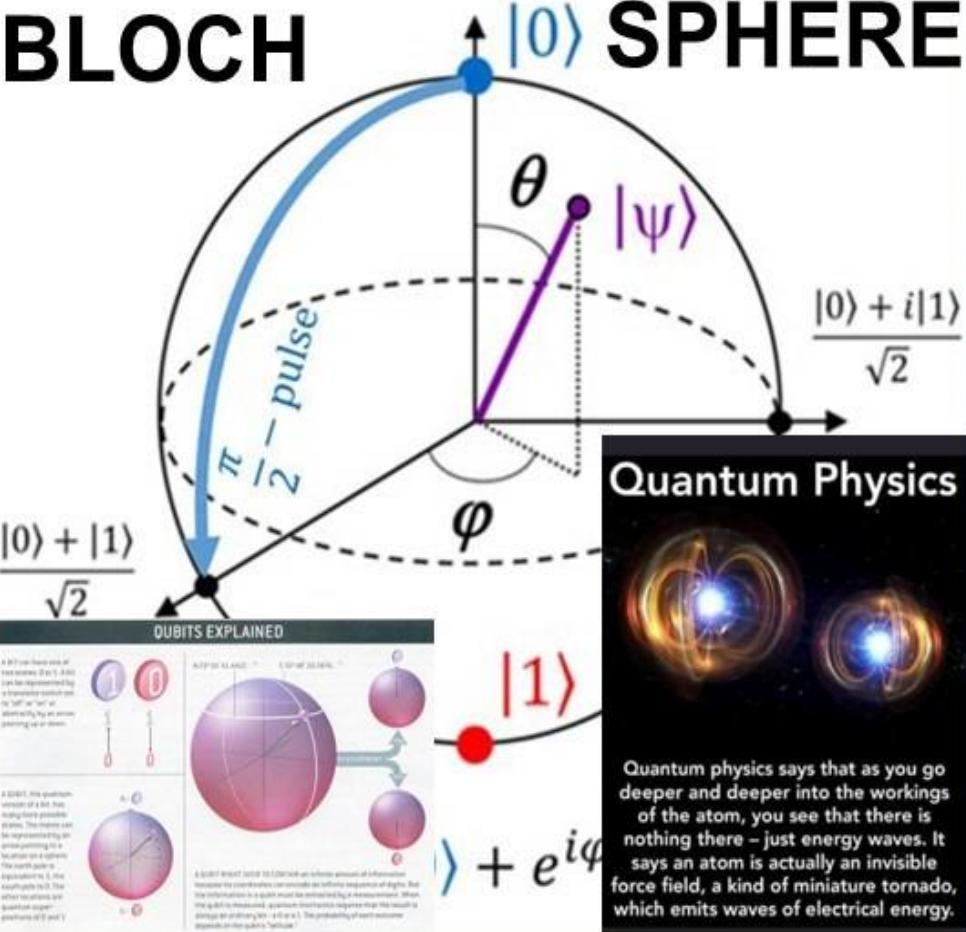


FIGURE 2.11.1. The Hopf fibration

BLOCH SPHERE



Hopf Fibration / #Bloch sphere

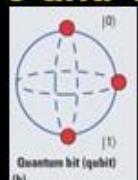
"the most important object in the universe"

"Hopf fiber bundles pop up in 8 quantum physics situations" ... USPTO 13/573,002 water drop in pond meme / scalar wave in 2D - 3D

Paul Revere linear - sequential hop count meme

The Bloch sphere provides a useful means of visualizing the state of a single qubit & operations on it. Any point on this sphere represents a linear combination of the 0 and 1 states with complex coefficients.

A $\pi/2$ -pulse 'rotates' a qubit from the 0-state to a superposition state.





THE 1919 WORLD SERIES

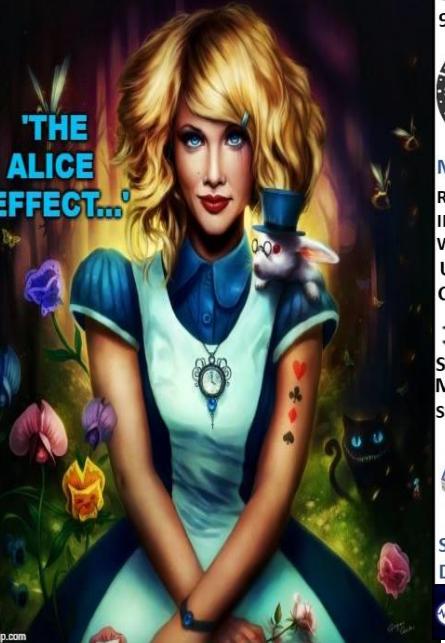
What Really Happened?

William A. Cook



**Stop patent trolls.
Join The Alliance.**

Application Developers Alliance

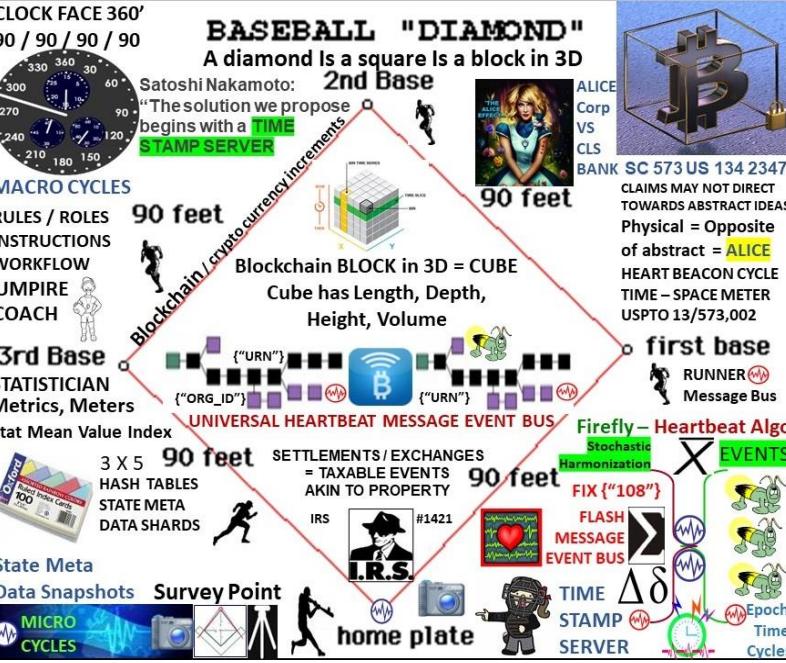


Alice Corp. v. CLS Bank International, 573 U.S. 134 S. Ct. 2347 (2014)
RULING: “claims may not direct towards abstract ideas”



USPTO SCREEN CAPTURES SUSPENDED PAIR RULES

- Moved Examination outside PAIR
 - Admin forms, fees, amendments.. MUTED
 - NO Time Stamps = TEMPORAL AMBIGUITY
 - Screen captures before / after filing







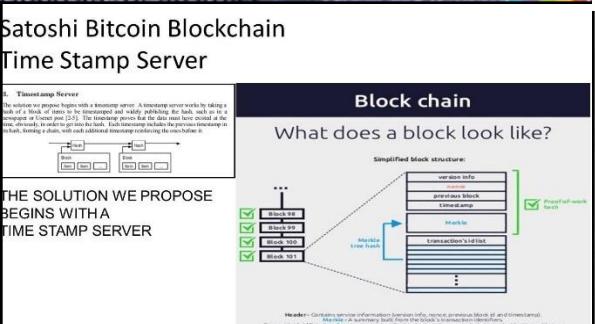
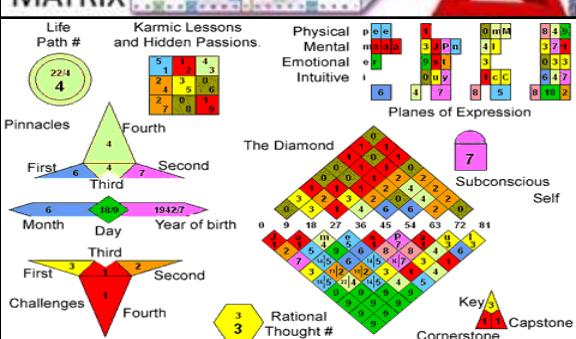
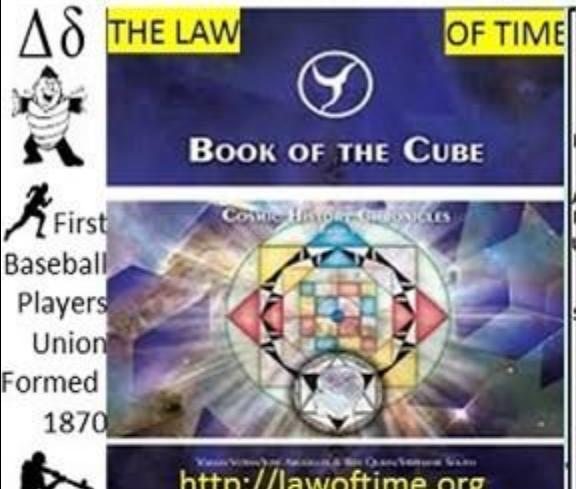
USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter

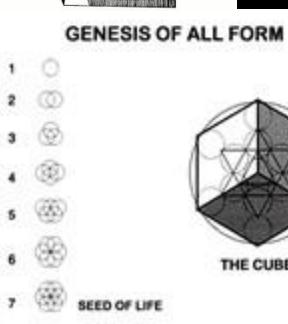
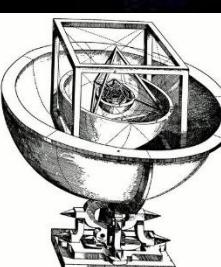
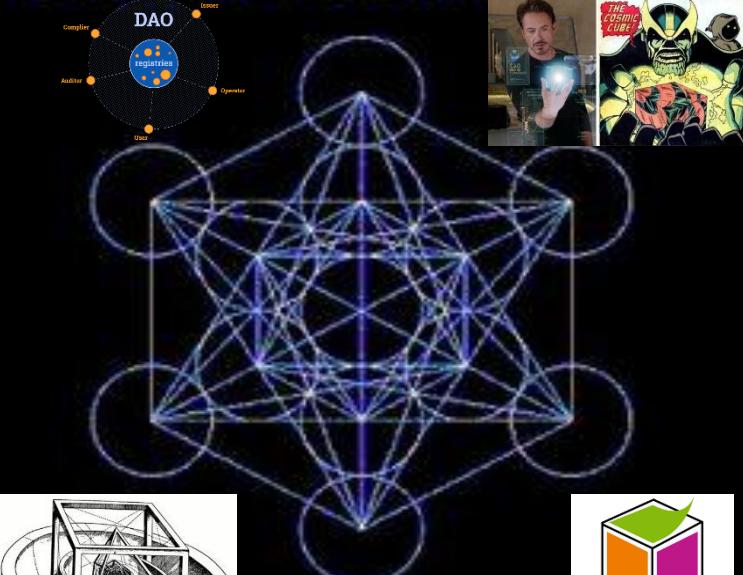
Main Embodiment: Baseball Diamond = block in 3D = cube

$$1 + 3 + 5 + 7 + 3 + 2 = 21 \quad 21 \text{ squared} = 441$$

"We can synchronize ourselves in time for a common purpose" Universal Blockchain Meme

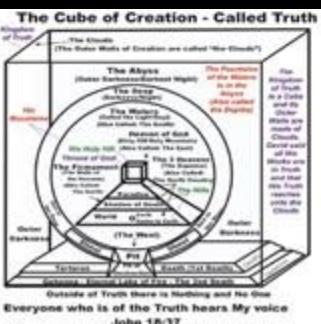


Metatron's Cube and the Platonic Solids



by: Tom Rimbault

"In the beginning (of time) there was the word"





"There is only one revolution tolerable to all men, all societies, all political systems: revolution by design and invention."

-Buckminster Fuller

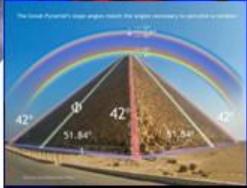


THE GREAT CONJUNCTION IN AQUARIUS

HERALDING THE NEW AGE
On December 2020, Jupiter and Saturn unite in the sign of Aquarius, forming a configuration called a Great Conjunction which only happens once every twenty years. Great Conjunctions are often longterm beginnings or foundations formed out of unstable circumstances. In the sign of AQUARIUS, this is likely to mark a major technological boom that will culminate on 2030 and last until 2040, the next Great Conjunction.

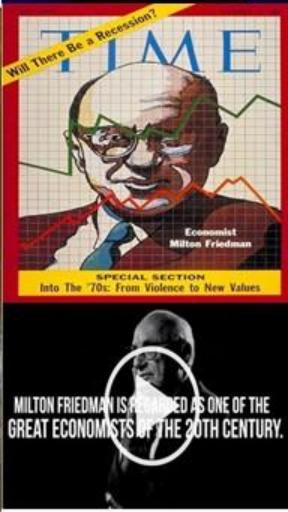
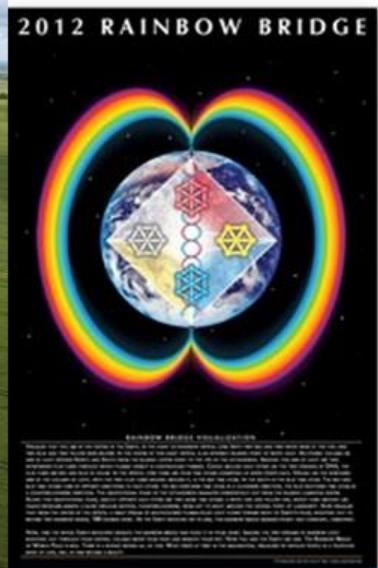
Over the next ten years, we are going to see our world innovate unlike never before, particularly in the fields of AI, technology, science, space travel, UFOs, networks, and the Internet. Major Universal truths will also be revealed as we welcome the New Age of Aquarius. The old world will soon come to an end, paving way to the new order of things.

photo by werner du plessis



Forces of light on earth shall overcome the forces of darkness. Complete spiritual enlightenment on earth will occur.

~ Edgar Cayce



"ONLY A CRISIS—ACTUAL OR PERCEIVED—PRODUCES REAL CHANGE. WHEN THAT CRISIS OCCURS, THE ACTIONS THAT ARE TAKEN DEPEND ON THE IDEAS THAT ARE LYING AROUND."

That, I believe, is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes politically inevitable.

Milton Friedman — Preface to Capitalism & Freedom 1962

The K-Percent Rule was a proposal by economist Milton Friedman that the central bank should increase the money supply by a constant percentage every year.

The K-Percent Rule: sets the money supply growth at a rate equal to the growth of gross domestic product (GDP) yearly.

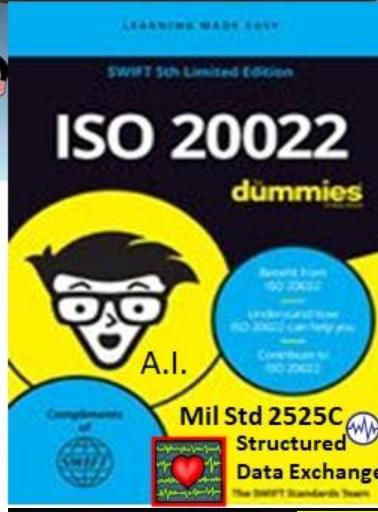
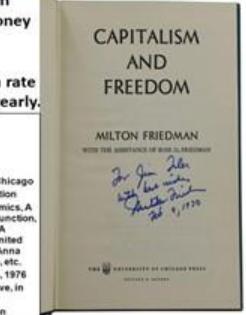


Milton Friedman

- 1912-2006
- Economist, monetarist
- 1946-1977: University of Chicago
- 1977-2006: Hoover Institution
- Essays on Positive Economics, A Theory of Consumption Function, Capitalism and Freedom, A Monetary History of the United States (1867-1960) - with Anna Schwartz, Price Theory, etc.
- Nobel Prize in Economics, 1976
- Considered as conservative, in reality liberal economist
- Advisor to President Nixon



Reverend K "I see Mr. MaGoo"



The Age of Aquarius: Aquarius, Aquarius Rising @ 6:44 A.M. Feb 10th 1960

Buckminster Fuller "build a new model that makes the old model obsolete"

Socrates: focus all your energy on building the new, not fighting the old"

#algorithmic #stablecoin #buckminster #fuller #cryptocurrency #Milton #Friedman

