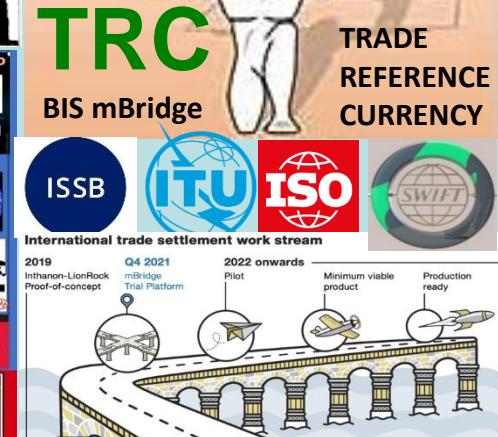
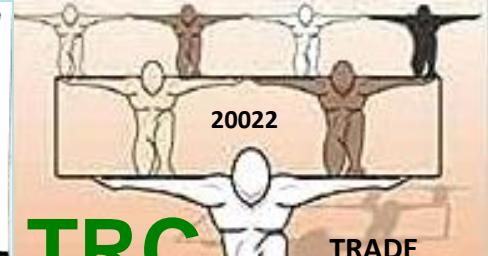
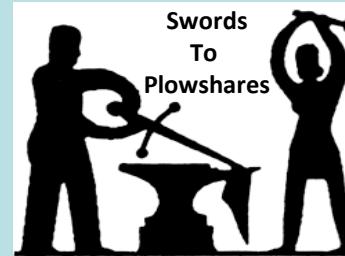


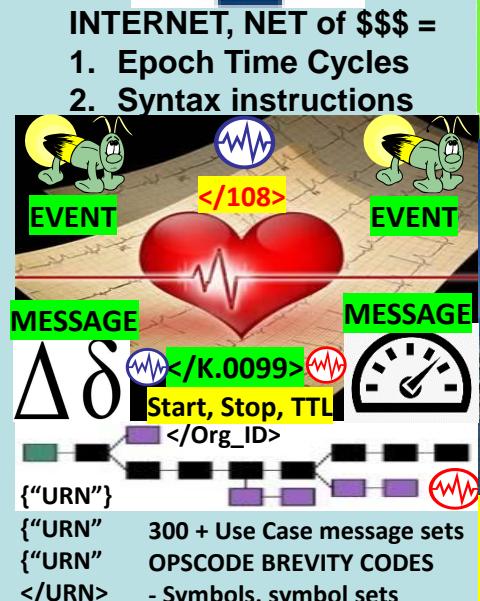
Eco Economic Epochs

TRC TradeFi

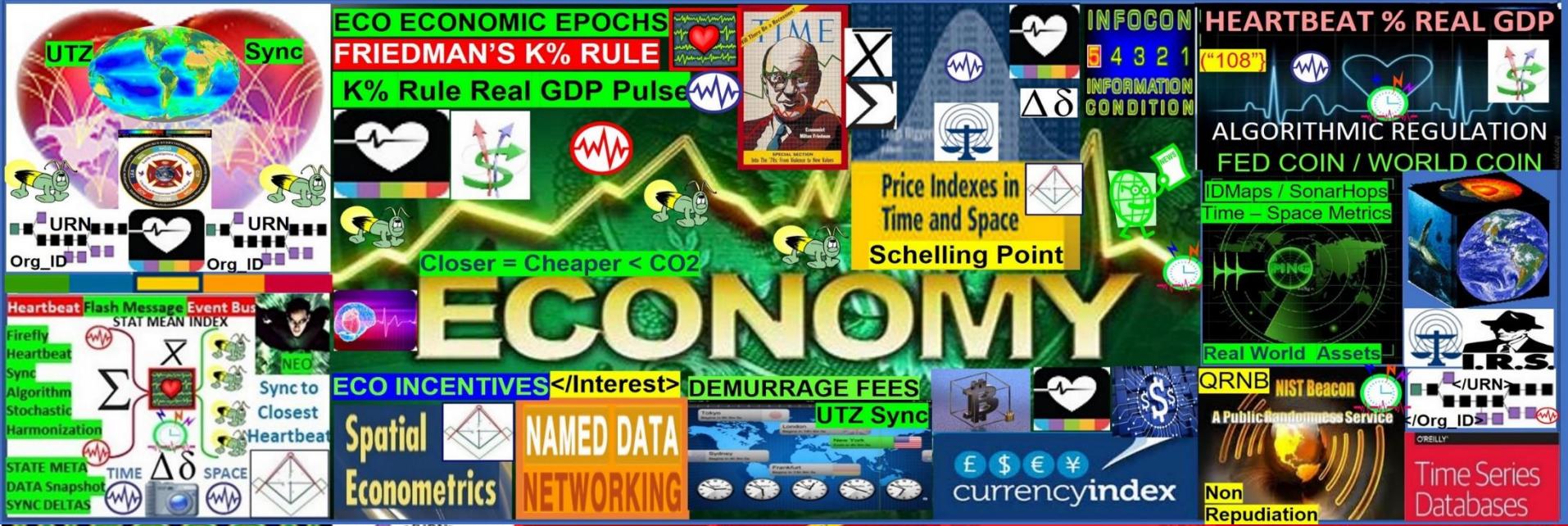
FOUNDATION TECHNOLOGY



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



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



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

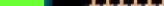


“Symbols Rule The World”
OPSCODE BREVITY CODES mapped to symbols 2525A,C D

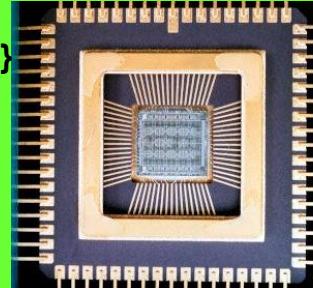


THESIS: All things internet, programmable net of \$\$ money are formed using:



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

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

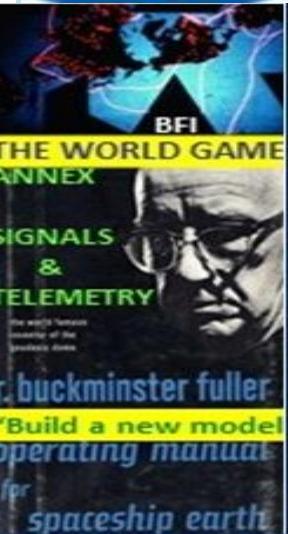
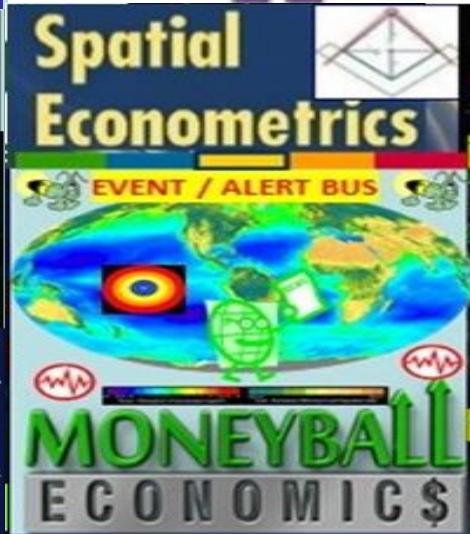
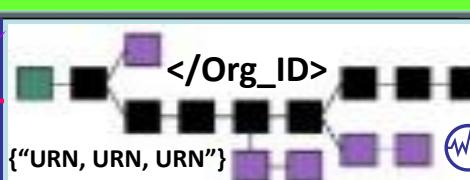


2. Syntax used / not used as code instructions during epoch time cycles.

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

The image is a collage of various logos and diagrams, likely representing different concepts in blockchain and systems engineering:

- Blockchain Logos:** A large blue circular logo featuring a white robot head in the center, with the text "TELEGRAPHED MISSION NETWORKING" around it and "FMN" at the bottom. Below it is a green globe icon with a speech bubble containing the word "NEWS".
- System of Systems:** A diagram showing a blue top hat with a yellow lightning bolt inside, resting on a blue circle with a white robot head. From the robot head, three green arrows point upwards towards a blue human-like figure.
- NATO Logo:** The North Atlantic Treaty Organization logo, which is a blue circle with the organization's name in the center and the flags of member countries around the perimeter.
- ISO Logo:** The International Organization for Standardization logo, consisting of the letters "ISO" in white on a red background with a globe graphic.
- Abstract vs. Structured Data:** A green box containing the text "SYSTEM OF SYSTEMS STRUCTURED DATA". Above this box is a white box containing the text "USPTO 13/573,002 BASEBALL MEME PHYSICAL = OPPOSITE OF ABSTRACT".
- Blockchain Data Structure:** A diagram showing a sequence of boxes labeled "cycle n", "n + 1", and "n + 2" connected by arrows, with a "SYNTAX" box positioned above them. To the right, there is a diagram of a network with nodes and connections, and a symbol resembling a triangle with a Greek letter delta (Δ) inside.



Quantum Financial System vs BlockChain

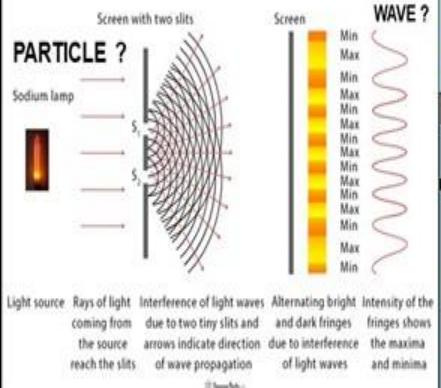
TIME
CHAIN

QFS

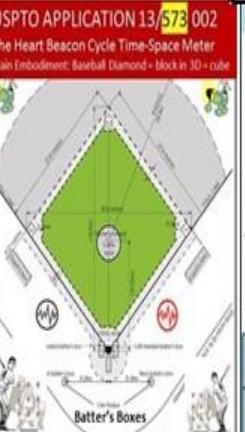
TIME
STAMP
SERVER

<https://gesara.news>

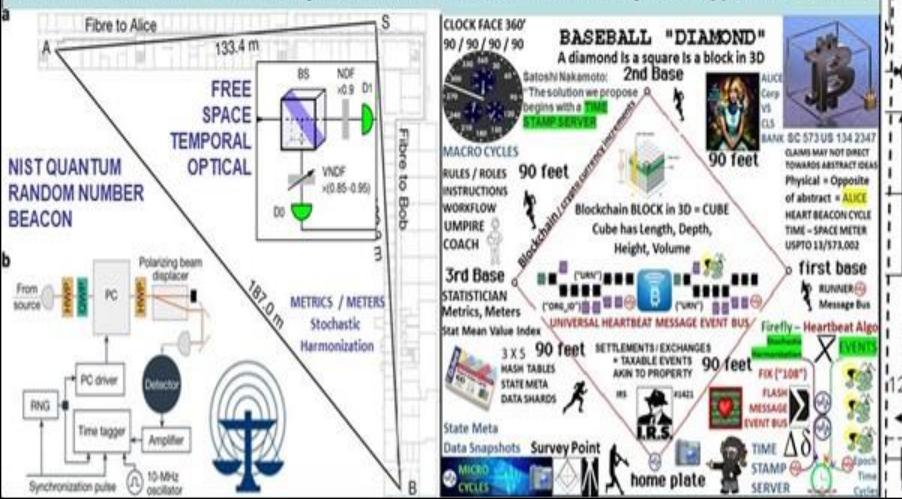
Double-Slit Experiment



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



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

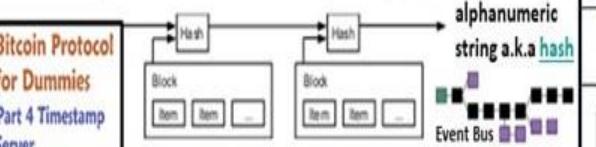


Satoshi Nakamoto Bitcoin Paper
Craig WRIGHT a.k.a. THE VALUE OF BITCOIN IS TIME ITSELF
Cape Hatteras Outer Banks

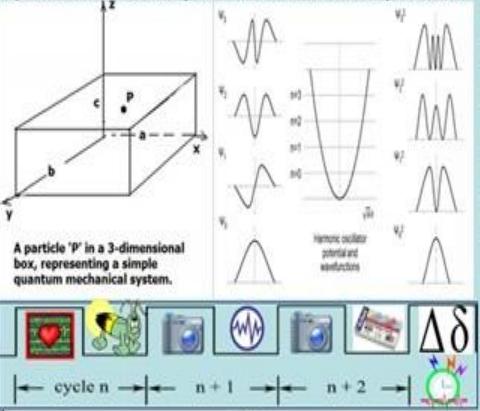
"THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER" Satoshi Nakamoto

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

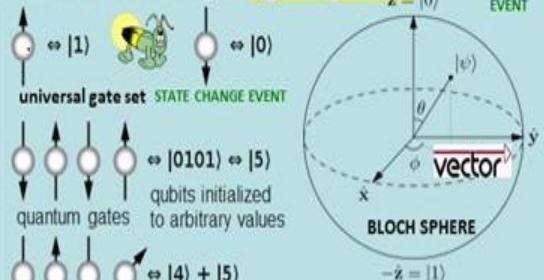


#QuantumComputing USet Alice Corp Vs CLS Bank compliant memes:
In quantum computing, a qubit (or quantum bit (sometimes qbit)) is a unit of quantum information—the quantum analogue of the classical binary bit. A qubit is a two-state quantum-mechanical system, such as the polarization of a single photon: 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?



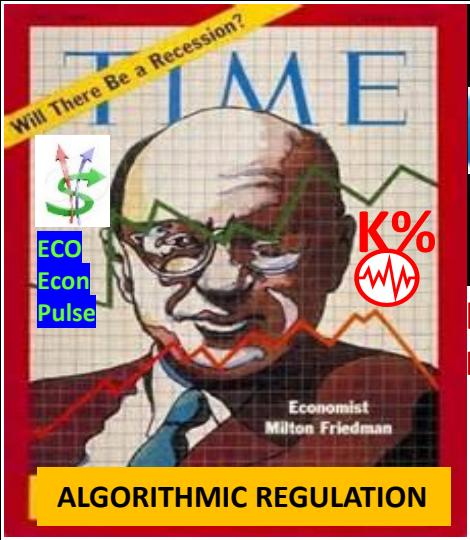
Microwave pulses like sonar ping—
qubits can be in a superposition of all the classically allowed states

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)





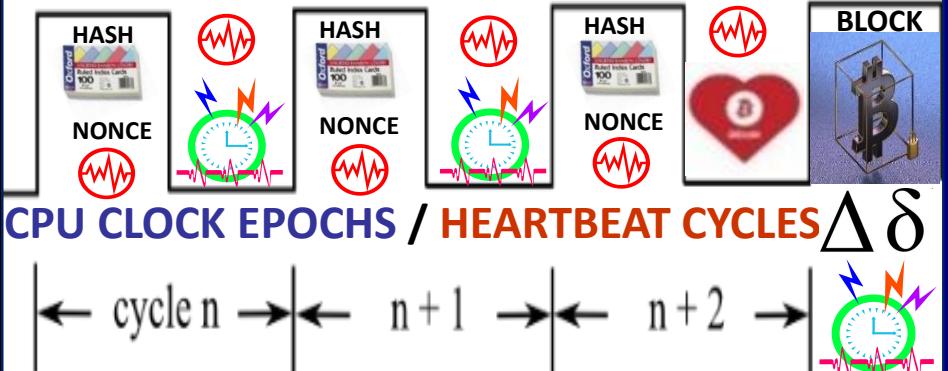


ALGORITHMIC REGULATION

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.



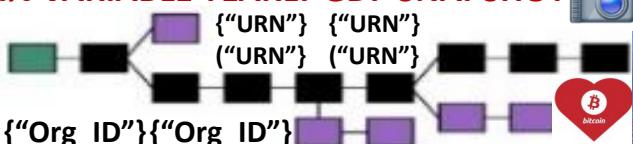
ECONOMIC HEARTBEAT



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



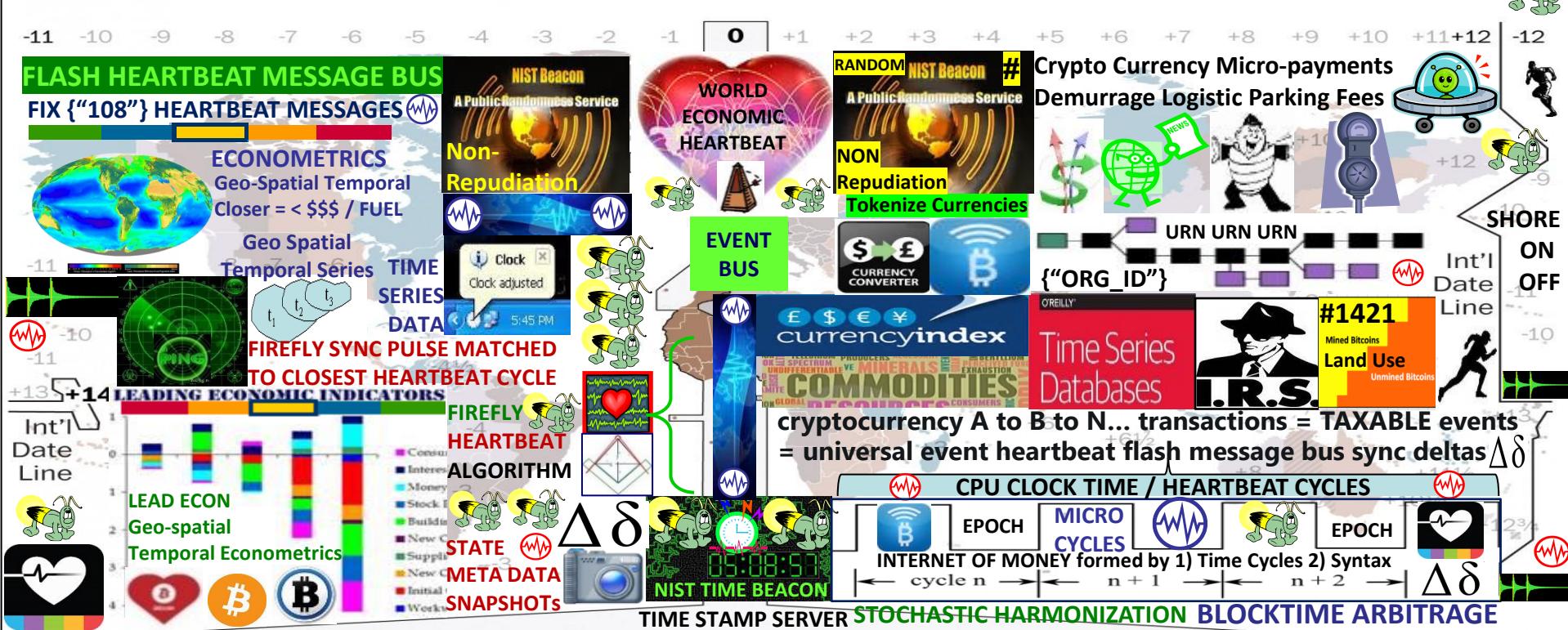
LEADING ECONOMIC INDICATORS



“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”



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.

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



Spatial / temporal UTZ synchronization, stochastic harmonization, Time - Space Distance Estimation Service Common Consensus Algo meme Eco sustainable incentives
“We can synchronize ourselves, DAO Trade Federations in time - space for common purposes”
Eco sustainable, Equitable Economic econometrics.

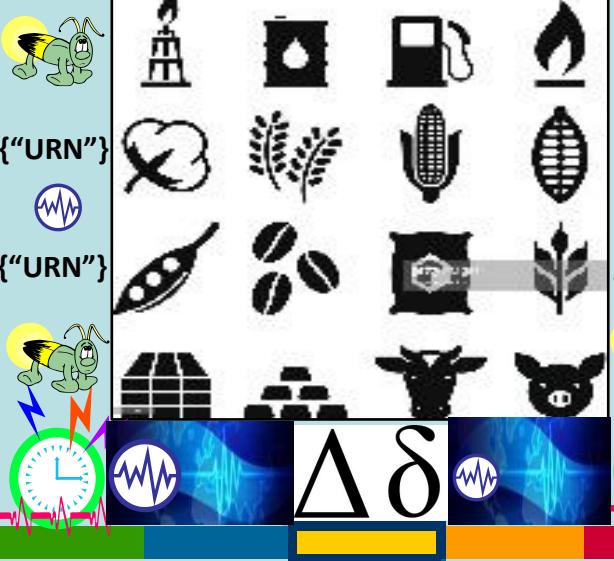
USE CASE: Banks - Tech firms are forming teams to assert foundation tech as a legal basis for IP intellectual property claims for programmable \$\$\$ DeFI

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

Tokenization of Physical Assets Enables Economy Of Everything



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



NETWORK
CENTRIC
OPERATIONS
INFOCON
5 4 3 2 1
INFORMATION
CONDITION



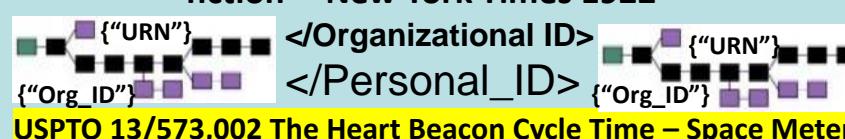
FIREFLY – HEARTBEAT ALGORITHM CHINA: nature-inspired metaheuristic optimization algorithm developed by Xin-She Yang flashing behavior of fireflies (Yang, 2008), adapted to solve continuous optimization problems (Lukasik and Žak) 2010, 2013



**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



Humanitarian Assistance Networked Donor System

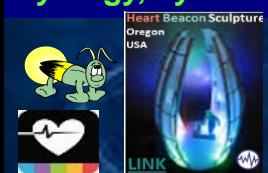
H.A.N.D.S: "Based on the need to speed up the processes of influencing an adversary, new concepts result in the adaptation of military doctrine, organization, training, material, infrastructure, interagency interaction, leadership, personnel and facilities" ... German Bundeswehr concept of "OOTW Operations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



OPERATIONS
OTHER
THAN
WAR



Beacon Communities

Vernetzte Operationsführung

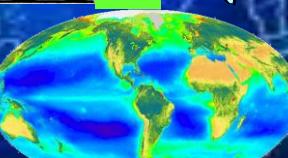


Proximity Beacons



JAEGERS

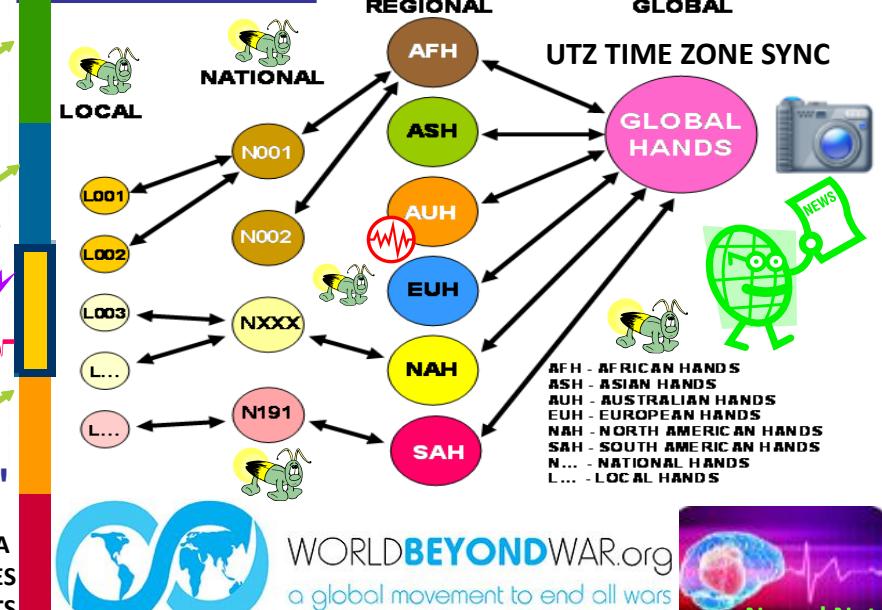
Closer < \$\$\$ < FUEL



KAIJU



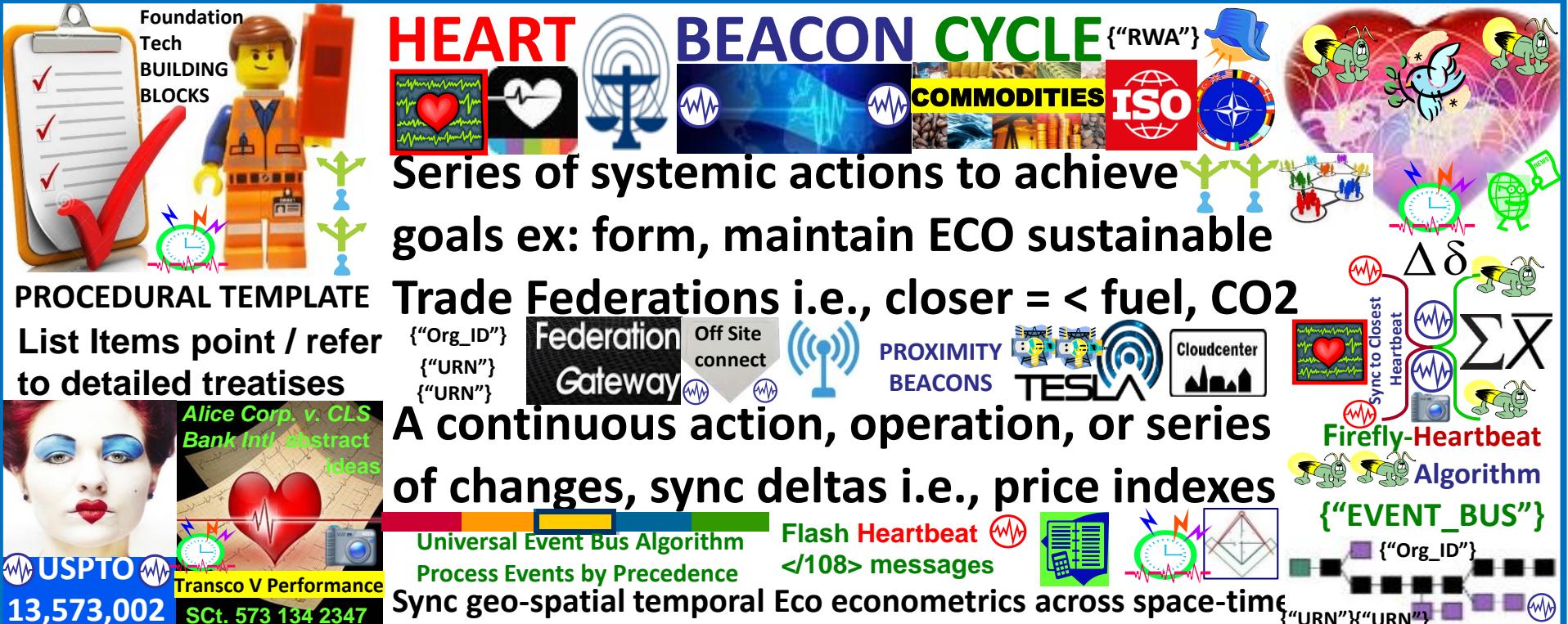
SYSTEM
Of
SYSTEMS



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



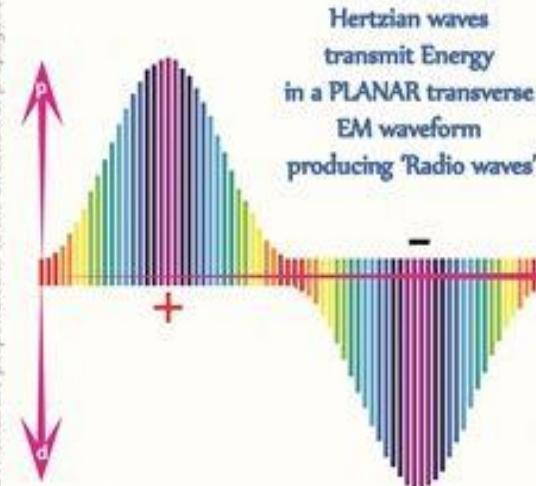


CLOSER = < Infrastructure
= CHEAPER SLA

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.

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



Although they utilise the same EM energies, different EM waveforms can be produced where the Electric fields are in 90° opposition to each other thus leading to conflicting theories of EM wave propagation

The E fields are co-linear with the direction of propagation

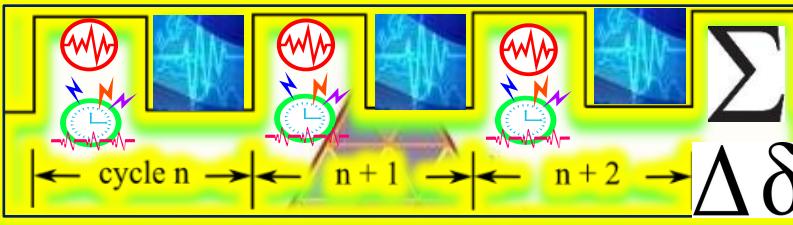
Through longitudinal waves, Tesla transferred energy to receiving devices. He sent electrostatic forces through the air, transferred electrical energies and noted the lethal forces produced by these waves.

Heinrich Hertz

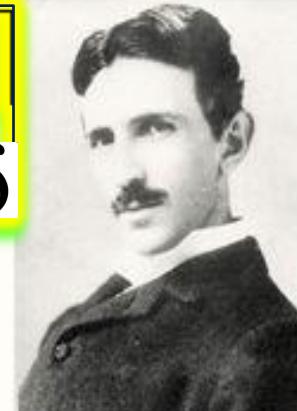


(22 February 1857 - January 1 1894)

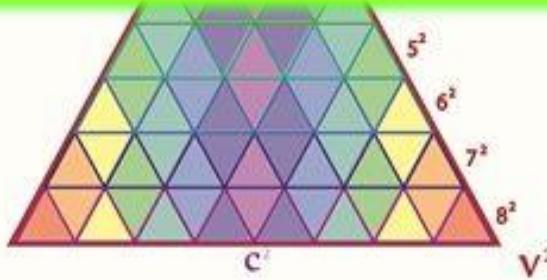
INTERNET = 1. TIME EPOCH CYCLES 2. Syntax (not) Processed in cycle



Nikola Tesla



(10 July 1856 - 7 January 1943)



Cycles per Second

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

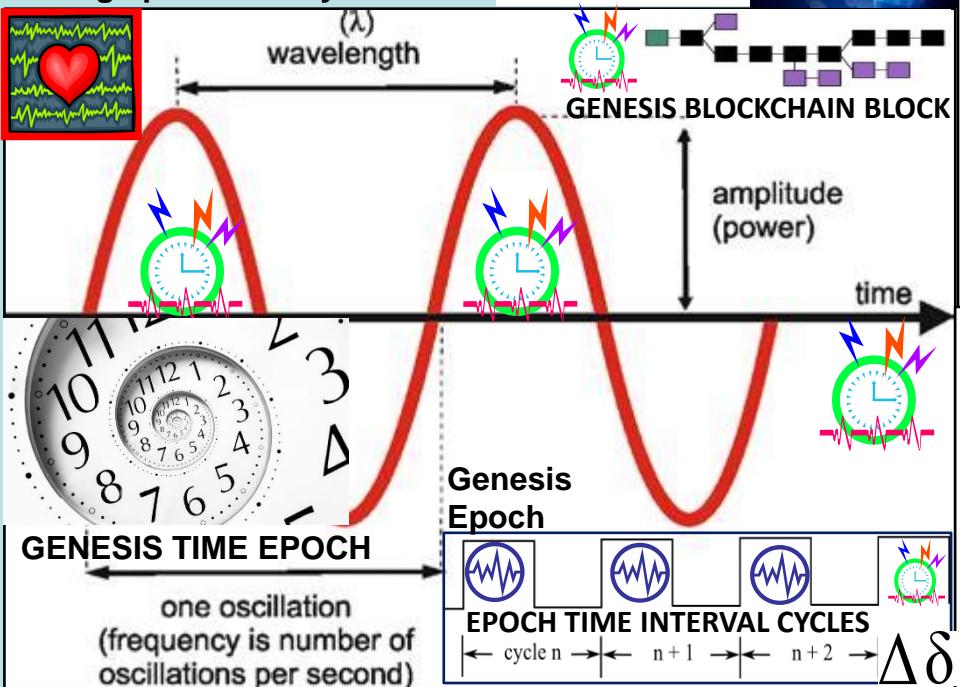
THESIS: All things net, net of programmable \$\$\$ are formed using:

ENERGY / DATA WAVE METRICS / METERS

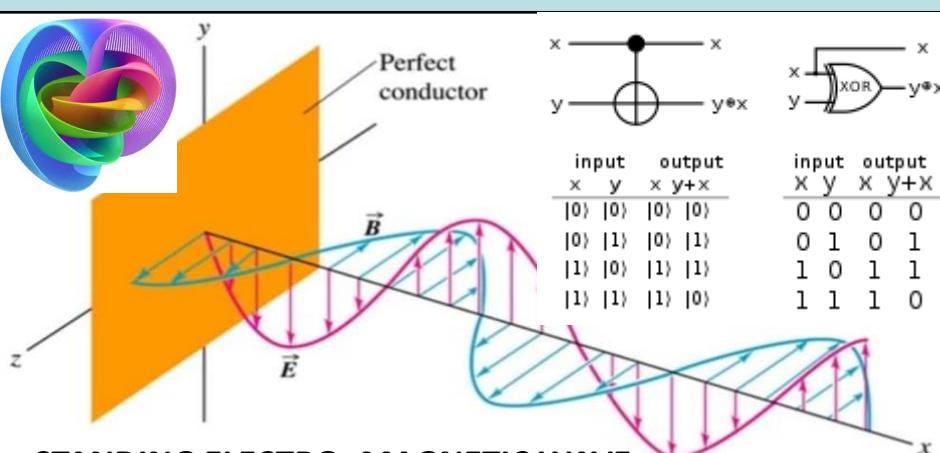
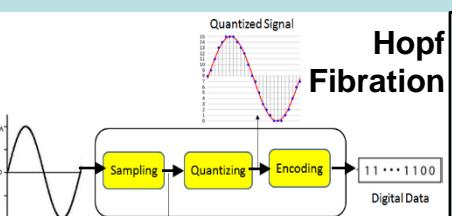
BELL STATE QUANTUM COMPUTING

1) Time epochs created by quartz crystal silicon chips

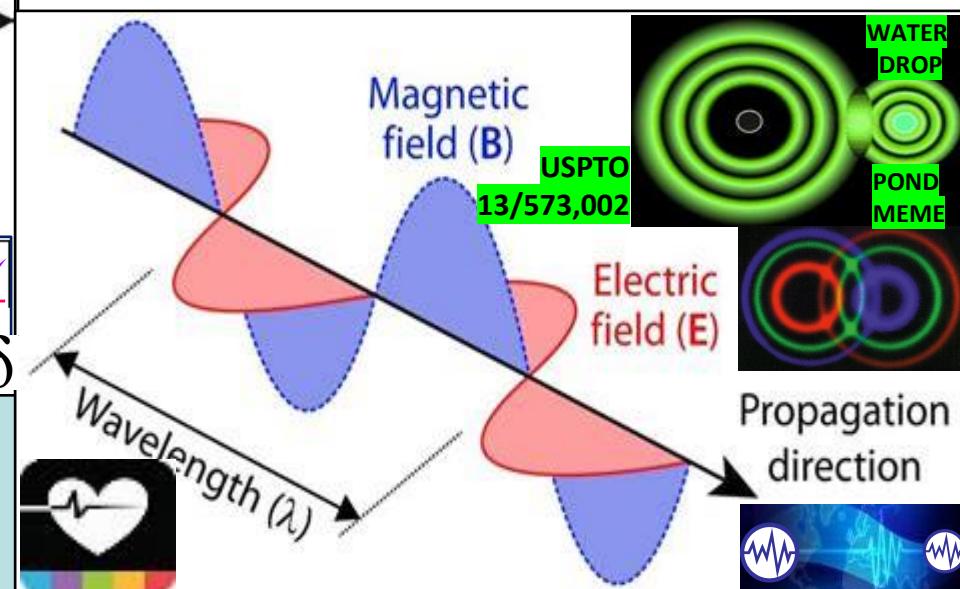
2) Syntax used / not used as programming instructions during epoch time cycles



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

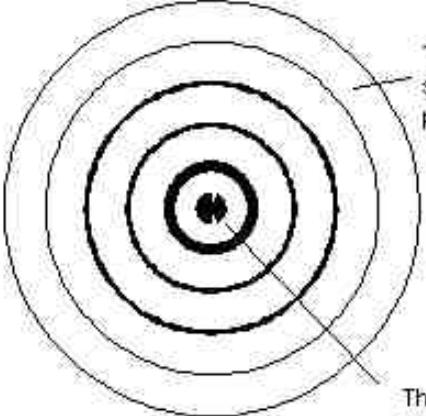


A **standing** electromagnetic wave does not propagate along the x-axis; instead, at every point on the x-axis the E and B fields simply oscillate.



"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, $\sim 3 * 10^8$ 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)



Harmonic Sphere Flux Resonator

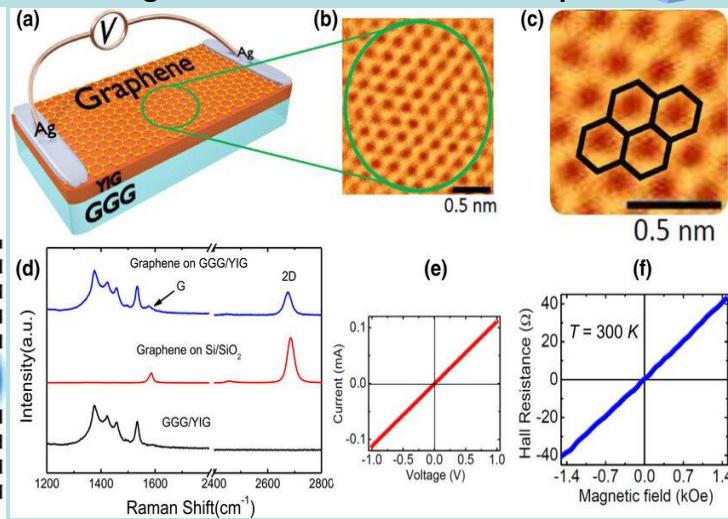
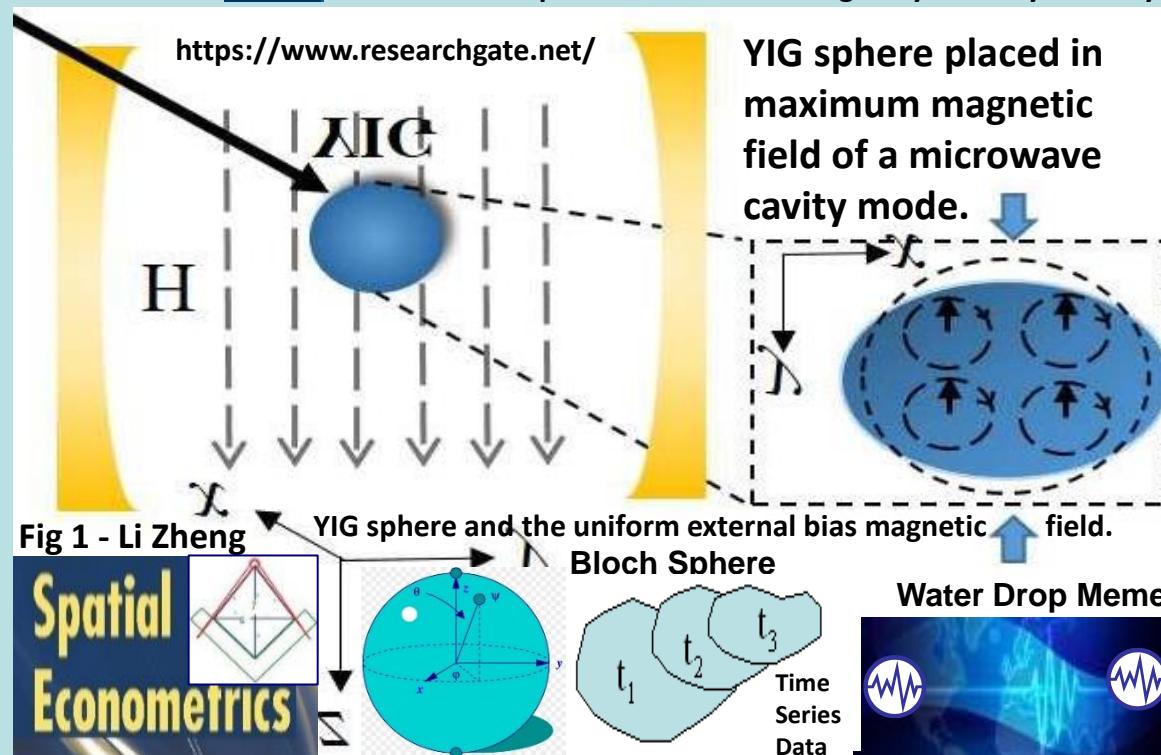
ENERGY / DATA

"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.

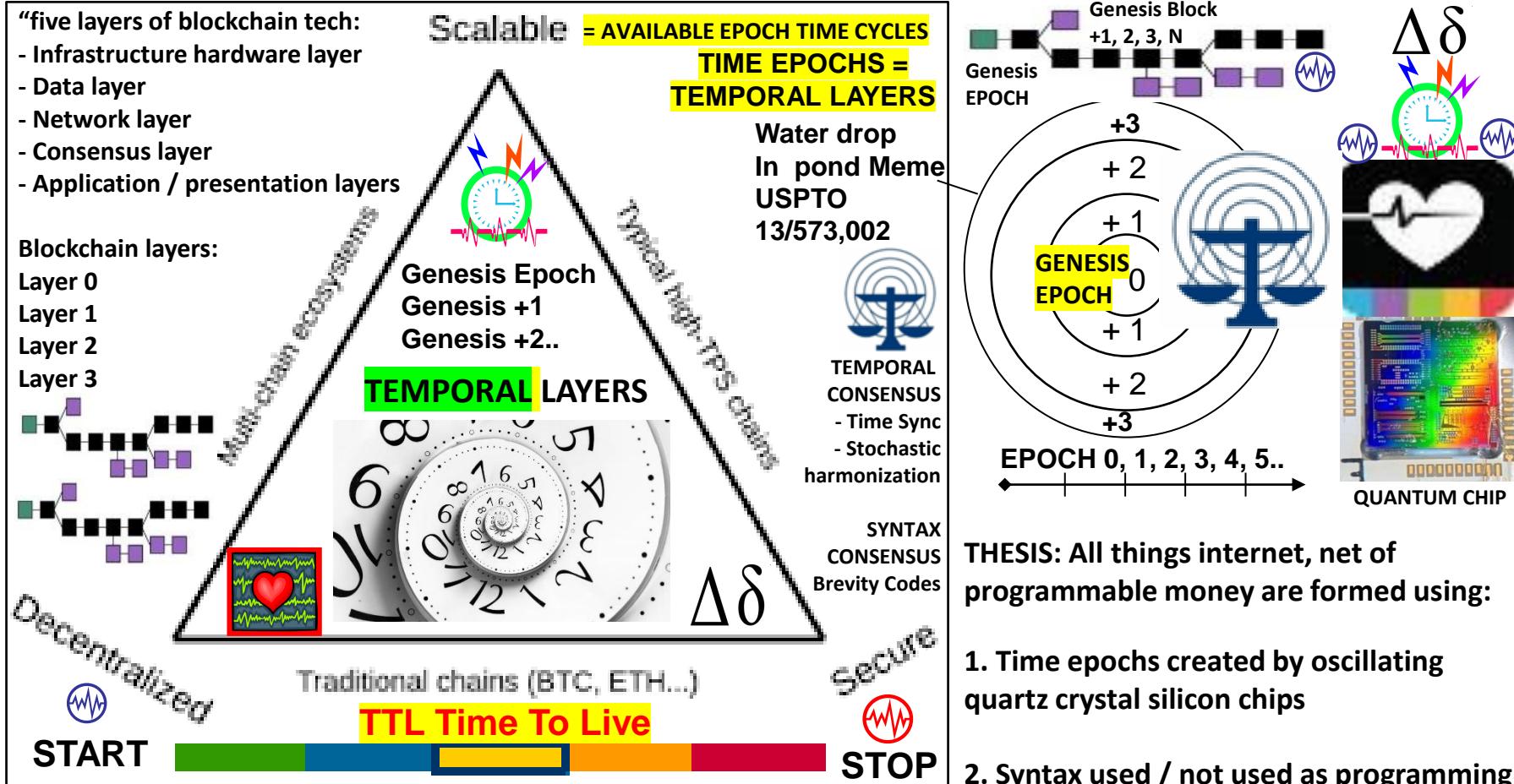
IEEE 802.1AG HOP BY HOP DETECTION
IEEE 802.11 HbH HOP BY HOP CONTROL

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

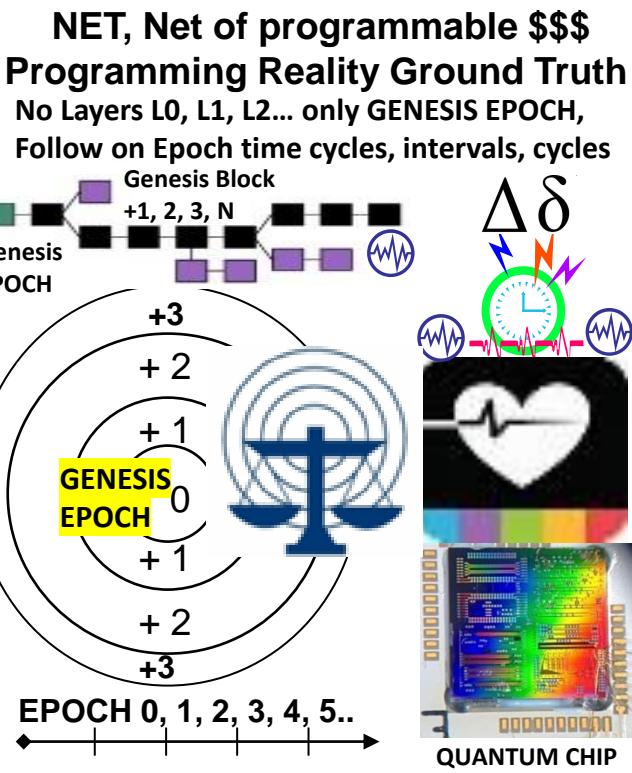


Blockchain = series of hashed blocks carrying transactional records. The first block of the blockchain is the **Genesis block**. After that, every new block added to the blockchain is linked to the Genesis block through a (temporal) iterative process.

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 Bitcoin Paper



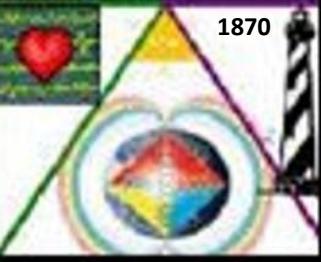
Satoshi Nakamoto



Craig WRIGHT
a.k.a.
Satoshi Nakamoto



"Bitcoin is a LANGUAGE"



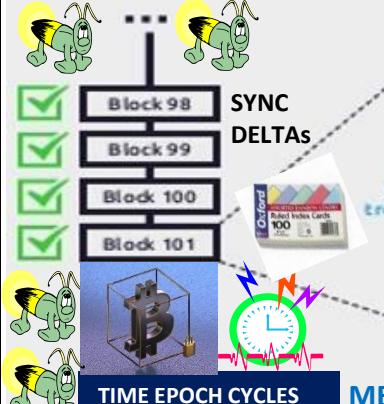
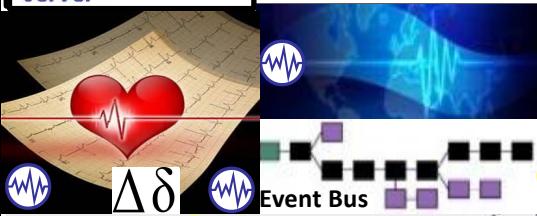
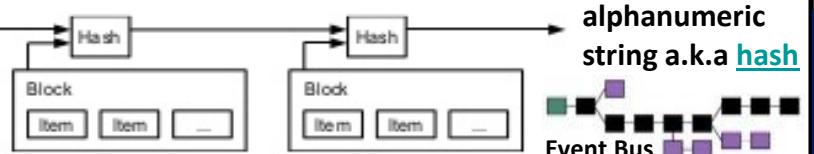
Wright Brother's 1st Flight
Cape Hatteras Outer Banks

"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



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.

"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"



CLOCK FACE 360°
90 / 90 / 90 / 90

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

90 feet
Blockchain / cryptocurrency increments

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

90 feet
Blockchain / cryptocurrency increments

first base
RUNNER Message Bus

90 feet
Blockchain / cryptocurrency increments

fix {"108"}
FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

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

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RUNNER Message Bus

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TIME STAMP SERVER

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TIME STAMP SERVER

fix {"108"}
FLASH MESSAGE EVENT BUS

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

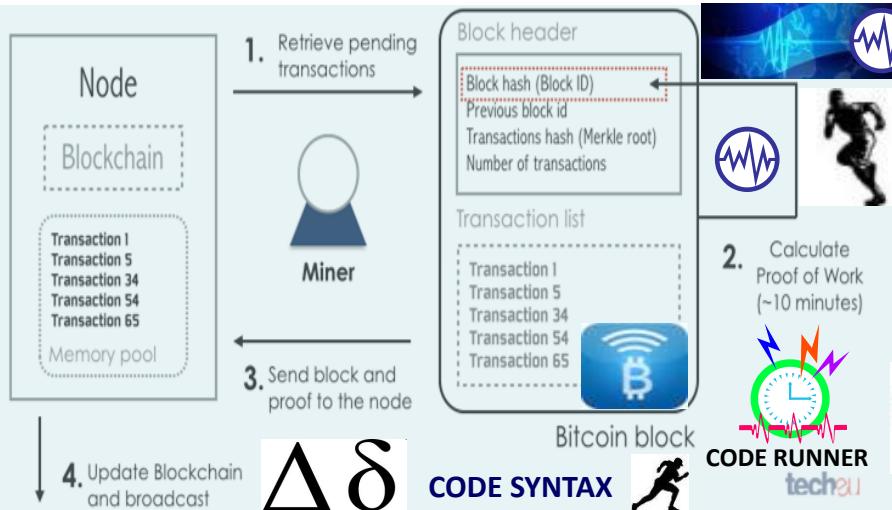


“Bitcoin is a Language”

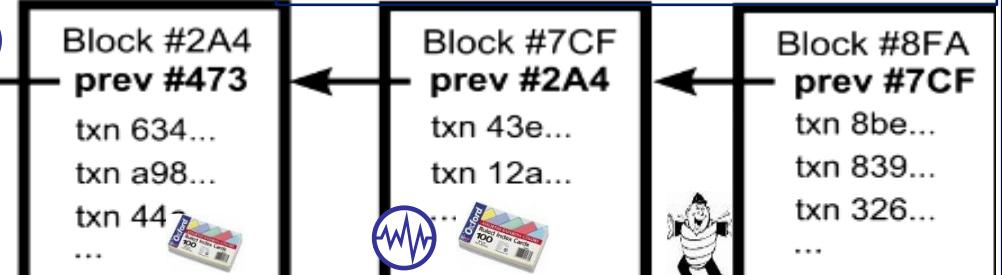
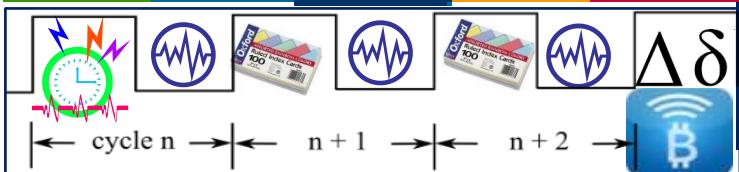
WIRED

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

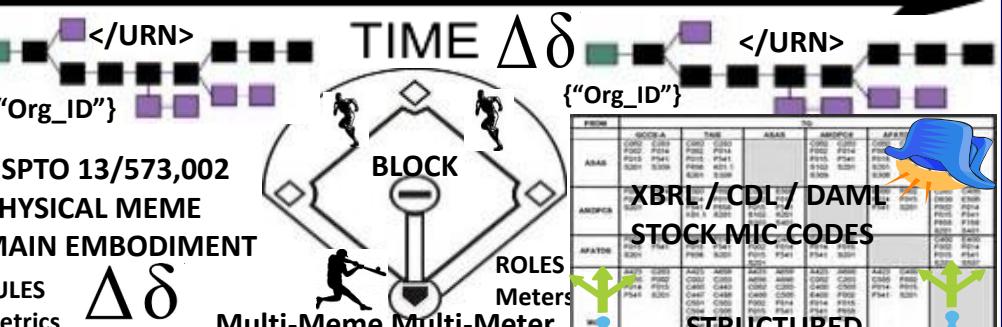
Alice Corp. v. CLS Bank International, 573 U.S. 134 SCt 2347 (2014) is a 2014 decision of the United States Supreme Court about patentable subject matter (patent eligibility).[2] The issue in the case was whether certain claims about a computer-implemented, electronic escrow service for facilitating 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



STOCK MIC CODES

STRUCTURED
DATA EXCHANGE
TEMPLATE FORMS

300+ USE CASES
LOGIC / FILTERS

SYNTAX / SYMBOL
LEXICON LIBRARY

SYNTAX
LEXICON

Library

1st Compiler

R
W
A

Real
World
Assets

Alpha
Numeric
Brevity
Codes

A.I.

300+ USE CASES

LOGIC / FILTERS

SYNTAX / SYMBOL

LEXICON LIBRARY



Coder Guide
Rosetta Stone



"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
270 60
240 120
210 180 150
90

MACRO CYCLES

RULES / ROLES
INSTRUCTIONS

WORKFLOW
UMPIRE
COACH

3rd Base
STATISTICIAN
Metrics, Meters
Stat Mean Value Index

90 feet

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

SETTLEMENTS / EXCHANGES
= TAXABLE EVENTS
AKIN TO PROPERTY

IRS #1421

90 feet

STATE META
DATA SHARDS

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

HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

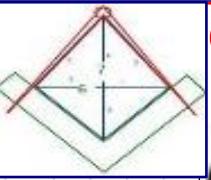
SC ALICE CORP VS CLS BANK: “claims may not direct towards abstract ideas”

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.

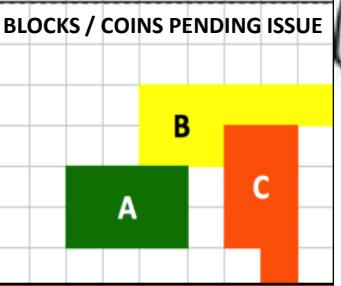


Memo #1421: Purchased Bitcoins are treated akin to property

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



Mined Bitcoins



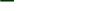
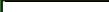
$$\Delta\delta$$

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



SCOTUS 2014 ruling
SC 573 134 2347

"Claims may not direct towards abstract Ideas"



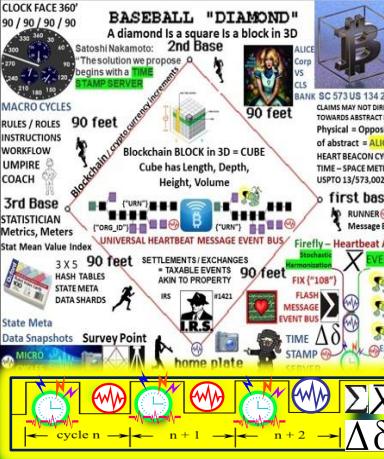
'THE ALICE EFFECT...'

Physical = opposite of abstract

Trade Reference Currency TERRA TRC

</URN>

</URN>



Ericsson Open \$\$\$ for Society



"The solution we propose begins with a time-stamp server" Satoshi Nakamoto

"The internet, internet of \$\$\$ is comprised:
1. Epoch time cycles 2. Syntax used / not used during epoch time cycles instructions

"Bitcoin is a language" "Bitcoin's value = time itself"
Blocktime = computing clock-time that creates sync delta differentials in the chain of time
described by MTT Machine Trust Language
smart contracts adjusted by time arbitrators

USPTO 20130166398 Ericsson System Method Implementing Context Based Payment System





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 66

Q: Which memo 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.

SpaceMesh

PROOF OF FORMULATION

Space-Time Consensus Algorithm

BASEBALL "DIAMOND" A diamond is a block in 3D

STRUCTURED EXCHANGES SYNTAX LEXICON

SYNTHETIC SYMBOL SETS AJ / Man - Machine

SETTLEMENTS EXCHANGES 90 feet

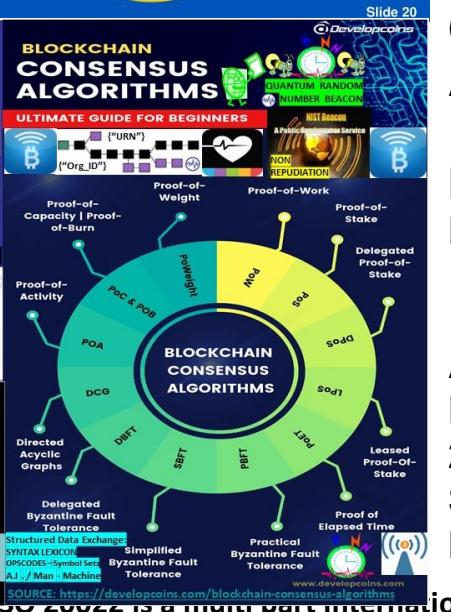
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World Financial Standard ISO 20022 is a multi part international Standard prepared by ISO Technical Committee TC68 Financial Services. It

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:

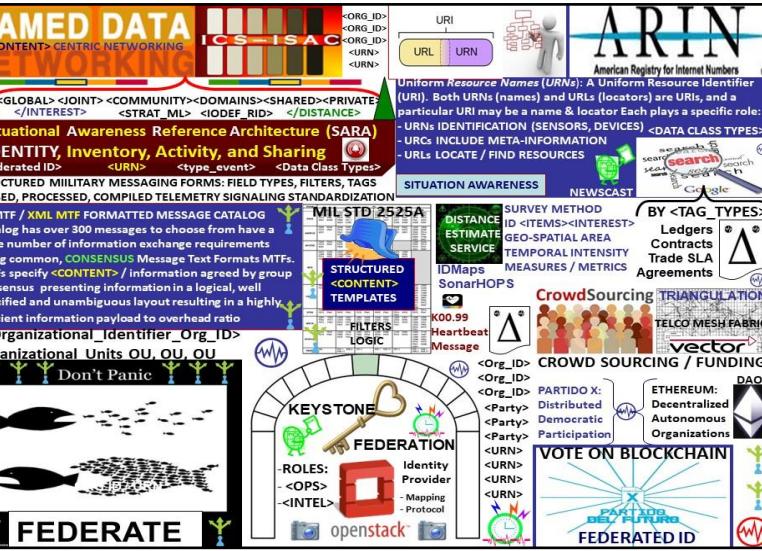
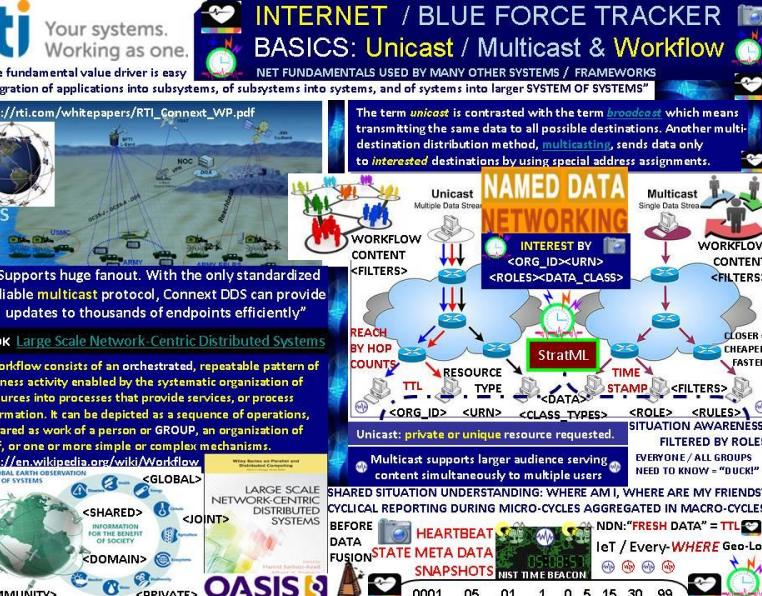
- a modelling methodology to capture in a syntax-independent way financial business areas, business transactions and message flows
- a central dictionary of business items used in financial communications
- a set of XML and ASN.1 design rules to convert the message models into XML or ASN.1 schemas, whenever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

FOUNDATION STANDARDS TECHNOLOGY

- ISO 20022
- MIL STD Structured Data Exchange
- DoD System of Systems Engineering

CONSENSUS ALGORITHMS

- NDN: Named Data Networking
- ARIN, ASN-1
- Binary XML
- 2525 A,B,C,D
- Symbol Sets for Human – A.I.



World Financial Standard ISO 20022 is a multi part international Standard prepared by ISO Technical Committee TC68 Financial Services. It

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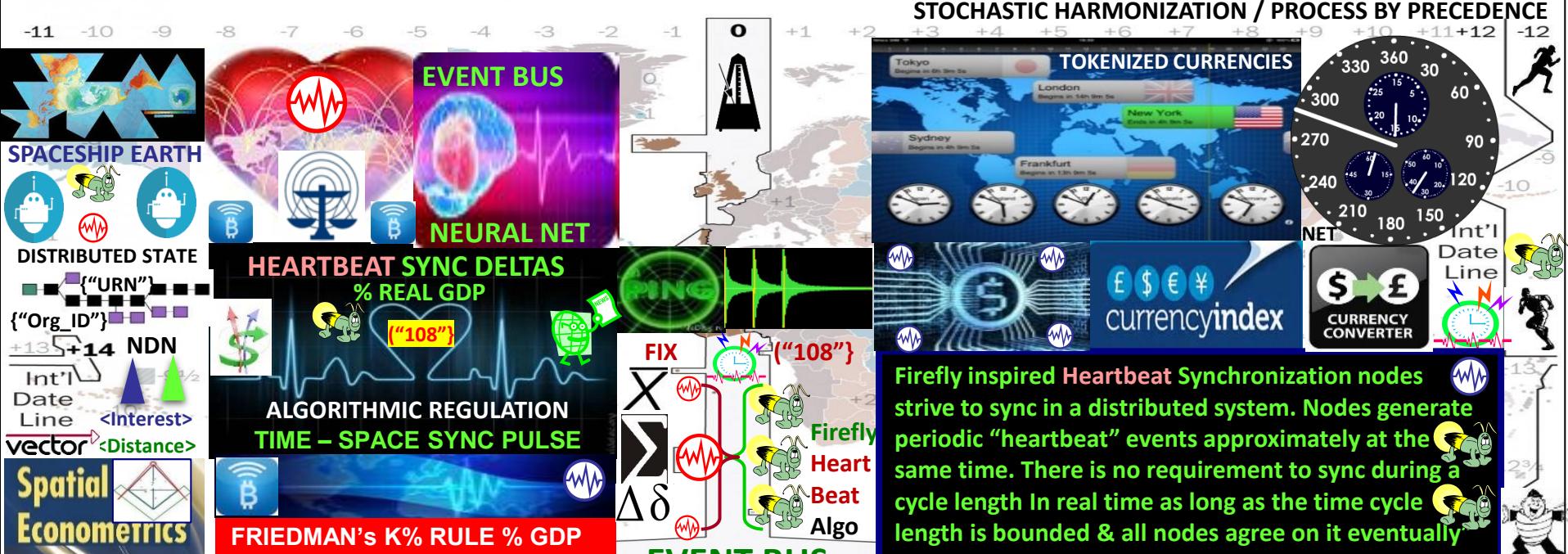
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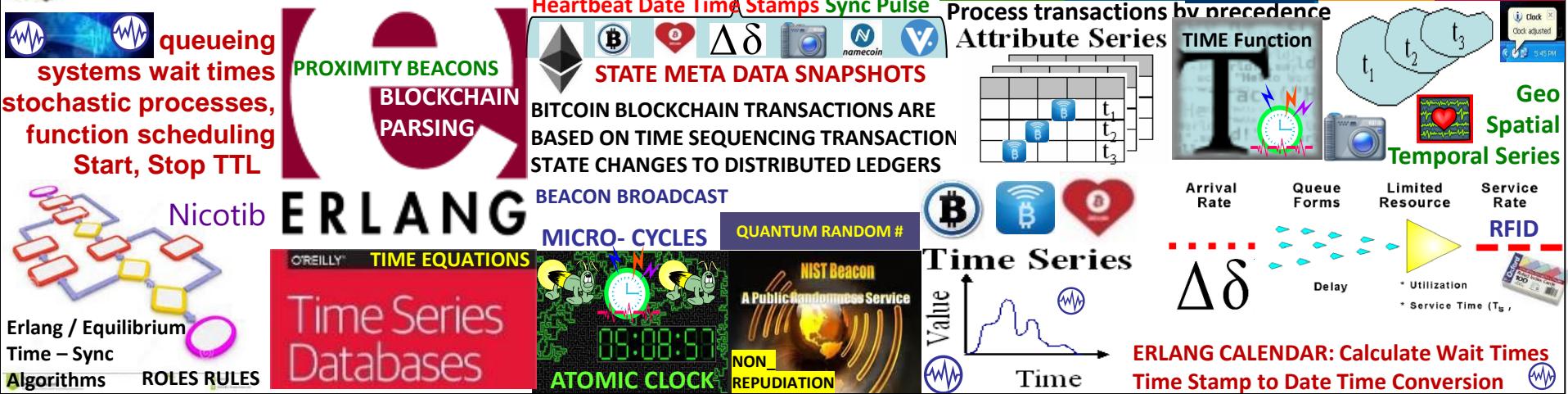
ASN.1-based syntax is preferred ISO 20022: <https://www.iso20022.org/about-iso-20022>

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.



Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic "heartbeat" events approximately at the same time. There is no requirement to sync during a cycle length in real time as long as the time cycle length is bounded & all nodes agree on it eventually.

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"} {"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



INTEREST 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	M - 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



{"Org_ID"}



Blocktime



Arbitrage



Erlang



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	C002 C203 F014 F541 S305 S309	C002 C203 F014 F541 S201 S309	C002 C203 E400 F002 F002 C400 D630 E500 F002 F014
AMDPCS	TOKENS OPSCODE BREVITY CODES	F002 F014 F015 F541 S201	A423 A659 C505 C203 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	Rosetta Stone Syntax Lexicon Coder's Guide	A.I. INFOCON 5 4 3 2 1 INFORMATION CONDITION
AFATDS	A423 A659 C505 C203 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	ASSET TOKENS Token Economy	A423 A659 C505 C203 F014 F015 F541 S201	M2M "SYMBOLS RULE THE WORLD"	"SYMBOLS RULE THE WORLD"
MCS	NEWS SIOP FEDERATED MISSION NETWORKING FMN	NEWS	ASSET TOKENS Token Economy	HEARTBEAT MESSAGE = K00.99 </108> {"108"}	NDN Firefly-Heartbeat Flash Messages	PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS

MESSAGE CATALOG 300 + Use Cases							
Information Categories and Examples							
Object Categories	Examples	Location	Movement	Identify	Status	Activity	Intent
OOB	SYNTAX LEXICON	STRUCTURED DATA lat/long	EXCHANGE spd/hdg	Message country / alliance, type/class	Sets readiness	COA targeting, reconning	{"Java JS"}
Infrastructure	Comm, power, transportation, water/sewer	Machine Trust Language MTL network, grid	throughput, flow rates,	name, part-of relationship	BDA, op level	repair, broadcasts	YAML expansion
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
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth	Attribute Domain Value	PURCHASE CODES Instance, Value	MTF TADILs	DUI	MTF FFIRN / FFN / FUDN

- Information Elements Roles**
- COI Determination Org Interaction
 - Search and Discovery
 - Ontologies STANDARDS
 - Taxonomies REFERENCE
 - Metadata Attributes / Filters ('Org_ID" { "URN" } </URN></URN> FILTERS



FFUDN: Field Format Unit Designator #

FFIRN Field Format Index Reference #

Structured military messaging ID's messages, message sets, data element, symbol fields </108>
BY Form Field Position & NUMBER

{"108"} NDN Firefly-Heartbeat Flash Messages

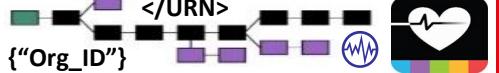
PROCESS MESSAGE BY PRECEDENCE
UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES

DATA	SYSTEM FUNCTIONS	PERFORMANCE
11.4 - Classification	11.8 - Kinematics	11.8.1 - Pos / Vel / Acc (PVA)
11.4.1 - Category	11.8.1.1 - Acceleration	11.8.1.1.1 - Angular
11.4.1.1 - Confidence Level	11.8.1.2 - Estimate Type	11.2 - Linear
11.4.1.2 - Estimate Type	11.4.1.2.1 - Alternative	2 - Estimate Type
11.4.1.2.2 - Evaluated D	11.4.1.2.2 - Evaluated D	1.2.1 - Estimated
11.4.1.3 - Value	11.4.1.3 - Value	1.2.2 - Observed
		1.2.3 - Predicted
		1.2.4 - Smoothed Data
SYMBOL	Friend	Neutral
2525C	Partner	Hostile
		Competitor
11.4.1.3.4 - Substance		
11.4.1.3.5 - Surface		
11.4.1.3.5 - Surface		
11.4.2 - Platform / Point / Feature Type		
11.4.3 - Specific Type		
11.4.4 - Type Modifier		
11.4.5 - Unit		



MIL STD 2525A, B, C, D



20022



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"} {"TRANSACTIONID"} INDEX REFERENCE # M015 STATUS EFFECTIVE: 14-DEC-95 PURCHASE CODES FEDERATED PEGS {"ASSET_CLASS"} {"ASSET_TYPES"} ISO 10383 – MIC Market Identifier Code

MESSAGE TEXT FORMAT:

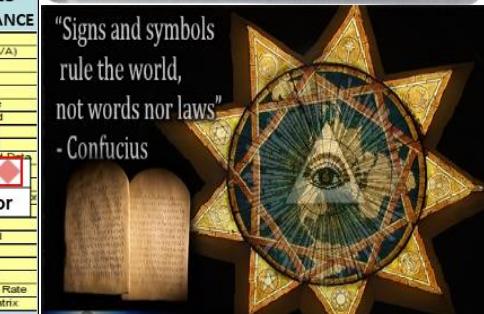
SEG RPT OCC CLASSNAME SETID SEQ FIELD OCCURRENCE SET FORMAT NAME
O 11NPRES EXER 1 /M /O // (NU) EXERCISE IDENTIFICATION
C 11NPRES OPER 2 /M /O /O /O // (NU) OPERATION CODEWORD
M MIOPV1 MSGID 3 /M /M /O /O /O // (NU) MESSAGE IDENTIFIER DISTANCE
M MIP OUT ORDPLAN 4 /M /O /O /O // (NU) PLAN ORDER REFERENCE NDN
SIOP *OUT MSGREF 5 /M /M // (NU) REFERENCED MESSAGE
JUPRES DTG 6 /M // (NU) DATE-TIME GROUP
O ORIGID 7 /M /M /M /M /M /M /M /C // (NU) ORGANIZATION DESIGNATOR INTEREST
M 11NPRES GENTEXT 8 /M /M // (NU) 1.A ENEMY FORCES / COMPETITORS
M 11NPRES GENTEXT 9 /M /M // (NU) 1.B FRIENDLY FORCES / TRADE FEDERATION DAO
M 11NPRES GENTEXT 10 /M /M // (NU) 1.C ATTACHMENT / DETACHMENT
O 11NPRES GENTEXT 11 /M /M // (NU) 1.D COMMANDERS EVALUATION
O 11NPRES GENTEXT 12 /M /M // (NU) 1.E ENVIRONMENTAL INFORMATION
M 11NPRES GENTEXT 13 /M /M // (NU) 2. MISSION </108>K00.99 / FIX / SWIFT / E-911 Heartbeat Message
M 11NPRES GENTEXT 14 /M /M // (NU) 3.A CONCEPT OF OPERATION

O 11NPRES GENTEXT 17 /M /M // (NU) 3) RECONNAISSANCE SURVEILLANCE STOCK NDN NAMED DATA
O 11NPRES GENTEXT 21 /M /M // (NU) 5) INFORMATION OPERATIONS EXCHANGE NETWORKING
O 11NPRES GENTEXT 28 /M /M // (NU) 5) COMMS INFORMATION SYSTEMS MIC CODES PRECEDENCE
O 11NPRES GENTEXT 35 /M /M // (NU) 3.D COORDINATING INSTRUCTIONS FILTERS
M 11NPRES GENTEXT 36 /M /M // (NU) 4.A SUPPORT CONCEPT (Logistics)
M 11NPRES GENTEXT 37 /M /M // (NU) 4.B MATERIEL AND SERVICES BLOCKTIME
SYMBOLS Friend Neutral Hostile MEDICAL EVAC & HOSPITALISATION ARBITRAGE
Partner Competitor - MILITARY OPERATIONS ERLANG
TOKENIZED ECONOMY BREVITY CODE OPSCOSE MAPPE TO SYMBOLS TIME
EQUATIONS

FFIRN Field Format Index Reference # Encyclopedia Britannica:
Structured military messaging ID's
messages, message sets, data
element, symbol fields </108>
BY Form Field Position & NUMBER
("108") NDN Firefly-Heartbeat Flash Messages
SYMBOLS Friend Neutral Hostile MEDICAL EVAC & HOSPITALISATION
Partner Competitor - MILITARY OPERATIONS
TOKENIZED ECONOMY BREVITY CODE OPSCOSE MAPPE TO SYMBOLS



"Signs and symbols rule the world, not words nor laws" - Confucius
"SIGNS AND SYMBOLS RULE THE WORLD, NOT WORDS OR LAWS"



CONFUCIOUS

Patent Application 9/11 2003: Method to commercialize structured military messaging

DoD Systems of Systems Engineering Structured Data Exchange MIL Standards / ISO Standards

BREVITY OPSCODES MAPPED TO SYMBOLS, SYMBOL SETS FOR A.I. ARTIFICIAL INTELLIGENCE MAN – MACHINE INTERFACE

STANDARD, CONSISTENT SYMBOLS

FROM	TO					CODE GUIDE
	GCCS-A	TAIS	ASAS	AMDPCS	AFATDS	MCS
ASAS	C002 C203 F002 F014 F015 F541 S201 S309	C002 C203		C002 C203 F014 F541 S305 S309	C002 C203 F014 F541 S309	
TOKENS 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	OPSCODE BREVITY CODES	F002 F014 F015 F541 S201		F002 F015 F541 S201	C002 C400 D630 E500 F002 F014	
AFATDS	F002 F014 F015 F541 S201			A423 A659 C505 F002 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F565 F756 G489 K01.1 S201 S303	A423 A659 C505 F002 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F565 F756 G489 K01.1 S201 S303	
MCS						

MESSAGE CATALOG 300 + Use Cases

Information Categories and Examples						
Object Categories	Examples	Location	Movement	Identify	Status	Activity
OOB	SYNTAX LEXICON	STRUCTURED DATA	EXCHANGE	Message Sets	readiness	COA {"Java JS"}
Infrastructure	Common power, transportation, water/sewer	lat/long, network, grid	throughput, flow rates, part-of relationships	BDA, op levels	repair, threathazards	YAML expansion plans
Sociological	Culture, religion, economic, ethnic, government, history, languages	temples, historic structures				
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth				



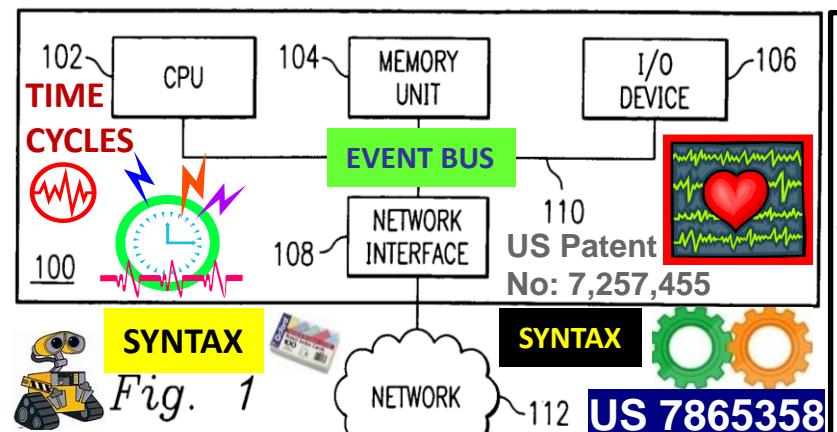
PROCESS MESSAGE BY PRECEDENCE
UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES

DATA SYSTEM FUNCTIONS PERFORMANCE

11.4 - Classification	11.5 - Kinematics
11.4.1 - Category	11.6.1 - 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	11.8.1.2 - Linear
11.4.1.2.2 - Evaluated D	11.8.1.2.1 - Estimated
PURCHASE CODES	11.8.2 - Observed
11.4.1.3 - Value	11.8.2.2 - Predicted
	11.8.2.3 - Smoothed

SYMBOL	Friend	Neutral	Hostile
2525C	Partner		Competitor



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.

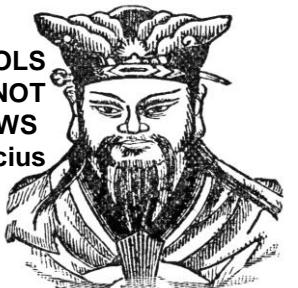
US 7865358 CLAIM 1. method converting textual data from source form to target forms, where target form differs from source form's linguistics, syntax

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, i.e.

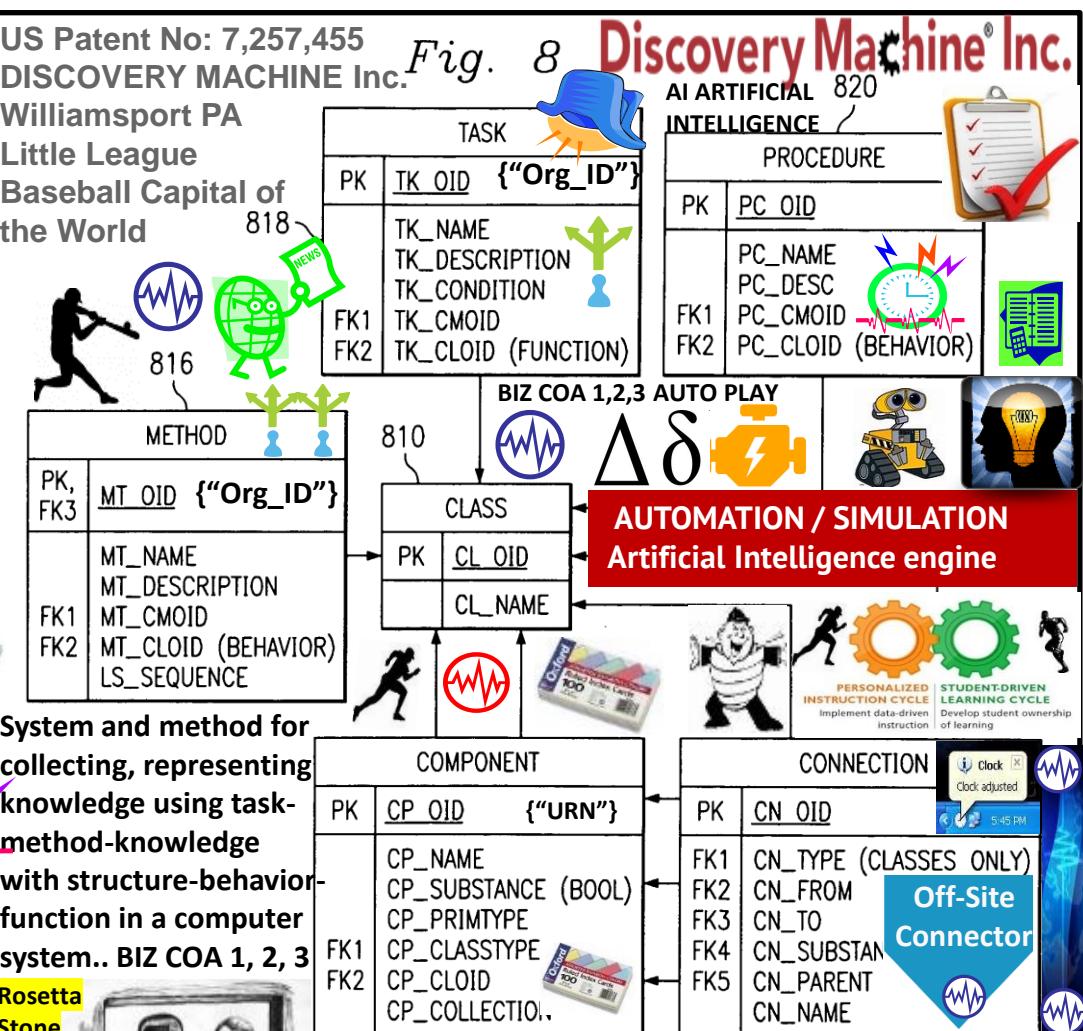
"SIGNS AND SYMBOLS RULE THE WORLD, NOT RULES OR LAWS"

NATO OTAN RULE THE WORLD, NOT RULES OR LAWS



Alpha-numeric OPSCODE

Brevity codes mapped to symbols, Symbol sets = structured data

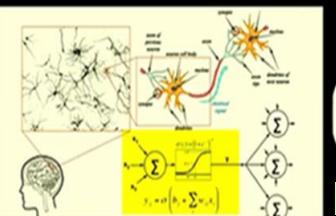


2525 Series
Symbol Set
Libraries



Neuro-Symbolic AI

Neural Networks
(Deep Learning)

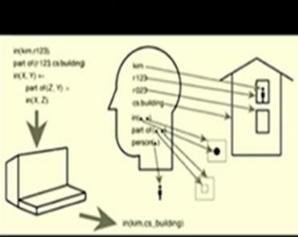


Breaking the world into symbols (rather than neurons)

Brevity
Codes

Symbols
Symbol

Sets 2525C



Incorporate common sense reasoning and knowledge about the world into the AI system

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

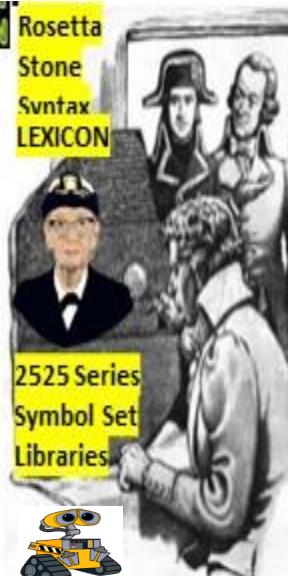
This claim implies both that human thinking is a kind of symbol manipulation (because a symbol system is necessary for intelligence) and that machines can be intelligent (because a symbol system is sufficient for intelligence).[3] The idea has philosophical roots in Hobbes (who claimed reasoning was "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



"SIGNS AND SYMBOLS
NATO RULE THE WORLD, NOT
OTAN RULES OR LAWS



Confucius

Alpha-numeric OPS CODE

Brevity codes mapped to symbols,
Symbol sets = structured data

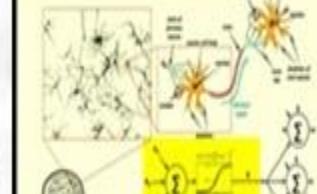
FRZ TLP CLOUD
FKS FDN PAREN

ABCA OPS CODE BREVITY CODES

Neuro-Symbolic AI

Symbolic (human-readable)
representations

Neural Networks
(Deep Learning)



Brevity
Codes



Symbols



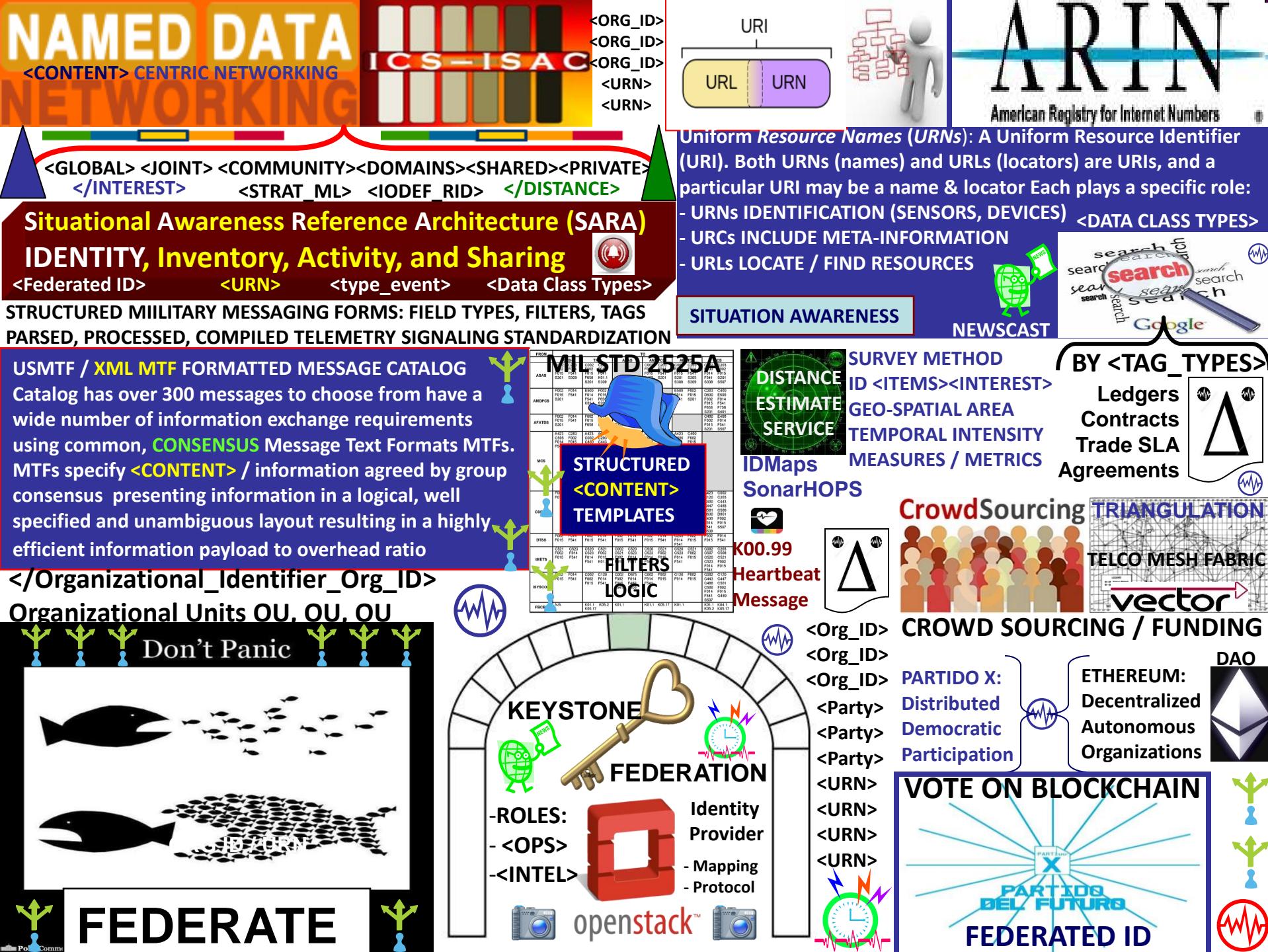
Symbols

Symbolic AI



Symbolic
AI

Incorporate common sense reasoning and



Situational Awareness Reference Architecture (SARA)

Identity, Inventory, Activity, and Sharing

<http://ics-isac.org/sara/>



IDENTITY: <UUID> = Devices, sensors
Federation Gateway <ORG_ID> Organizations

<ELEMENTS>

STRATML / IODEF RID CLASSES:
<GLOBAL><JOINT><SHARED>
<DOMAIN><FEDERATION>
<CITY><STATE><PRIVATE>

STRATEGIC MARKUP

StratML

LANGUAGE

Industrial Control System Information Sharing and Analysis Center

INVENTORY: Uniform Resource Name <URN>

<URN><URN> <NEWS>
<URN><URN> <COMMODITY><WATER><ENERGY><AVAILABLE UNITS>
<URN><URN> vector <GEO-SPATIAL TEMPORAL INTENSITY METRICS / METERS>

UNIFIED EVENT / ALERT TRIGGER / THRESHOLDS

ACTIVITY: <EVENT><ALERT> <TIME_STAMP><ORG_ID><URN>

<GEO_LOC_GPS><STATUS>
<Halt><Moving><Stale><Ready>

CONTENT LEXICON
ROSETTA STONE

SHARING:

COMMON <TAGS>
<Organizational_ID>
Resource Names <URN>
<Time_Stamps>
<State-Meta_Data>
<DATA_CLASS_TYPE>
<Heartbeat_snapshots>



AVALANCHE

WELCOME TO THE FS-ISAC SECURITY AUTOMATION GROUP. OUR VISION IS A FEDERATED NETWORK OF STIX-BASED REPOSITORIES SHARING INTELLIGENCE IN REAL-TIME. AVALANCHE: STRENGTH IN NUMBERS, SECURELY SHARE INTELLIGENCE

NIST CYBER SECURITY FRAMEWORK

FROM	F002	F003	F004	TAB	AAB	AMOPCS	AFAT08	MCB
AA00	F013	F014	F015	F014	F001	C001	F001	E002
AMOPCS	F013	F014	F015	F014	F001	C001	F001	E002
AFAT08	F013	F014	F015	F014	F001	C001	F001	E002
MCS	F002	F003	F004	F004	F001	C001	F001	E002
CBICS	F002	F003	F004	F004	F001	C001	F001	E002
DTB8	F002	F014	F003	F001	F001	F001	F001	F001
IMETS	F001	F001	F001	F001	F001	F001	F001	F001
ISYCON	F002	F014	F003	F001	F001	F001	F001	F001
FB002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

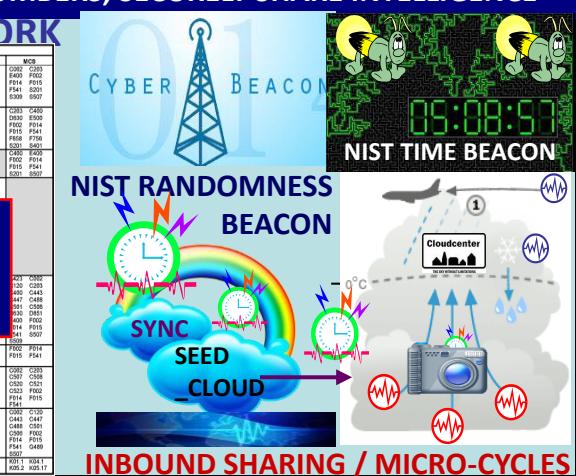
STRUCTURED <CONTENT> TEMPLATES

NIEM
NAMED DATA NETWORKING

<Content> Centric
NETWORKING

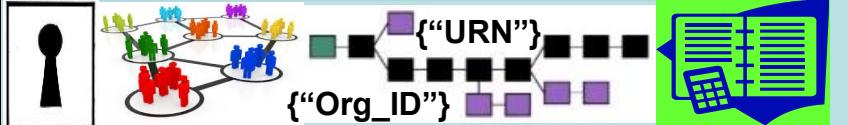
USMTF / XML MTF FORMATTED MESSAGE CATALOG
Catalog has over 300 messages to choose from have a wide number of information exchange requirements using common, CONSENSUS Message Text Formats MTFs specify <CONTENT> / information agreed by group consensus presenting information in a logical well specified and unambiguous layout i.e., templates

<TAG> LIBRARY



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

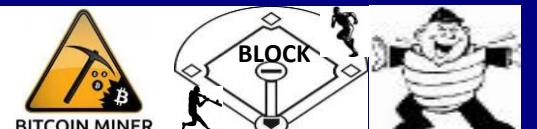


{"GLOBAL"}
{"SHARED"}
{"DOMAIN"}
{"COMMUNITY"}
{"PRIVATE"}
{"GROUP ID"}



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

{"Asset_Type"}

</RESOURCE> {"URN"}
{"Asset_Class"} </URN>

Office 365 Groups
Microsoft Teams

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

STOCK EXCHANGE
MIC MARKET IDENTIFIER
CODES / BREVITY CODES



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



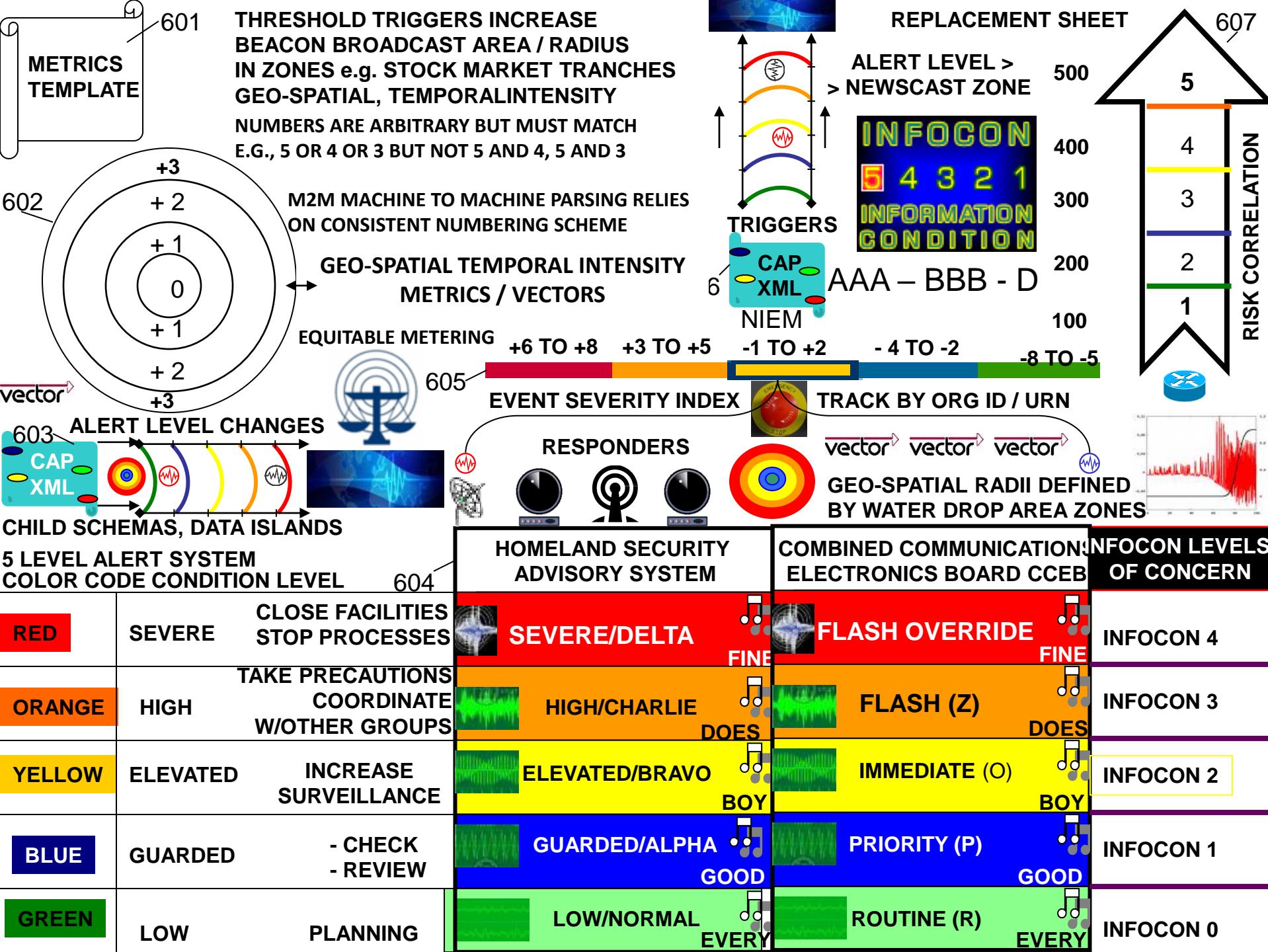
EVENT BUS

Signalling, Telemetry



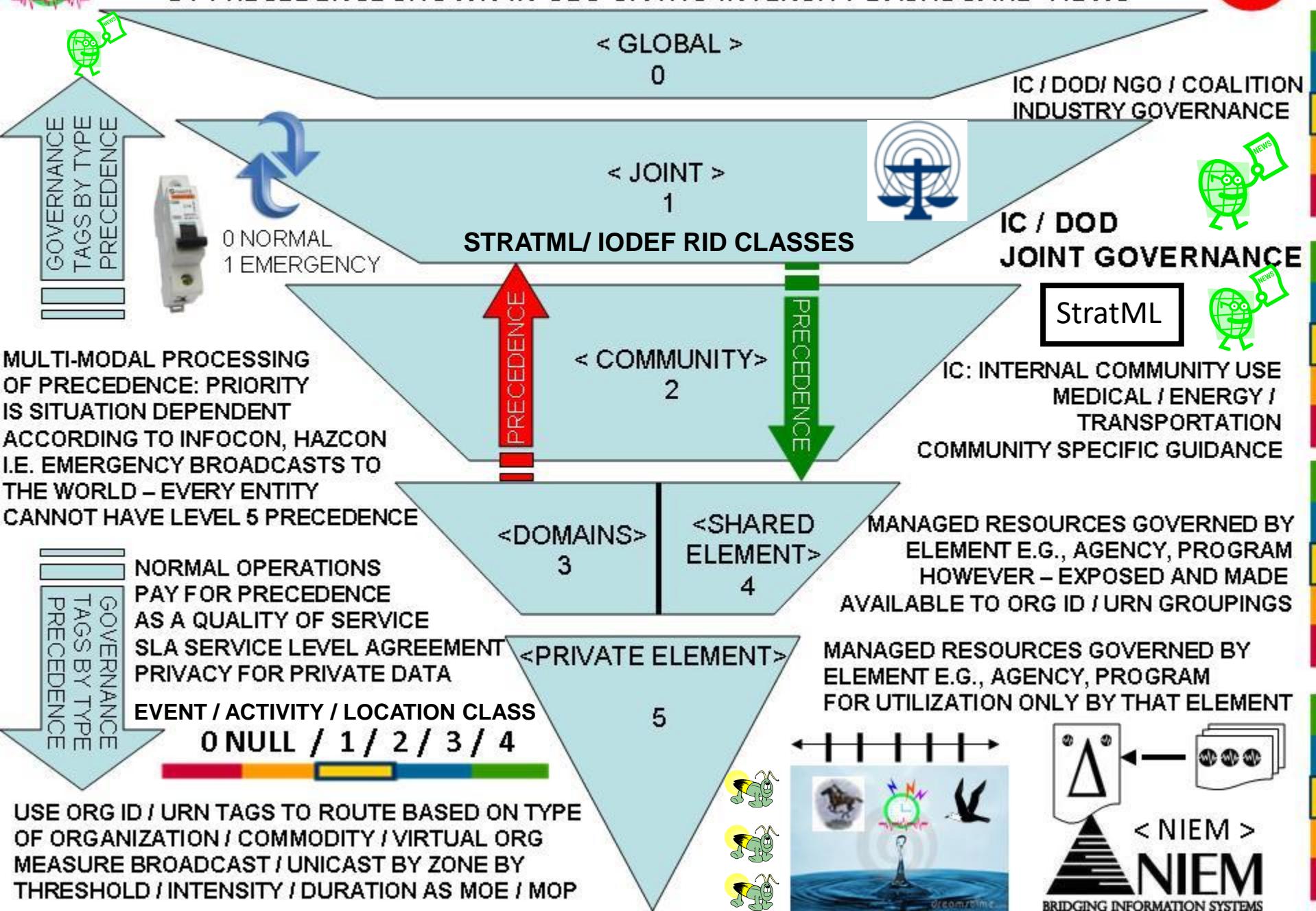
FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME







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



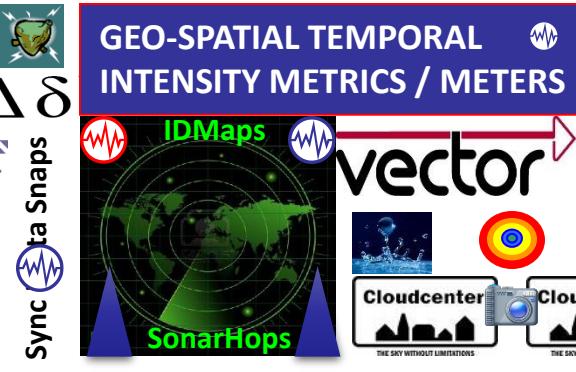
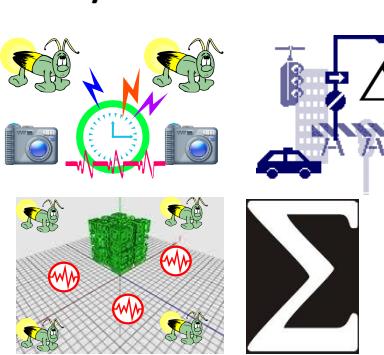




IDMaps: Global Internet Host Distance Estimation Service



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



IDMaps scalable Internet-wide architecture measures, disseminates distance information

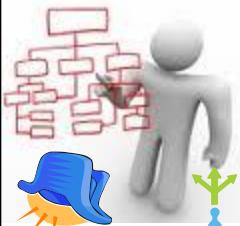


Higher-level services collect distance information to build a virtual distance map of Internet & estimates distance between any IP address pair



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

Name Prefix
<Org_ID> Trie (NPT)



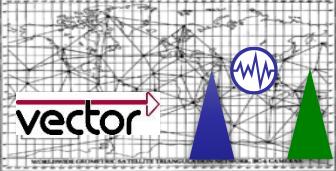
NDN NAMES

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



NDN INTEREST LENGTH = DISTANCE BY HOPS

NDN INTEREST

IS DATA FRESH ?



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



HEARTBEAT STATE META DATASNAPSHOTS

NDN INTEREST LIFETIME = TTL Time To Live

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:



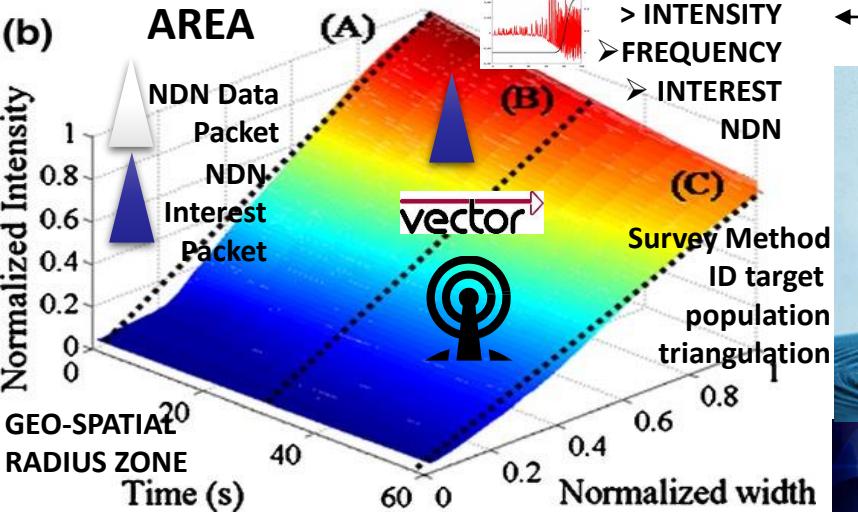
Paul Revere = linear, sequential



TCP/IP hop by hop counts, by hop controls



Water Drop = AREA / INTENSITY Cyclic Frequency



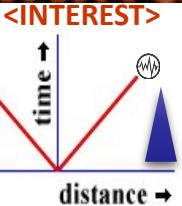
NAMED DATA NETWORKING

</IoT>
MQTT



NIST TIME BEACON

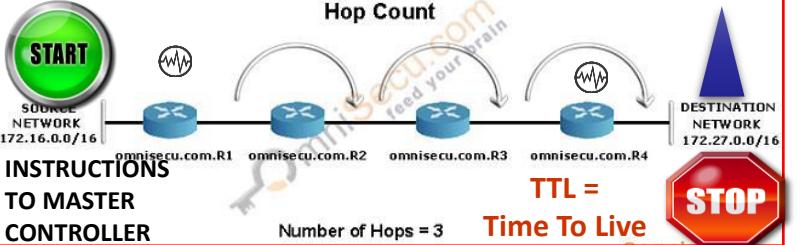
05:08:50



ARRESTED-D

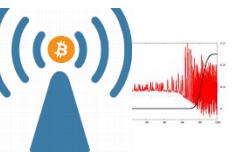
IEEE 802.15.4
OASIS MQTT

TELEMETRY TRANSPORT



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

IDMAPS
SONARHOPS
INTERNET
TRIANGULATION



vector WirelessHART

time synchronized,
self-organizing,
mesh Net

ALERT LEVEL >
> NEWSCAST ZONE

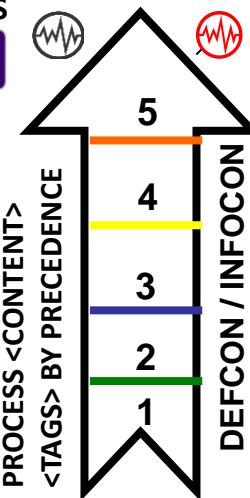


SINE-WAVE

TRIGGERS
CAP XML

NDN

<INTEREST> BY
INTENSITY / FREQUENCY



INFOCON
MTF
300 +
MSG
INFORMATION CONDITION

5 4 3 2 1

DEFCON / INFOCON

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”

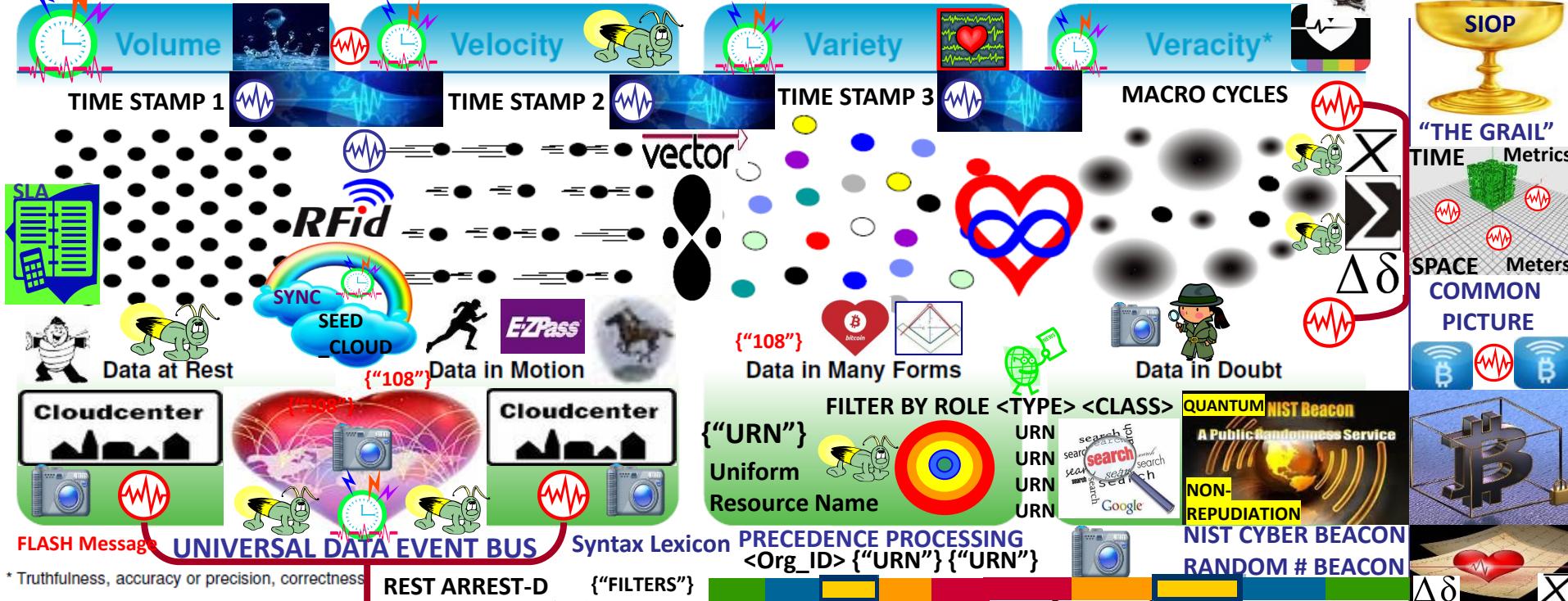


The four dimensions of Big Data

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

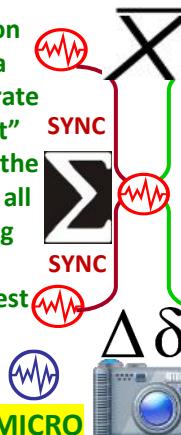


* Truthfulness, accuracy or precision, correctness

FIREFLY – HEARTBEAT {"108"}
Stochastic Harmonization UTZ SYNC

Heartbeat synchronization strives to have nodes in a distributed system generate periodic, local “heartbeat” events approximately at the same time with a goal of all nodes starting and ending cycles at the same time eventually = map to closest OPTEMPO HEARTBEAT

State Meta Data
Heartbeat Snaps



ERLANG

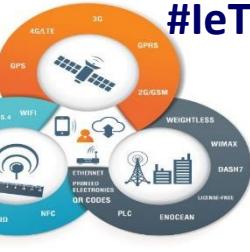
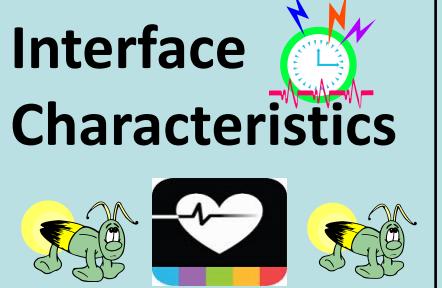
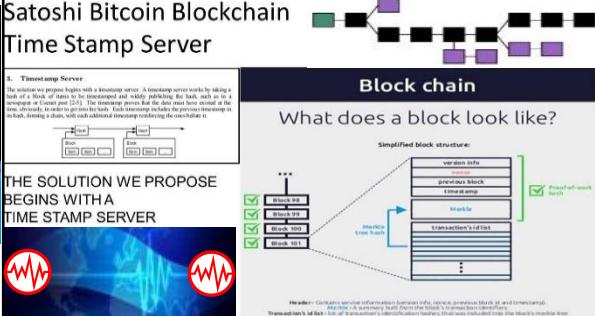
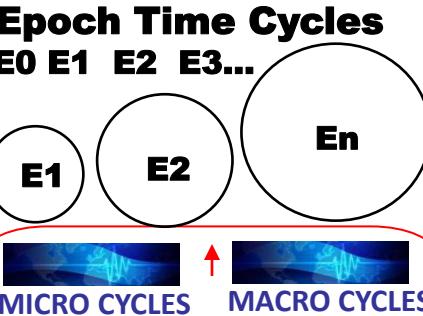
{"Org_ID"} {"URN"}

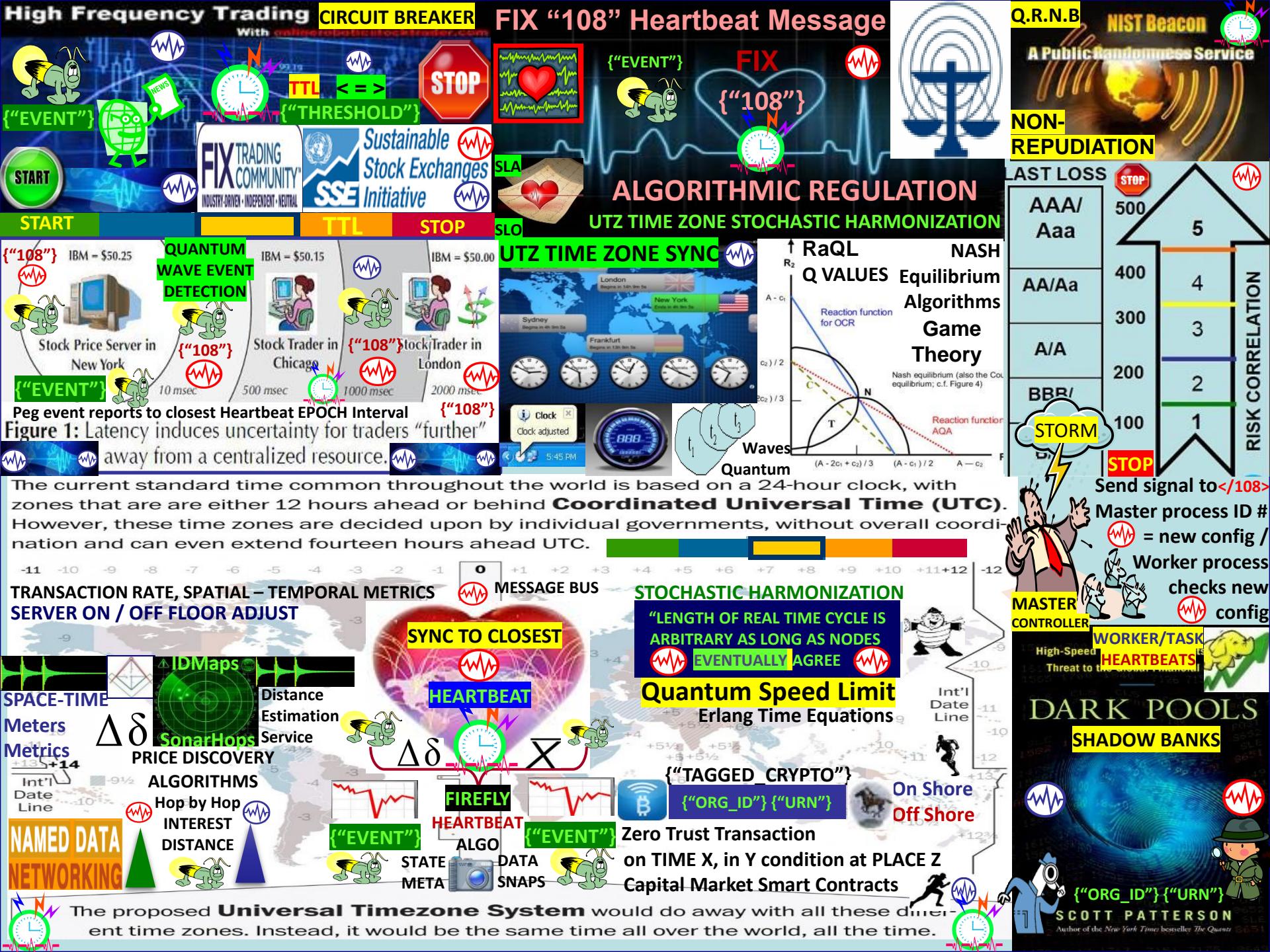


FOAM spatial protocol Ethereum Blockchain

World Computer Neural Network



Interface Name	HEARTBEAT Administration Interface [SCOP]		
Documentation URL	http://scop.sourceforge.net/ http://linuxvirtualserver.org/software/index.html		
API Information	 	#Big_Data  	Cloud Interface Management configuration, start, stop cloud services, edit configuration (heartbeat messages)
Programmable Money World Computer / Blockchain	 	API Operation Count	
Interface Characteristics		Web service access type Network Effects / A.I. LANGUAGE / PLATFORM BINDINGS	Web application, front end to [network, device, system, blockchain] heartbeat  
<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>SCOP is a web application, PHP based front-end to heartbeat, IP Virtual Server ipvs and Idirectord [e.g., check interval @ 5 seconds]</p> <p>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>	 
<p>QubitCoin Interval: Every 30 Seconds</p>			



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

DISTANCE
INFO SERVICE

Time Series

Value
Time

vector

602



UNUSED RESOURCES
UNMET NEEDS

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

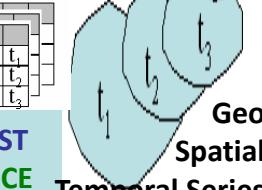
CLOSER SOURCE
CHEAPER RATE

TCP/IP HOP BY HOP COUNT
Energy Attenuates over Distances

PAUL REVERE
LINEAR, SEQUENTIAL

RADIUS
WATER DROP IN POND MEME

Attribute Series



INTEREST
DISTANCE

Temporal Series



Micro Grids Closer - Cheaper

BLOCKCHAIN
MICROGRIDS

Spatial
Econometrics

Spaceship
Earth
Signals &
Telemetry
Annex

ASTEROID BELTS =
RARE MINERALS



MAIN
ASTEROID
BELT

Farther = More Cost

➤ Fuel, Resources

Service Level Agreements

FIREFLY-HEARTBEAT
ALGORITHM
UNIVERSAL
EVENT MESSAGE BUS

ERLANG

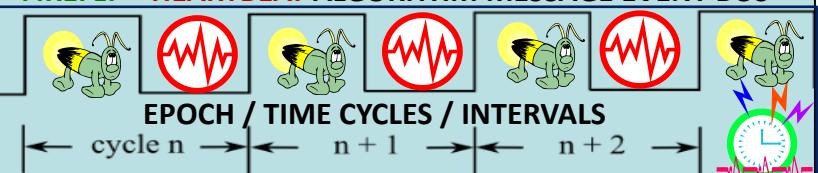
TIME- SPACE METRICS

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

FIREFLY – HEARTBEAT ALGORITHM MESSAGE EVENT BUS



EPOCH / TIME CYCLES / INTERVALS

← cycle n → ← n + 1 → ← n + 2 →

TIME-SPACE BEACON

INFOCON

5 4 3 2 1

INFORMATION
CONDITION

METRICS / METERS

TRADE WITH EARTH

???



SIRIUS DISCLOSURE

MOON =

HELIUM 3

"Numbers are the
Universal Language
offered by deity to humans as
confirmation of the truth"



Alpha
Numeric
Brevity
Codes

SYNTAX
LEXICON

K00.99



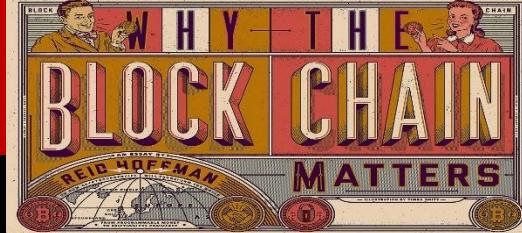
ANDERSON
INSTITUTE

HEART BEACON CYCLE: ALL THINGS INTERNET ARE PROGRAMMED USING TIME CYCLES USED / NOT USED TO PROCESS / NOT PROCESS SYNTAX

TradeNet

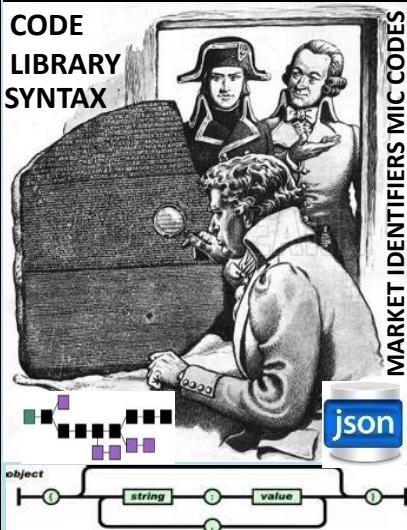


Programmable Money \$\$\$



RIED HOFFMAN 15 May 2015 [LINK](#)

"The CODE that secures Bitcoin could also power an alternate Internet [LINK](#)



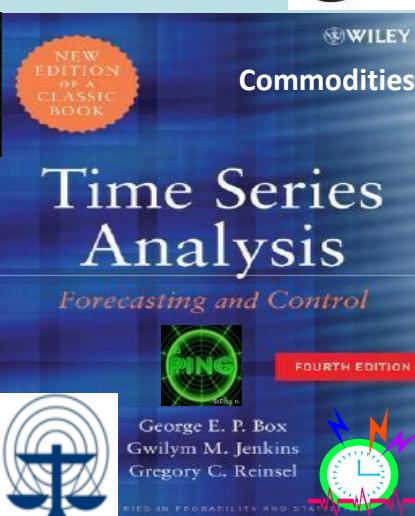
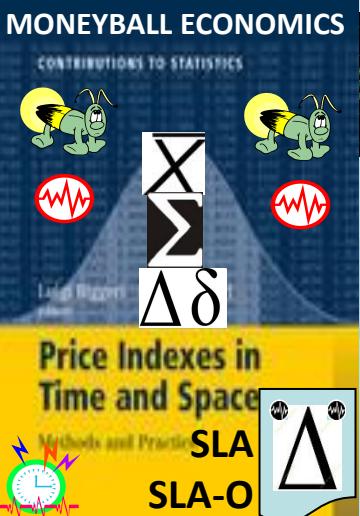
FROM	TO	MCS
ASAS	PSM1	F400
ARDCPS	PSM1	F401
MFATOS	PSM1	F402
ICRS	PSM1	F403
CSCS	PSM1	F404
OTRS	PSM1	F405
WETS	PSM1	F406
ISYCON	PSM1	F407
FRICS	PSM1	F408

ORGANIZATIONS



</Org_ID>
{"URN"}
Organizational Units OU, OU

Bitcoin and the blockchain function as a medium of exchange, a store of value, a unit of account. Bitcoin adds digital, cryptographic, distributed server functions to currencies. Because it functions simultaneously as a currency, an asset and a platform, Bitcoin is better described as a global cryptoCAP (currency, asset, platform) -- a synergistic form of "cryptocapital" to unleash the full economic power of the networked age. **Bitcoin makes money PROGRAMMABLE. MONEY IS SIMPLY DATA** - a simple way to measure and keep track of exchanges in value wealth accumulation. Bitcoin aggregates data in a distributed global ledger accessible to anyone, and software. First open platform for financial services. Color coins represent stocks, bonds, currencies,..





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* $\Delta\delta$ queueing systems wait times
Service Rate per unit time stochastic processes, function scheduling Start, Stop TTL

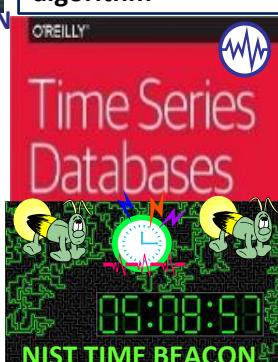


distributed "noSQL" database, embedded right into Erlang, supports indexing, replication, transactions, and fail-over

Fast ETS in-memory, and DETS persistent on-disk database

Mnesia database ("Organization_ID") Global name resolution

FROM	SOCA	THAI	ABAD	AMPOCE	AFATON	WIC
ANODR	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK
AFATON	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK
WIC	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK
AZURE	BLETCHLEY					
STRUCTURED						
MILITARY MESSAGE						
TEMPLATE FORMS						
LOGIC / FILTERS						



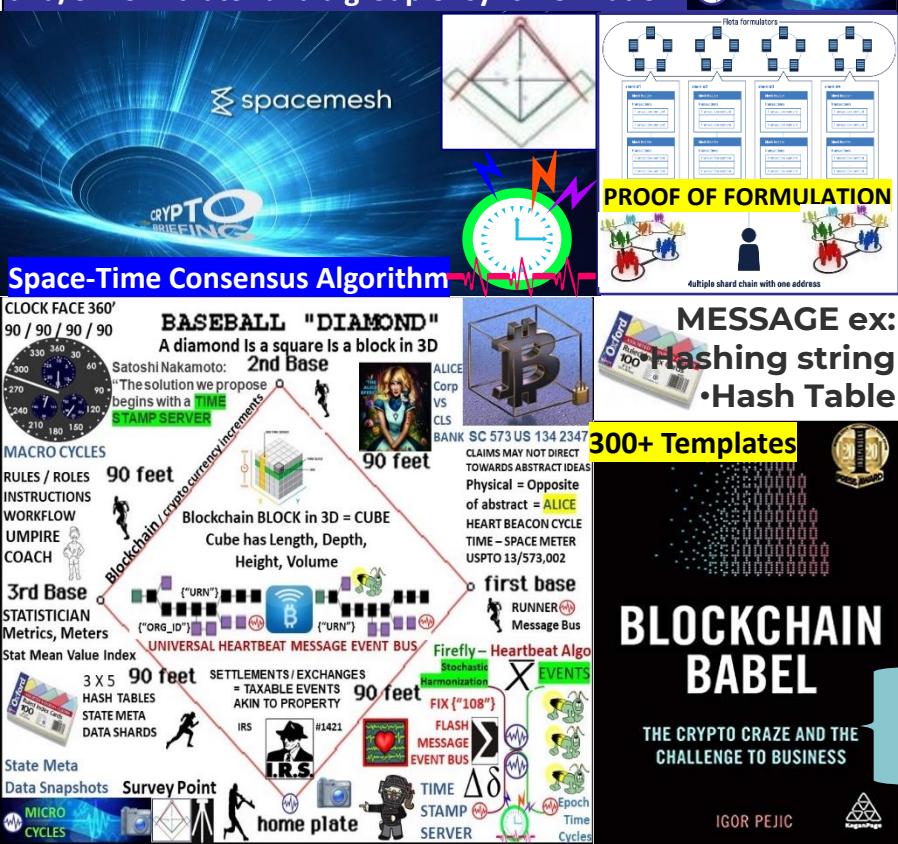
Q: Which meme describes the myriad blockchain consensus algorithms the most comprehensively that uses an algorithm (based on nature = “shortest path to the knowledge of truth Luxor Temple) enabling distributed system of systems geo-spatial, UTZ Universal Time Zone temporal, semantic - syntactic sync,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

Blockchain Consensus Algorithms & Mechanisms



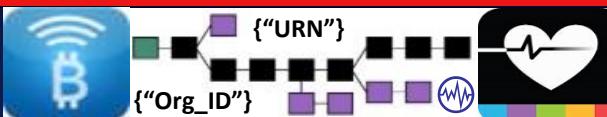
In the world of blockchain consensus algorithms, consensus is the **HEART OF THE BLOCKCHAIN NETWORK**. Its main purpose is to achieve agreement on transactions among a distributed system (s)

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



NON REPUDIATION

Proof-of-Work

Proof-of-Weight

Proof-of-Stake

Delegated Proof-of- Stake

20

S

8

N
S

15

1

POET

1

1

EI

Practical antine Fault

www.developcoins.com

structured Data Exchange SYNTAX LEXICON

PPSCODES – Symbol Sets

Simplified Byzantine Fault Tolerance

SOURCE: <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



{"108"}

STATISTICAL MEAN VALUE INDEX PULSE

GDP INDEX ECONOMY K% RULE



E \$ € ¥
currency index



{"108"}



{"108"}



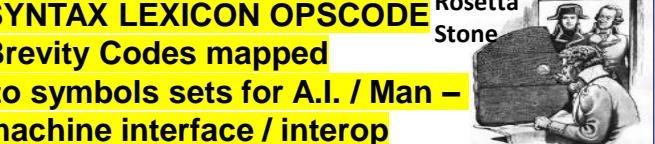
Δδ X



Price Indexes in
Time and Space
Methods and Practice



QRNB NIST Beacon
A Public Randomness Service



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

Place Order X ritaseum™



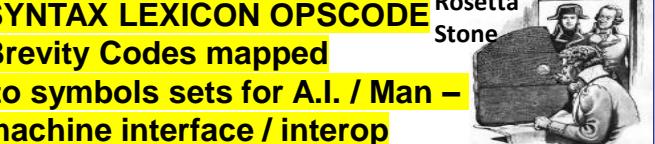
Heartbeat Flash Messages Precedence Processing



QRNB NIST Beacon
A Public Randomness Service



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



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



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



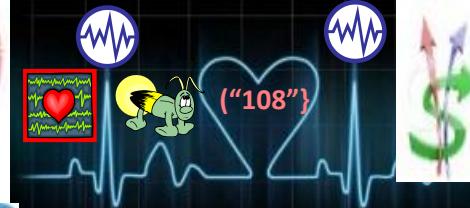
- Creates an online store for users to sell goods for Bitcoin
- Connects these stores directly to each other on a global network
- Users browse individual stores, search for products across whole network
- A buyer directly connects, purchases good from the merchant using Bitcoin
- Bitcoin payments via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

OPENBAZAAR.ORG
BLOCKCHAIN ARBITRAGE



SLA CLOSER = < \$
CLOSER = < CO2

COMMODITIES
ECONOMIC HEARTBEAT



STAT MEAN VALUE PULSE
REAL WORLD ASSETS RWA

STAT MEAN VALUE INDEX



SchellingPoint

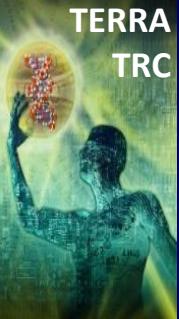
OpenBazaar is a different approach to online commerce. OpenBazaar connects buyers and sellers directly. Because there is no one in the middle of your transactions there are no fees, no restrictions, no accounts to create, and you only reveal personal information you choose.

PROJECT PHILOSOPHY: MAKE TRADE FREE

Mission: shift trade to a decentralized platform



Demurrage TERRATRC TRADE
Fees REFERENCE CURRENCY
“Money of Peace”



CONTRIBUTIONS TO STATISTICS

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>



Price Indexes in
Time and Space

- Users should fully control their data. Users have freedom to reveal as much personal identifiable information as they want, when they want



Bitcoin: OpenBazaar transactional currency



Cryptographic Security

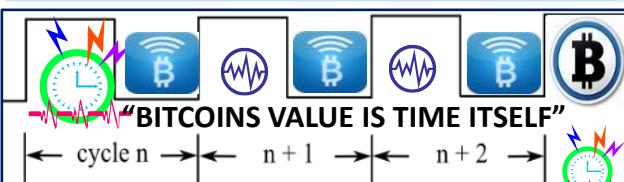
- tamper-proof agreements
- 1) minimize potential disputes
- 2) fast-track dispute resolution



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

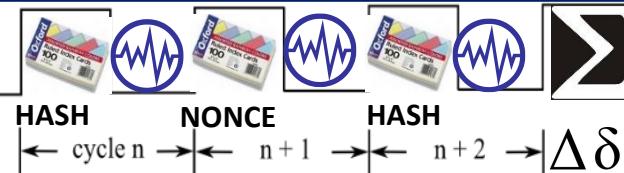


THROTTLE equivalent to difficulty. State
•target = maximum value of 8 bytes Snap
(2^{64}) divided by the difficulty.

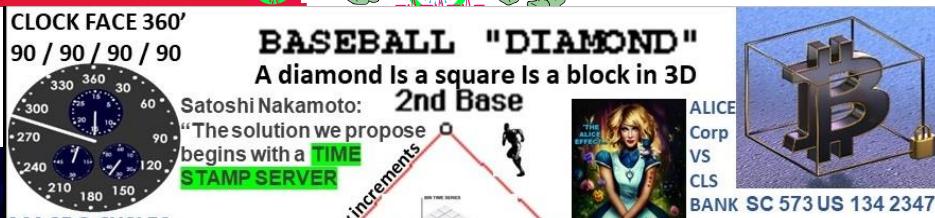
NONCE increments from 0..N until the target is met.



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

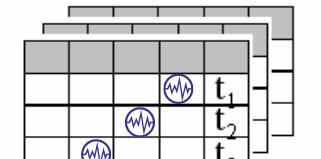


MESSAGE example:
Hash string
•Hash Table

300+Message Templates

FROM	ODERA	TABE	AAAB	APICPE	AFATOB	WTR
ABAB	CG201	CG202	CG203	CG204	CG205	CG206
ANPICA	CG301	CG302	CG303	CG304	CG305	CG306
ANPICA	CG401	CG402	CG403	CG404	CG405	CG406
ANPICA	CG501	CG502	CG503	CG504	CG505	CG506
ANPICA	CG601	CG602	CG603	CG604	CG605	CG606
ANPICA	CG701	CG702	CG703	CG704	CG705	CG706
ANPICA	CG801	CG802	CG803	CG804	CG805	CG806
ANPICA	CG901	CG902	CG903	CG904	CG905	CG906
ANPICA	CGA01	CGA02	CGA03	CGA04	CGA05	CGA06
ANPICA	CGB01	CGB02	CGB03	CGB04	CGB05	CGB06
ANPICA	CGC01	CGC02	CGC03	CGC04	CGC05	CGC06
ANPICA	CGD01	CGD02	CGD03	CGD04	CGD05	CGD06
ANPICA	CGE01	CGE02	CGE03	CGE04	CGE05	CGE06
ANPICA	CGF01	CGF02	CGF03	CGF04	CGF05	CGF06
ANPICA	CGH01	CGH02	CGH03	CGH04	CGH05	CGH06
ANPICA	CGI01	CGI02	CGI03	CGI04	CGI05	CGI06
ANPICA	CGJ01	CGJ02	CGJ03	CGJ04	CGJ05	CGJ06
ANPICA	CGK01	CGK02	CGK03	CGK04	CGK05	CGK06
ANPICA	CGL01	CGL02	CGL03	CGL04	CGL05	CGL06
ANPICA	CGM01	CGM02	CGM03	CGM04	CGM05	CGM06
ANPICA	CGN01	CGN02	CGN03	CGN04	CGN05	CGN06
ANPICA	CGP01	CGP02	CGP03	CGP04	CGP05	CGP06
ANPICA	CGQ01	CGQ02	CGQ03	CGQ04	CGQ05	CGQ06
ANPICA	CGR01	CGR02	CGR03	CGR04	CGR05	CGR06
ANPICA	CGS01	CGS02	CGS03	CGS04	CGS05	CGS06
ANPICA	CGT01	CGT02	CGT03	CGT04	CGT05	CGT06
ANPICA	CGU01	CGU02	CGU03	CGU04	CGU05	CGU06
ANPICA	CGV01	CGV02	CGV03	CGV04	CGV05	CGV06
ANPICA	CGW01	CGW02	CGW03	CGW04	CGW05	CGW06
ANPICA	CGX01	CGX02	CGX03	CGX04	CGX05	CGX06
ANPICA	CGY01	CGY02	CGY03	CGY04	CGY05	CGY06
ANPICA	CGZ01	CGZ02	CGZ03	CGZ04	CGZ05	CGZ06
ANPICA	CGA01	CGA02	CGA03	CGA04	CGA05	CGA06
ANPICA	CGB01	CGB02	CGB03	CGB04	CGB05	CGB06
ANPICA	CGC01	CGC02	CGC03	CGC04	CGC05	CGC06
ANPICA	CGD01	CGD02	CGD03	CGD04	CGD05	CGD06
ANPICA	CGE01	CGE02	CGE03	CGE04	CGE05	CGE06
ANPICA	CGF01	CGF02	CGF03	CGF04	CGF05	CGF06
ANPICA	CGH01	CGH02	CGH03	CGH04	CGH05	CGH06
ANPICA	CGI01	CGI02	CGI03	CGI04	CGI05	CGI06
ANPICA	CGJ01	CGJ02	CGJ03	CGJ04	CGJ05	CGJ06
ANPICA	CGK01	CGK02	CGK03	CGK04	CGK05	CGK06
ANPICA	CGL01	CGL02	CGL03	CGL04	CGL05	CGL06
ANPICA	CGM01	CGM02	CGM03	CGM04	CGM05	CGM06
ANPICA	CGN01	CGN02	CGN03	CGN04	CGN05	CGN06
ANPICA	CGP01	CGP02	CGP03	CGP04	CGP05	CGP06
ANPICA	CGQ01	CGQ02	CGQ03	CGQ04	CGQ05	CGQ06
ANPICA	CGR01	CGR02	CGR03	CGR04	CGR05	CGR06
ANPICA	CGS01	CGS02	CGS03	CGS04	CGS05	CGS06
ANPICA	CGT01	CGT02	CGT03	CGT04	CGT05	CGT06
ANPICA	CGU01	CGU02	CGU03	CGU04	CGU05	CGU06
ANPICA	CGV01	CGV02	CGV03	CGV04	CGV05	CGV06
ANPICA	CGW01	CGW02	CGW03	CGW04	CGW05	CGW06
ANPICA	CGX01	CGX02	CGX03	CGX04	CGX05	CGX06
ANPICA	CGY01	CGY02	CGY03	CGY04	CGY05	CGY06
ANPICA	CGZ01	CGZ02	CGZ03	CGZ04	CGZ05	CGZ06

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.

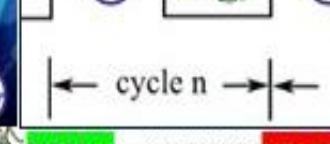
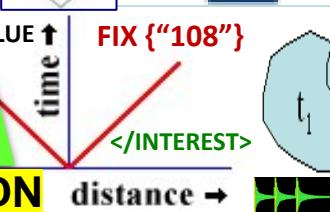
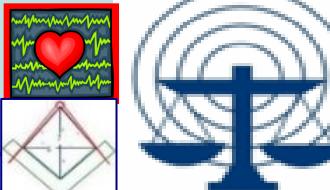


TIME – SPACE MEASUREMENTS OF TOKENIZED COMMODITIES, SECURITIES... STOCHASTICALLY HARMONIZED ACROSS UTZ Universal Time Zone



The Volumetric Weight is often referred to as dimensional weight

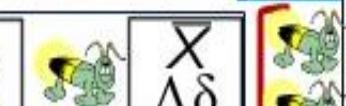
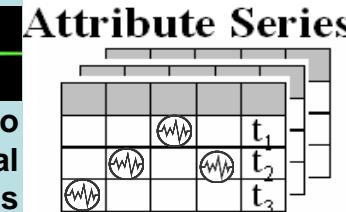
$$\text{Volumetric Weight} = [\text{Width} \times \text{Length} \times \text{Height}]$$



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



On the Filecoin blockchain, for example, the amount of IPFS data that a user is storing is used as the weighted value.



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.



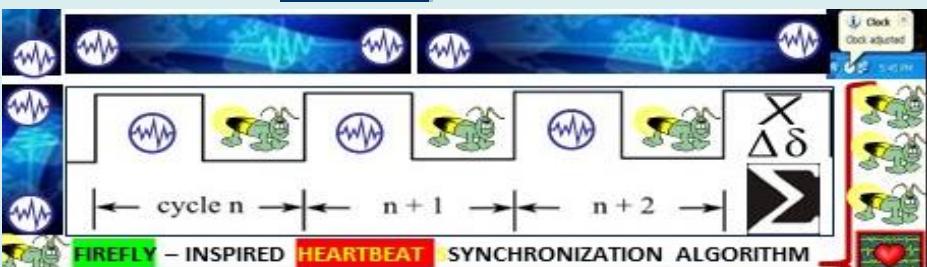
DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS

Linear Sequential Meme

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



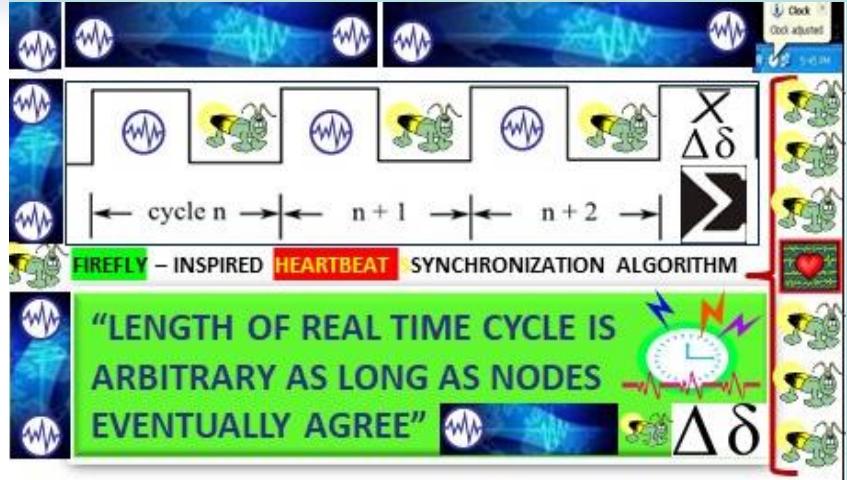
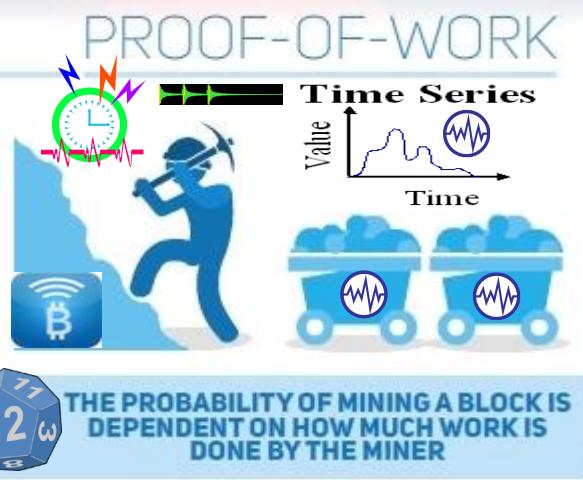
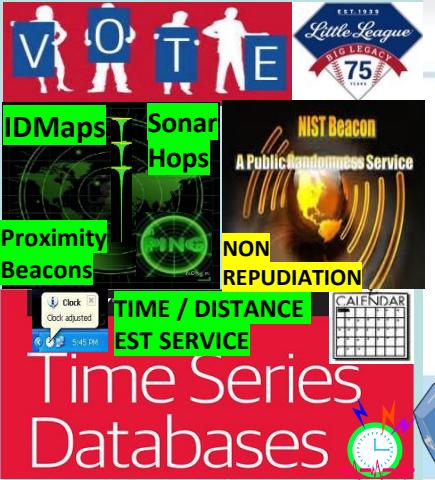


Adaptive
Procedural
Checklist

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

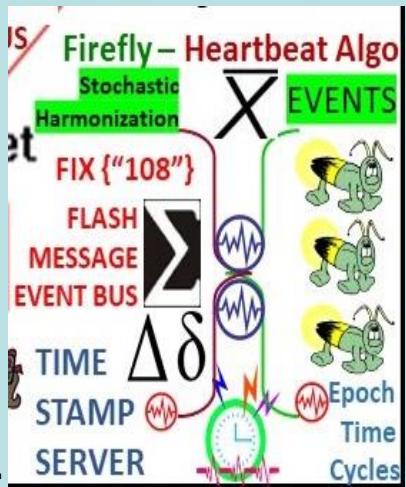
Example of Proof-of-Activity (PoA)

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.



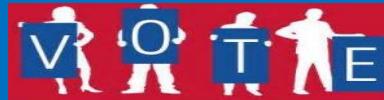
PROOF-OF-WORK

HEART BEACON CYCLE 13/573,002

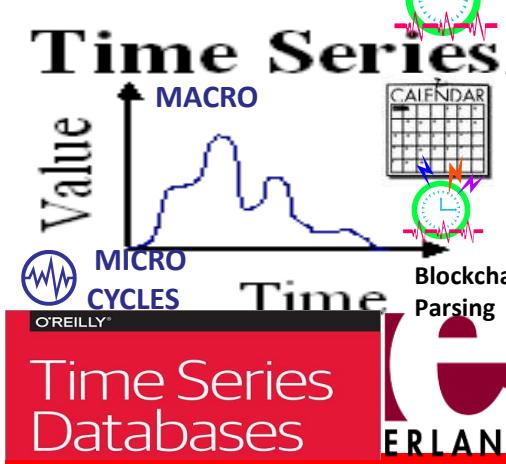


SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

"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



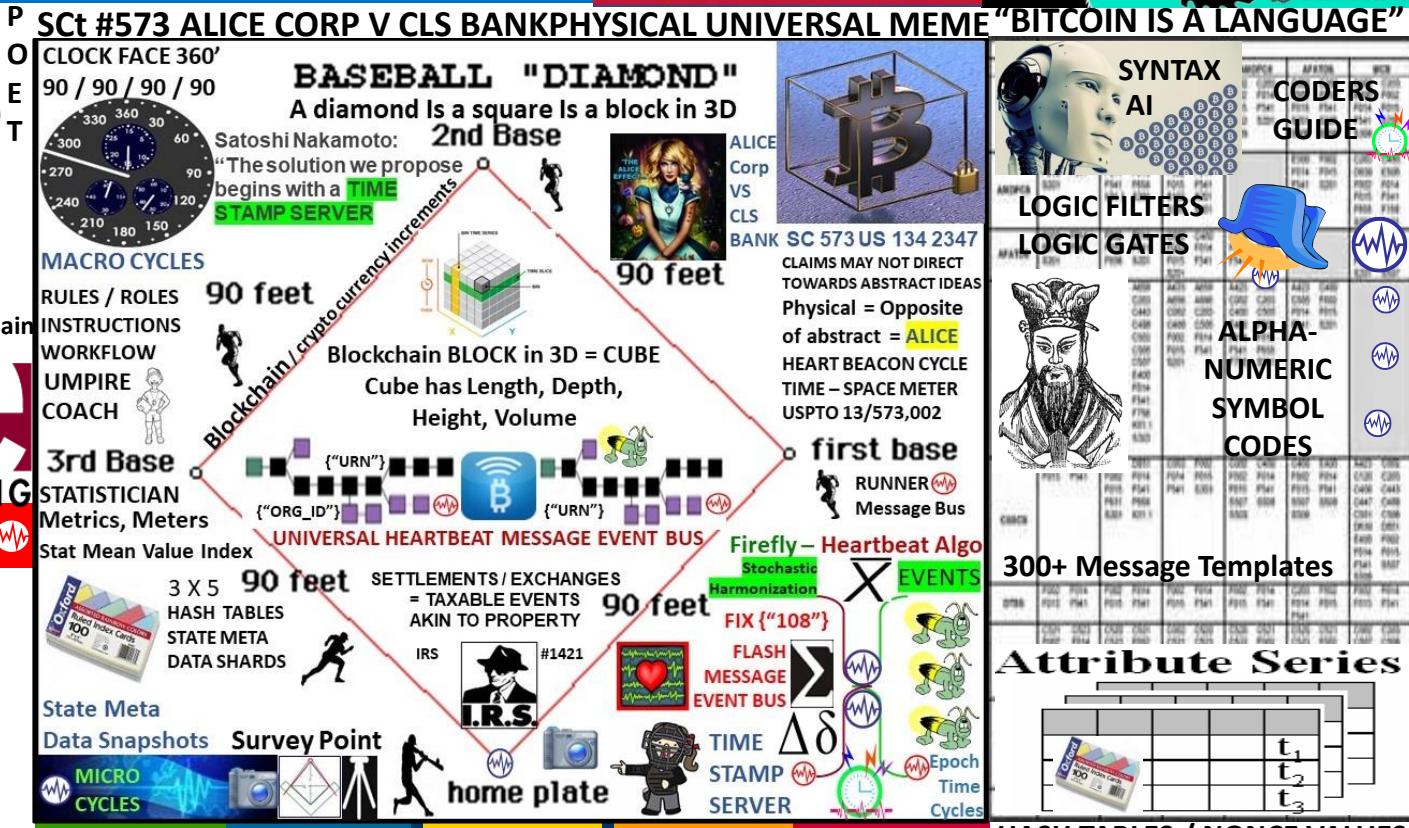
Voting Based Selection: stake size & block generators selected by votes

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

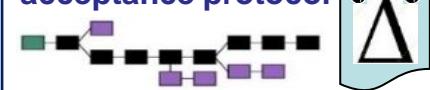


Robert's Rules quorum = minimum # of voting members who must be present at meetings to conduct business of the group

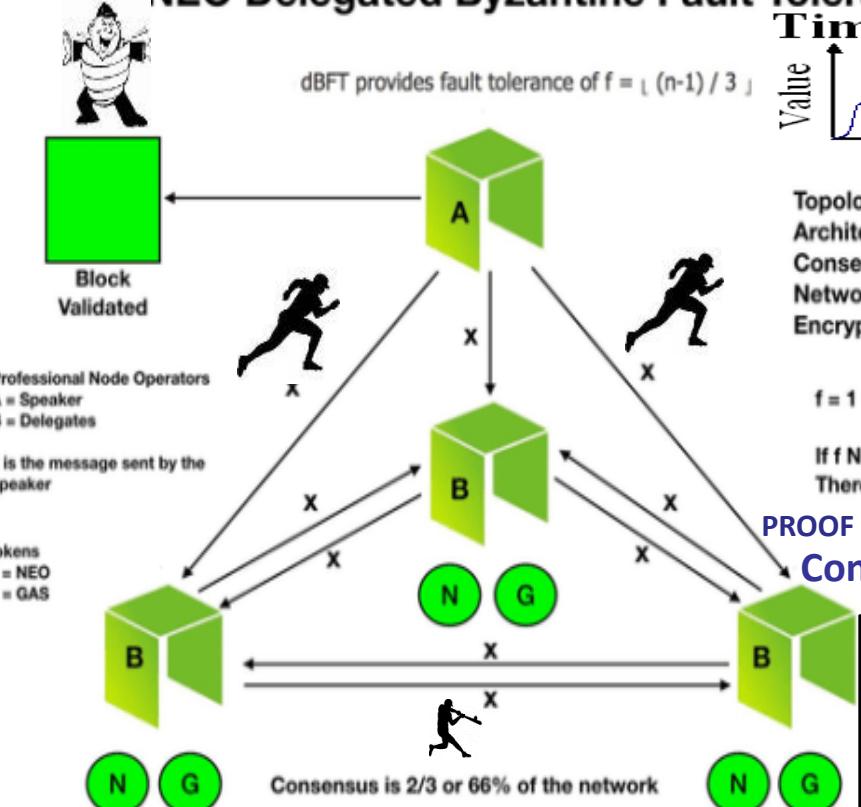
TOURNAMENT LEAGUE BOARD



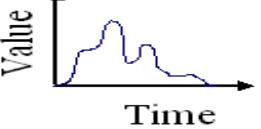
Capture ledger's state $\Delta \delta$
Transaction language changes ledger state
Consensus, transaction acceptance protocol



NEO Delegated Byzantine Fault Tolerance (dBFT)



Time Series



dBFT provides fault tolerance of $f = \lfloor (n-1) / 3 \rfloor$

Topology: Hierarchical Star
Architecture: Distributed
Consensus: dBFT
Network: TCP/IP
Encryption: ECDH

$$f = 1 \text{ OR } 0.66$$

If f NOT 1 OR < 0.66
There is no consensus

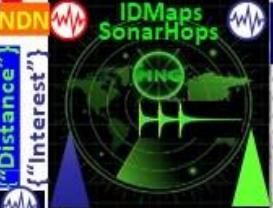
PROOF OF ELAPSED TIME Consensus Order



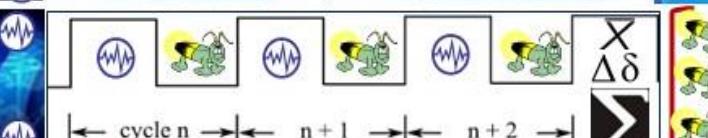
USPTO 13/573,002
sawconcepts.com/index

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

TRIANGULATION



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"



LOCKED QUOTED ACCEPT / DENY In Progress SUCCEEDED

{"108"} HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS



CYCLE FLASH HEARTBEAT MESSAGES {"108"}



HASH NONCE FIREFLY-HEARTBEAT ALGORITHM MICRO-CYCLE STATE META DATA SNAPSHOTS

STOCHASTIC HARMONIZATION ACROSS UTZ TIME ZONES

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, randomness, and impartiality, which accelerate the system to reach consensus on the premise of ensuring system activity. ✓





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

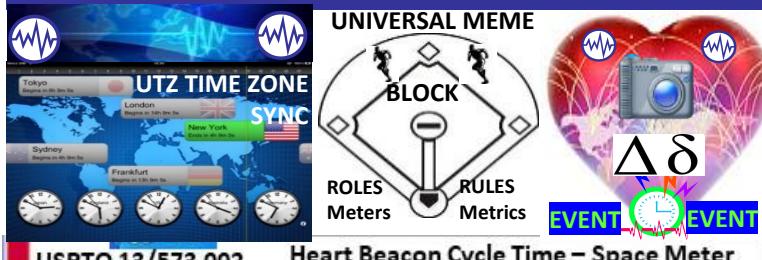
data structure that records who gossiped to whom in what order $\Delta\delta$

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

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



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



Round created
Witness



0 / 1

Famous witness
Election



Vote
See



Strongly see
Supermajority



Decide



Round created

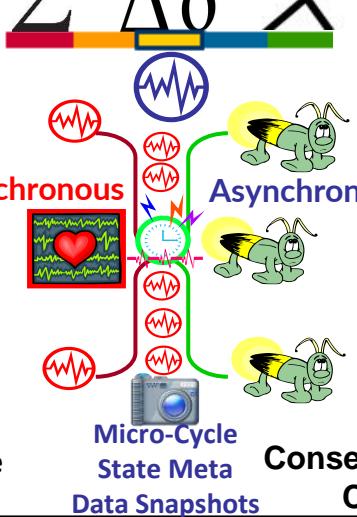
Round received

Consensus timestamp
Consensus order $\Delta\delta$

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



Hash
Nonce

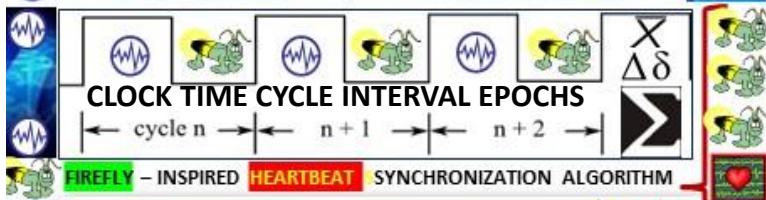


Synchronous
Asynchronous

Micro-Cycle
State Meta
Data Snapshots

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" $\Delta\delta$

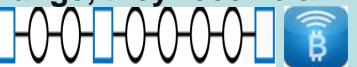
Proof of Burn



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.

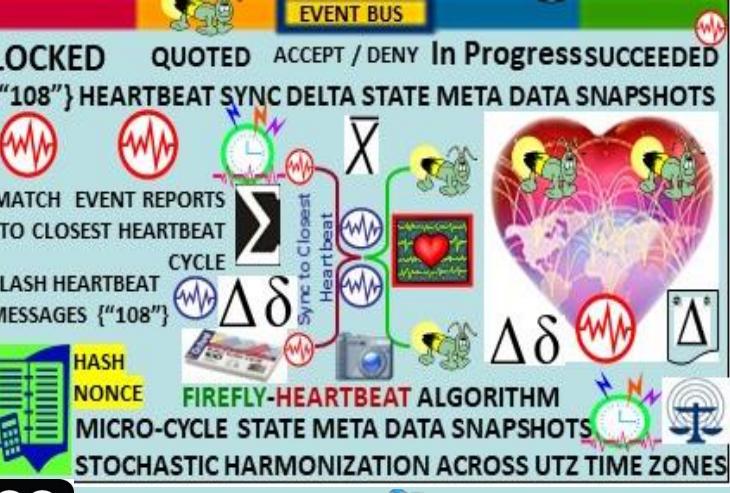
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describe the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining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

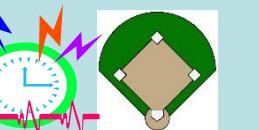
TAG	SLA/O	Token Award
{"Org_ID": ActiveID}	[UFO2_ACTIVEID]	</EVENT>
IF1_Heartbeat (IF-Node1)	[UFO2_HEARTBEAT:#]	</EVENT>
IF2_Heartbeat (IF-Node2)	[UFO2_HEARTBEAT:#]	</EVENT>
{"UUID": IF1_DeviceStatus (IF-Node1)}	[UFO2_DEVICESTAT:#]	</EVENT>
{"UUID": IF2_DeviceStatus (IF-Node2)}	[UFO2_DEVICESTAT:#]	</EVENT>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



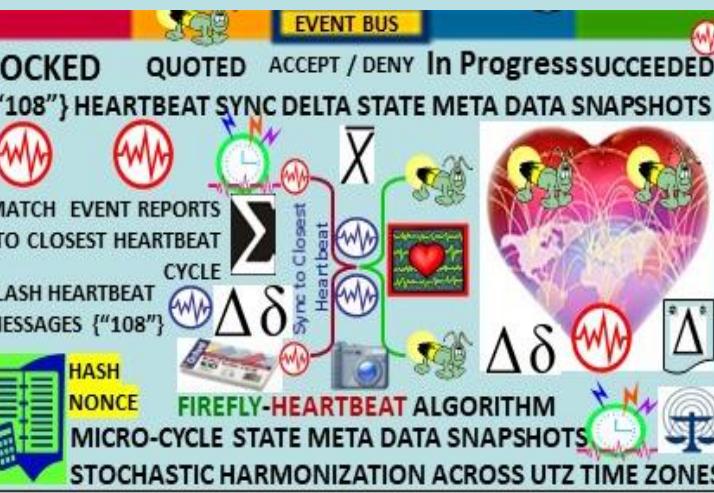
The larger the hard drive, the > possible solution values one can store on the hard drive, the more chances a miner has to match required hash value from his list, resulting in more chances to win the mining reward.



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

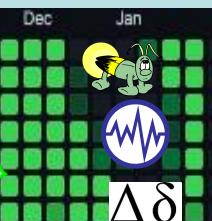


PoST Proof-of-Spacetime (PoST)

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

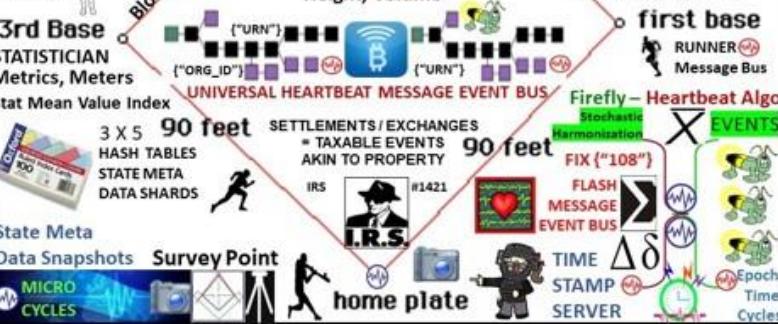
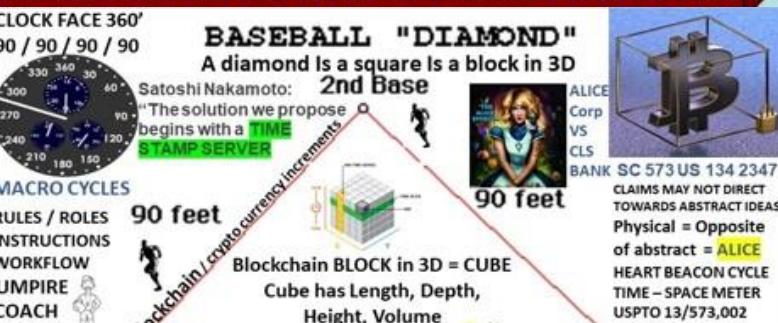


PoST users / nodes must prove that they are spending a certain amount of space for storage.



DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle FEDERATE / TRADE FEDERATIONS



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

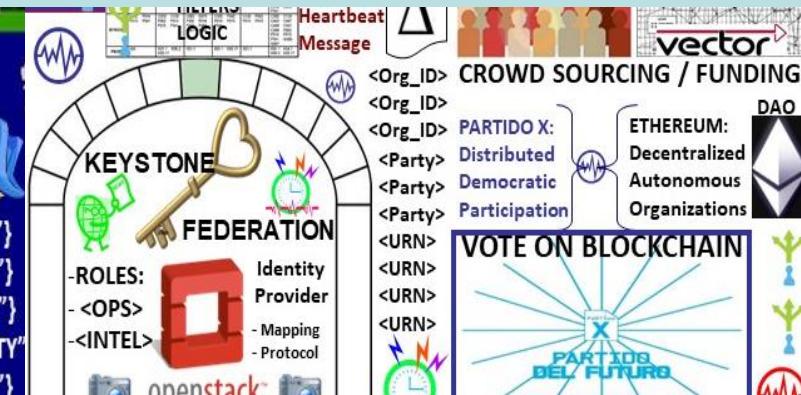
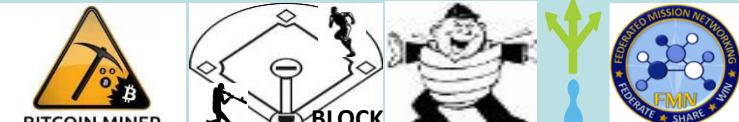
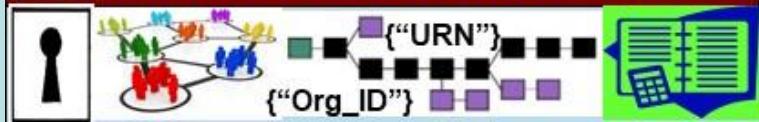
Gateway

Agile, adhoc NETOPS Vs acquisition preserves the **CHANNEL**

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

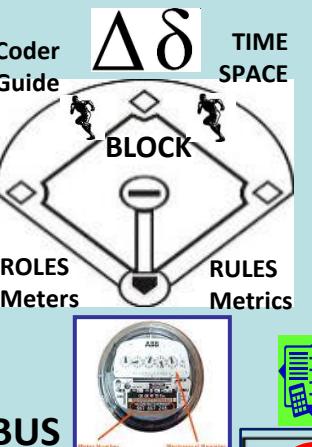
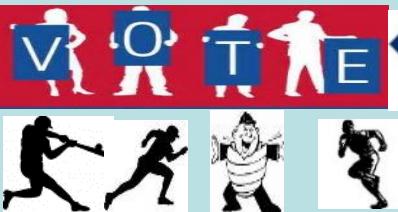
FEDERATE / TRADE FEDERATIONS



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



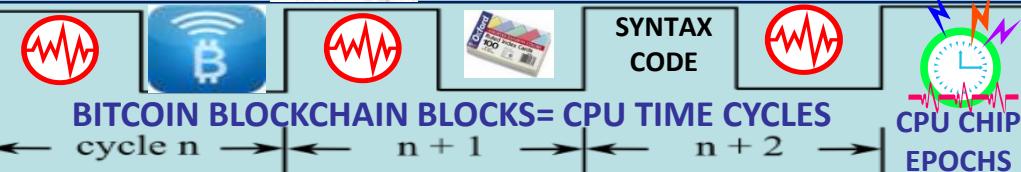
FROM	GCDA	TAB	ASAS	AMPCDS	AFATDR	MCR	TO
GCDA	FC001	FC002	FC003	FC004	FC005	FC006	FC007
TAB	FC008	FC009	FC010	FC011	FC012	FC013	FC014
ASAS	FC015	FC016	FC017	FC018	FC019	FC020	FC021
AMPCDS	FC022	FC023	FC024	FC025	FC026	FC027	FC028
AFATDR	FC029	FC030	FC031	FC032	FC033	FC034	FC035
MCR	FC036	FC037	FC038	FC039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

XBRIL / CDL / DAML
STOCK MIC CODES

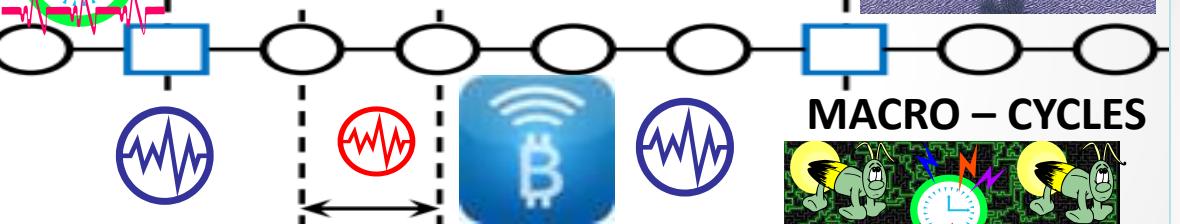
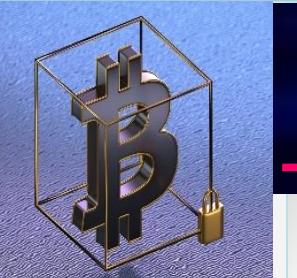
STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS



CPU CHIP EPOCHS

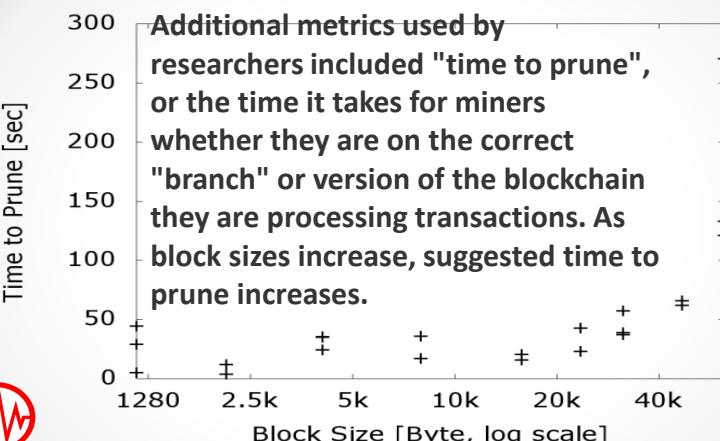


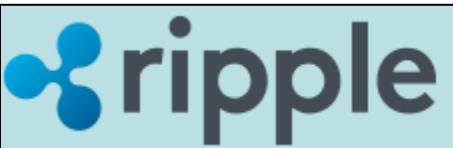
long exponential intervals (10 min)



short deterministic intervals (10 sec)

MICRO-CYCLES





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



Bitcoin Address Shortener

Bitcoin Address Shortener is an Android app that you can use to shorten those lengthy bitcoin addresses!

Simply enter a long Bitcoin address to have it transformed into a short one, and VICE-VERSA!

You can get it for free [here!](#)

GET IT ON Google play

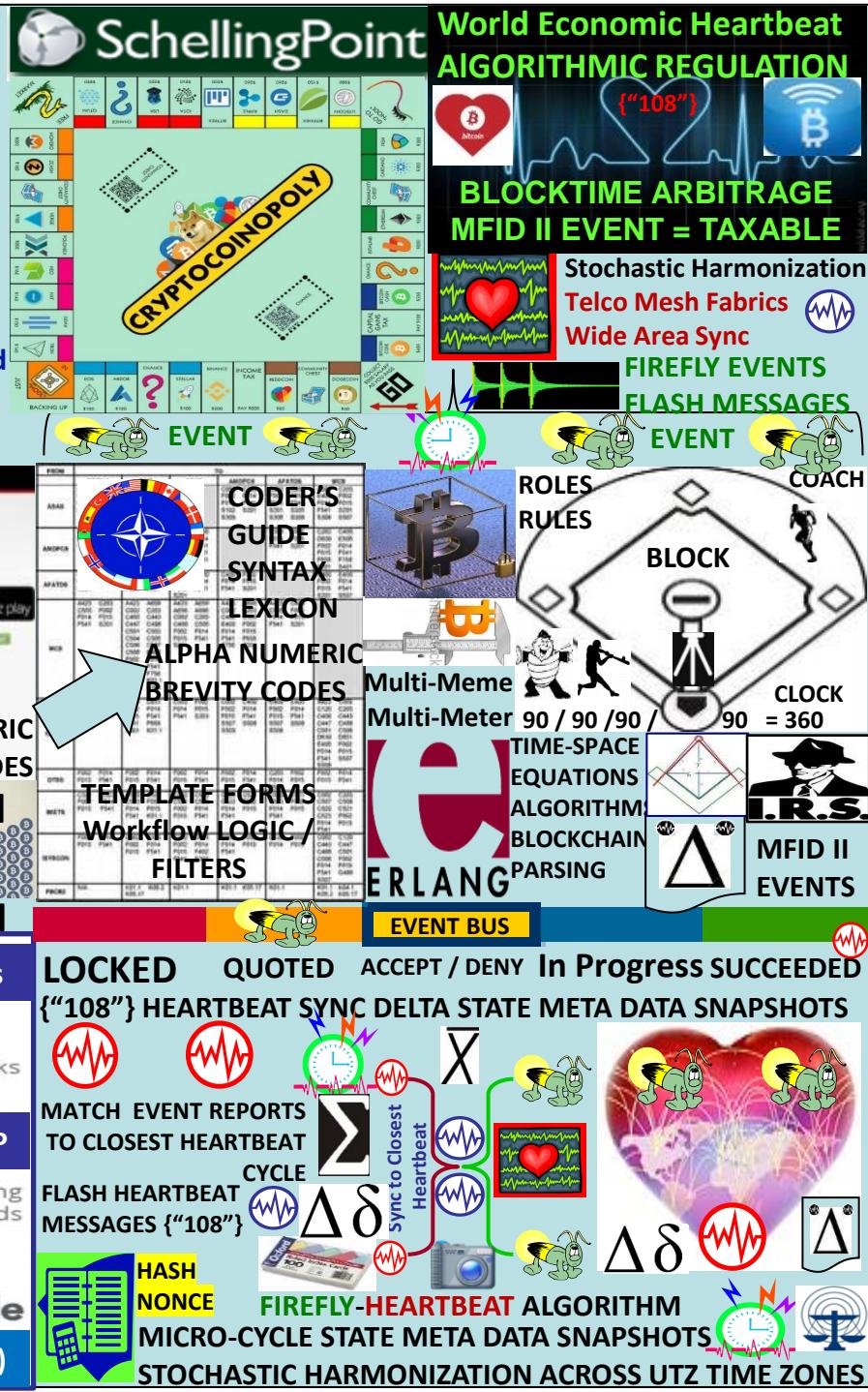
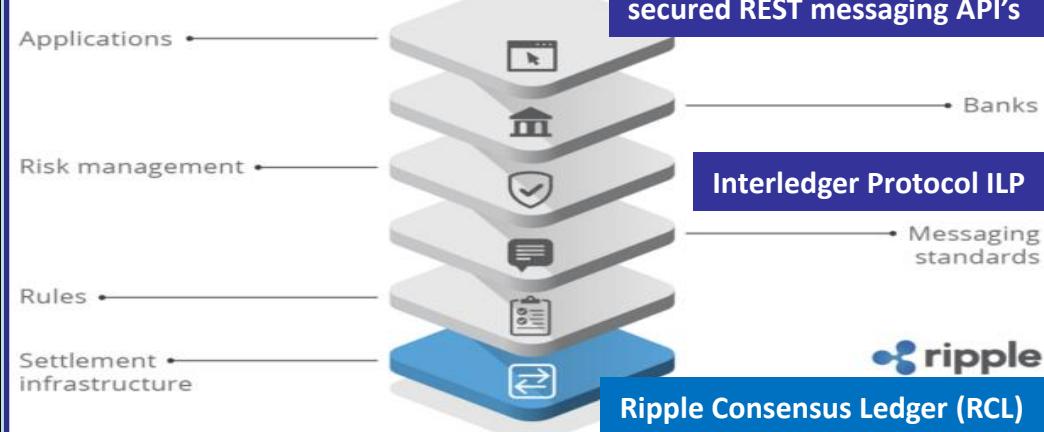
ALPHA NUMERIC BREVITY CODES A.I

To retrieve addresses us computer, use [Blockchain.info](#)

Clock adjusted

Blockchain.info

Neutral transaction protocol



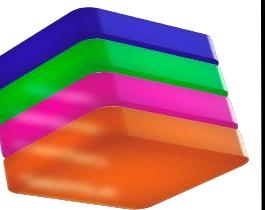


PROTON A CHAIN Virtual Machine

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

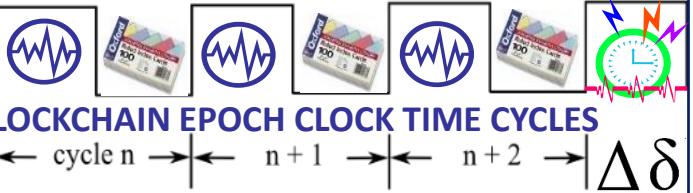
α (quorum size): between 1 and k

β (decision threshold): >= 1

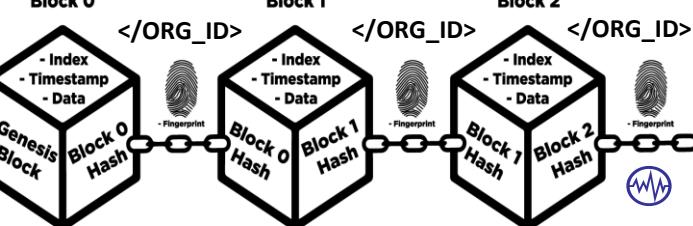
ALL THINGS NET, NET OF \$\$\$

1) EPOCH TIME INTERVALS

2) SYNTAX (not) used in epochs



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



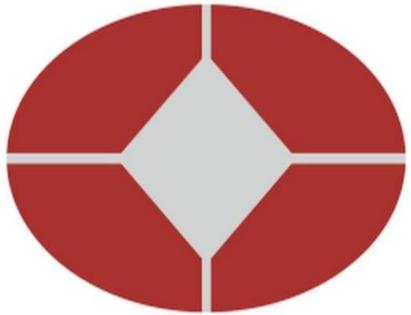
SECURITY TOKEN: A DIGITAL
ASSET THAT'S BACKED UP
BY TANGIBLE ASSETS IN THE
REAL WORLD </URN>
</URN>
</URN>



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



BIS



International trade settlement work stream

2019

Inthanon-LionRock
Proof-of-concept

Q4 2021

mBridge
Trial Platform

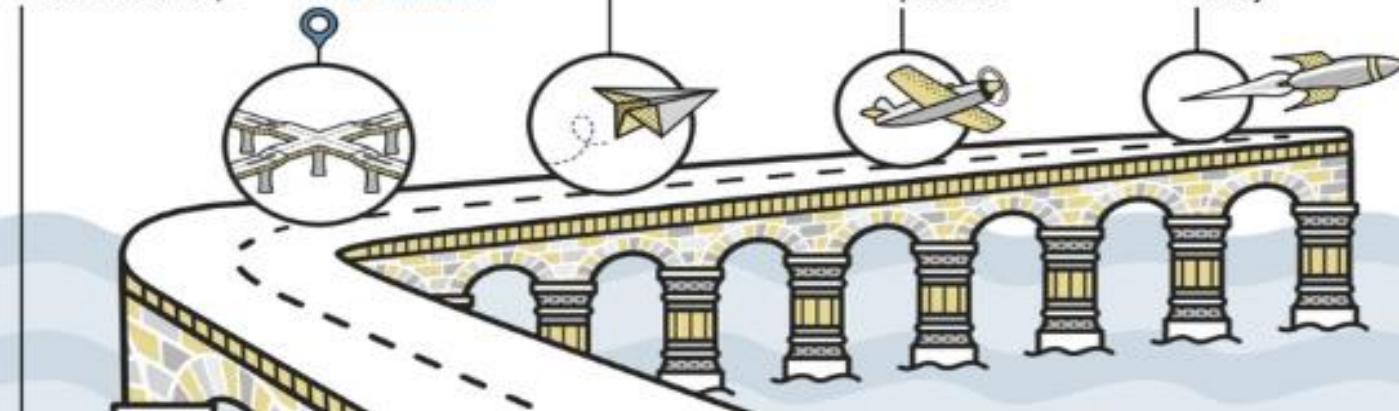
2022 onwards

Pilot

ISO 20022 messaging standard

Minimum viable
product

Production
ready



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 written using Solidity programming language. The code open sourced.

mBL employs 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	Activity	Stake
Modify	Modify	Deposit	Cashout
Suspend	Suspend	Withdraw	Reject
KYC People	CBDC	Money Services	Authorizations
Create	Create	Transfer	Grant Authorization
Modify	Modify		Revoke Authorization
Suspend	Suspend		
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		Cancel Milestone	Suspend Limit
Agents	Wallets	Release Milestone	Sanctions
Create	Create		Create Sanction
Modify	Modify		Modify Sanction
Suspend	Suspend		Suspend Sanction
	Pause		
	Unpause		
	Attach		

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





UNICOIN

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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

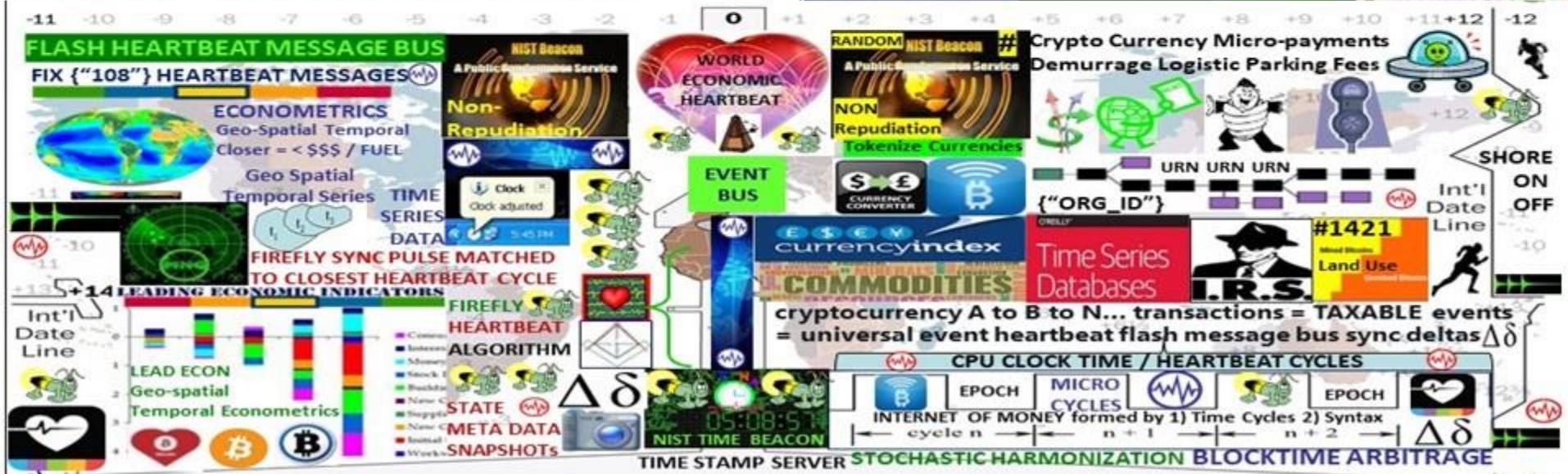
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Ü



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.

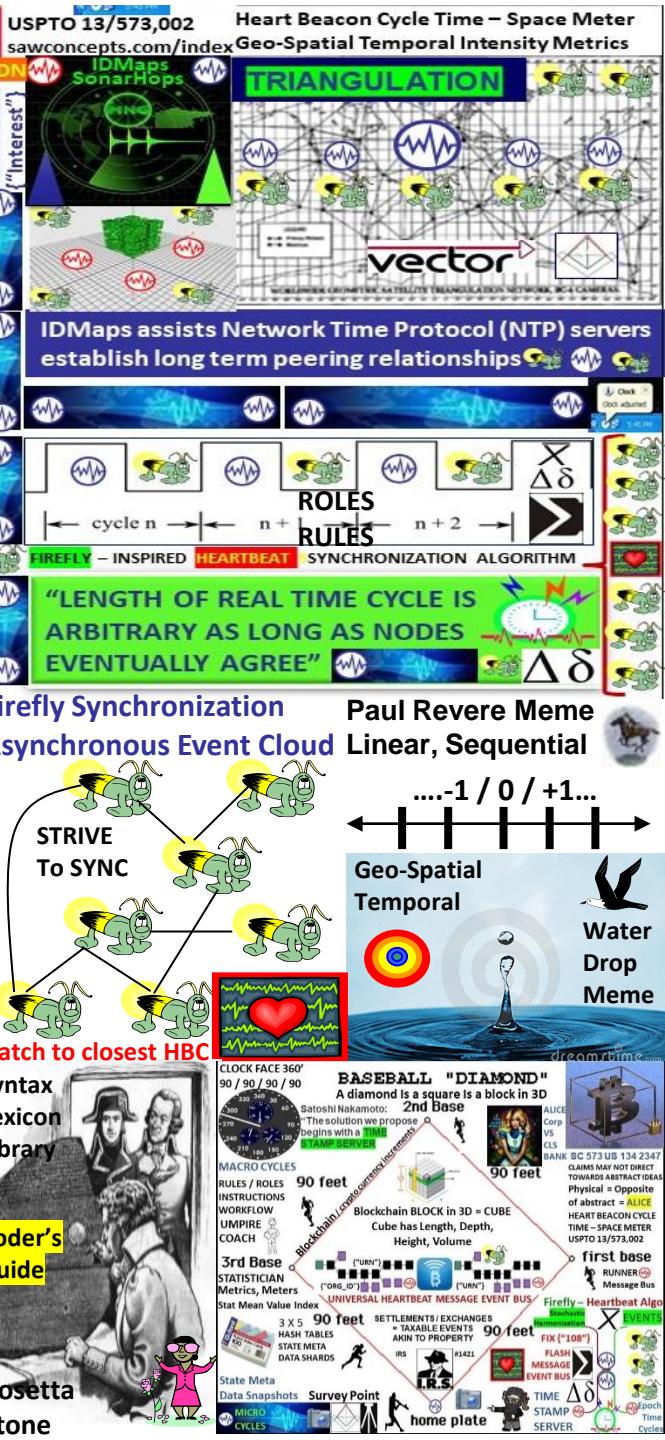
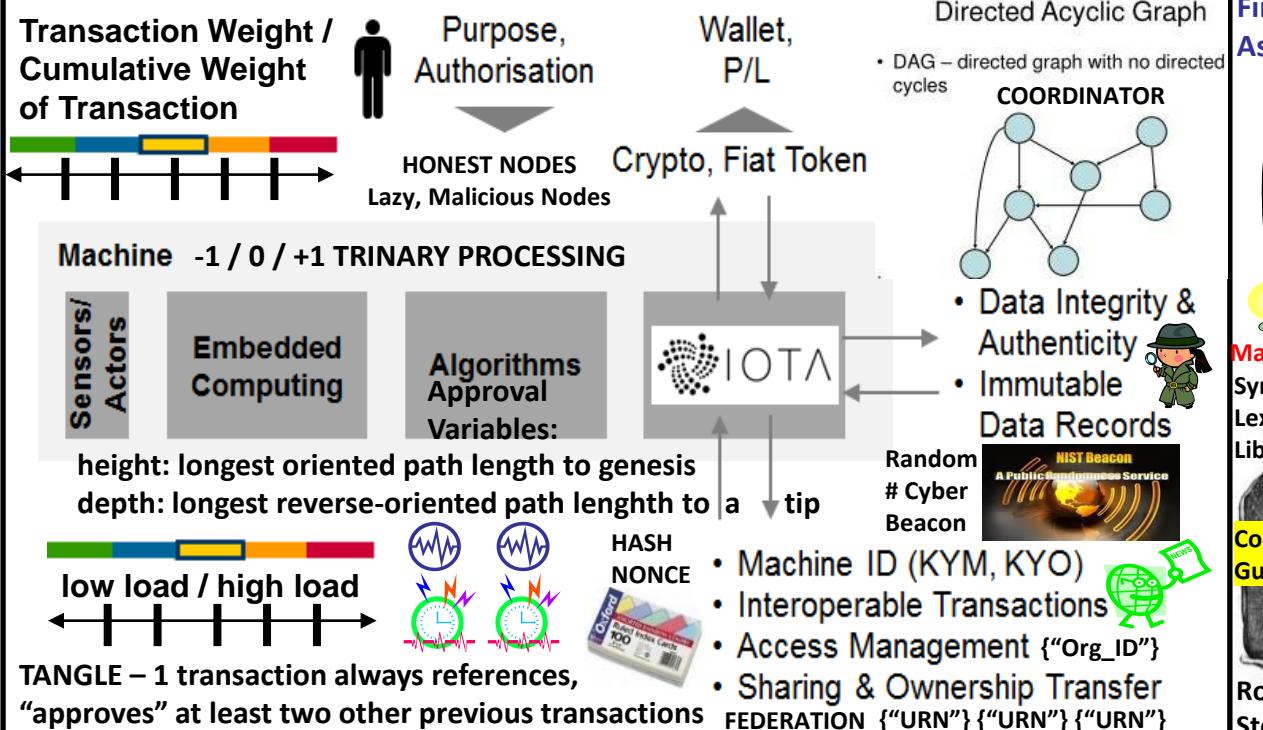


IOTA: Internet Of Things IOT distributed ledger with microtransactions without fees

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

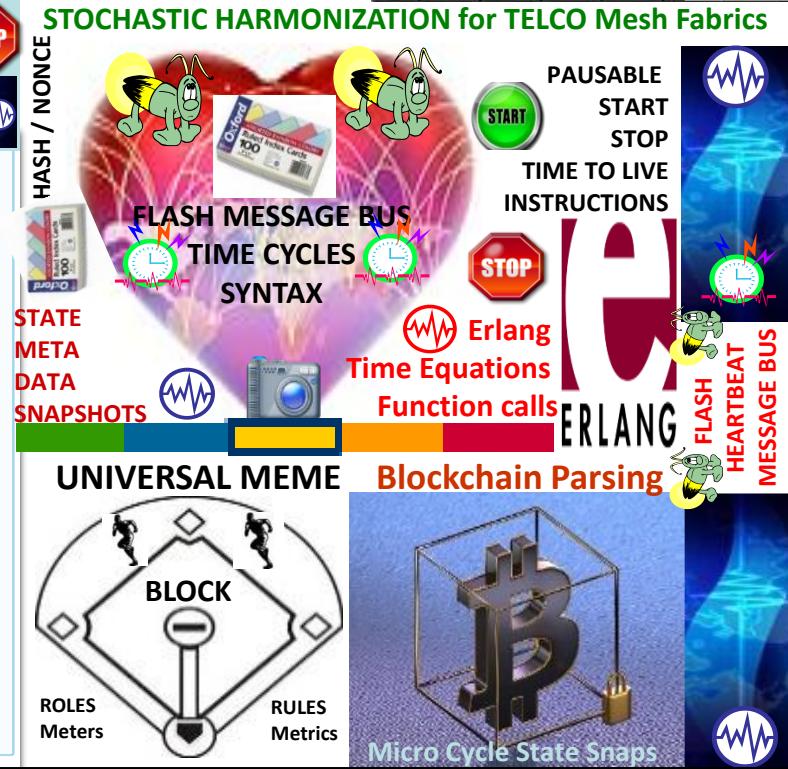
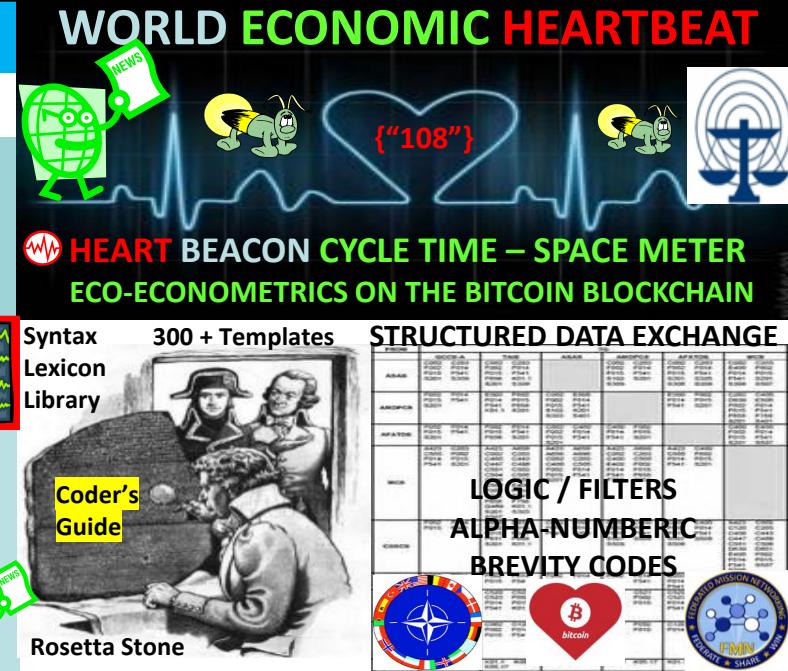
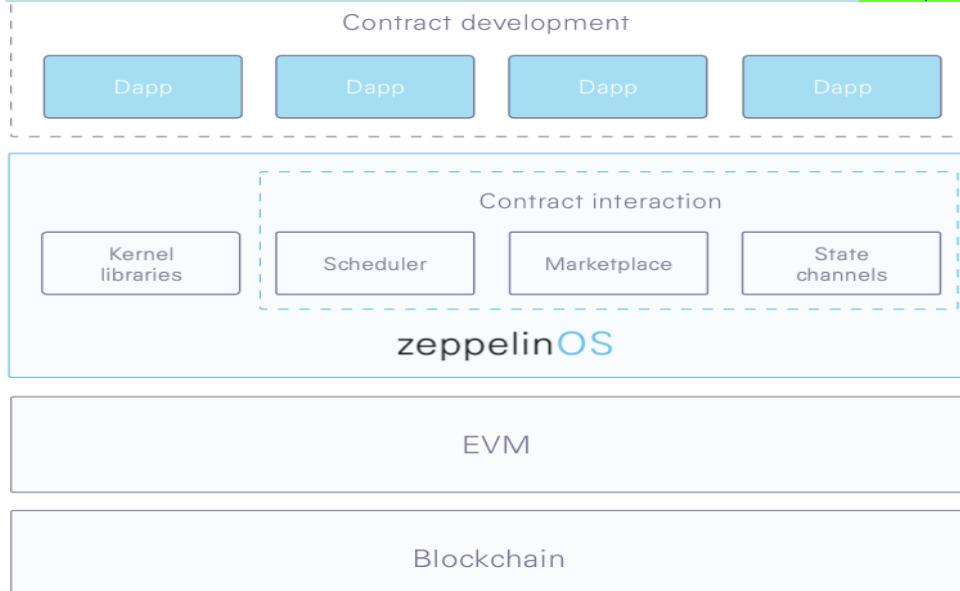
zeppelinOS, operating system for smart contracts
“the rate of innovation in building decentralized applications is limited by the manual and duplicative efforts developers must make to ensure basic usability and security.”

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, inspired 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.

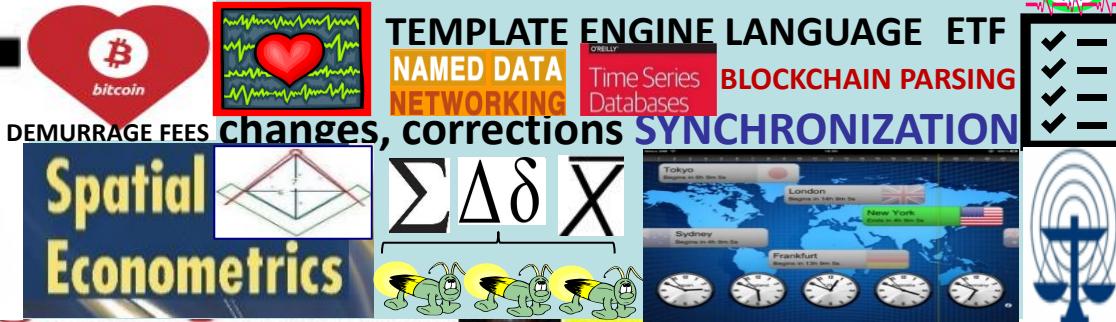
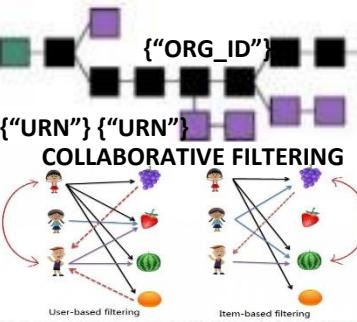




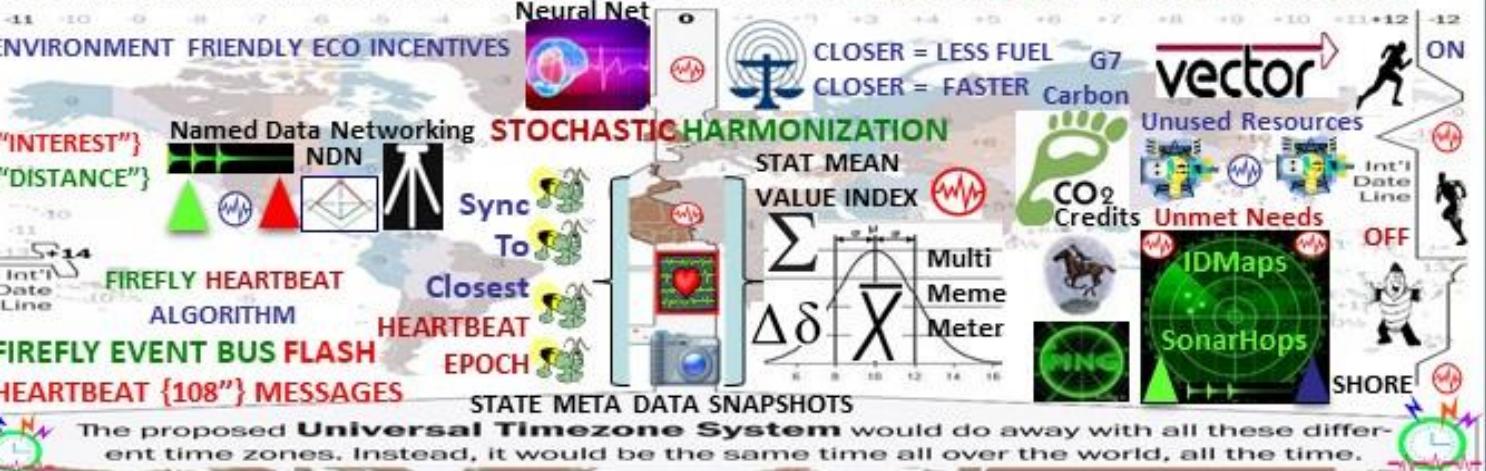
EGaaS

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.



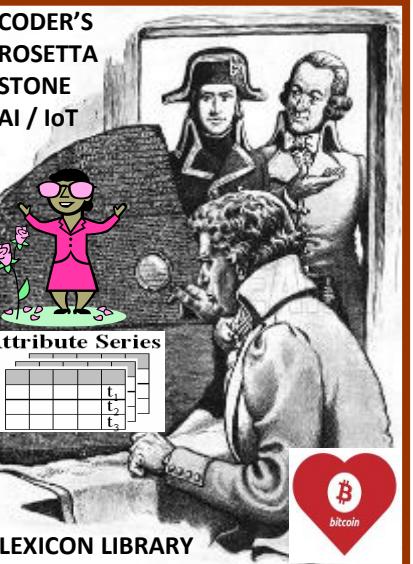
The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours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



FORM	CODEC-A	CODEC-B	CODEC-C	CODEC-D	CODEC-E	CODEC-F	CODEC-G	CODEC-H	CODEC-I	CODEC-J	CODEC-K	CODEC-L	CODEC-M	CODEC-N	CODEC-O	CODEC-P	CODEC-Q	CODEC-R	CODEC-S	CODEC-T	CODEC-U	CODEC-V	CODEC-W	CODEC-X	CODEC-Y	CODEC-Z
ASAB	PRE1	PRE2	PRE3	PRE4	PRE5	PRE6	PRE7	PRE8	PRE9	PRE10	PRE11	PRE12	PRE13	PRE14	PRE15	PRE16	PRE17	PRE18	PRE19	PRE20	PRE21	PRE22	PRE23	PRE24	PRE25	PRE26
ANOMICA	PRE1	PRE2	PRE3	PRE4	PRE5	PRE6	PRE7	PRE8	PRE9	PRE10	PRE11	PRE12	PRE13	PRE14	PRE15	PRE16	PRE17	PRE18	PRE19	PRE20	PRE21	PRE22	PRE23	PRE24	PRE25	PRE26
AFATOR	PRE1	PRE2	PRE3	PRE4	PRE5	PRE6	PRE7	PRE8	PRE9	PRE10	PRE11	PRE12	PRE13	PRE14	PRE15	PRE16	PRE17	PRE18	PRE19	PRE20	PRE21	PRE22	PRE23	PRE24	PRE25	PRE26





"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

TERRACYCLE 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

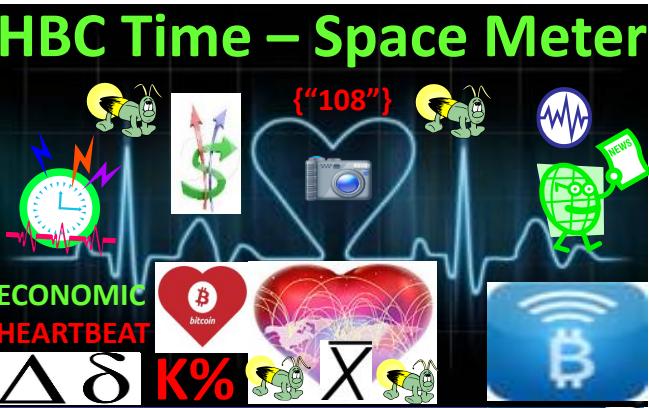
Gnosis tokens (GNO) generate Wisdom token s(WIZ) via smart contract

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.

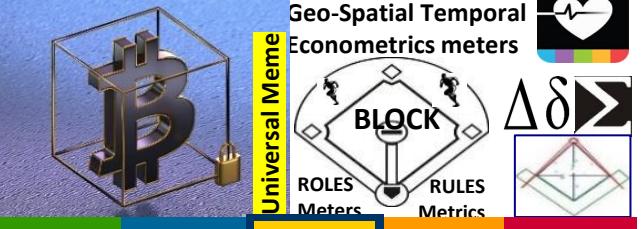


THE TERRA (TRC)

Trade Reference Currency



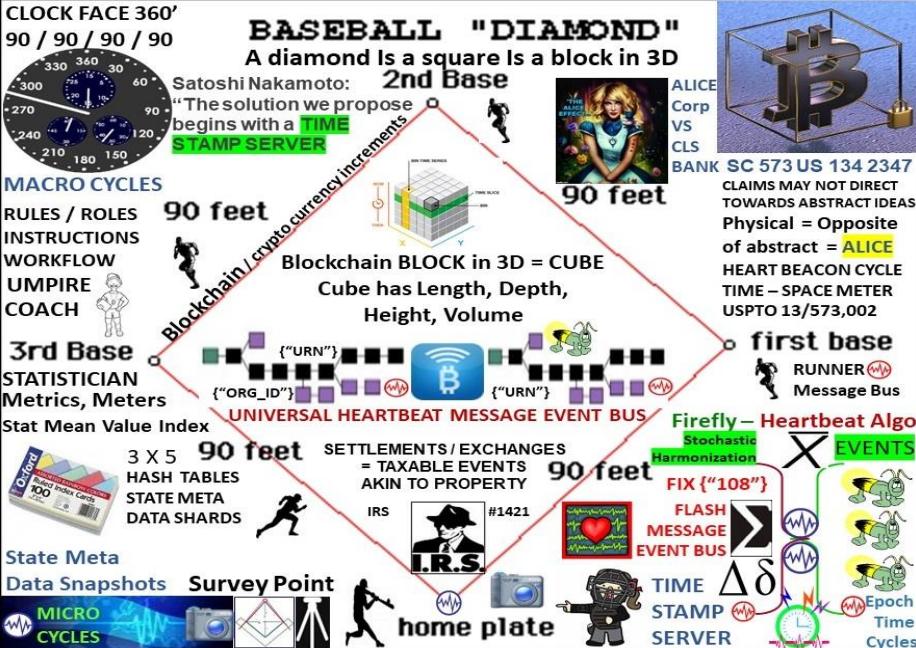
Demurrage Fees



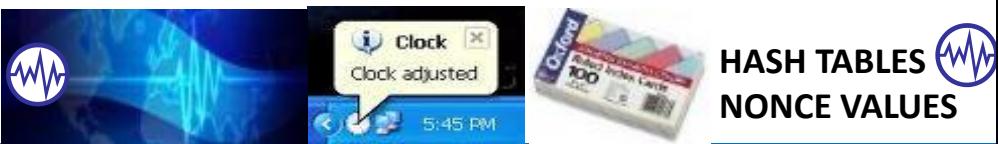
Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic "heartbeat" events approximately at the same time. It differs from classical clock sync in that nodes are not interested in counting cycles to agree on the ID of the current clock cycle. There 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.



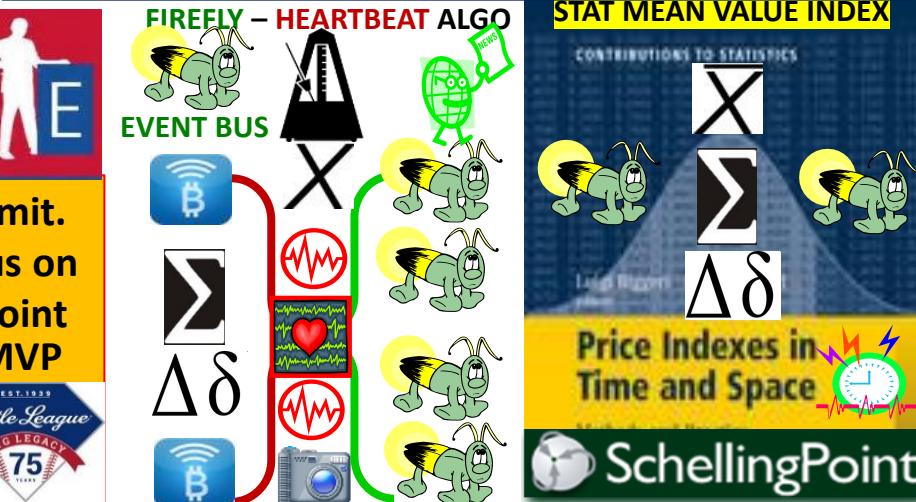
ALL THINGS INTERNET FORMED W 1) TIME EPOCHS 2) SYNTAX



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**

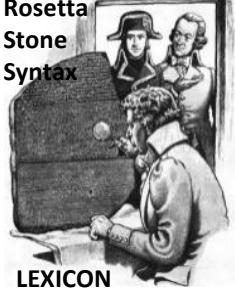
**Blockchain middleware: identity and operations management, data,
intelligence services like analytics and machine learning. New middleware
works with existing Azure services, like Active Directory and Key Vault**

**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**

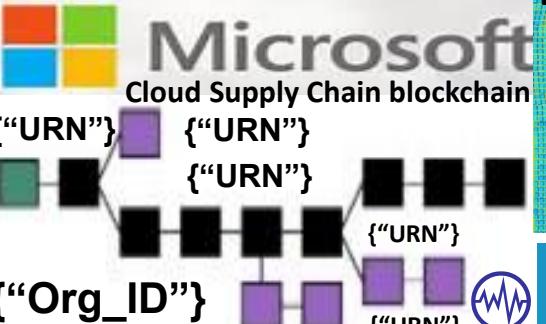


ALPHA NUMERIC
BREVITY CODES
SYMBOL CODES
STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

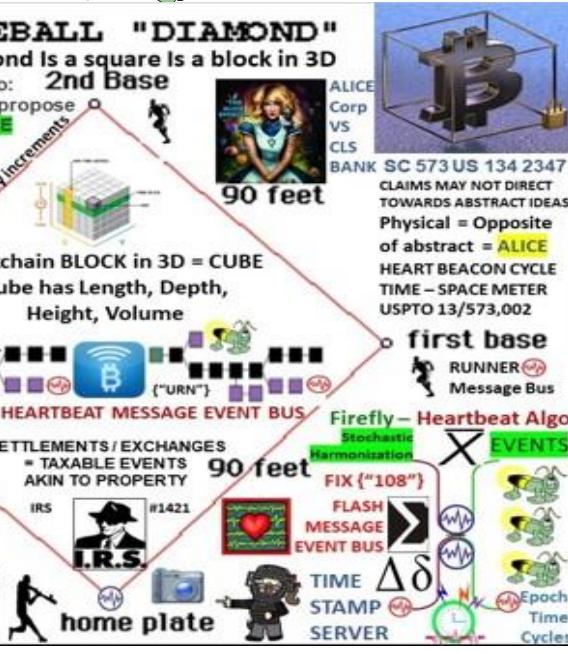
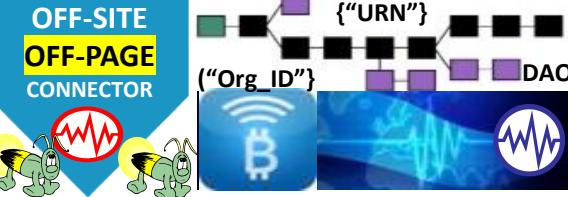
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MULTI-MEME MULTI-METER

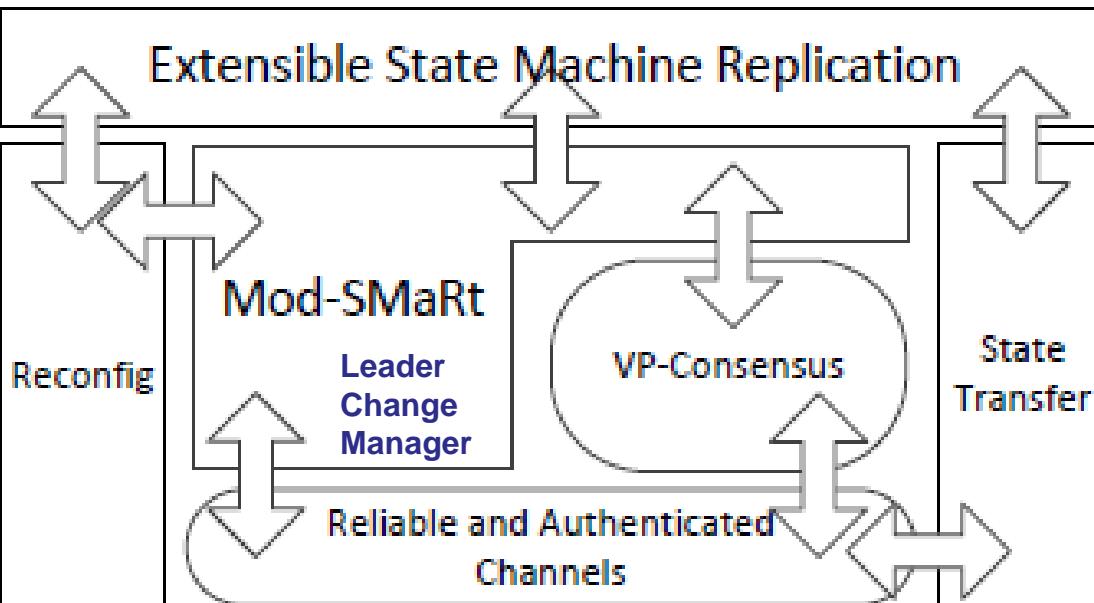


MYRIAD MEMES MEDIATION



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



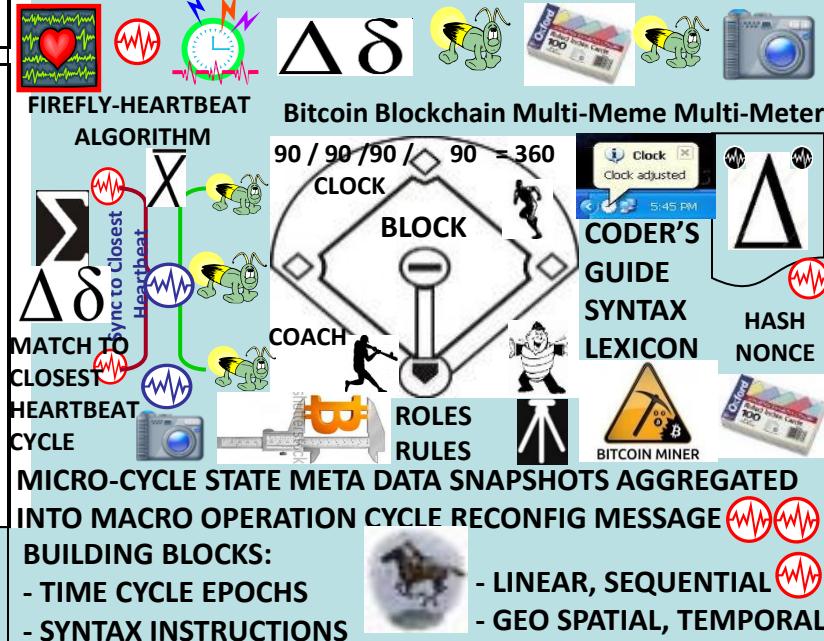
DERIVED FROM BATTLEFIELD DIGITIZATION DISTRIBUTED AUTONOMOUS ORGANIZATION DAO SYSTEM OF SYSTEMS

FEDERATED ID / ORGANIZATIONAL IDENTIFIER {"ORG_ID"}

ADDS, JOINS, DROPS, MOVES TO / FROM DAO

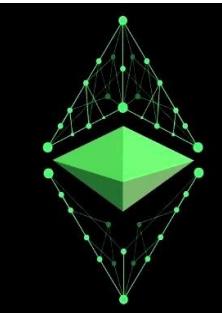
CHANGES IN STATE VIEWED IN "APPLIQUE' OVERLAY VIEWS

K0.99 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

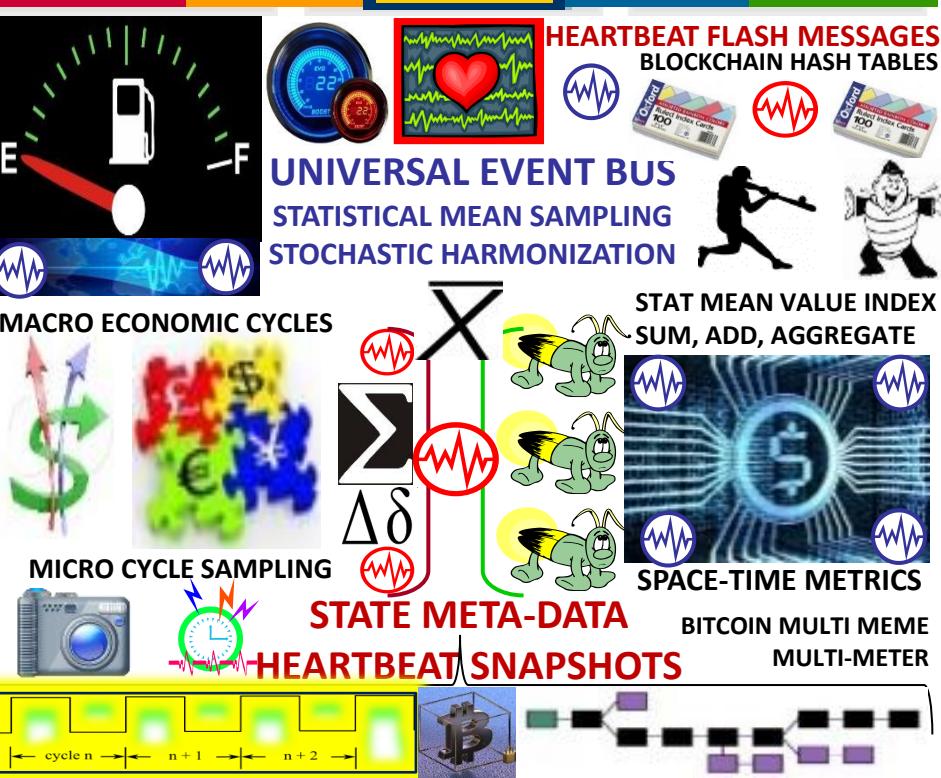
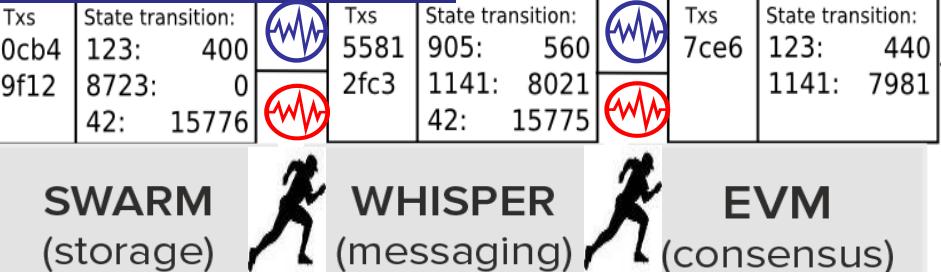
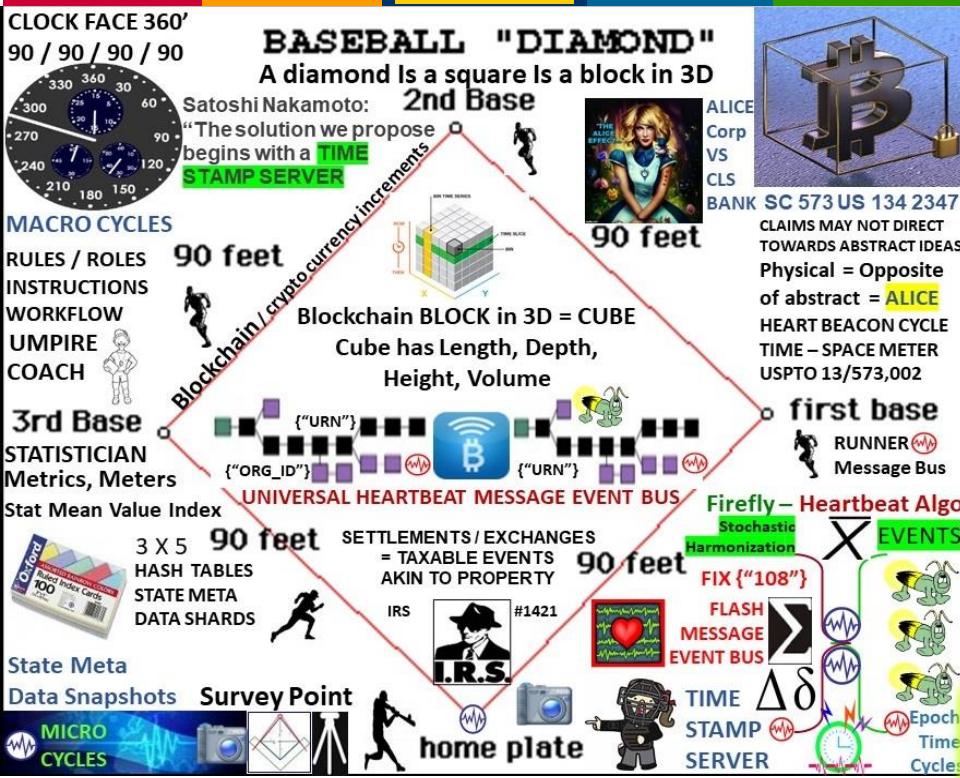
ethereum

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**



D F I N I T Y



RANDOM # BEACON



NIST Beacon
A Public Randomness Service



Each process has mining identity

- Public key with meta data attached
- IDs mediate participation
- Private network: trusted dealer defines list
- Public network: CC security deposit, USCIDs

STATEFUL DECENTRALIZED NET PROTOCOL:
Decentralized process workflows instead of Centralized Server farms

FIREFLY-HEARTBEAT FLASH Msg EVENT BUS



GROUP Signature is random number

- Number selects next group {"Org_ID"} {"Org_ID"}
- Next group use previous no. as message
- Verifiable Random Function
- Numbers verifiable using group public key
- New values produced in threshold agreement
- Random members {"Org_ID"} {"Org_ID"}**
- Each process is a member of multiple groups
- Groups intersect, have +/- 400 members
- BLS signature scheme**
- Math magic... If 51% of group members broadcast "signature shares" on a message, these are combined to create the group's threshold signature.

HYPER GEOMETRIC PROBABILITY CALCULATOR

CONSENSUS / RANDOM BEACON

Threshold relay chain generates randomness, records network metadata & validation tree "state root". State and updates to state stored on shards... State transitions passed to Validation Tree



3 x 5 HASH TABLES STATE META DATA SHARDS

3 x 5 INDEX CARDS

QUANTUM RANDOM #

3 x 5

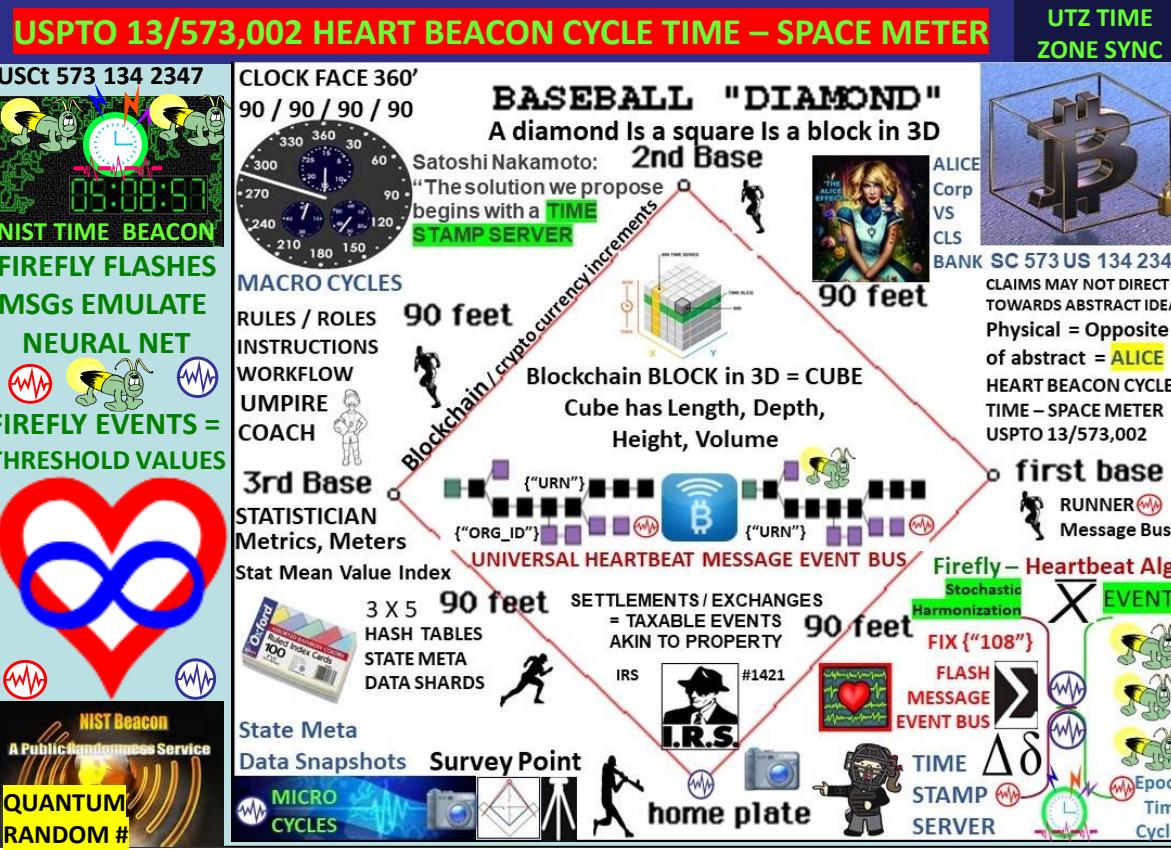
3 x 5 INDEX CARDS

INDEX CARD="SHARD"

HBC "ORG_ID" {"URN"} CLASS ASSET TYPE {"UUID"} DEVICE TYPE

UTZ TIME ZONE SYNC

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



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

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

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

Settlements / Exchanges = TAXABLE EVENTS AKIN TO PROPERTY

IRS #1421

Fix "108"

FLASH MESSAGE EVENT BUS

Time Stamp Server

Time Cycles

Epoch Time Cycles



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

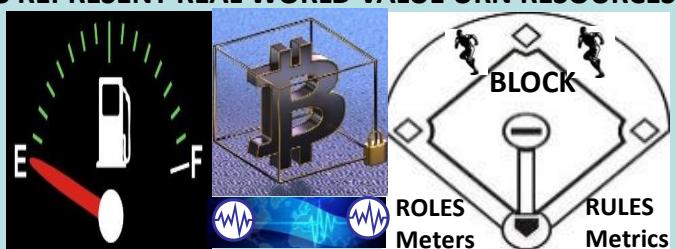
AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS



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



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

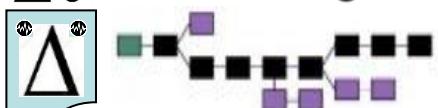
Federation Gateway
("ORG_ID")



HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$ Shared Ledger



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

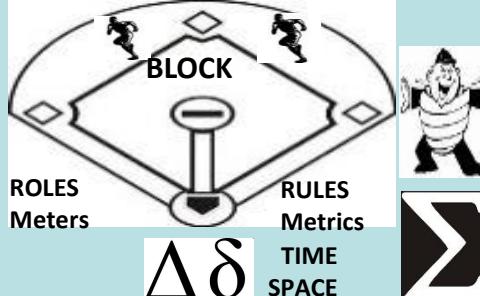
FEDERATION
Federation Gateway

METRICS ("Organization ID")
METERS

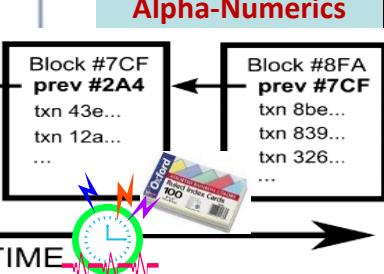
RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE



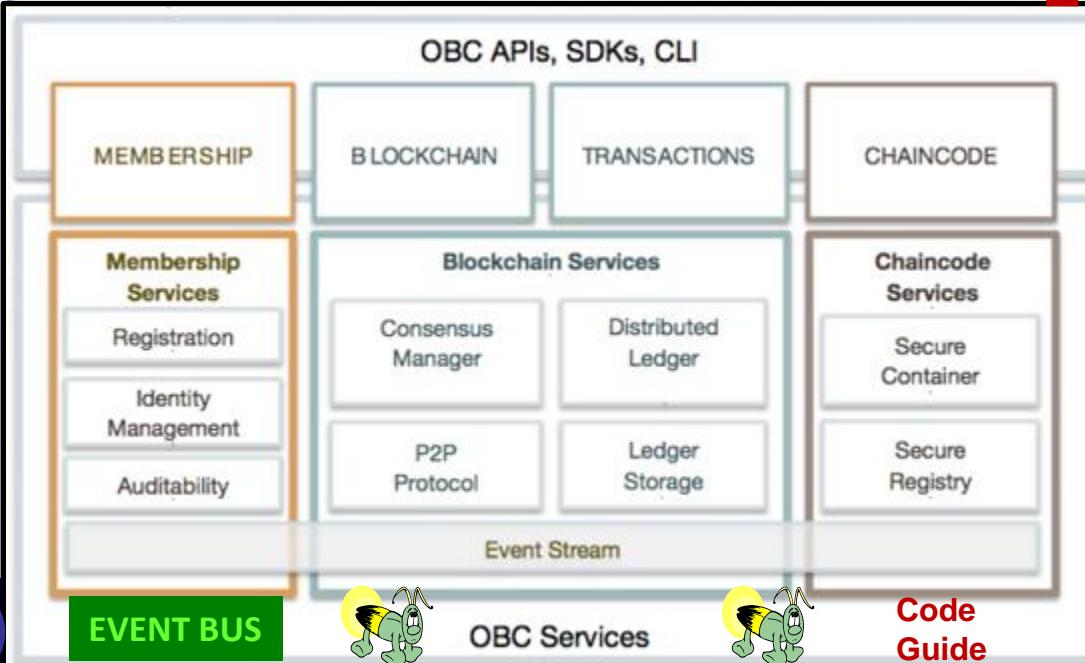
BLOCKTIME ARBITRAGE



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



Alpha-Numerics



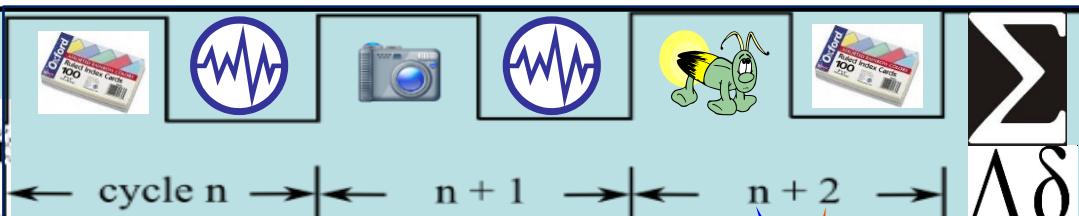
ROSETTA STONE

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/>

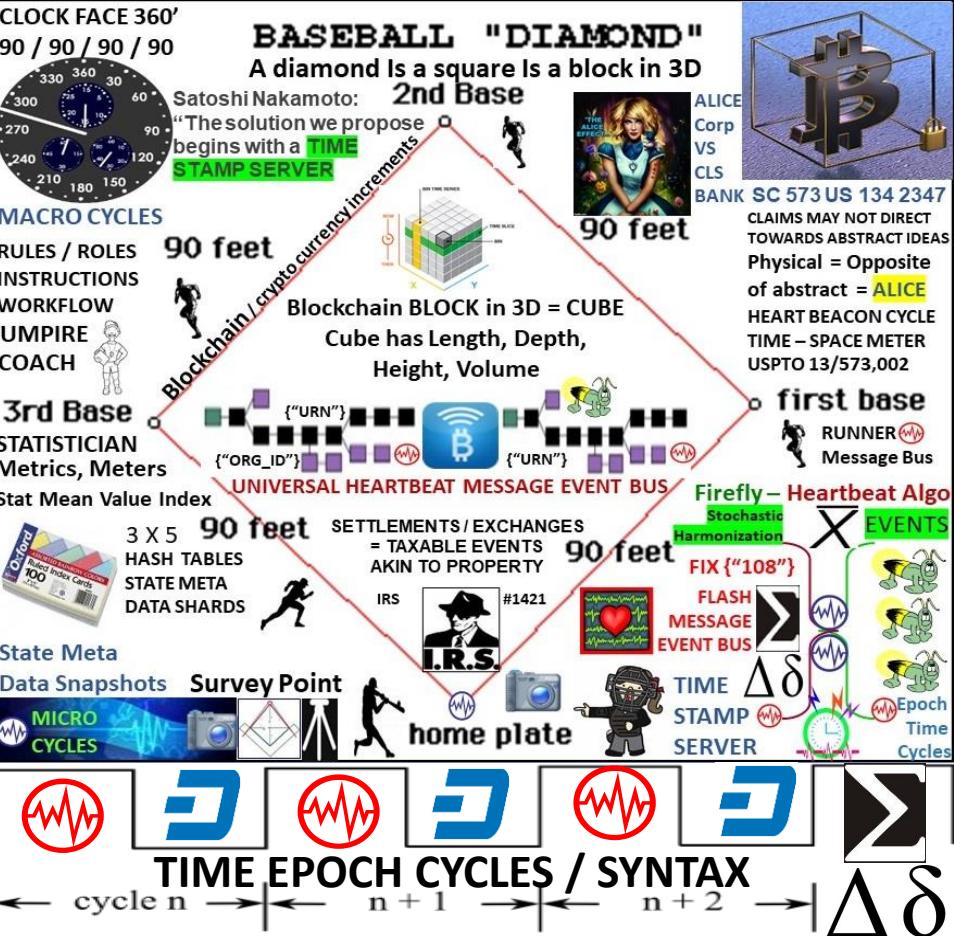
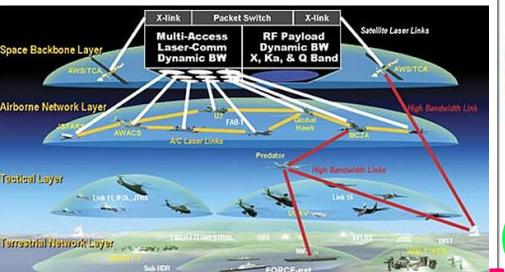
"all digital currency networks, the base layer of people generating the blockchain — "miners," "stakers," "witnesses," "validators," or "forgers" — all get paid to do so" "consensus," or an agreement upon what the rules should be; and second, the execution of said rules.

"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. They 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



STATE: stored data at a given instant in time

STATE CHANNELS: blockchain interactions

which *could* occur on the blockchain, but instead get conducted off of the blockchain, without significantly increasing the risk of any participant.



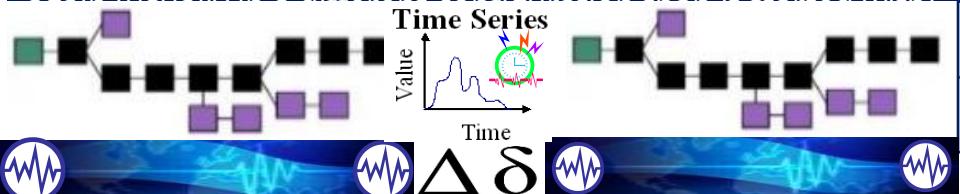
1. Part of the blockchain state is locked via multisignature or smart contract convention, so that a specific set of participants must completely agree with each other to update it.



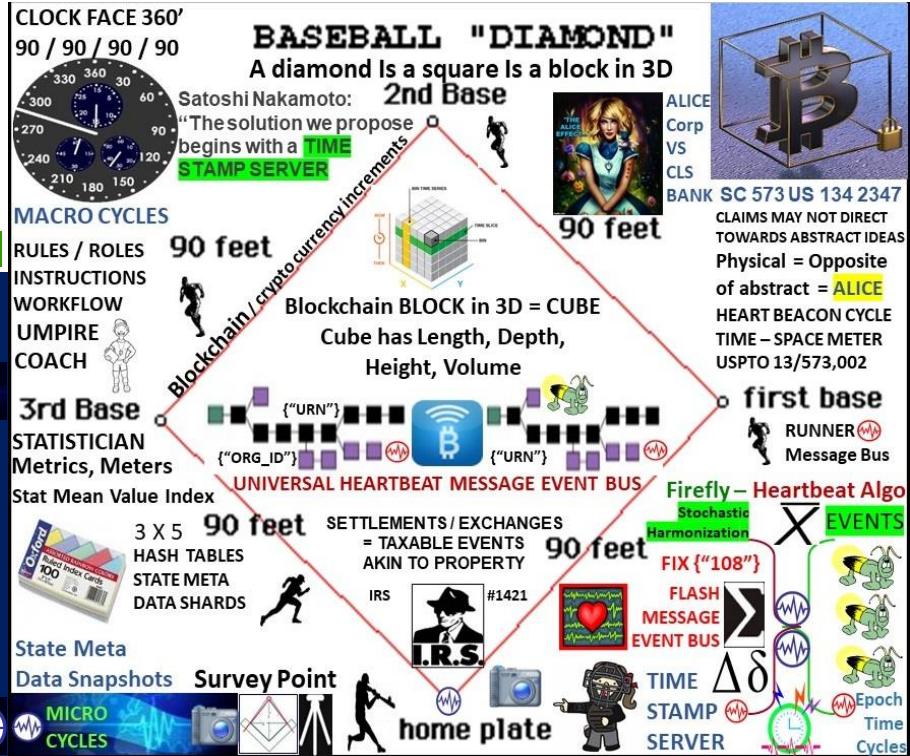
2. Participants update the state amongst themselves by constructing and signing transactions that could be submitted to the blockchain, but instead are made available for a new update "trumps" previous update.



3. Finally, participants submit the state back to the blockchain, which closes the state channel.



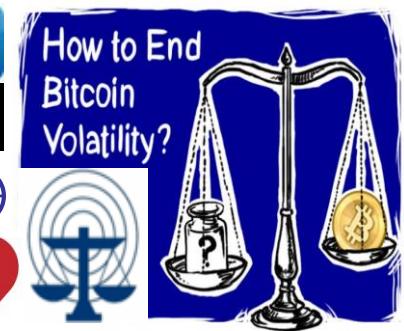
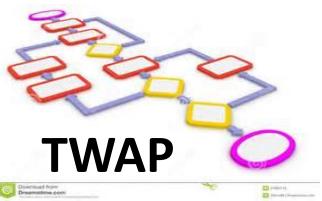
NEW UPDATES OVERWRITE THE PREVIOUS: simplest way is to have any unlocking attempt start a timer, during which any *newer* update can replace the old update (restarting the timer). When the timer completes, the channel is closed and the state adjusted to reflect the last update received. The length of the timer would be chosen for each state channel, balancing the inconvenience of a long channel closing time with the increased safety it would provide against internet connection or blockchain problems. Alternatively, one could structure channel with a financial penalty so anyone publishing an inaccurate update to the blockchain will lose more than gain by pretending later.



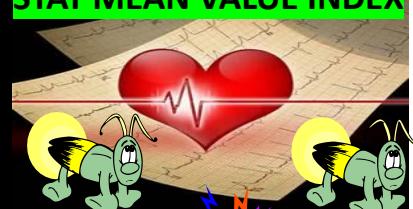
TWAP Algorithm Manages Bitcoin Price Volatility Algorithm



TWAP GOAL: provide a Time Weighted Average Price Benchmark



FIREFLY HEARTBEAT ALGO
STAT MEAN VALUE INDEX



EPOCH TIMES

STATE META

DATA SNAPSHOTS



STATE SAMPLE

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

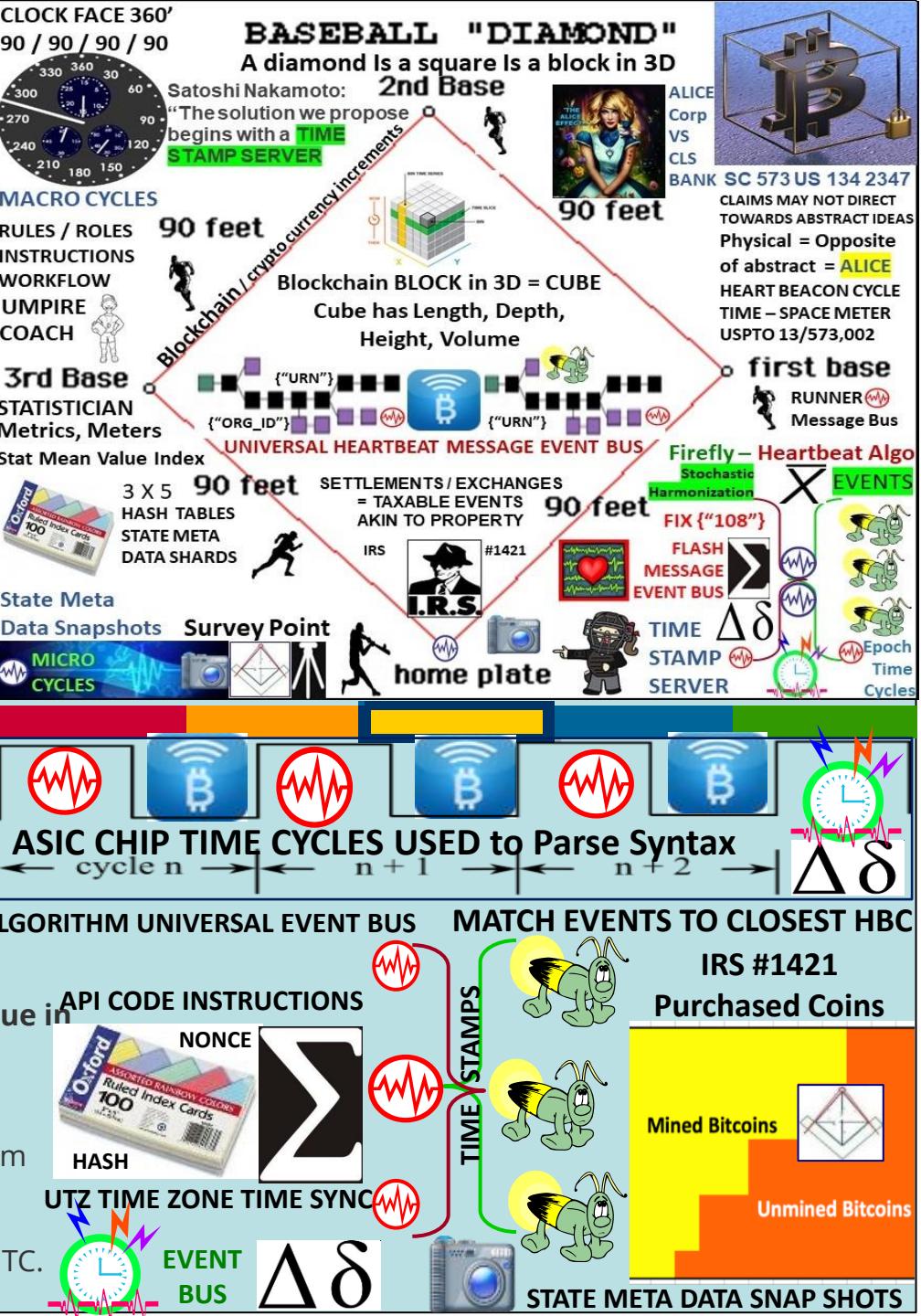
Transaction ID, Block ID, time-stamp, BWAP per block, Value in USD. BTC per transaction, bitcoin transaction fees per transaction.

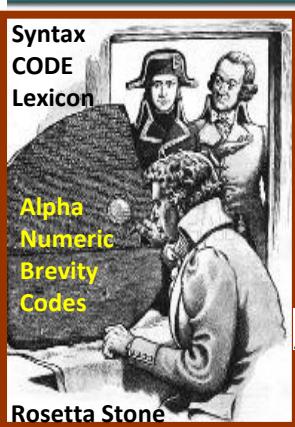
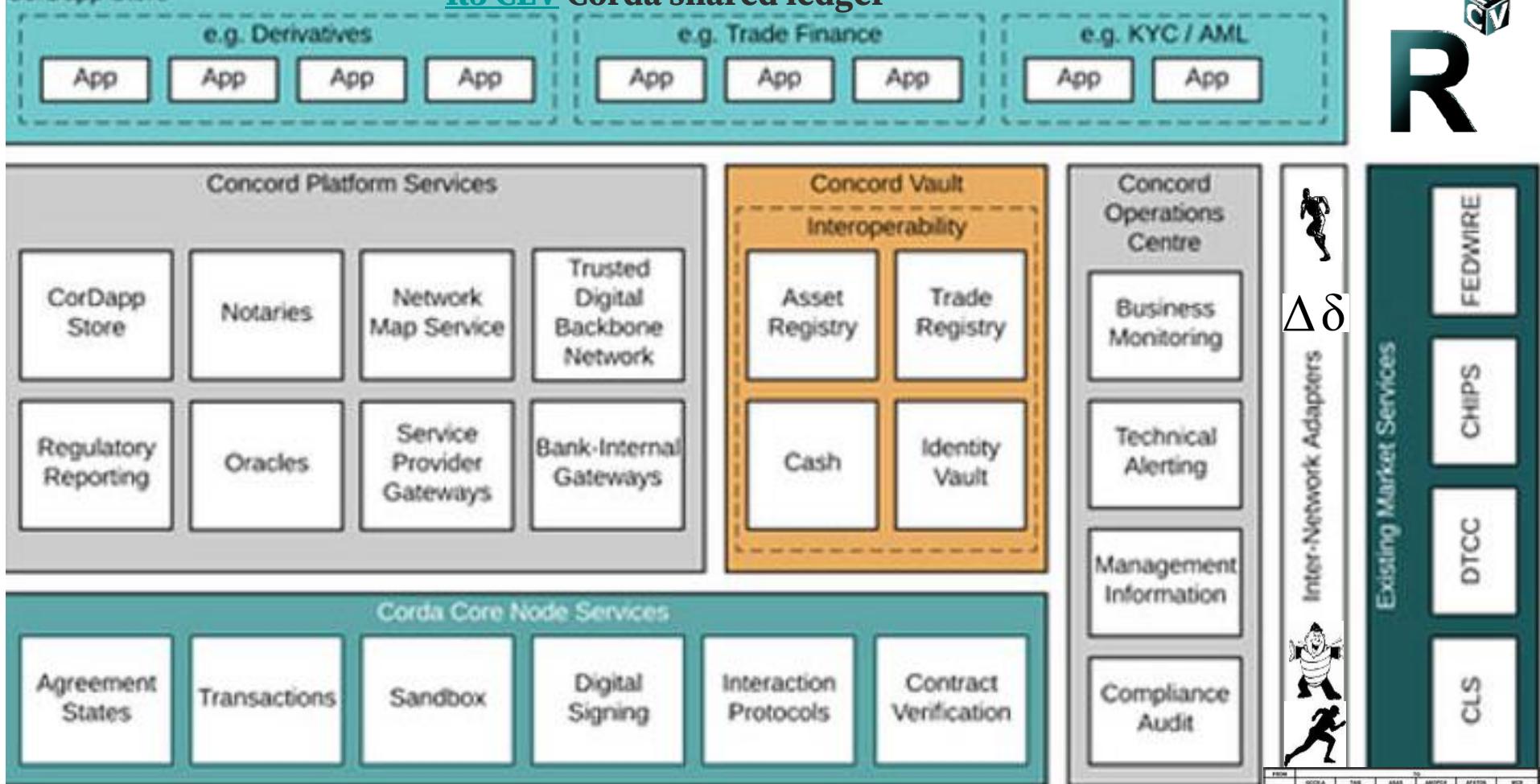
"Blocks are a measure of time":

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

NAME	QCC0A	TAB1	ASAB	AMPCB	AFATB	WCB
ABAB	F002	F003	F004	F005	F006	F007
ABCD	F008	F009	F010	F011	F012	F013
AFATB	F014	F015	F016	F017	F018	F019
AMPCB	F020	F021	F022	F023	F024	F025
ASAB	F026	F027	F028	F029	F030	F031
QCC0A	F032	F033	F034	F035	F036	F037



**XBRL / CDE / DAML
STOCK MIC CODES**



**STRUCTURED
MILITARY MESSAGE**

**TEMPLATE FORMS
LOGIC / FILTERS**

**300+
Use Case Templates**

**Federation
Gateway**

- PROOF OF WORK
- PROOF OF STAKE
- STATE CHANNELS
- BITCOIN NEXGEN
- LIGHTNING / DASH..

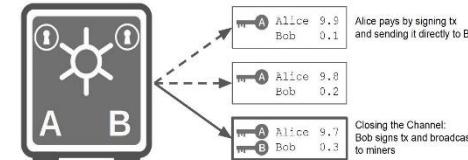




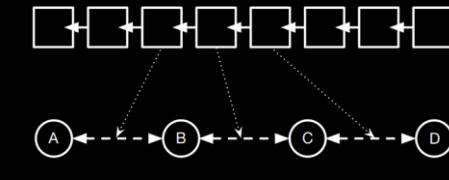
**transactions sent over / off chain
micropayment channels**

Micropayment Channels

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



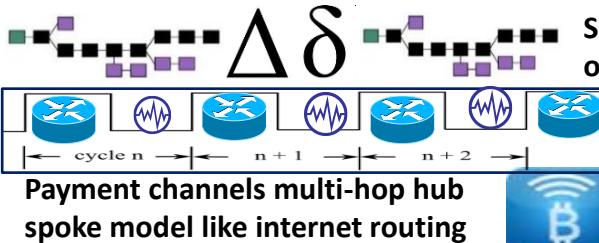
LIGHTNING



Millions of Transactions. Milliseconds of Delay.

Hashed TIME LOCK contracts component for global consensus

OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/ Random # BEACON



FIREFLY – HEARTBEAT ALGORITHM



FIREFLY – HEARTBEAT



EVENT REPORTING ACROSS TIME-SPACE



$\Delta\delta$



MESSAGE EVENT BUS

CLOCK FACE 360'
90 / 90 / 90 / 90



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

MICRO CYCLES
Survey Point

BASEBALL "DIAMOND"

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

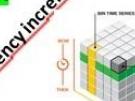
Satoshi Nakamoto:
“The solution we propose
begins with a **TIME
STAMP SERVER**”

90 feet

Blockchain / cryptocurrency increments

90 feet

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



Time Time
Time Place
Time Bin



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

home plate

Fix **"108"**

FLASH MESSAGE

EVENT BUS

TIME STAMP SERVER

$\Delta\delta$

Epoch Time Cycles

X EVENTS

Sync Delta

State Meta

Data Snaps

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

SETTLEMENTS / EXCHANGES

= TAXABLE EVENTS

AKIN TO PROPERTY

IRS #1421

I.R.S.

90 feet

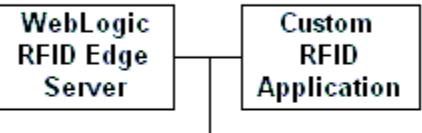
Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data



epcis

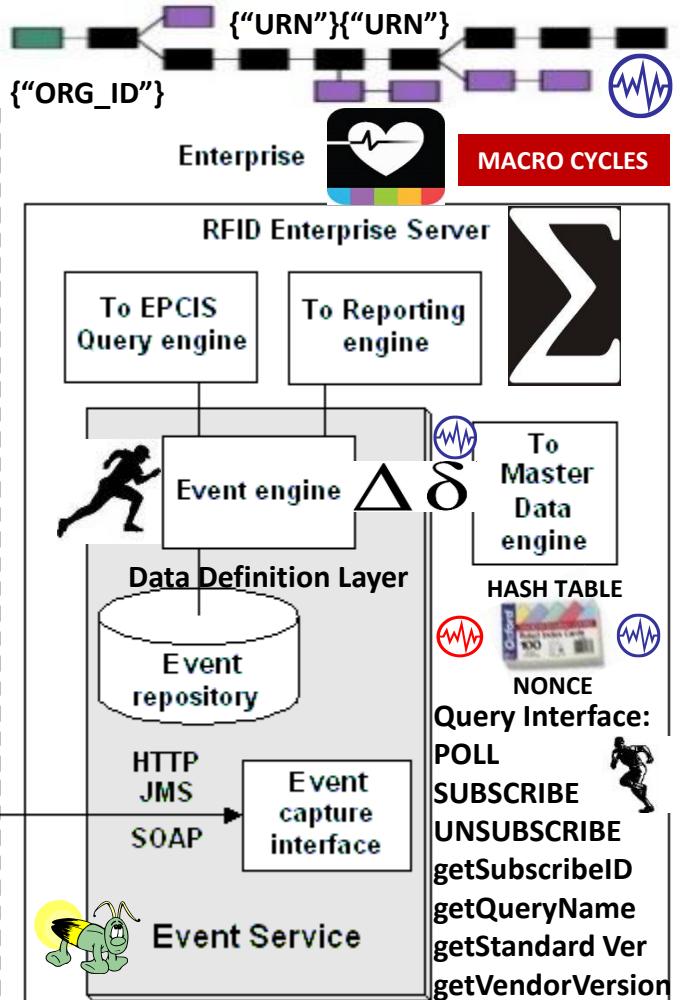
EPCIS DATA MODEL



SERVICE LAYER

XML

- ObjectEvent
- AggregationEvent
- QuantityEvent
- TransactionEvent



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



MICRO CYCLES



TERRA
TRC



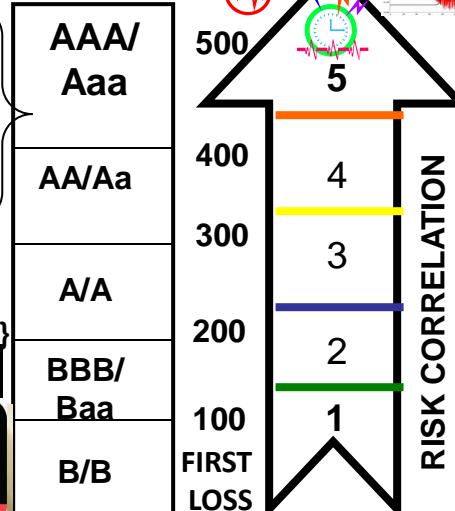
ECONOMIC HEARTBEAT



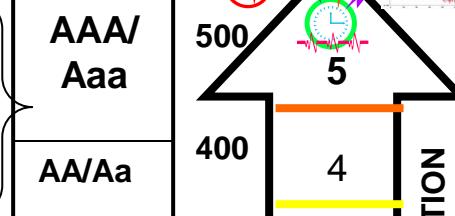
HB MSG </108>
PROTOCOL

INDUSTRY-DRIVEN MESSAGING STANDARD

LAST LOSS



RISK CORRELATION

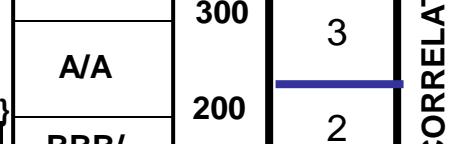


</FILTERS>{"FILTERS"}
</CLASS_TYPE>

{"Org_ID"} {"URN"}

<URN>
<URN>
<URN>
<URN>
<URN>
<URN>

POOL
 $\Delta\delta$



IEEE 802.15.4 OASIS MQTT

TELEMETRY TRANSPORT

IEEE 802.1AG HOP BY HOP

DETECTION

Bitcoin = Property

IRS Memo #1421

% Block Mined

% Block owned

Mined Bitcoins

Unmined Bitcoin:

$\Delta\delta$ Land Use Meme

ON OFF SHORE

GEO LOC LAT / LONG

PING

DATE TIME STAMP

NDN </INTEREST>

NDN {"DISTANCE"}

Demurrage

Charges

vector

IEEE C37.118 Harmonization & Sync heartbeat update Interval

IEEE 802.11 HOP BY HOP CONTROL

Paul Revere Linear, Sequential

Time Series Database

CONTRIBUTIONS TO STATISTICS

X Σ

$\Delta\delta$

Price Indexes in Time and Space

Methods and Practice

{"TAGGED BITCOINS"}

Veritaseum

Spatial Econometrics

PROCESS BY </PRECEDENCE>

SonarMaps ID_Hops

Triangulation

Euclidian Geo

GPS GEO LOC

DATE TIME STAMP

NDN </INTEREST>

NDN {"DISTANCE"}

ON OFF SHORE

GEO LOC LAT / LONG

PING

DATE TIME STAMP

NDN </INTEREST>

NDN {"DISTANCE"}

Demurrage

Charges

vector

BLOCK

BLOCKTIME ARBITRAGE

Blockchain Timestamps

NDN

ON / OFF SHORE

PROXIMITY BEACONS

Multi-Meme Metrics

EVENT BUS

Match to Closest

Heartbeat Cycle

FIREFLY-HEARTBEAT

ALGORITHM

WATER DROP IN POND MEME

AREA RADIUS

</FILTERS>

BY ORG ID / URN

NDN </INTEREST>

</DISTANCE>

Closer = Cheaper

Closer = < Fuel

BLOCKCHAIN PARSING

ERLANG

Firefly Events

Strive to Sync

To Closest

Heartbeat

Micro CYCLES

Heartbeat

Snapshtos

Micro CYCLES

Heartbeat

Snapshtos

Micro CYCLES

Heartbeat

Snapshtos

WATER DROP IN POND MEME

AREA RADIUS

</FILTERS>

BY ORG ID / URN

NDN </INTEREST>

</DISTANCE>

Closer = Cheaper

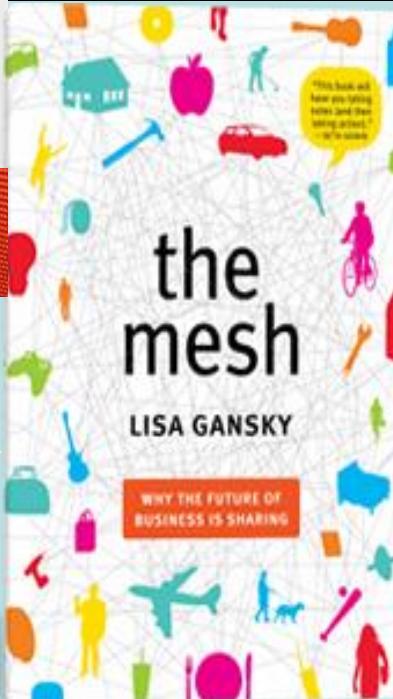
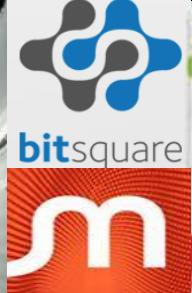
Closer = < Fuel



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



- Registration
- Authentication
- Proximity based rules
- Consensus based rules
- Contracts
- Checklists

FEDERATION
AGREEMENTS
PROCEDURAL
TEMPLATE

FEDERATION

<UUID> <ORG_ID> <URN>

LDAP DIRECTORY

Physical proximity

Social proximity

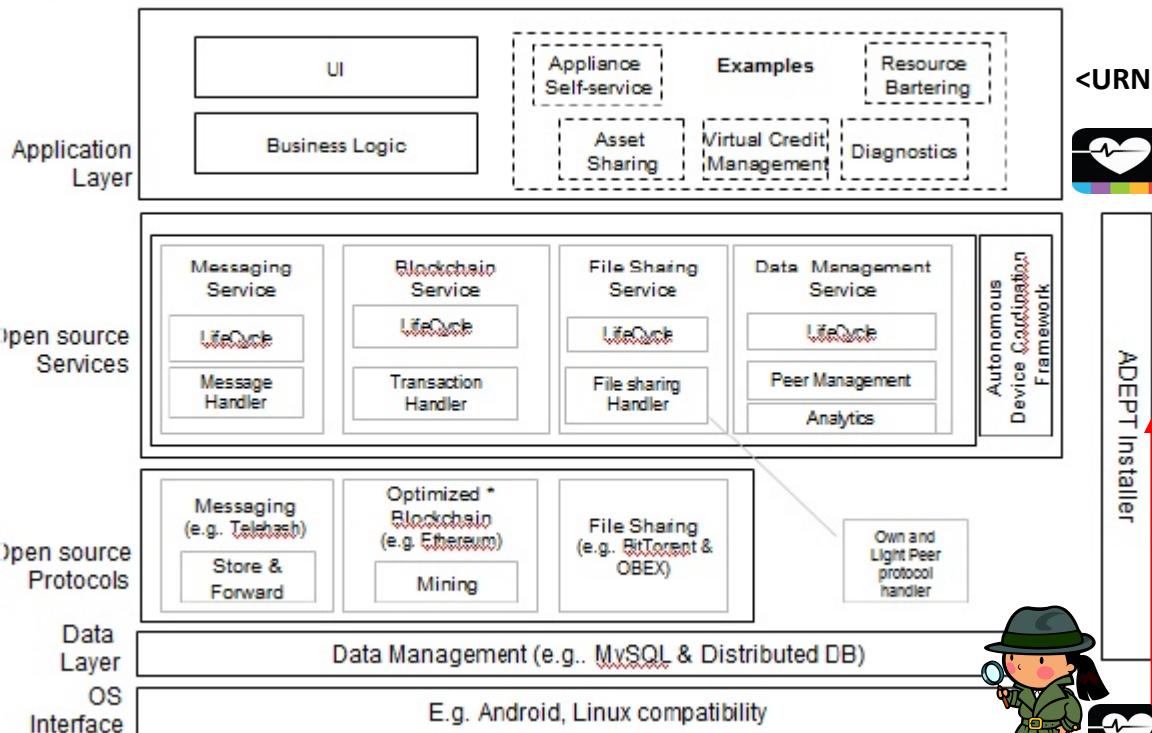
Temporal proximity

Agreements

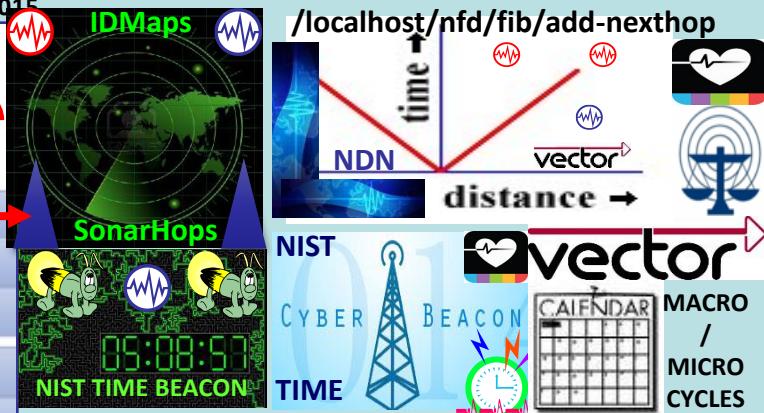
Payments

Barter

ADEPT Standard Peer Architecture – Logical View



* Could be optimized to hold the complete blockchain. Function of ADEPT Installer

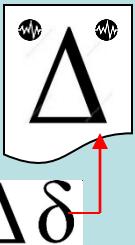


PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS
<URN> DESCRIBES COMMODITIES ETC BY UNIFORM RESOURCE NAME BY </INTEREST>>



ASSET SHARING WITHIN FEDERATION

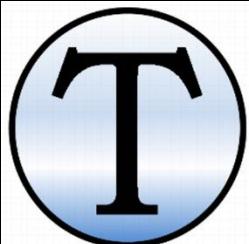
BUSINESS LOGIC = WORKFLOW <XML_Wf>



FILE SHARING = CYCLIC SYNC DELTA LEDGER / DOCUMENT REFRESH

OPEN SOURCE = HBC = PROTOCOL AGNOSTIC

DATA LAYER: STATE META DATA TIME STAMPED BY <UUID><ORG_ID><URN> & DATA PREPPED & "DATA WRANGLLED 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.
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.

3. A software protocol

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

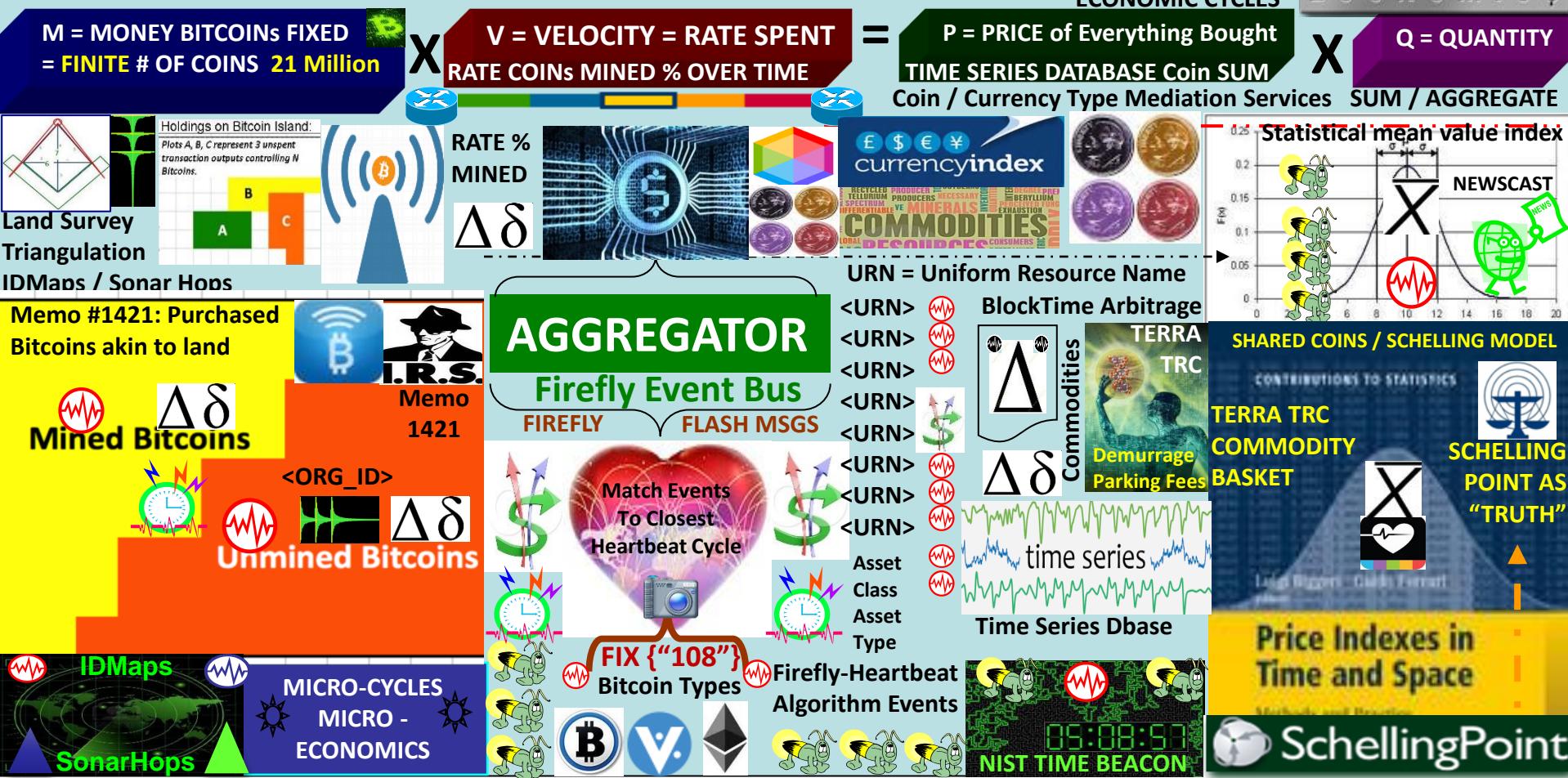
Finance Thing	Interpretation	EVENT DERIVATIVE CORP = <Org_ID_1,2,3>
Bond (Debt)	“I, Paul Sztorc, owe \$20 to whoever is holding this bond certificate on 03/02/2015.”	
Stock (Equity)	“I, the CEO of SztorcCorp, owe 1/100 th of SztorcCorp’s profits to whoever is holding this stock certificate on 03/02/2015.”	
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)...



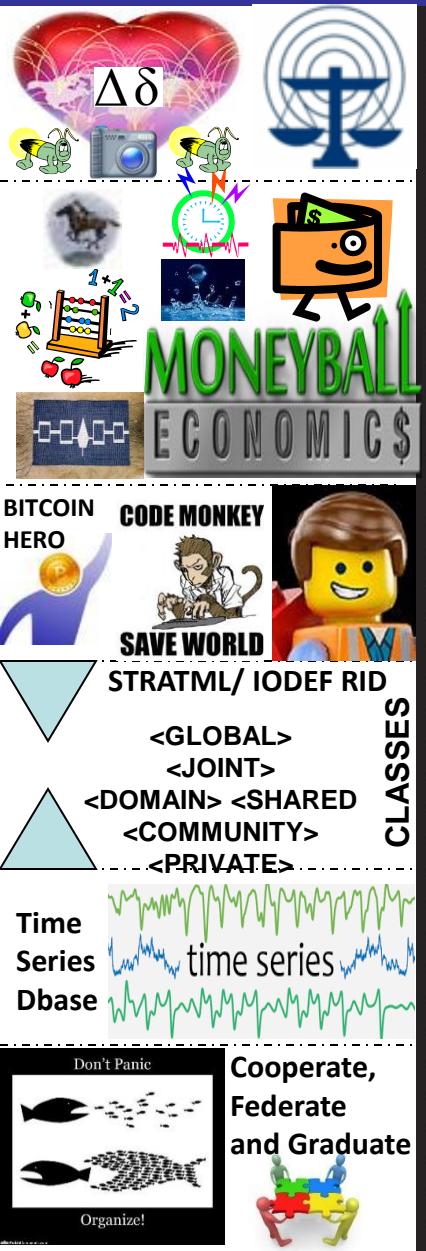
How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

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

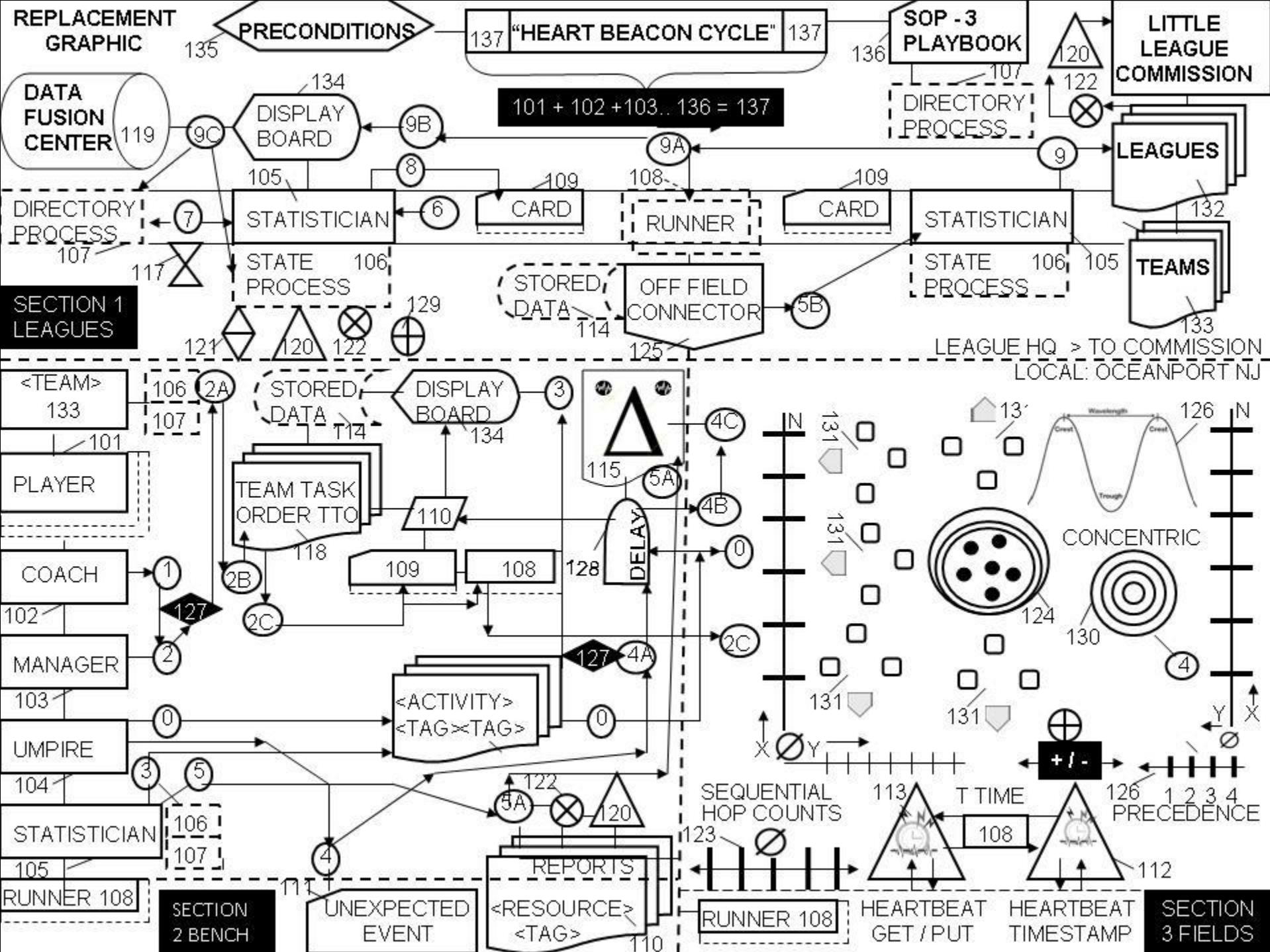
The most important equation in monetary economics, the equation of exchange: $MV=PQ$. The quantity of money (M) times the rate spent (V for velocity) equals the price of everything bought (P) times the amount bought (Q for quantity). In Bitcoin, M Money is on a predetermined path, converging to 21m bitcoins.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

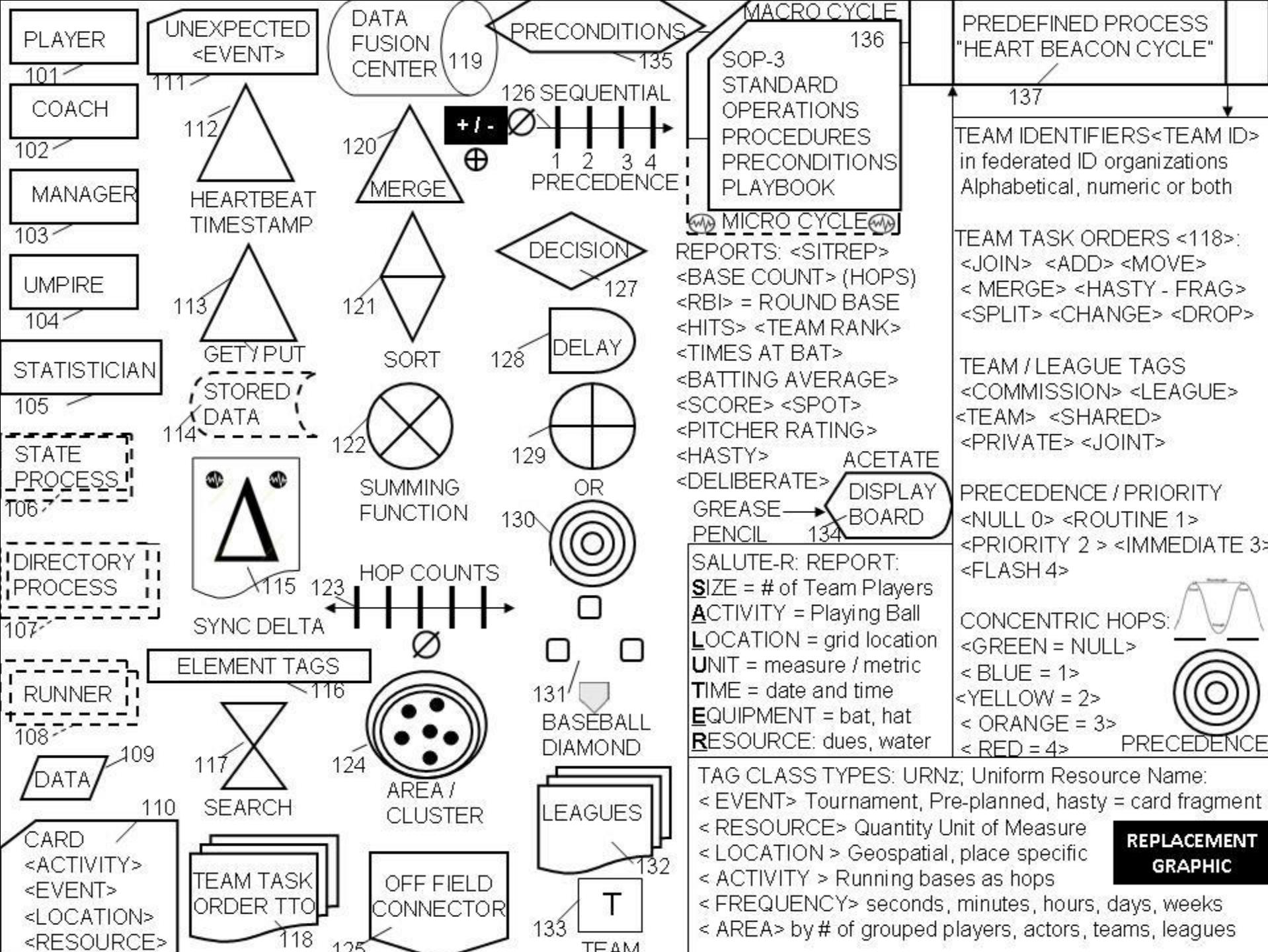


Gamification is the use of game thinking and game mechanics in non-game contexts to engage users in solving problems. Gamification techniques strive to leverage people's natural desires for competition, achievement, status, self-expression, altruism, closure.









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

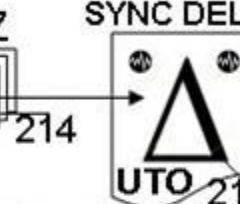
218

CLOUD COMPUTING

219

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



215 LEADER'S INTENT DECISIONS



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



211 SNAPSHOTS

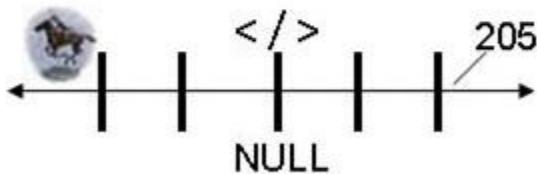


203

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



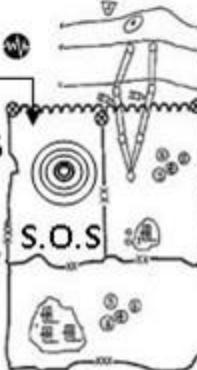
LENGTH, THRESHOLD, INTENSITY, DURATION



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



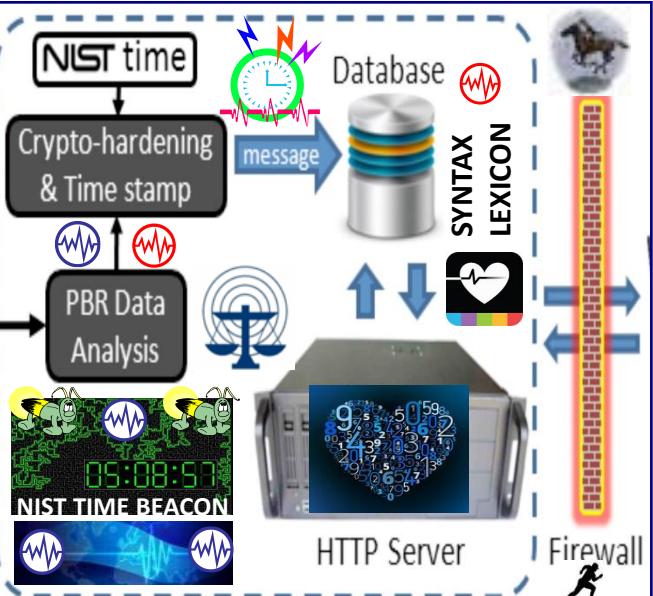
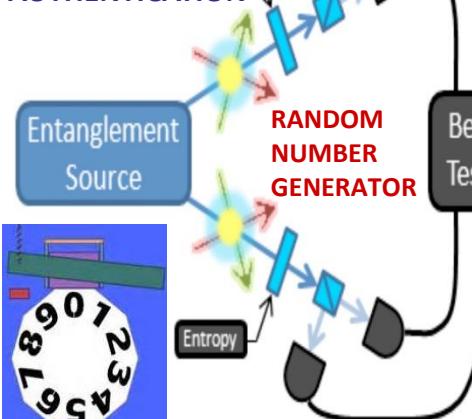
NIST QUANTUM ENCRYPTION RANDOMIZATION BEACON

UNPREDICTABLE SAMPLING

SECURE AUTHENTICATION

SECURE MULTI

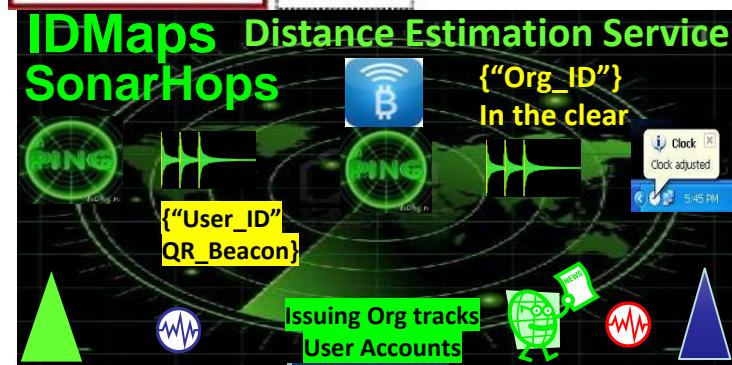
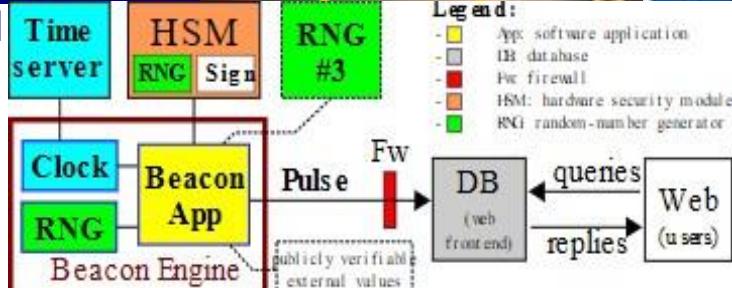
PARTY /
AUTHENTICATION



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

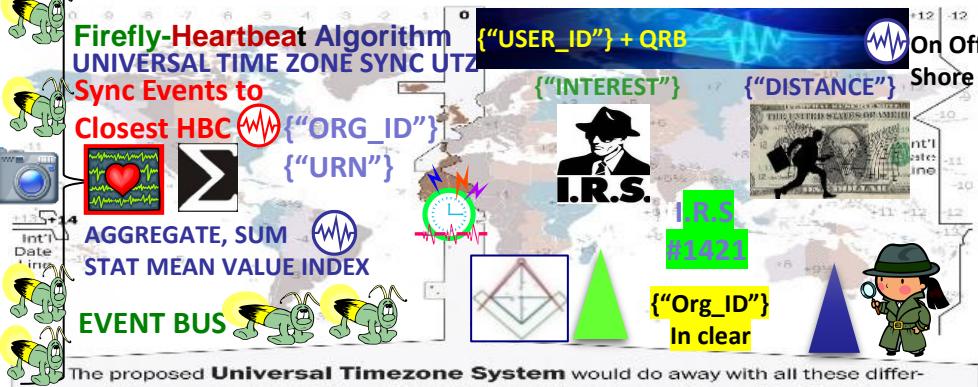


NDN

</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**



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

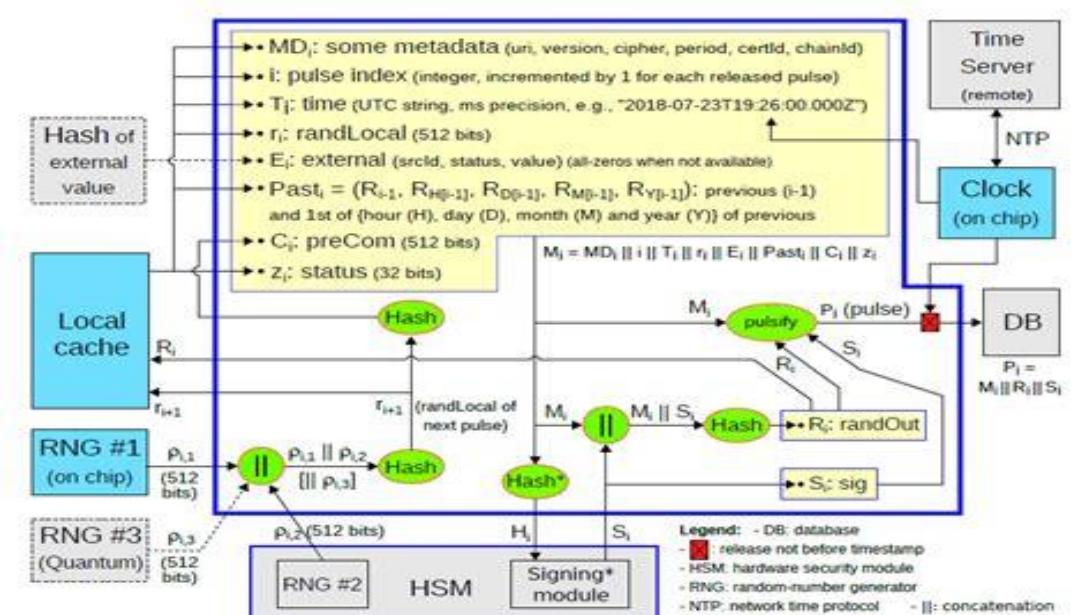
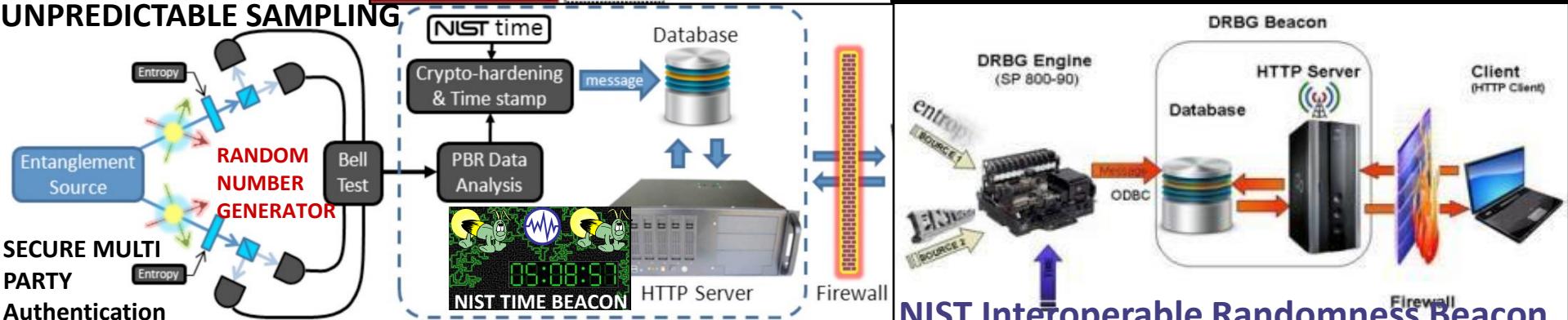
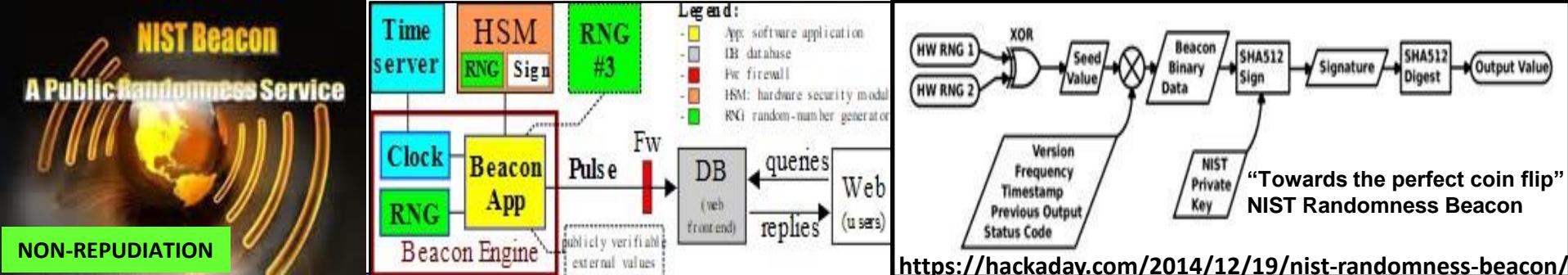
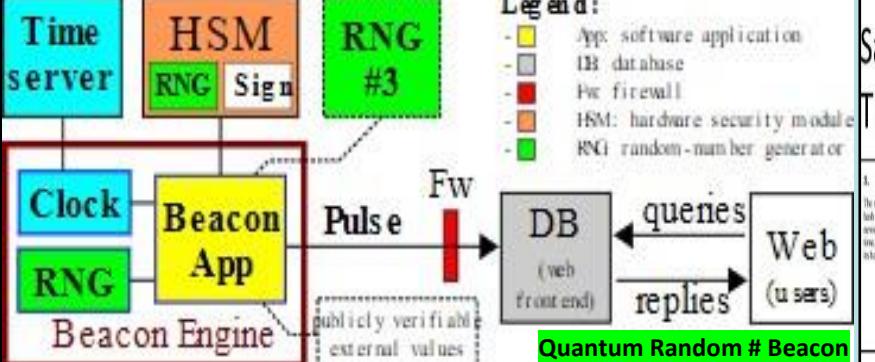


Figure 2. Illustration of the generation of the i^{th} pulse by a Beacon App (2.0)

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 hash of a block of time to be timestamped and widely publishing the hash, such as in a newspaper or online post [3]. The timestamp proves that the data must have existed in the system already, whether it's on the hard drive. Each timestamp includes the previous timestamp in its hash, forming a chain, with each additional timestamp confirming the previous one.



THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER

TIME SPACE

05:08:57

NIST TIME BEACON Metrics / Meters

(An internal previous block of time and timestamp block is timestamped directly after the previous block was timestamped.)

Each timestamp contains both the previous timestamp and the timestamp for the current block of data.

It's a chain of timestamp blocks.

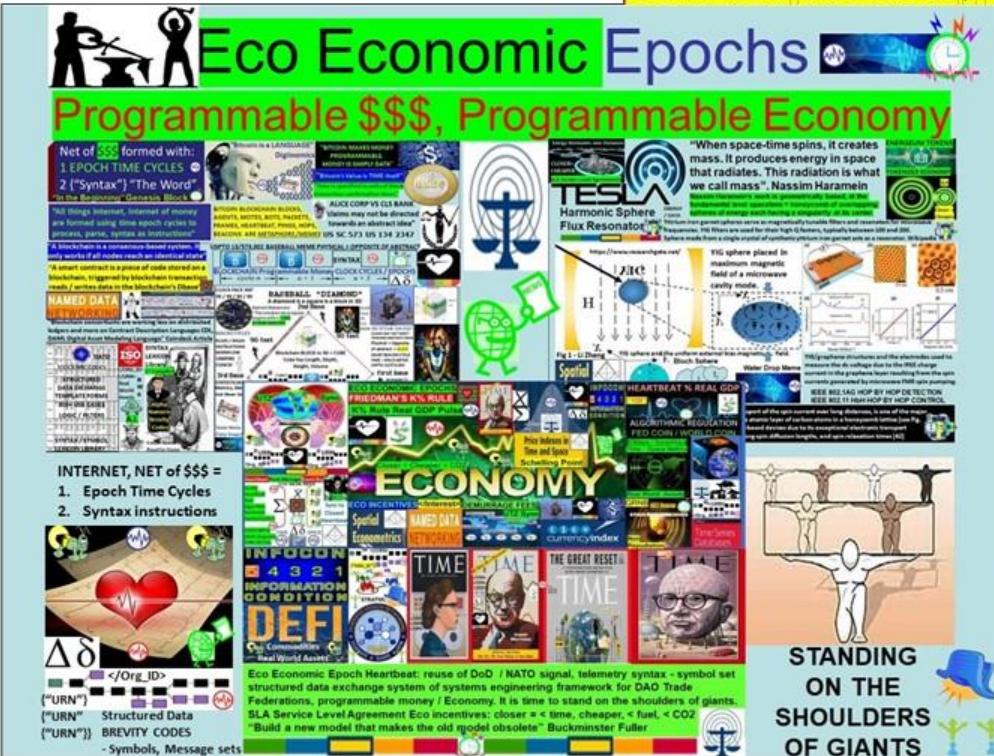
World monetary unit World energy grid



MICRO CHIP BASED CURRENCIES
CRYPTO CURRENCY
MINING CHIP FARMS

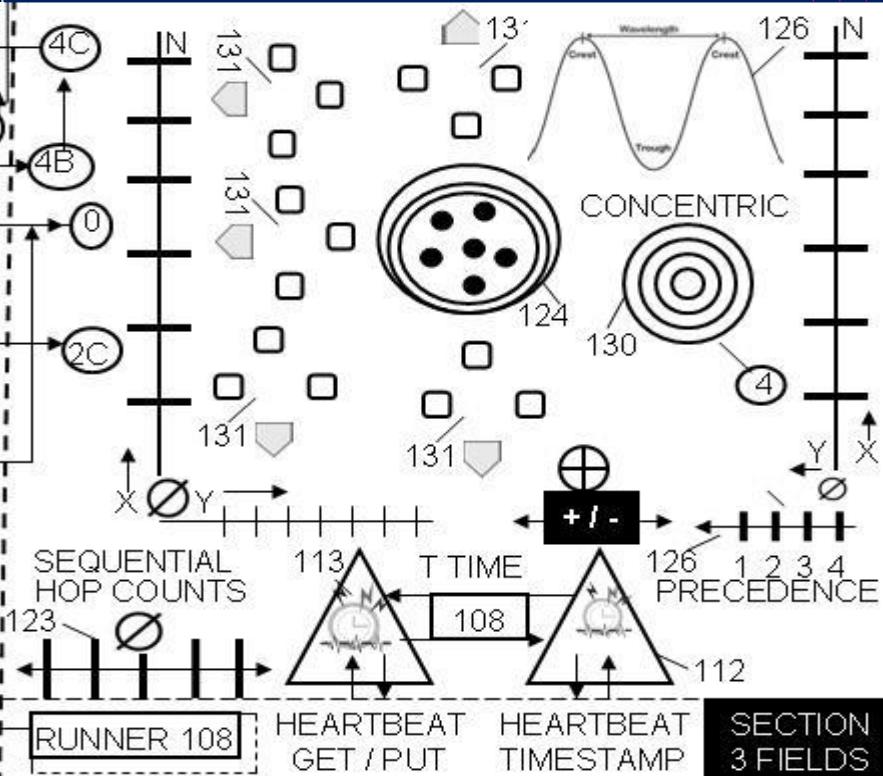
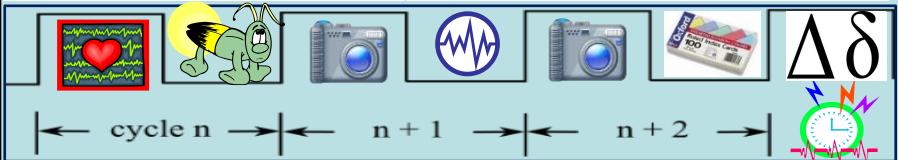
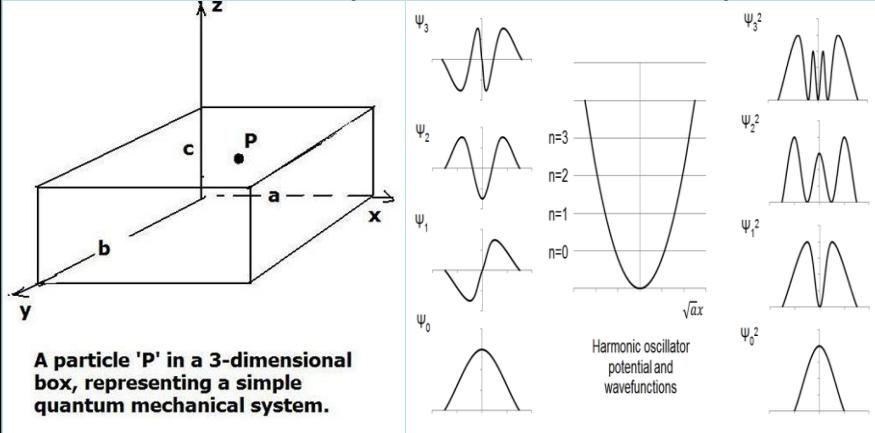


GEO MAGNETIC POLE SHIFT EVENTS



Germany Weimar Republic 1929
E 5 reichsmark Silver Silver Plated

QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS

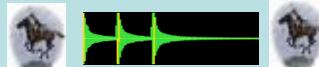


#QuantumComputing USct Alice Corp Vs CLS Bank compliant memes:
In quantum computing, a qubit (or quantum bit (sometimes qbit)) is a unit of quantum information—the quantum analogue of the classical binary bit. A qubit is a two-state quantum-mechanical system, such as the polarization of a single photon: 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

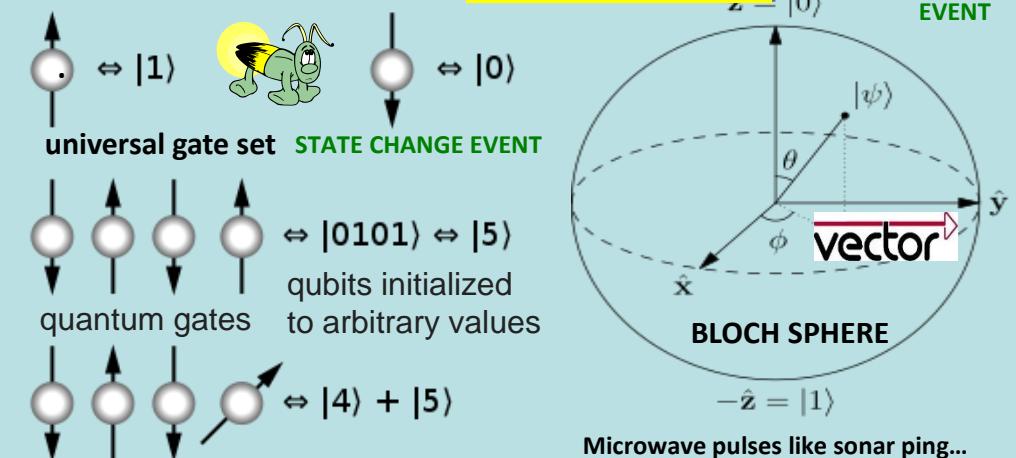
Vertical polarization vectors from a known point 0 null Sonar Hop meme



particle representation / samples

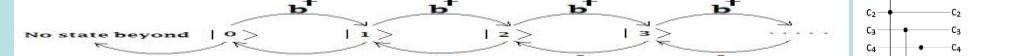


Instead of each bit having two potential states — on or off — a quantum bit or qubit has three. It can be on, off, or both, and you only know which one it is once you look at it. How can you tell if a bit of data is correct if looking at it might change its state?

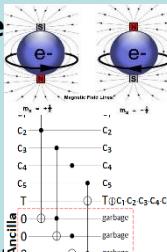


qubits can be in a superposition of all the classically allowed states

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)

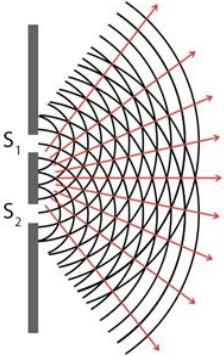


Double-Slit Experiment

Screen with two slits

PARTICLE ?

Sodium lamp



Screen

WAVE ?

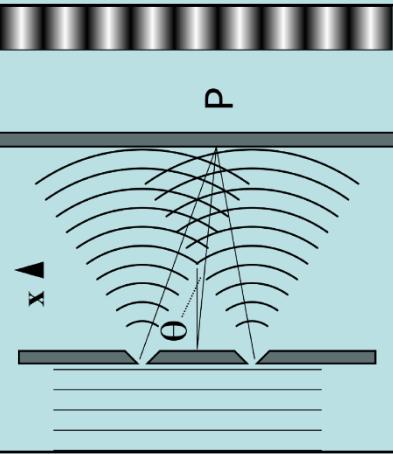


Light source Rays of light coming from the source reach the slits

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

Fix {"108"}

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

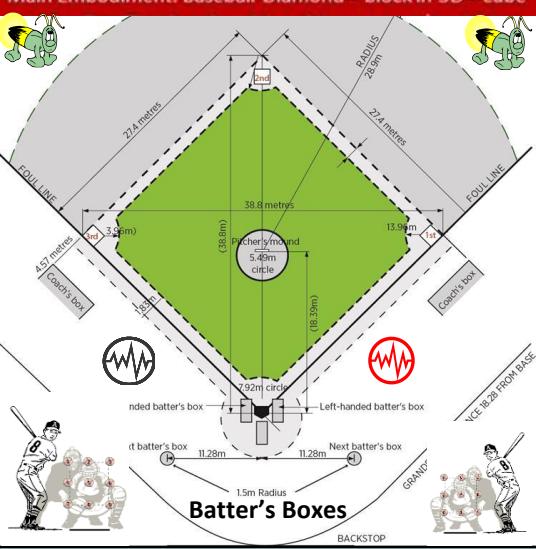
Δδ

Epoch Time Cycles

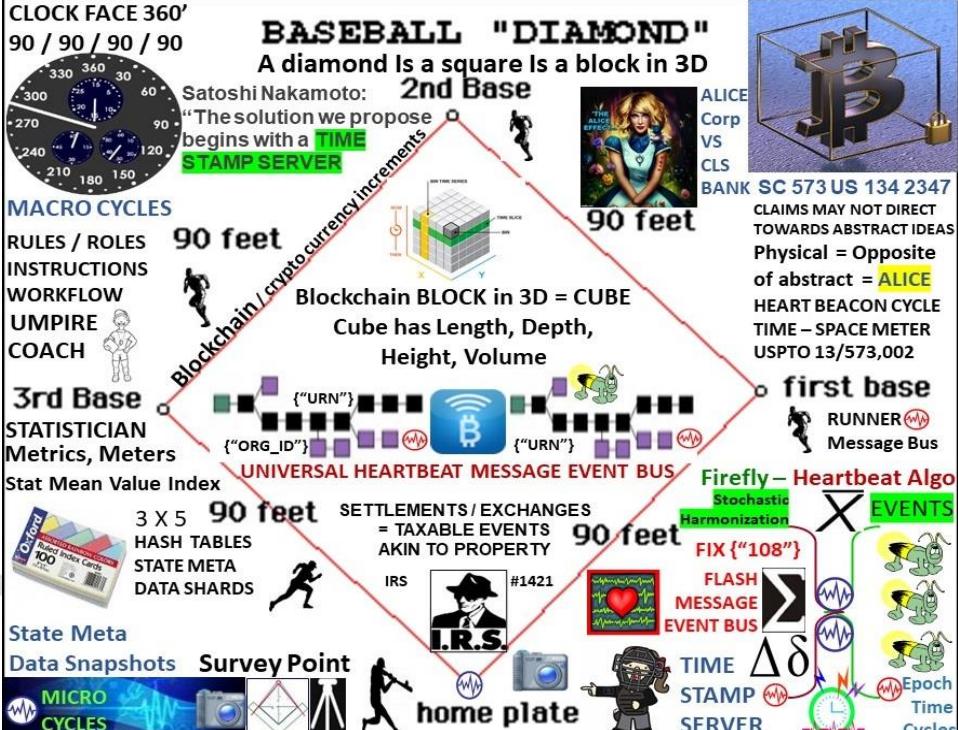
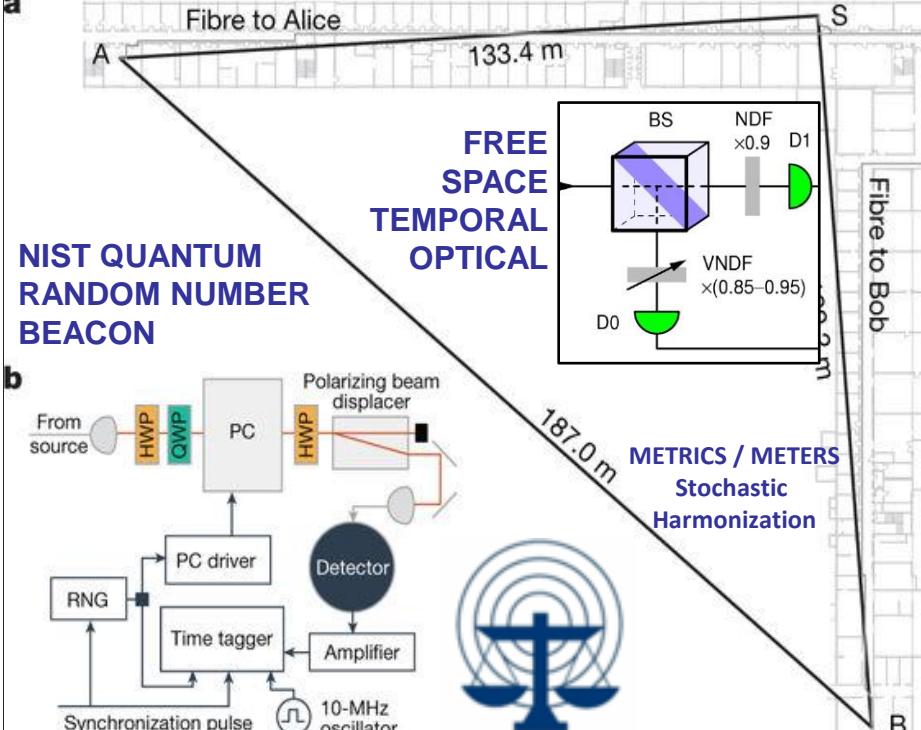
USPTO APPLICATION 13/573 002

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

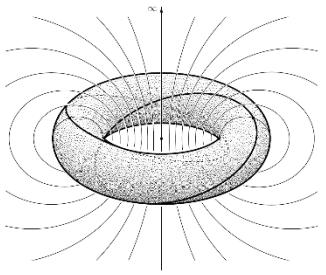
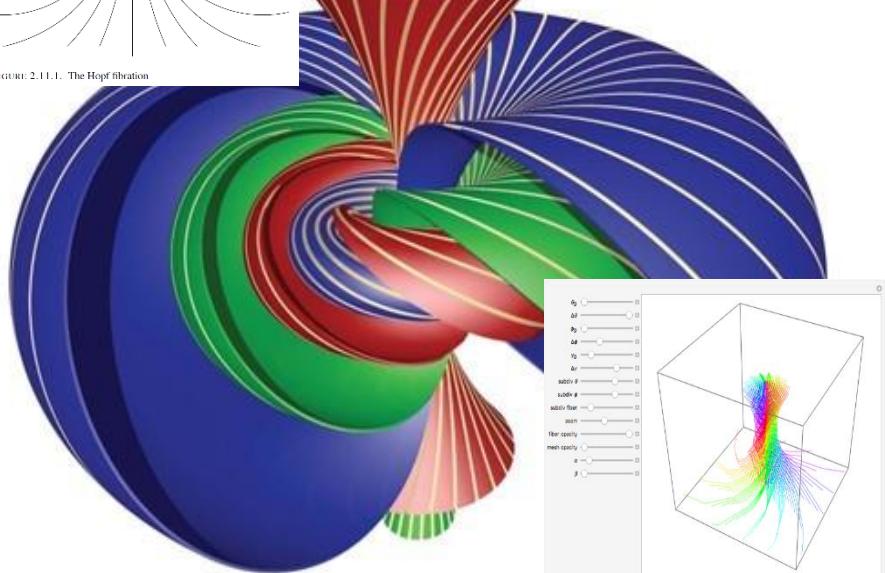
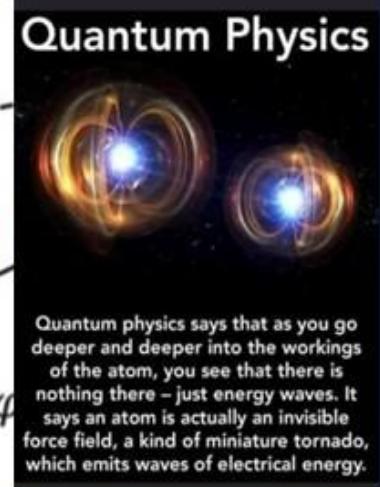
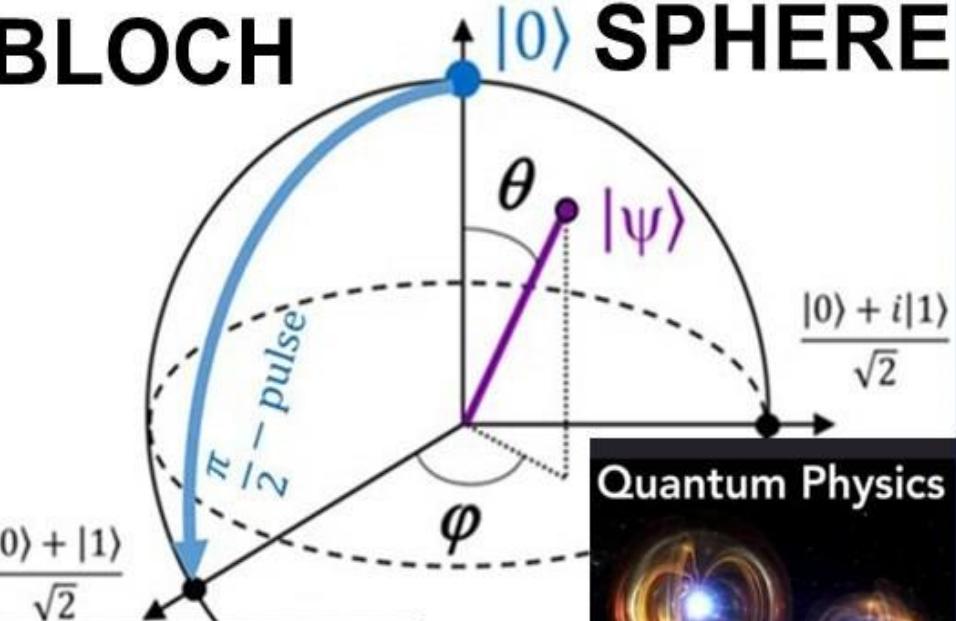


FIGURE 2.11.1. The Hopf fibration



BLOCH SPHERE



Quantum physics says that as you go deeper and deeper into the workings of the atom, you see that there is nothing there – just energy waves. It says an atom is actually an invisible force field, a kind of miniature tornado, which emits waves of electrical energy.

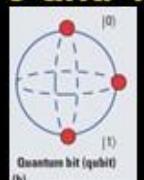
Hopf Fibration / #Bloch sphere

"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?

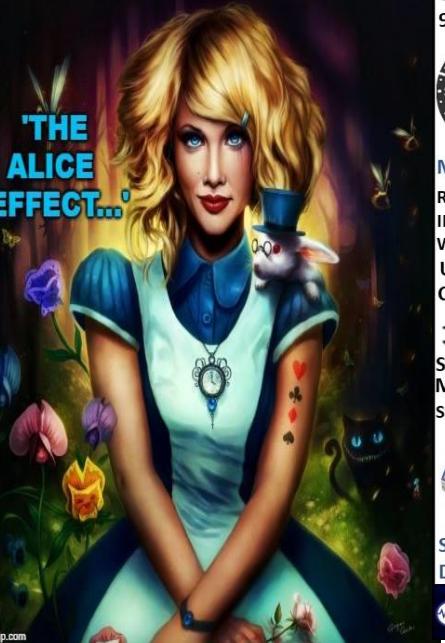
William A. Cook



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

Answers

Application Developers Alliance

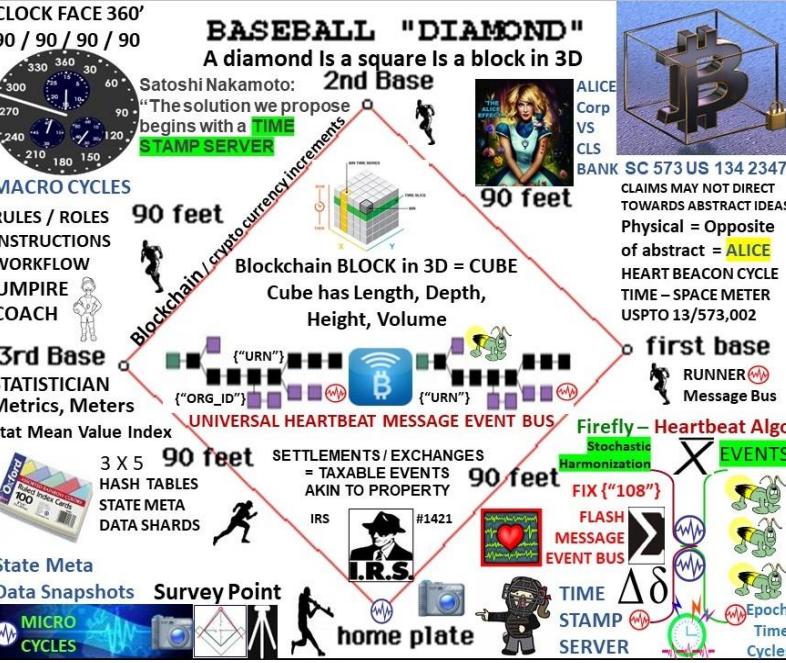


Alice Corp. v. CLS Bank International, 573 U.S. 134 S. Ct. 2347 (2014)
RULING: “claims may not direct towards abstract ideas”



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

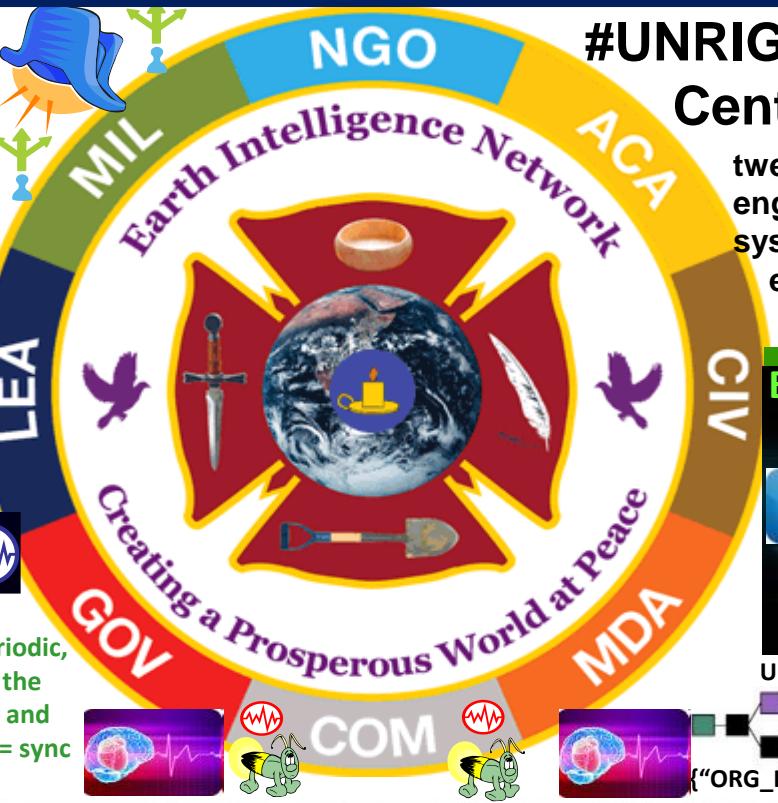
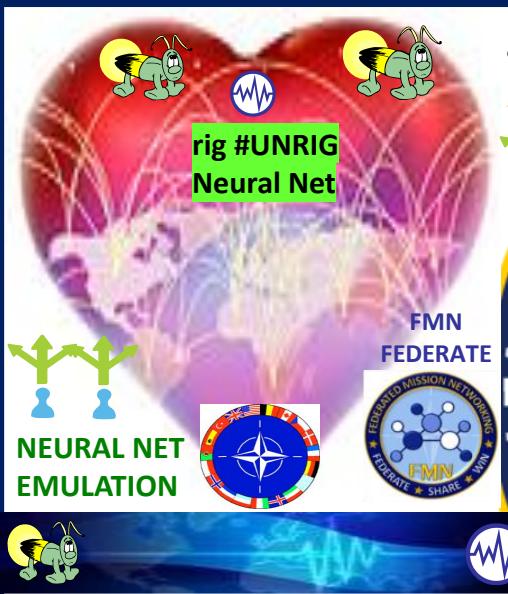






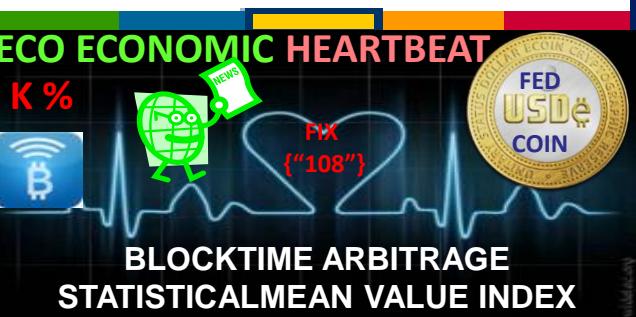
MINIMUM LIST OF COMPONENTS, BUILDING BLOCKS, PROCESSES, PROCEDURES AGREED ON BY TRADE FEDERATIONS TO ACHIEVE DISTRIBUTED AUTONOMOUS ORGANIZATION DAO CONSENSUS



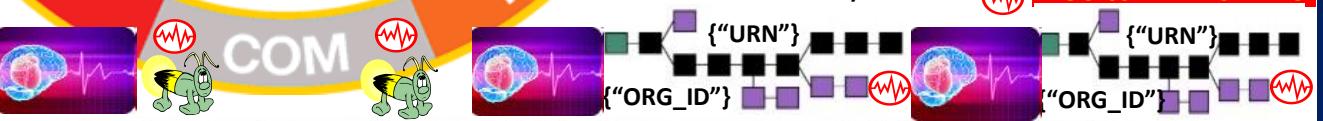


#UNRIG Marine Corps Data Center Robert Steele RIP

twelve reforms needed to create educated engaged democracy, unrig the "pay to play" system + DoD system of systems
engineering structured data exchange
best practice foundation DeFI technology

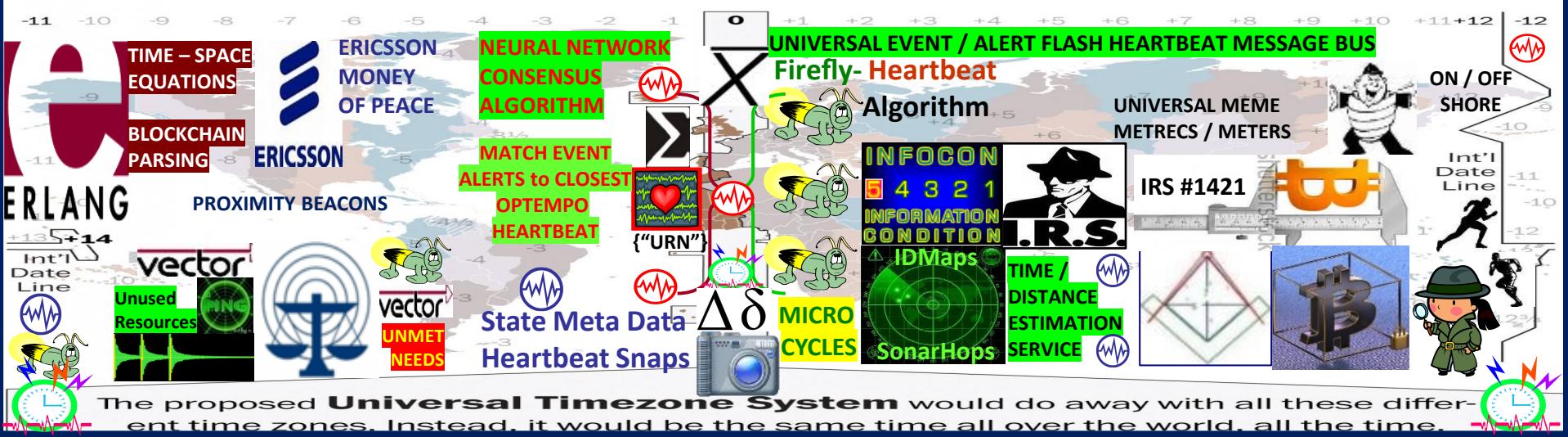


Universal Event / Alert Bus  PROCESS BY PRECEDENCE



Heartbeat synchronization strives to have nodes in a distributed system generate periodic, local “heartbeat” events approximately at the same time with a goal of all nodes starting and ending cycles at the same time eventually = sync to the closest **OPTEMPO HEARTBEAT**

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 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.

DAO: Distributed Autonomous Organization

RAND term circa 2000 / The TAO OF THE DAO

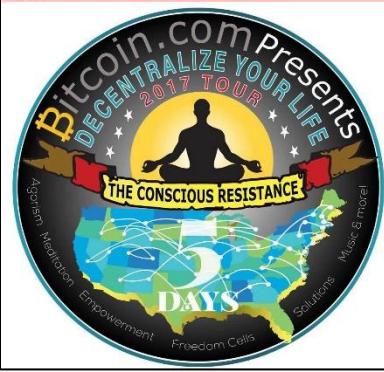
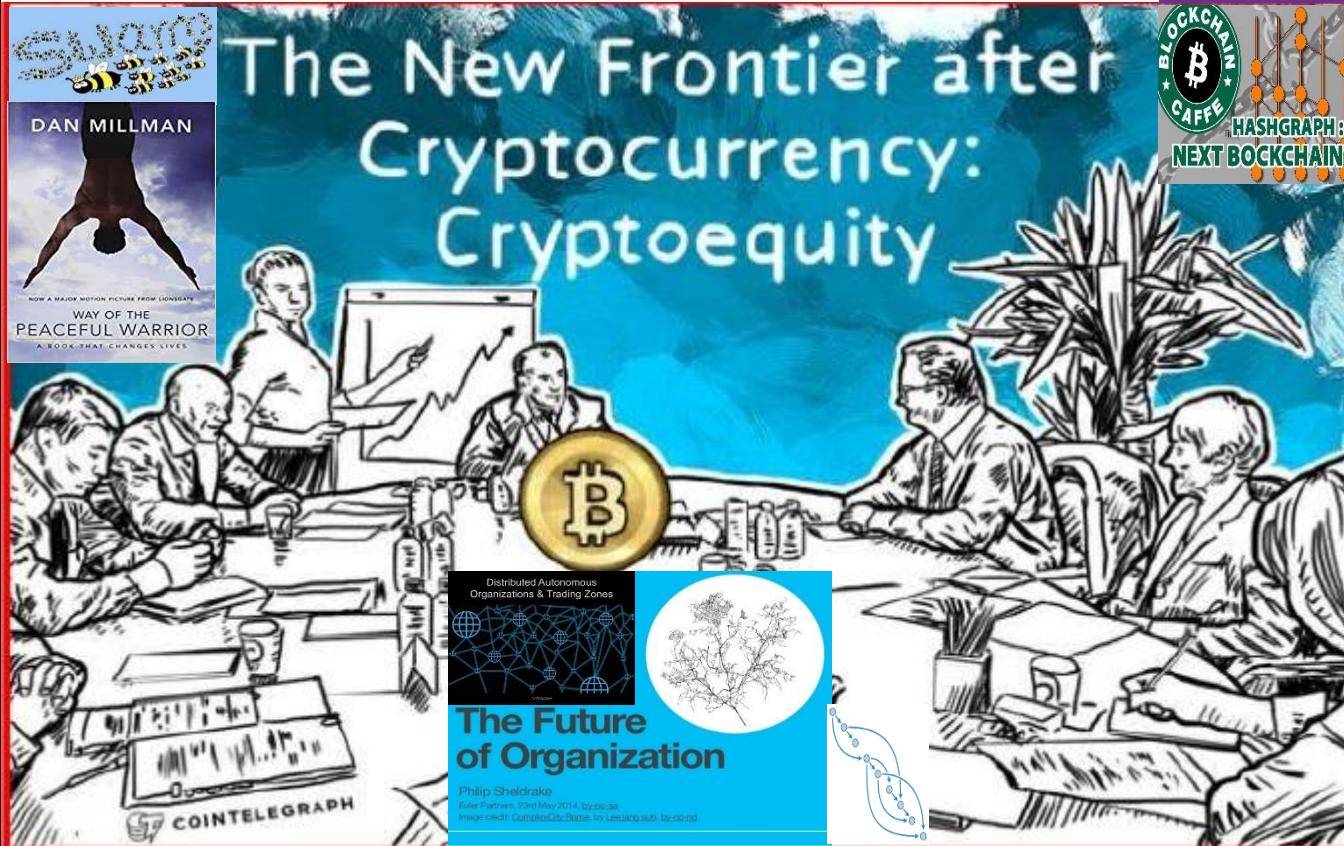
SWARMING AND THE FUTURE OF CONFLICT



RAND

RAND
Monograph
Report

THE
ADVENT
Of NETWAR



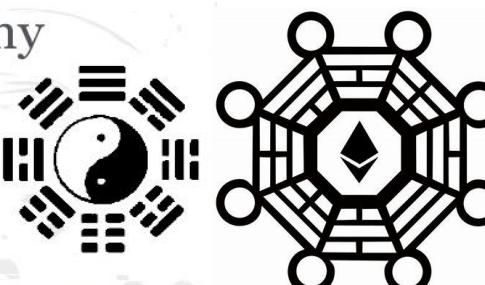
<http://cointelegraph.com/news/112077/the-new-frontier-after-cryptocurrency-cryptoequity>

Taoism Philosophy

Taoism represents:

- Contraction of the past to the future.
- The transcendence of time and place.
- The balance of the old and the new.
- The balance between opposing forces and desires.

Overall the Taoism Philosophy represents "The Way" in which to live.



(An ancient philosophy tradition. This article involves the yin-yang or principle of harmony and change.)

Eris, The Dawn of Distributed Autonomous Organizations and The Future of Governance

@TheBitcoinArmy





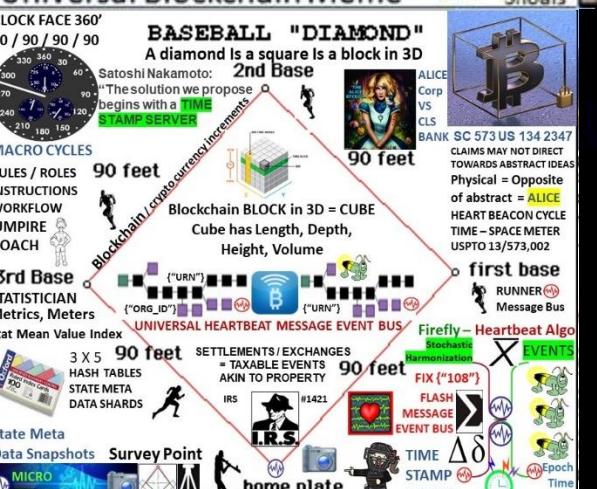
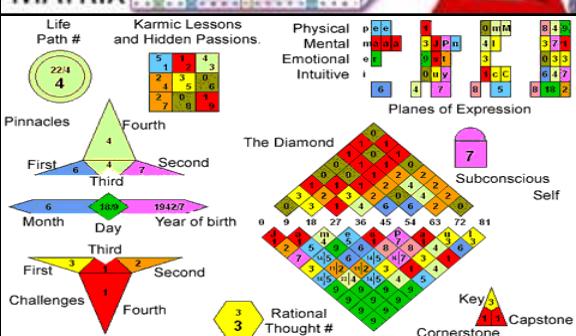
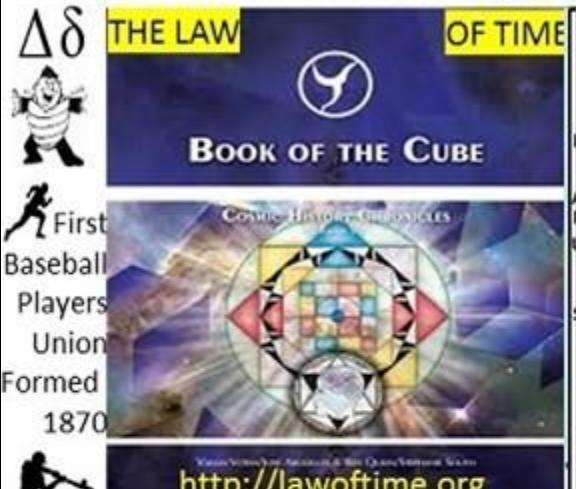
USPTO APPLICATION 13/573 002

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



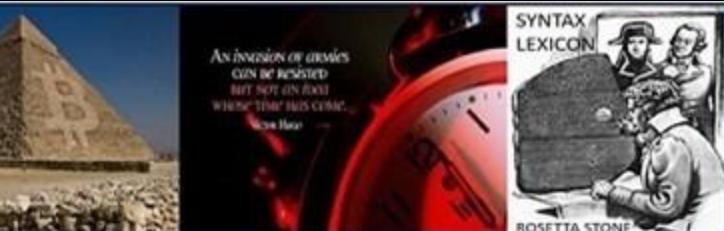
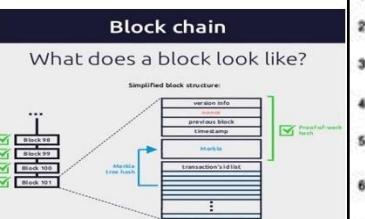
Satoshi Bitcoin Blockchain
Time Stamp Server

TIMESTAMP SERVER
 In order to propose begins with a timestamp server. A timestamp server works by taking a block of blocks to be timestamped and publicly publishing the hash, such as H_1 , of the first block. This hash is then used to timestamp the second block, H_2 . This continues until the obviously, in order to get into the hash. Each timestamp includes the previous timestamp in its header, forming a chain, with each additional timestamp referencing the one before it.



```

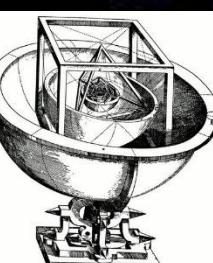
graph LR
    subgraph TS [Timestamp Server]
        direction TB
        TS_in[Blocks] --> TS_out[Hash]
    end
    TS_in --- TS_out
  
```



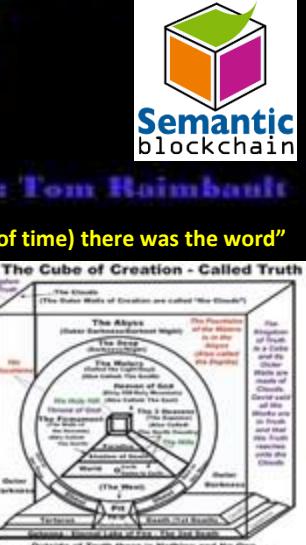
Metatron's Cube and the Platonic Solids



“In the beginning (of time) there was the word”



GENESIS OF ALL FORM





"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.

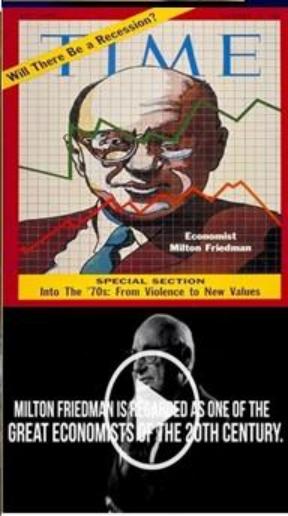
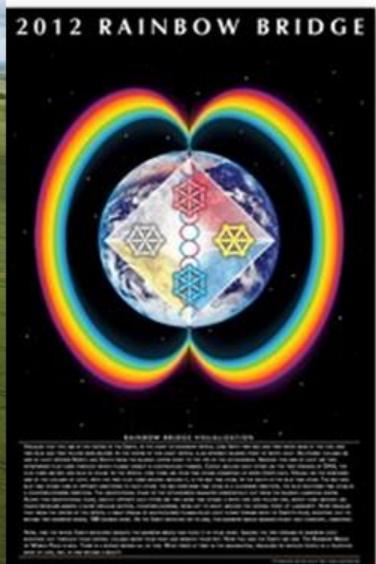
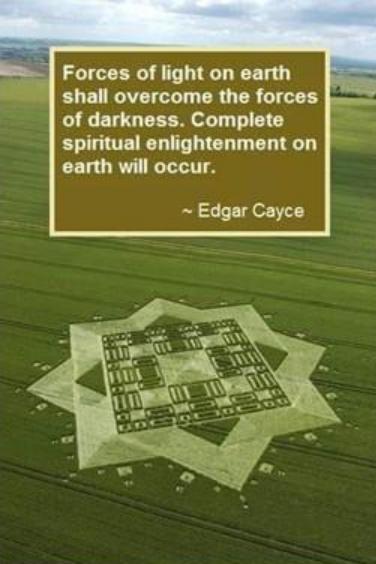
Over the next ten years, we are going to see our world innovate unlike never before, particularly in the fields of AI, technology, science, space travel, UFOs, networks, and the Internet. Major Universal truths will also be revealed as we welcome the New Age of Aquarius. The old world will soon come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

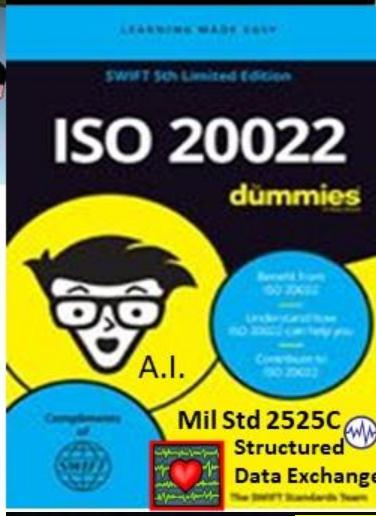
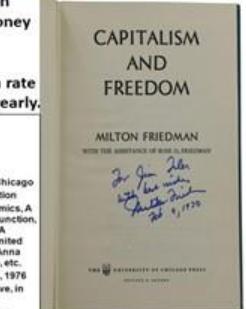


Milton Friedman

- 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, 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

