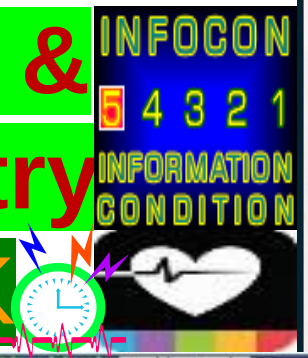
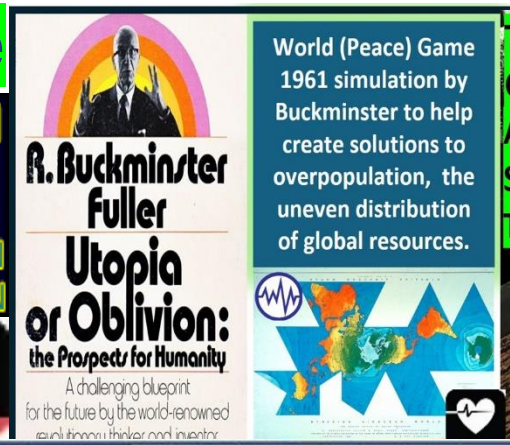
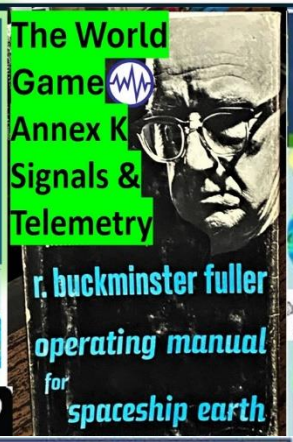
RBF's World Game

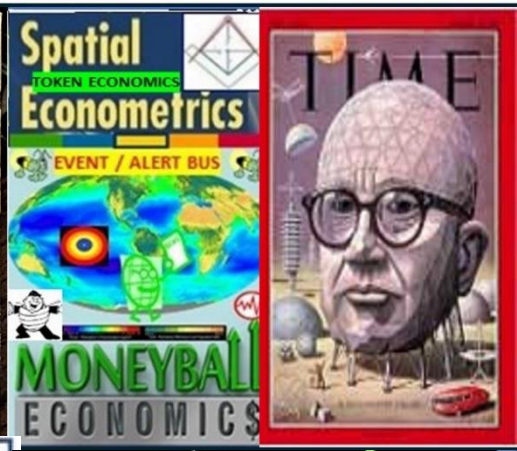
Signals & Telemetry

Annex K









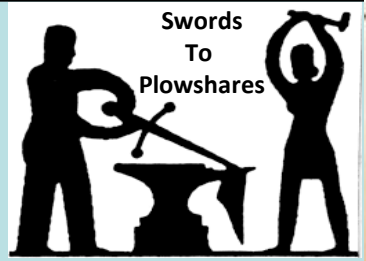
- Reuse, mod of System of systems engineering framework, Syntax Lexicon Library data elements
- STRUCTURED DATA EXCHANGE Reuse brevity codes mapped to 2525D symbol sets comprised of 300 + message sets for A.I. - machine Block-Time DLT arbitrage among Trade Federations </Org_ID> {"URN"} </URN> = COMMODITY

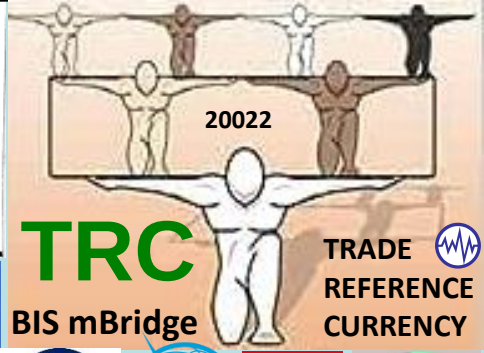
Spatial / temporal UTZ synchronization, stochastic harmonization, Time - Space Distance Estimation Service Common Consensus Algo meme Eco sustainable incentives

"We can synchronize ourselves, DAO Trade Federations in time - space for common purposes" Eco sustainable, Equitable Economic econometrics.

World Game Annex K

Signals & Telemetry



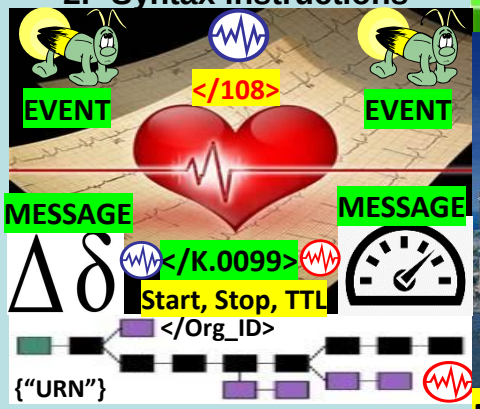


"Build a new model"
Standing on the shoulders of giants

INTERNET, NET of $$$ =
1. Epoch Time Cycles
2. Syntax instructions

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

PARALLEL ECONOMIES



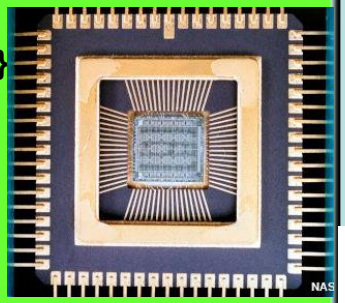
Eco Economic Epochs
For Programmable $$$
Programmable Economy
Eco Economic Epochs
Symbol / Message Sets A.I.
FIREFLY Inspired
Heartbeat Algorithm

Synt Symbols
Delta 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.

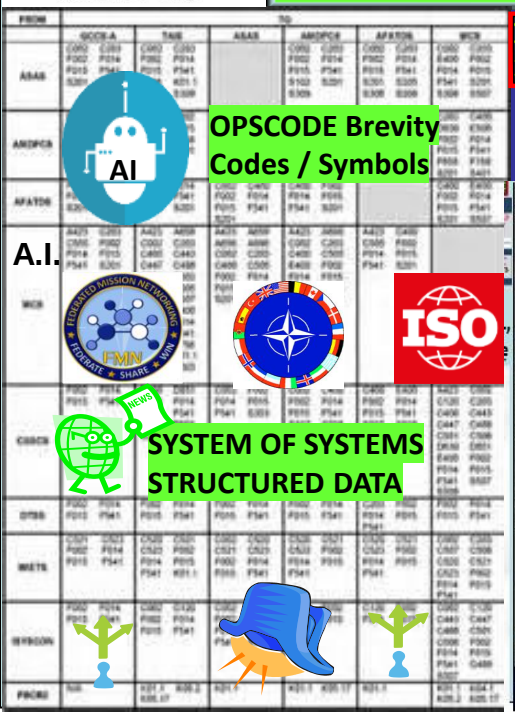
</Foundation_Tech framework>
{"TradeFI / Trade Reference $$$"}



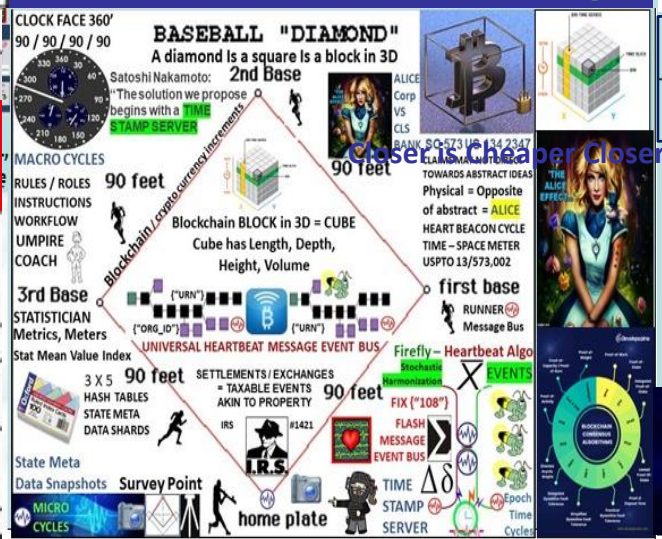
2.Syntax used / not used as code instructions during epoch time cycles.

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

Structured Data
AI
Brevity Codes / Syntax Symbols
Commodities
STANDARDS
COMPLIANCE
CONSENSUS
TIME SYNC
STOCHASTIC
HARMONIZATION
QUANTUM

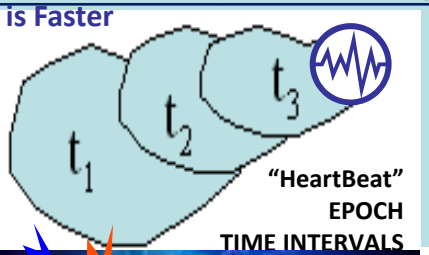


USPTO 13/573,002
573 U.S. 134 SCt 2347
"Alice in Wonderland Ruling"



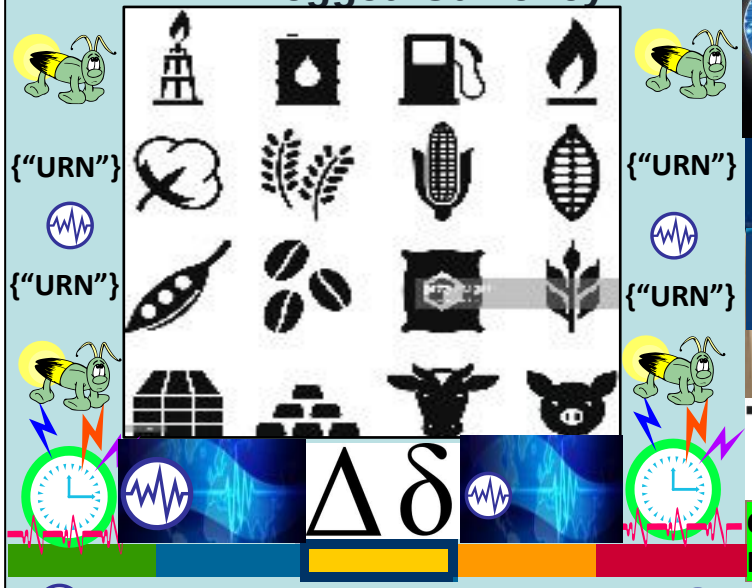
</Org_ID>
{"URN, URN, URN"}

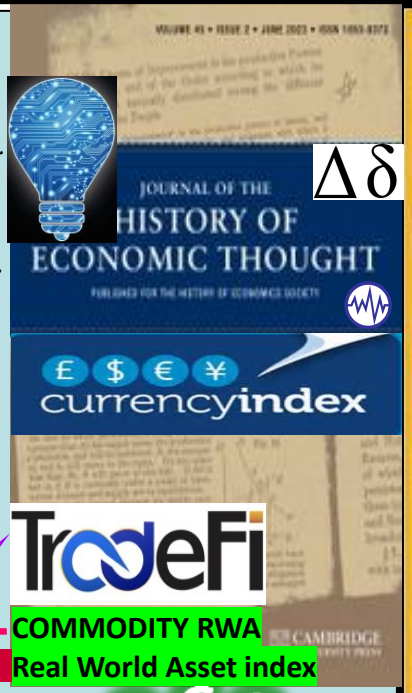
EPOCH EPOCH EPOCH Sync Delta
NET OF MONEY formed by 1) Time Cycles 2) Syntax
cycle n n + 1 n + 2

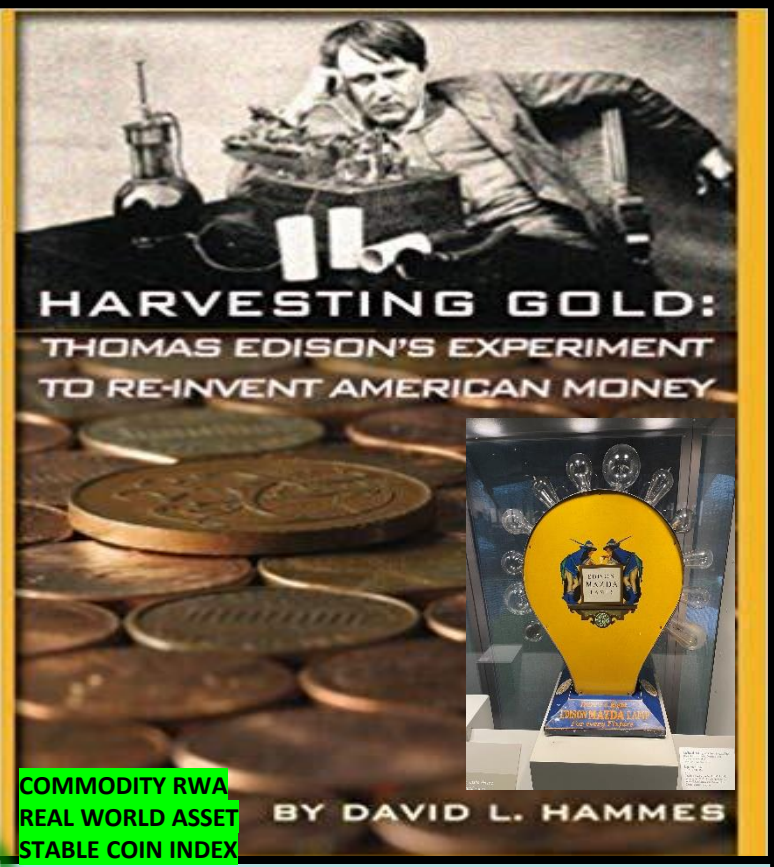


WATER DROP
PHYSICAL NATURAL
MEME
USPTOb13/573,002

Tokenization of Physical Assets
RWA Pegged Currency







ALGORITHMIC STABLE COIN
COMMODITY INDEX
CURRENCY PROGRAMMABLE $$$

BIOCOIN
SUPPORT YOUR LOCAL FARMER

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

CFTC
COMMODITY FUTURES TRADING COMMISSION

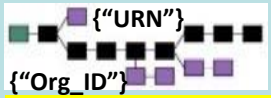
DEMURRAGE FEES
SLA: Closer = Cheaper
Given Closer = < fuel
< CO2 Carbon Credits

Real World Assets

NETWORK CENTRIC OPERATIONS

Δ δ

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 Żak) 2010, 2013



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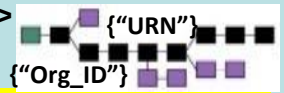


USPTO 13/573,002 The Heart Beacon Cycle Time – Space Meter

THE TERRA (TRC)

Trade Reference Currency

SHELLING POINT

Price Indexes in Time and Space

{"URN"}
{"Org_ID"}

SLA: Closer = Cheaper
Closer = Less Fuel
= Less Time, CO2

{"TOKENs TAGS"}
{"URN"} </URN> {"URN"}

$0.49 USD
0.001076 BTC

DEMURRAGE FEES

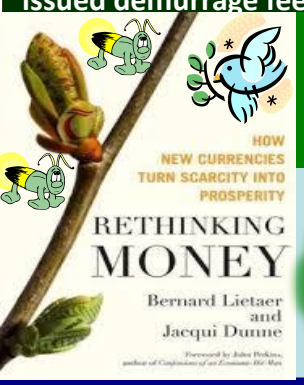
bitcoin

MICRO PAYMENTS

CFTC

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

Example: 100 Terra = 1 barrel oil
+ 10 bushels of wheat
+ 20 kg of copper + 1/10 Oz gold



BIOCOIN
SUPPORT YOUR LOCAL FARMER

Spatial Econometrics

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"

EVENT BUS

Friedman's K % Rule

currencyindex

ECONOMIC HEARTBEAT
FEDCOIN / WORLDCOIN
K %

ALGORITHMIC REGULATION

WAVES
TOKENIZES CURRENCIES

LEADING ECONOMIC INDICATORS

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.

UNIVERSAL TIME ZONE UTZ

STOCHASTIC HARMONIZATION

UNIVERSAL MESSAGE EVENT BUS

{"Org_ID"} {"URN"}

("Commodity_Tokens"
{"TAGGED BITCOINS"}

FIREFLY – HEARTBEAT ALGO
MATCH FIREFLY EVENT SYNC
TO CLOSEST CLOCK CYCLE

vector vector

Closer is Cheaper Closer is Faster

Proximity Beacons

Int'l Date Line

Logistics Demurrage fees

Process Events By Precedence

Time Series

Value

Time

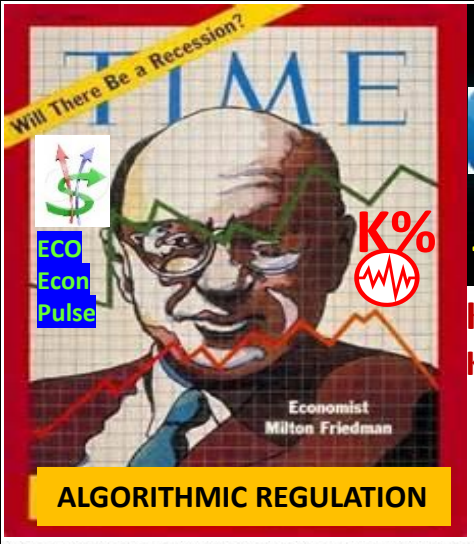
EVENT BUS
HEARTBEAT
FLASH MESSAGES
</URN> {"ORG_ID"}

Geo Spatial Temporal Series

French newspaper "Le Fédériste"
"L'Europa monnaie de la paix"
Money of peace" Born Jan 1st 1933 $$$

EDISON / FORD
MONITARY
OPTION 1921

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.



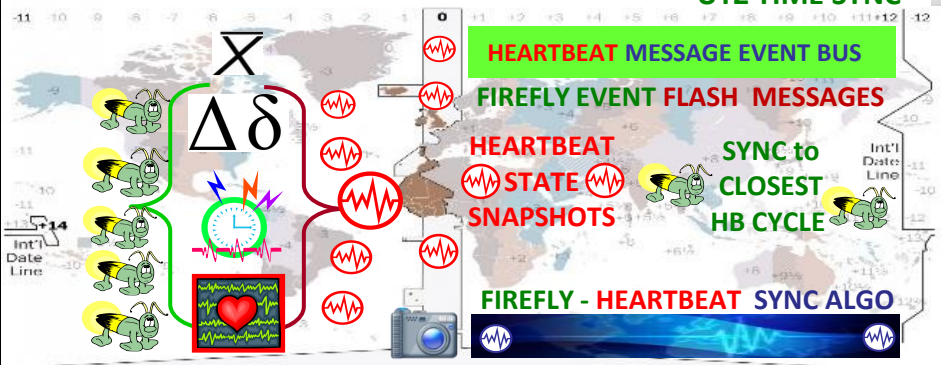
K% RULE ECONOMIC HEARTBEAT

K% VARIABLE YEARLY GDP SNAPSHOT

'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

The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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 SYNC



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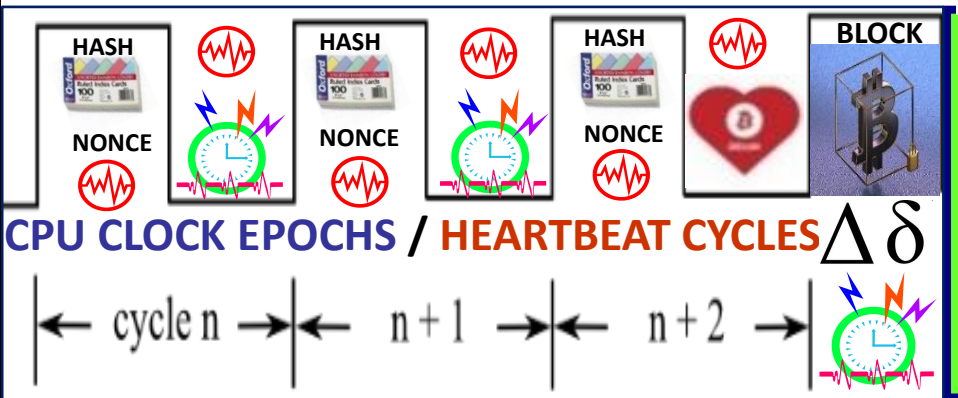
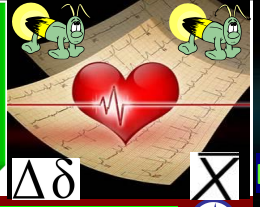


"Heartbeat Synchronization strives to have nodes in a distributed system generate periodic local "heartbeat" events approximately at the same time. It differs from classical clock sync in that Nodes are not interested in counting cycles and agreeing on the ID of the current clock cycle. There is no requirement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

Firefly - Heartbeat Algo

University of Bologna Italy / Hungary



ECO ECONOMIC HEARTBEAT

("108")

K%

ECONOMIC MACRO CYCLES

TIME-SPACE SYNC

K% GDP ECONOMIC PULSE

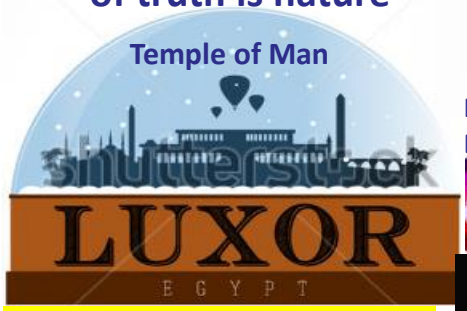
FEDCOIN

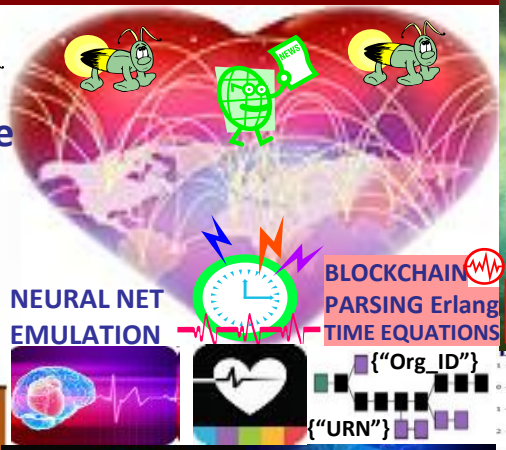
WORLDCOIN

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

Luxor Temple Egypt:

"The shortest path towards knowledge of truth is nature"





NEURAL NET EMULATION

BLOCKCHAIN PARSING Erlang TIME EQUATIONS

{"Org_ID"}

{"URN"}

COMMODITY PRICE INDEX

STAT MEAN VALUE INDEX

SCHELLING POINT TRUTH

Price Indexes in Time and Space

Methods and Practice

LEAD ECONOMIC INDICATORS

FRIEDMAN's K% RULE

ALGORITHMIC REGULATION

TOKEN ECONOMICS

FIREFLY inspired Heartbeat Sync Algo

PRECEDENCE PROCESSING | UTZ SYNC PULSE | SYNC DELTAS

NON REPUDIATION

Crypto Currency TIME STAMP SERVER / SERVICE

The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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

{"URN"} {"URN"}

{"DAO_ORG_ID"}

$$$ MICRO Payments

DEMURRAGE PARKING Logistic Fee Incentives

SYNC TO CLOSEST HEARTBEAT

{"URN"} {"URN"}{"URN"}

HEARTBEAT EVENT FLASH MESSAGE BUS

UTZ STOCHASTIC HARMONIZATION

FIX ("108") {"Org_ID"}

MFID EVENTS

Universal Metrics / Meters

Geo-spatial Temporal Syntax-Semantic Sync & Consensus

$$$ CURRENCY PAIR SAMPLING

ON / OFF SHORE

SYNC DELTA STATE META DATA SNAPSHOTS

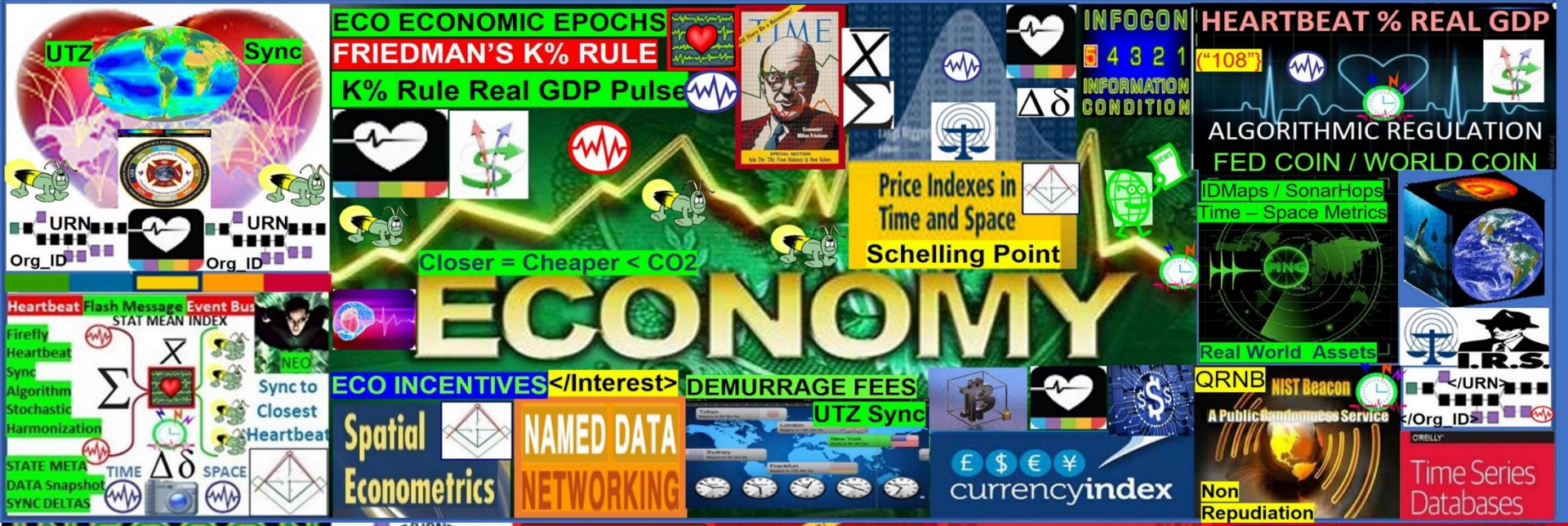
EVENT STATE SNAP | SYNTAX NONCE HASH | EVENT STATE SNAP | SYNTAX NONCE HASH | EVENT STATE SNAP

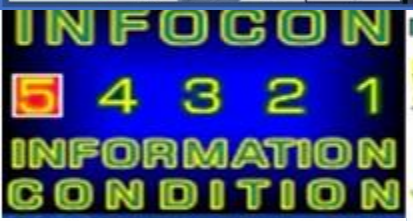
All things Net, Net of $$$ formed by Time Epoch Cycles

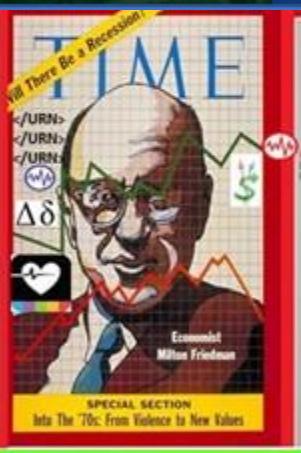
cycle n → n + 1 → n + 2

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.

"Heartbeat Synchronization 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. No rule governs the length of a cycle with respect to real time as long as the length is bounded & all nodes agree on it eventually"







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

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

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

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

Eco Economic Epoch GDP Heartbeat signals and telemetry framework

Spatial / temporal UTZ synchronization, stochastic harmonization, Time - Space Distance Estimation Service
Common Consensus Algo meme
Eco sustainable incentives

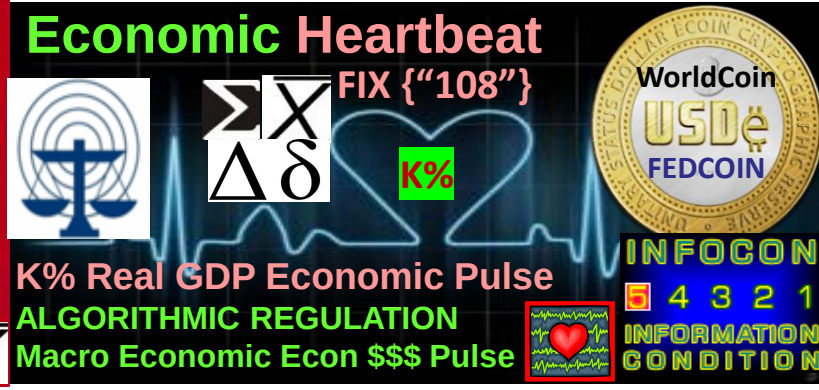
"We can synchronize ourselves, DAO Trade Federations in time - space for common purposes"
Eco sustainable, Equitable Economic econometrics.

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.

FEDERATED MISSION NETWORKING
FMN
FEDERATE ★ SHARE ★ WIN
Attribute Series


Ultra Coin
Eco Economic Epochs
Milton Friedman's K % RULE % GDP
Algorithmic Regulation
WorldCoinIndex
Economic Heartbeat
Federation Gateway
MEDIATE MITIGATE
FEDERATION: Latin: foedus, foederis,
1. covenant, union of partially self-governing states under a central government
2. League or confederacy. People, groups retain autonomy
3. A federated body formed by a number of nations, states, societies, unions, retaining control of own internal affairs
USPTO 13/573,002
A.I
Procedural
Template Checklist
SC Alice Corp "claims may not direct
To abstract ideas"
Alpha-Numeric
Brevity Codes / Tokens
"Bitcoin is a language"
STRUCTURED DATA EXCHANGE
SYNTAX
LEXICON
CODER's
GUIDE
Firefly-Heartbeat Algorithm
("Heartbeat 108")
Flash Messages
MATCH TO
CLOSEST
HB CYCLE
State Snapshots Micro-Cycles
Universal Time Zone UTZ
Stochastic Harmonization
MONEYBALL ECONOMICS
currencyindex
COMMODITIES
UNIVERSAL MEME
V CLS Bank
360 = 90, 90 90, 90
BLOCK
Clock
ROLES
Meters
RULES
Metrics
SLA / O
ISO
SWIFT
ISO 20022
2525C,D
DATA SETS
TEMPLATE FORMS
NATO
NETOPS
("LOGIC")
("FILTERS")
Message Sets
XBRL / CDL / DAML
ERLANG
TIME EQUATIONS
Blockchain Parsing
SLA: Closer = Cheaper
Closer = Less Fuel
1421
I.R.S.
Purchased Bitcoins Akin to property
On / Off Shore
("URN")
("Org_ID")
IDMaps
SquareHops
Spatial Econometrics
TIME - SPACE METRICS METERS
Time Series Databases
Alpha Numeric
Brevity Codes
K00.99
ROSETTA STONE
HEART BEACON
Sculpture
FRIEDMAN's K% RULE
K % Rule
Beacon Communities
Federation Gateway
BLOCKTIME ARBITRAGE
TERRA TRC
Spatial Econometrics
TOKEN ECONOMICS
UTZ TIME ZONE SYNC
BFI
THE WORLD GAME
ANNEX
COMMODITIES
EVENT / ALERT BUS
SIGNALS & TELEMETRY
r. buckminster fuller
"Build a new model
operating manual
for spaceship earth
Vernetzte Operationsführung
OOTW: Operations Other Than War
BIOCOIN
SUPPORT YOUR LOCAL FARMER
OFF SHORE OUTER BANKS
JAEGER
FIREFLY HEARTBEAT ALGORITHM
EVENT / ALERT Flash Heartbeat Message Bus
DAN MILLMAN
WAY OF THE PEACEFUL WARRIOR
KAIJU
MONEYBALL ECONOMICS



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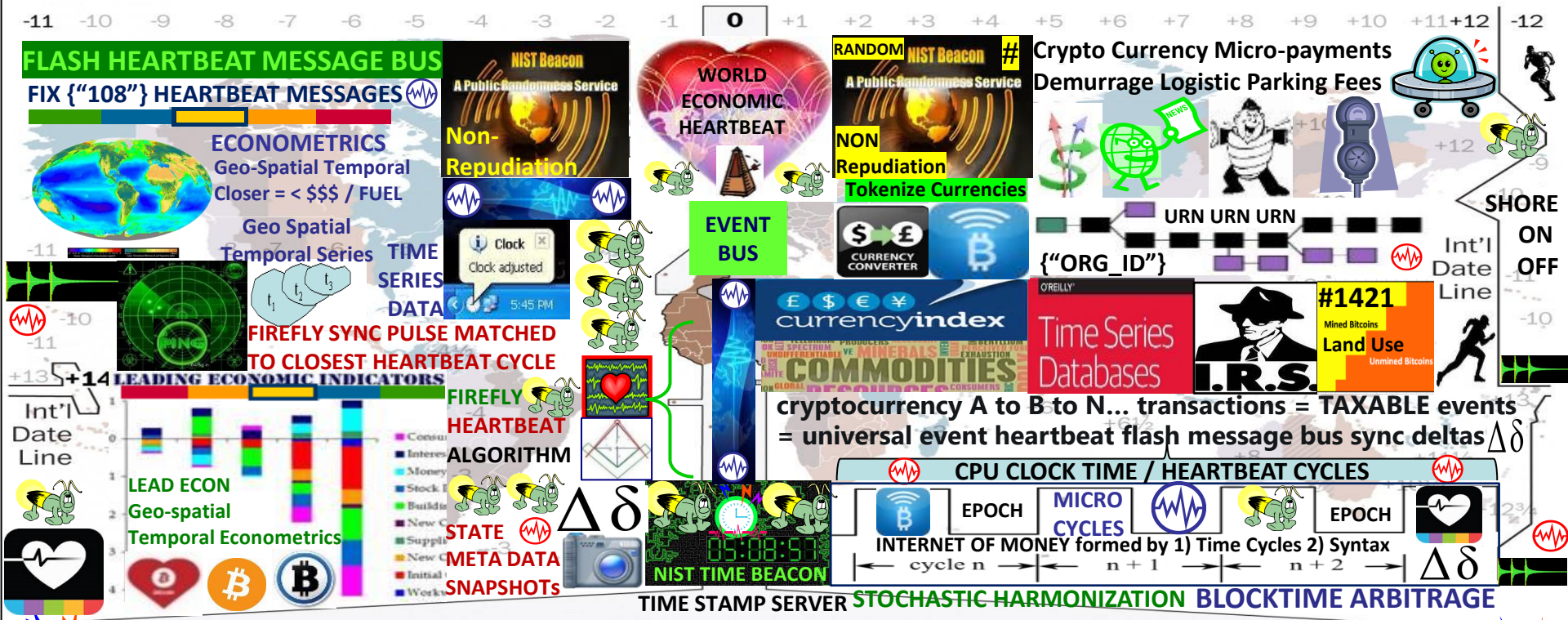

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Quantum Financial System vs BlockChain

TIME CHAIN — QFS — TIME STAMP SERVER

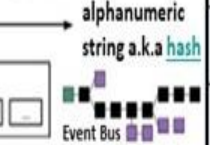
https://gesara.news

Satoshi Nakimoto Bitcoin Paper — Satoshi Nakamoto — Craig WRIGHT a.k.a. — "THE VALUE OF BITCOIN IS TIME ITSELF" — Wright Brother's 1st Flight Cape Hatteras Outer Banks

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

3. Timestamp Server

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



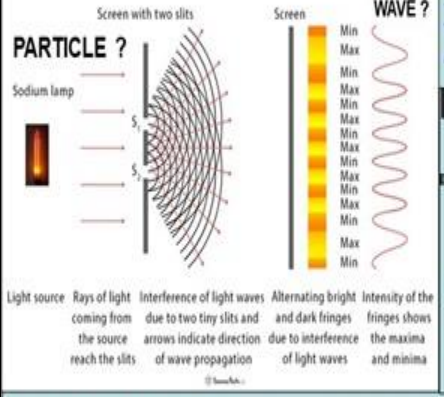
"All things net, net of money are formed with 1) epoch time cycles 2) Syntax parsed as instructions

"THE VALUE OF BITCOIN IS TIME ITSELF"

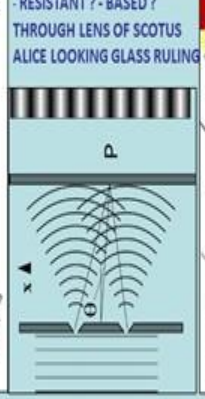
BITCOIN BLOCKCHAIN EPOCH CLOCK TIME CYCLES

cycle n → n+1 → n+2 → Δδ

Double-Slit Experiment



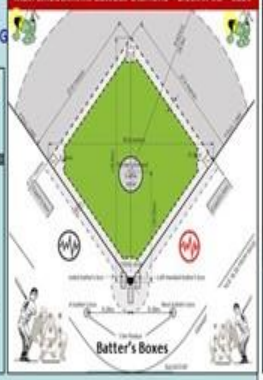
QUANTUM COMPUTING - RESISTANT ? - BASED ? THROUGH LENS OF SCOTUS ALICE LOOKING GLASS RULING



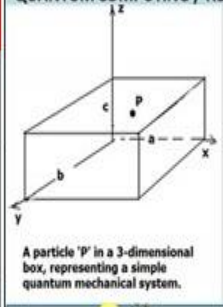
USPTO APPLICATION 13/573,002

The Heart Beacon Cycle Time-Space Meter

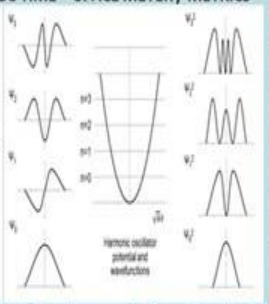
Main Embodiment: Baseball Diamond = block in 3D = cube



QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS



A particle 'P' in a 3-dimensional box, representing a simple quantum mechanical system.



#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 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

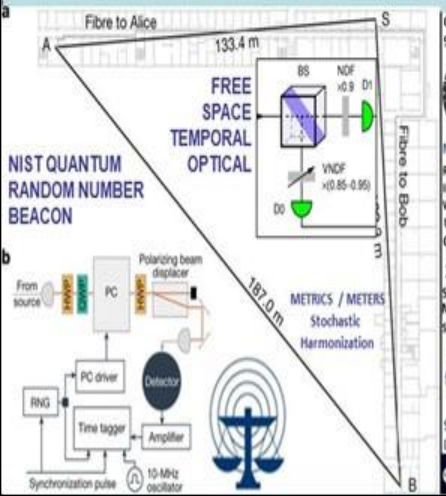
Vertical polarization vectors from a known point 0 null Sonar Hop meme

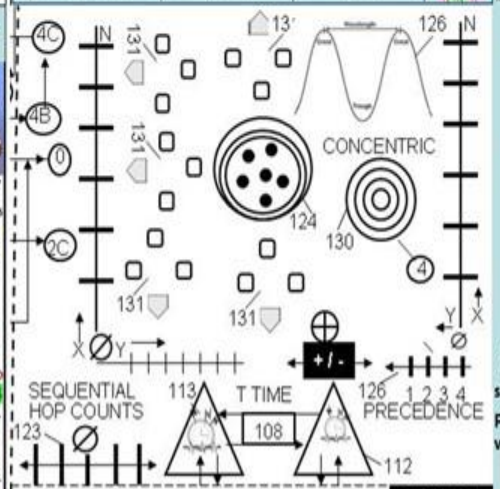
particle representation / samples

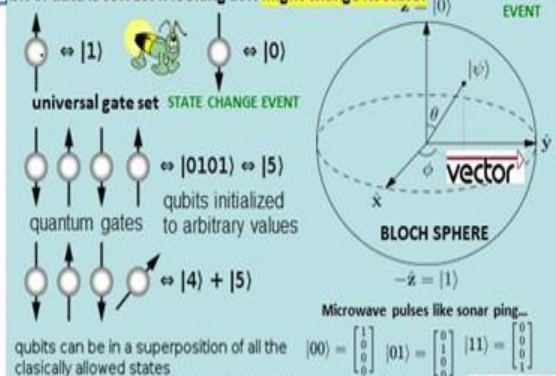
Instead of each bit having two potential states — on or off — a quantum bit or qubit has three. It can be on, off, or both, and you only know which one it is once you look at it. How can you tell if a bit of data is correct if looking at it might change its state?

STATE CHANGE EVENT

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







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

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

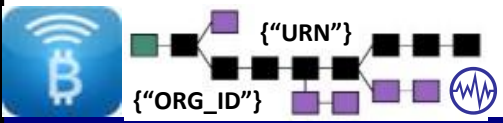
Humanitarian Assistance Networked Donor System

JBFSA — "PAINT IT A DIFFERENT COLOR" — Joint Blue Force Situational Awareness

REGIONAL — GLOBAL — SYSTEM Of SYSTEMS

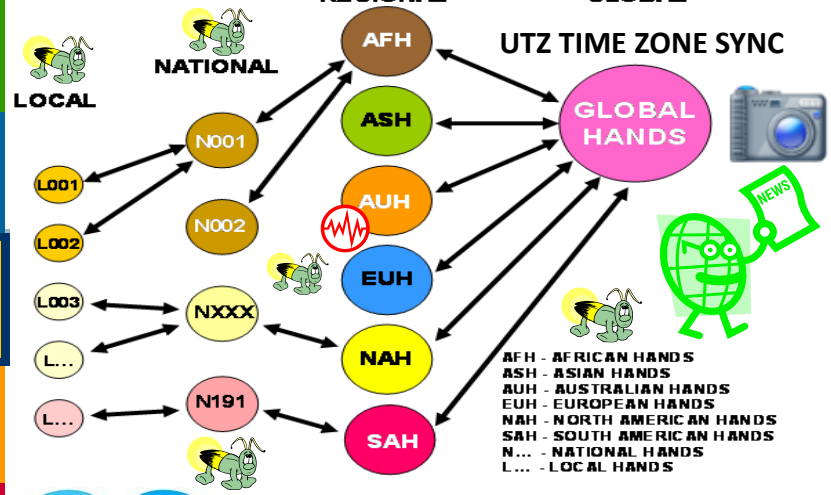
H.A.N.D.S: "Based on the need to speed up the processes of influencing an adversary, new concepts result in the adaptation of military doctrine, organization, training, material, infrastructure, interagency interaction, leadership, personnel and facilities"… German Bundeswehr concept of "OOTW Operations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

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



300 +TEMPLATES STUCTURED DATA EXCHANGE

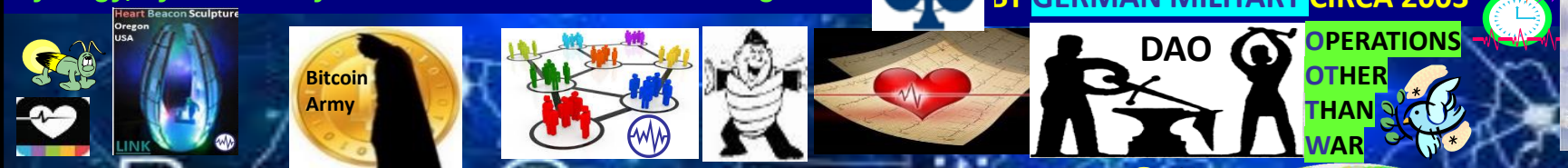
STRUCTURED DATA FFUIRNS FFUDNS OPSCODES MAPPED TO SYMBOL SETS

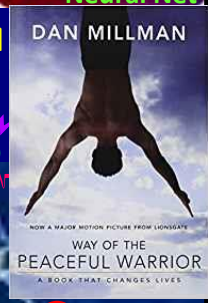


WORLDBEYONDWAR.org — a global movement to end all wars

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

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



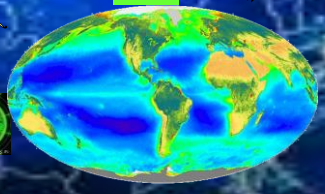


Beacon Communities

OFF SHORE OUTER BANKS

Vernetzte Operationsführung

Closer < $$$ < FUEL



Proximity Beacons

JAEGERS

BIOCOIN — SUPPORT YOUR LOCAL FARMER

FIREFLY HEARTBEAT ALGORITHM

EVENT / ALERT Flash Heartbeat Message Bus

Eco Economic Epochs

DEFI FINTECH
IP WARS / Litigation
Foundation Tech

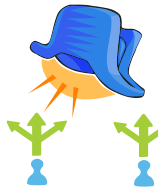
SWORDS
to
PLOWSHARES

Distributed Event Processing
Distributed State Machine

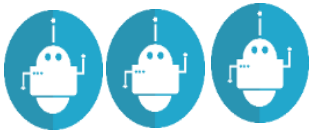
USPTO 13/573,002
573 U.S. 134 SCt 2347
Alice in Wonderland Ruling

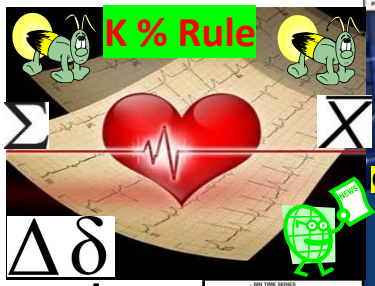
Symbols
Rule
The World
OPSCODE
BREVITY
CODES
Mapped
To symbols
2525A,C D

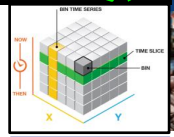
- Battlefield Digitization, Net Centric Warfare for OOTW Operations Other Than War
- Net, Net of $$$ Foundation Tech
- Structured Data Exchange with 300 + use cases
- Distributed State Machine
- Use Cases: A.I., Big data, Quantum
- Blockchain, Distributed Ledger Tech
- DAO Distributed Autonomous Organization
- Consensus, Signals, Telemetry, Standards



Structured Data







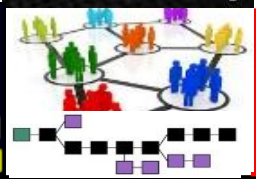
SYNC DELTA
DATA SNAPSHOTS
Δ δ

Federation Gateway

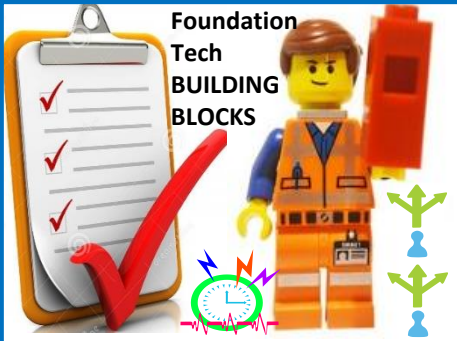
In the beginning (of time)..
There was the word (syntax)

Net, Net of $$$ money consists:
1) Epoch Time Cycles
2) Syntax used / not in epochs

MEMO #1421



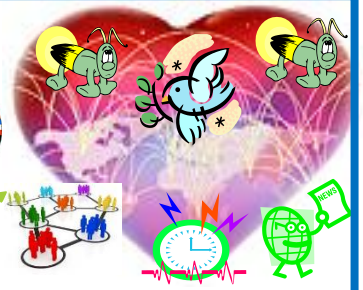
HFT START, STOP, Time to LIVE



HEART BEACON CYCLE {"RWA"}







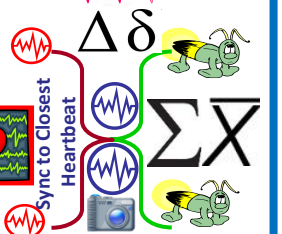
Series of systemic actions to achieve goals ex: form, maintain ECO sustainable Trade Federations i.e., closer = < fuel, CO2

PROCEDURAL TEMPLATE

List Items point / refer to detailed treatises

{"Org_ID"}
{"URN"}
{"URN"}

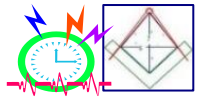
PROXIMITY BEACONS

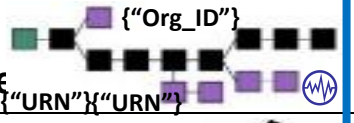
A continuous action, operation, or series of changes, sync deltas i.e., price indexes

Firefly-Heartbeat Algorithm

Flash Heartbeat
</108> messages

{"EVENT_BUS"}



Sync geo-spatial temporal Eco econometrics across space-time

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

DAO's in FEDERATIONS AGREE TO USE COMMON COMPONENTS, SHARED PROCESSES, METHODS, SIGNALING - TELEMETRY SCHEDULE & METRICS IN SMART CONTRACTS, SERVICE LEVEL AGREEMENTS

CHECKLIST: TRADE FEDERATION ECONOMIC FRAMEWORK EX:

1) Organize with Organization Identifiers {"Org_ID"}
2) Track RWA Real World Assets / Commodities by </URN>
3) DISTRIBUTED STATE MACHINE SNAPSHOTS @ 15 / N min
4) Honor Satoshi's intent for Crypto to be paired w markets
5) Use NIST Quantum Random Number Beacon QRNB

USPTO 13/573,002 = Spaceship Earth's Signals & Telemetry Annex

{"Interest"}
{"Distance"}

Erlang Time equations

CLOSER = < Infrastructure
= CHEAPER SLA

ElectroMagnetic waveforms

ENERGY / DATA Over Transmission Lines / Airwaves

Hertzian waves transmit Energy in a PLANAR transverse EM waveform producing 'Radio waves'

The E and H fields are perpendicular to the direction of propagation

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

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

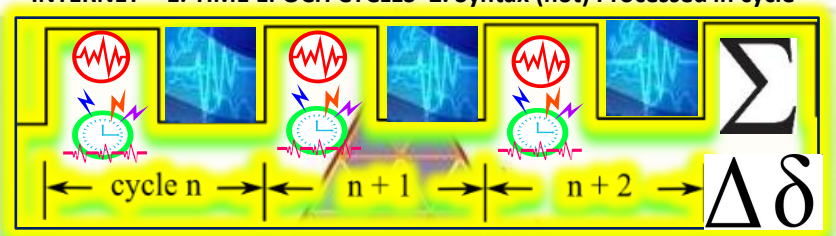
The E fields are co-linear with the direction of propagation

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

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

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

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

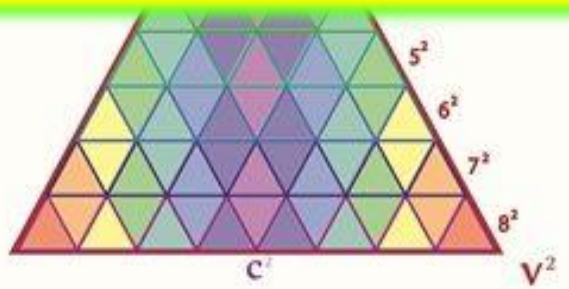


f

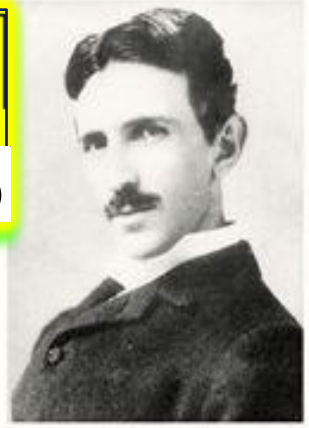
Heinrich Hertz

(22 Feburary 1857 - January 1 1894)

Cycles per Second



Nikola Tesla



(10 July 1856 – 7 January 1943)

V

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

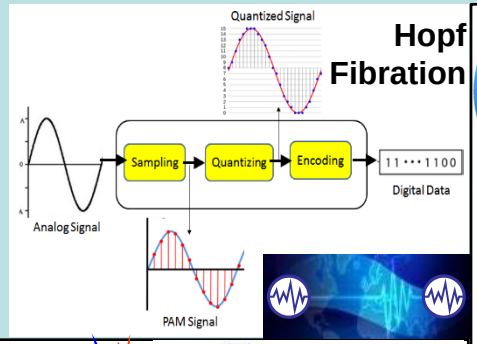
THESIS: All things net, net of programmable $$$ are formed using:

1) Time epochs created by quartz crystal silicon chips

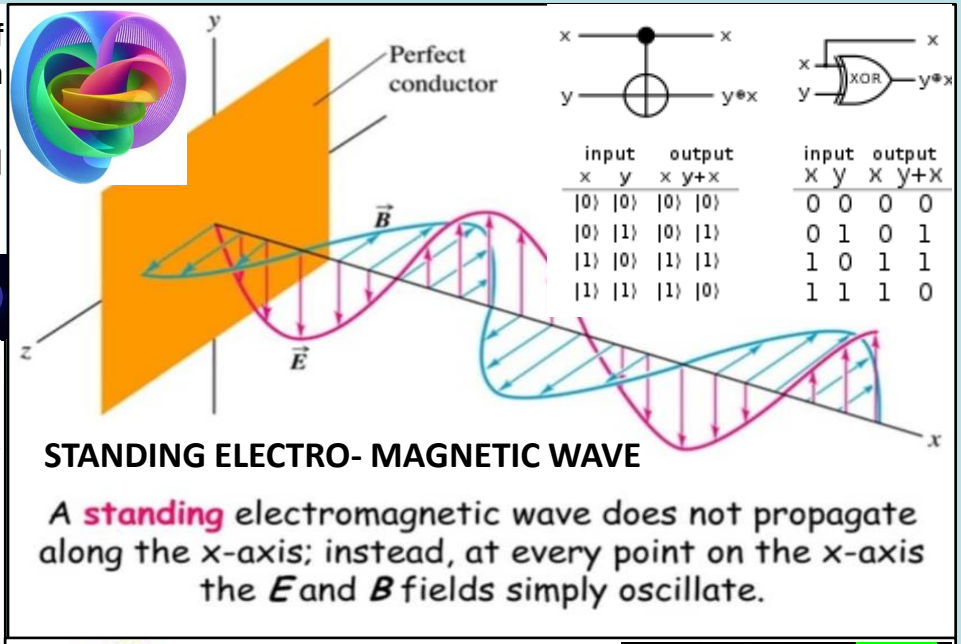
2) Syntax used / not used as programming instructions during epoch time cycles

ENERGY / DATA WAVE METRICS / METERS

BELL STATE QUANTUM COMPUTING

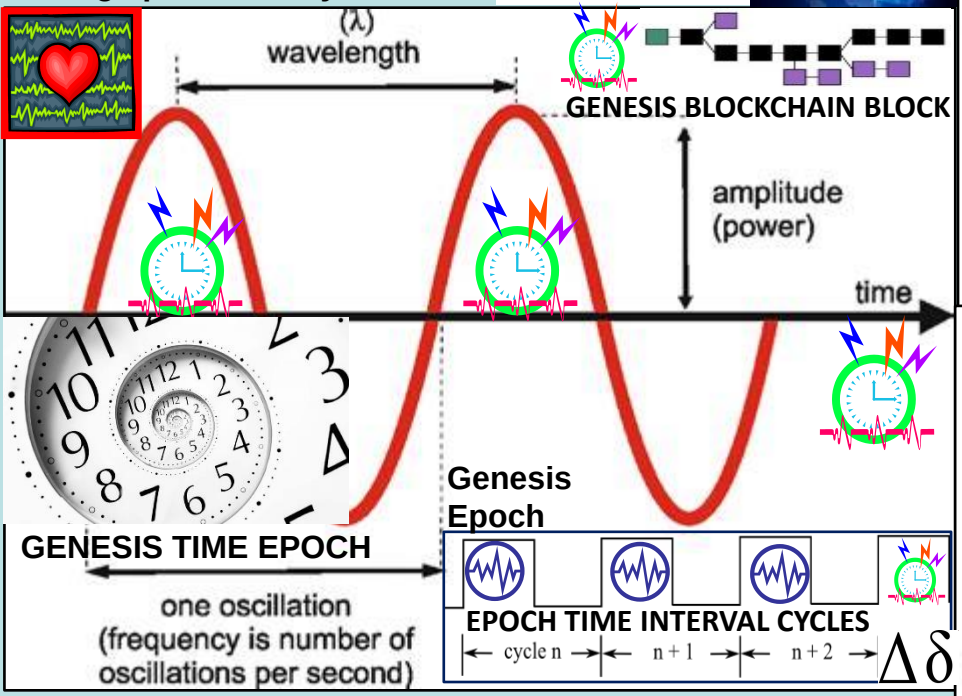


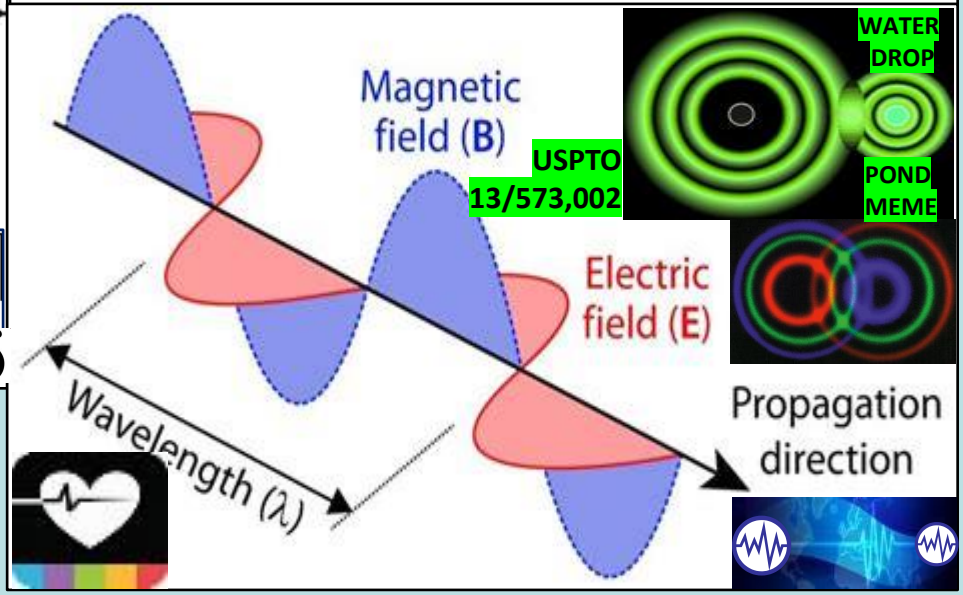
Hopf Fibration



STANDING ELECTRO- MAGNETIC WAVE

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.

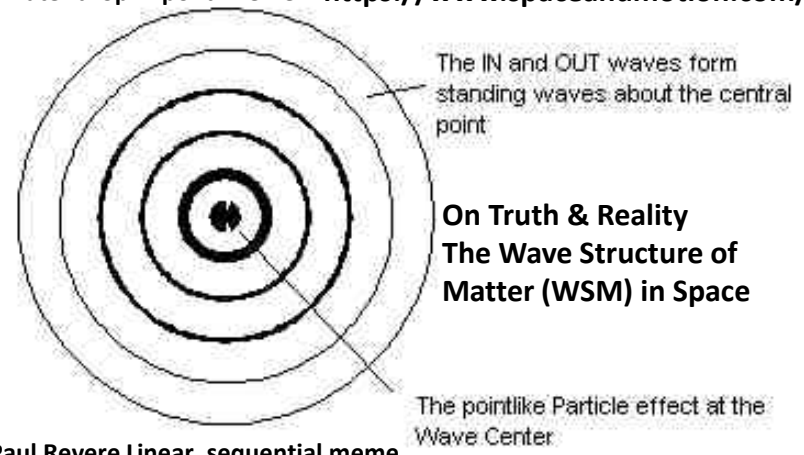




Quantum Computing Vibrations encode, process data like quantum computers. A simple mechanical system built from aluminum rods uses vibrations to encode information, mimicking quantum computing in a non-quantum system. "Light is made from photons, the quantum of light. mechanical vibrations or sound waves 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

"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/



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

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

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

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

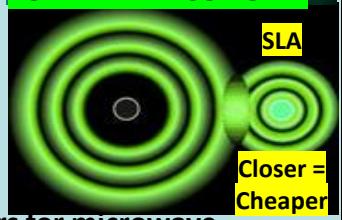
TESLA

Harmonic Sphere Flux Resonator

ENERGY / DATA

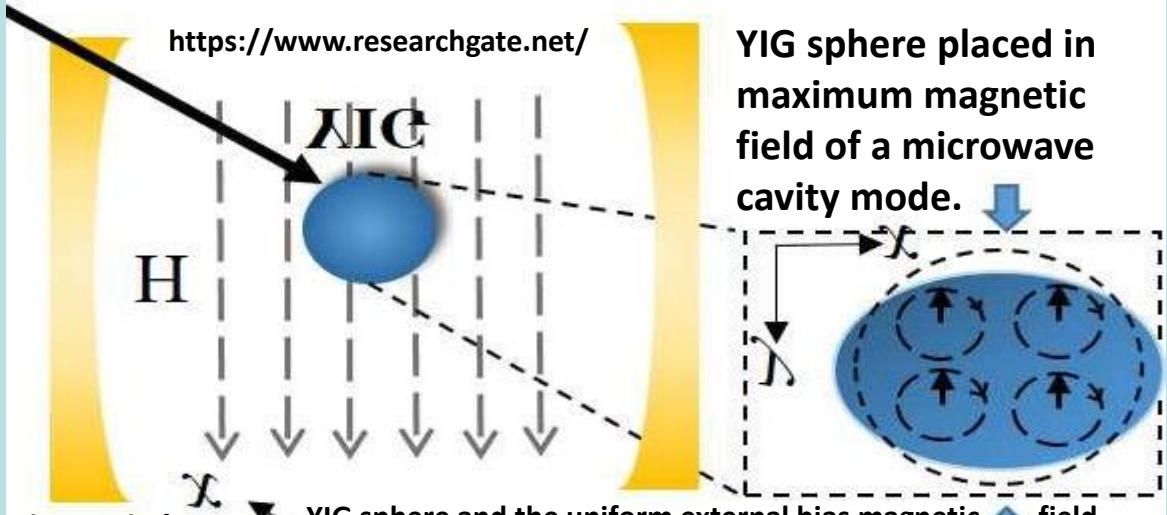
"When space-time spins, it creates mass. It produces energy in space that radiates. This radiation is what we call mass". Nassim Haramein

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

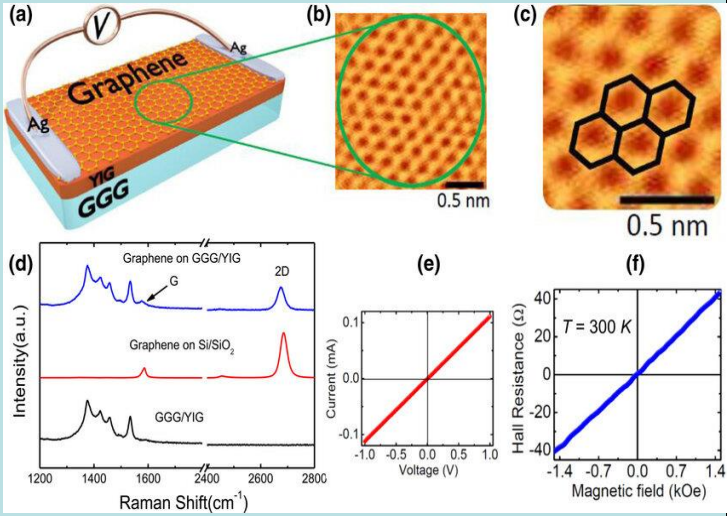
https://www.researchgate.net/



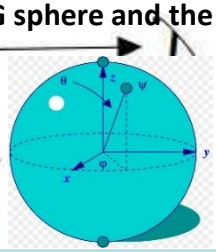
YIG sphere placed in maximum magnetic field of a microwave cavity mode.

Fig 1 - Li Zheng

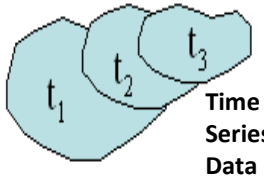
YIG sphere and the uniform external bias magnetic field.



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.



Bloch Sphere



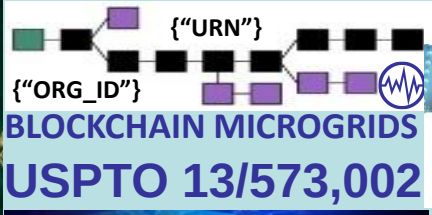
Time Series Data

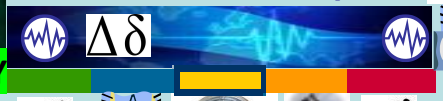
Water Drop Meme

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]

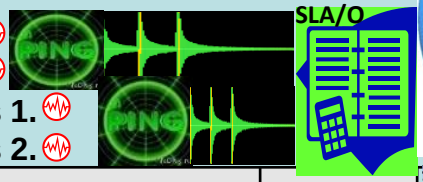
TESLA





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

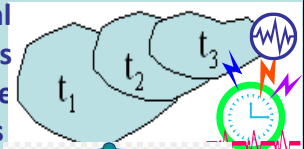
Phase 2: Shared file stores data for 5 tags:
(1) Active ID
(2) Heartbeat 1.
(3) Heartbeat 2.
(4) Device Status 1.
(5) Device Status 2.

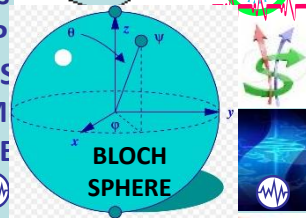


Paul Revere = Linear, Sequential meme

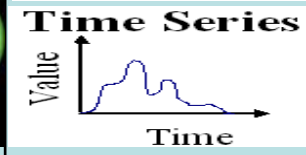
BLOCK TIME – SPACE ARBITRAGE TRADE
ENERGY TOKENS FOR FOOD, WATER,
TRANSPORTATION LOCALLY, REGIONALLY

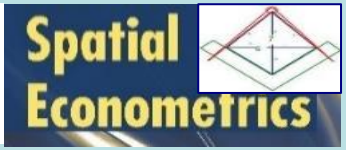
Geo Spatial
Temporal Series
Water Drop Meme
Geospatial Radius
WATER DROP
MEME= RADIUS
DISTANCE FROM
ENERGY SOURCE
Micro Payments
Demurrage Fees





IEC 61850 Objects logical nodes, data objects or data attributes resends message with the heartbeat cycle





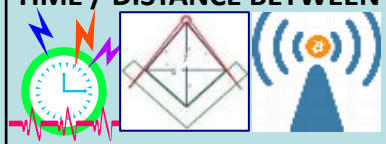
SYNC
DELTA
HEART
BEAT
Match
events to
Closest HBC

TAG vector	ENERGY TOKENS ExDesc / COMMODITIES	digitalset
{"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) Δδ	[UFO2_STATE:#]	Δδ IF_State
IF2_State (IF-Node2) Δδ	[UFO2_STATE:#]	Δδ IF_State

UniInt does not examine the remaining attributes, the point source and location must match
Micro Payments
Demurrage Fees

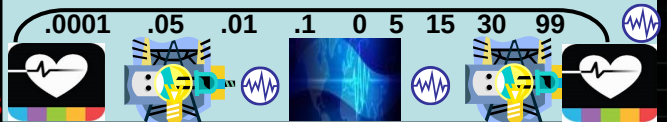
Heartbeat
State meta
Data snapshots

IEEE 802.1AG HOP BY HOP DETECTION
IEEE 802.11 HbH HOP BY HOP CONTROL
< HOPS = CHEAPER Sync Delta Heartbeat Messages
CROSS LEVEL OVERAGES / SHORTAGES ADJUST FOR
TIME / DISTANCE BETWEEN NETWORK NODES



Micro
Payments

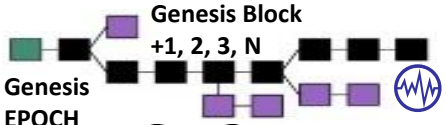
FIREFLY-HEARTBEAT ALGO EVENT MESSAGE BUS

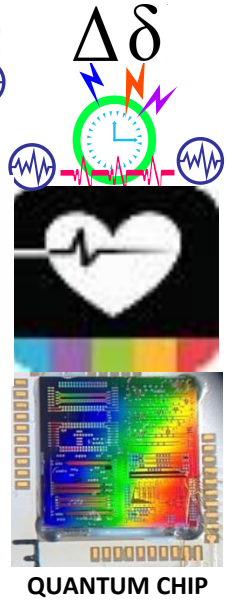


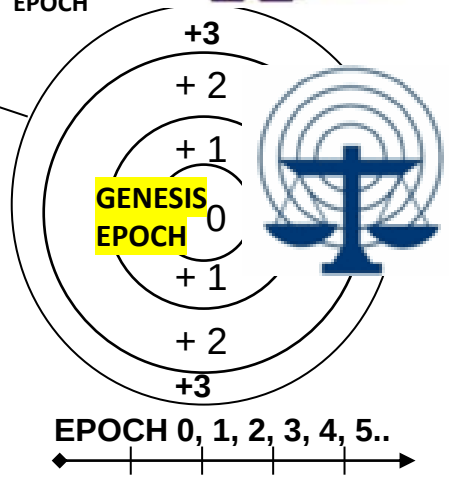
FIREFLY EVENT BUS

Blockchain Quad-lemma

NET, Net of programmable $$$
Programming Reality Ground Truth
No Layers L0, L1, L2… only GENESIS EPOCH,
Follow on Epoch time cycles, intervals, cycles





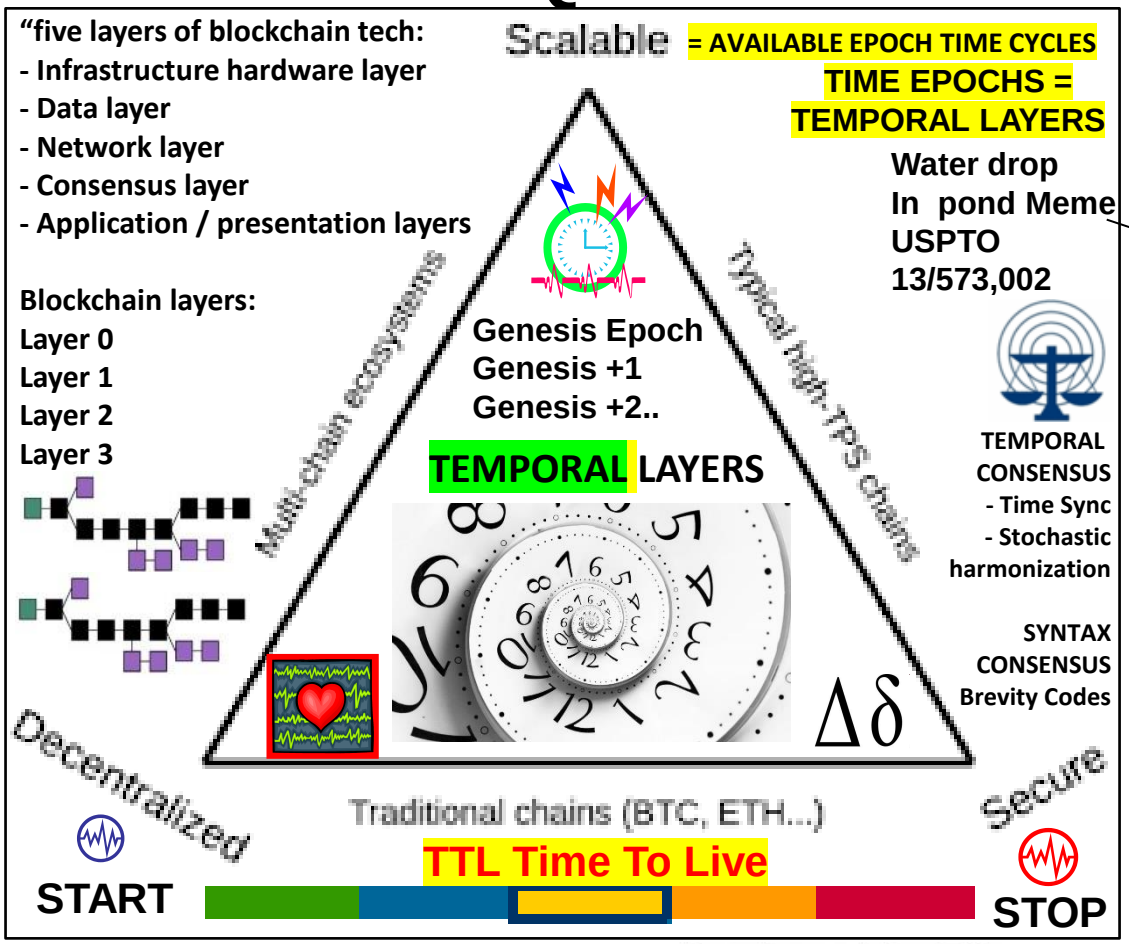


THESIS: All things internet, net of programmable money are formed using:

1. Time epochs created by oscillating quartz crystal silicon chips

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

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..



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

THE BITCOIN BLOCKCHAIN FOR DUMMIES

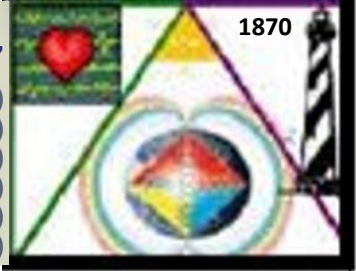
What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party e.g., a bank.

Satoshi Nakimoto Bitcoin Paper

Satoshi Nakamoto

Craig WRIGHT a.k.a. Satoshi Nakamoto

"THE VALUE OF BITCOIN IS TIME ITSELF"



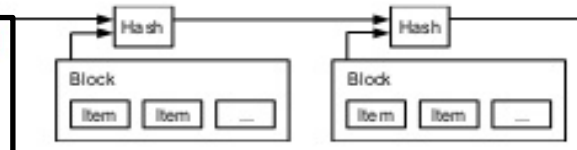
Wright Brother's 1st Flight Cape Hatteras Outer Banks

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

3. Timestamp Server

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

Bitcoin Protocol for Dummies
Part 4 Timestamp Server



alphanumeric string a.k.a hash

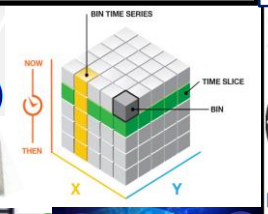
Event Bus

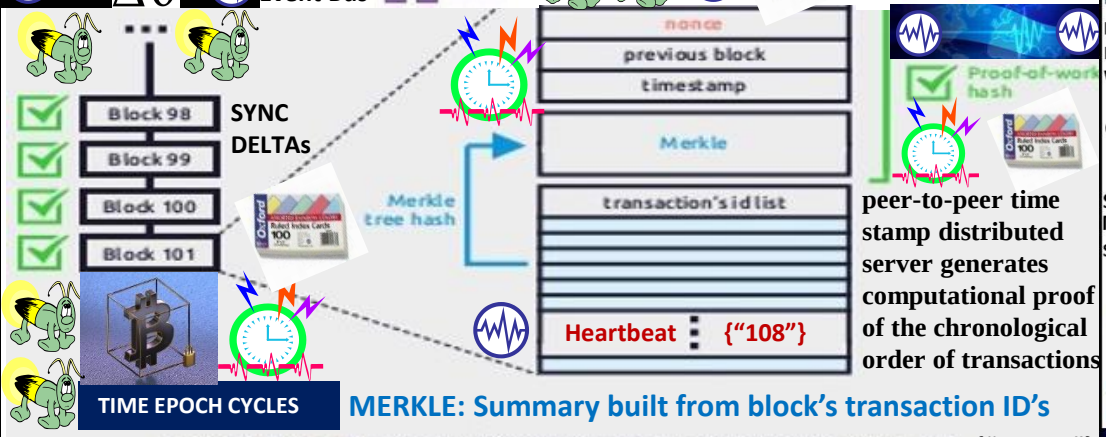
"All things net, net of money are formed with 1) epoch time cycles 2) Syntax parsed as instructions

"THE VALUE OF BITCOIN IS TIME ITSELF"

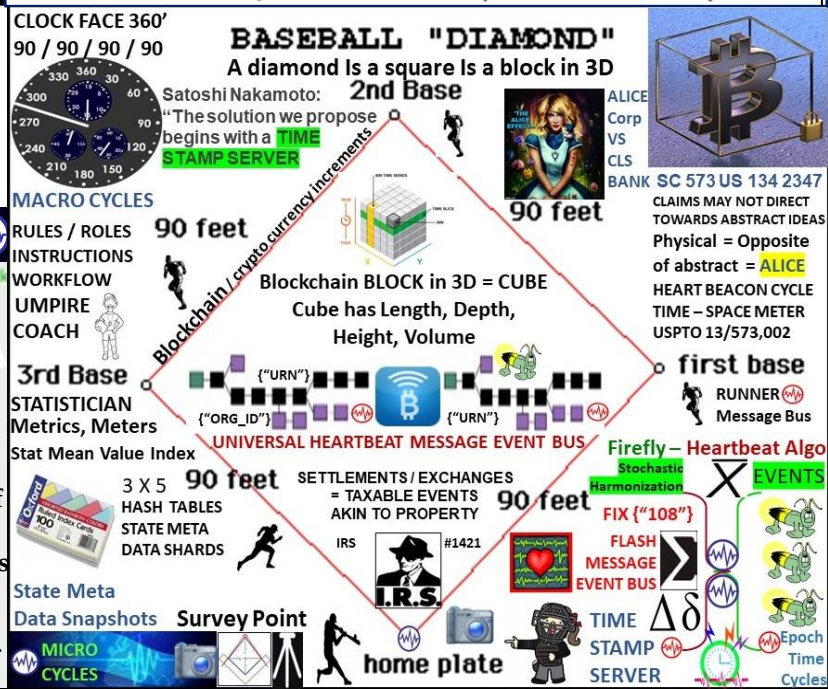
Event Bus

{"EVENTS"}





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



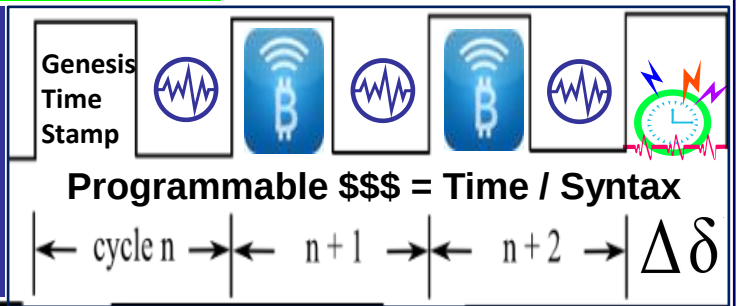
All things internet of money are formed w CPU time cycles used to process instructions / code syntax

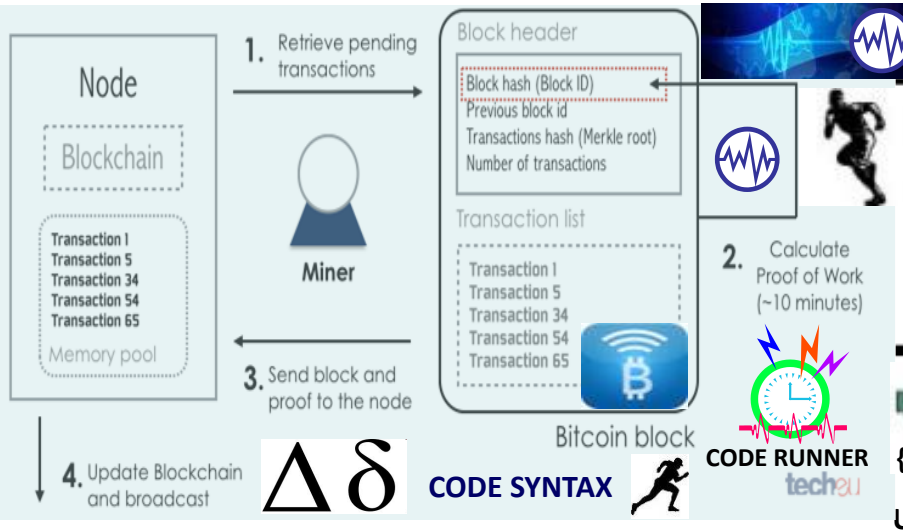
WIRED

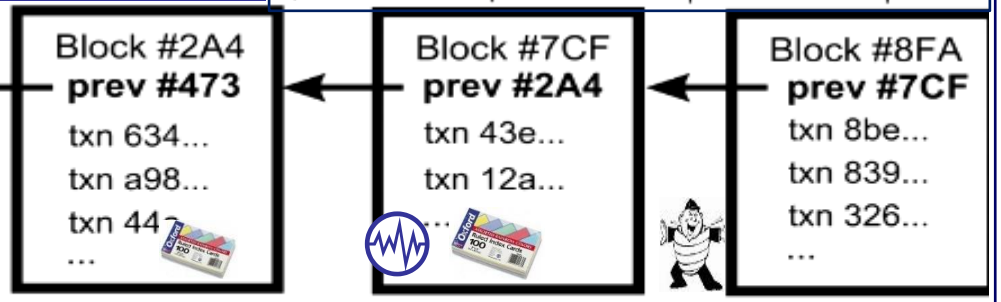
"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA"

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

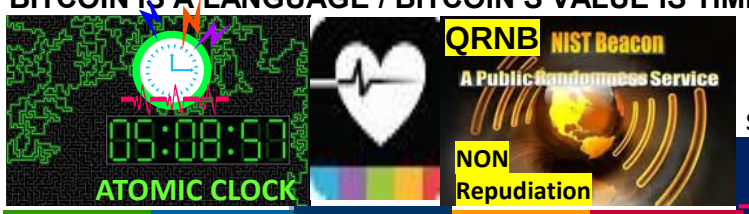
Alice Corp. v. CLS Bank International, 573 U.S. 134 SCt 2347 (2014) is a 2014 decision of the United States Supreme Court about patentable subject matter (patent eligibility).[2] The issue in the case was whether certain claims about a computer-implemented, electronic escrow service for facilitating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





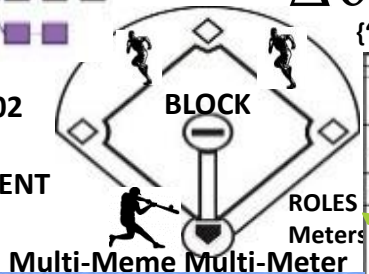


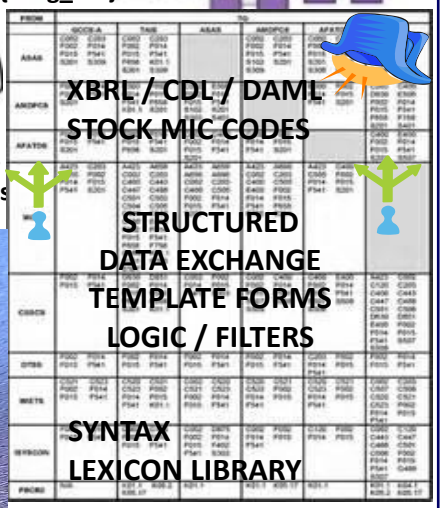
"BITCOIN IS A LANGUAGE / BITCOIN'S VALUE IS TIME ITSELF"

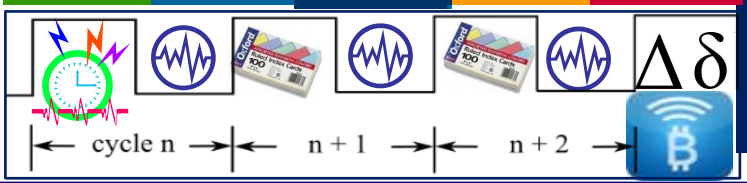


STATE SNAPSHOT

USPTO 13/573,002
PHYSICAL MEME
MAIN EMBODIMENT
Δ δ
RULES
Metrics

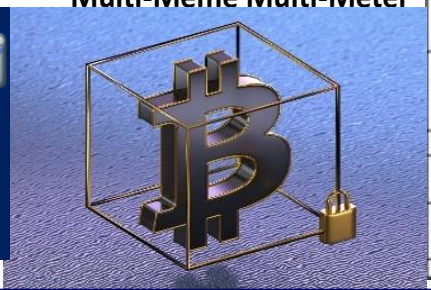






TIME EPOCH CYCLES

State Meta Data Snapshots



Net of $$$ formed with:

1 EPOCH TIME CYCLES

2 {"Syntax"} "The Word"

"In the Beginning" Genesis Block

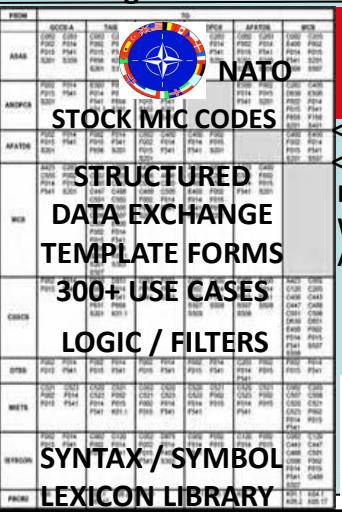
"All things internet, Internet of money are formed using time epoch cycles to process, parse, syntax as instructions"

"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



NATO

STOCK MIC CODES

STRUCTURED DATA EXCHANGE TEMPLATE FORMS

300+ USE CASES

LOGIC / FILTERS

SYNTAX / SYMBOL LEXICON LIBRARY

ISO

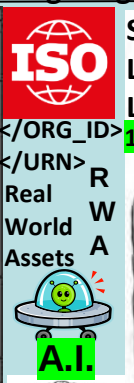
</ORG_ID>

</URN>

Real World Assets

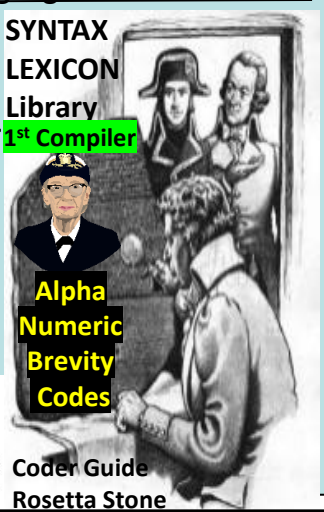
R W A

A.I.



SYNTAX LEXICON Library

1st Compiler



Alpha Numeric Brevity Codes

Coder Guide Rosetta Stone

"Bitcoin is a LANGUAGE"

Digiinomics

"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA"

"Bitcoin's Value is TIME itself"

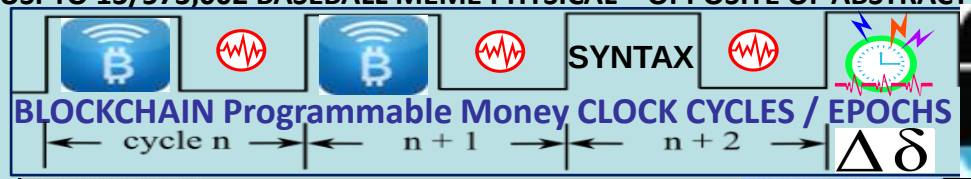
"Time is specified in units of block transaction confirmation times"

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

ALICE CORP VS CLS BANK "claims may not be directed towards an abstract idea"

US SC 573 US 134 2347

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



CLOCK FACE 360'

90 / 90 / 90 / 90

MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW

UMPIRE

COACH

BASEBALL "DIAMOND"

A diamond Is a square Is a block in 3D

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

2nd Base

90 feet

90 feet

Blockchain / crypto currency increments

Blockchain BLOCK in 3D = CUBE

Cube has Length, Depth, Height, Volume

3rd Base

STATISTICIAN

Metrics, Meters

Stat Mean Value Index

first base

RUNNER

Message Bus

{"URN"}

{"ORG_ID"}

{"URN"}

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

3 X 5 HASH TABLES

STATE META DATA SHARDS

90 feet

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY

IRS

#1421

I.R.S.

90 feet

Firefly – Heartbeat Algo

Stochastic Harmonization

FIX {"108"}

FLASH MESSAGE EVENT BUS

EVENTS

TIME STAMP SERVER

Δ δ

Epoch Time Cycles

State Meta Data Snapshots

Survey Point

MICRO CYCLES

home plate

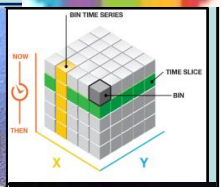
ALICE Corp VS CLS BANK SC 573 US 134 2347

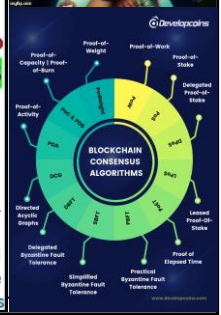
CLAIMS MAY NOT DIRECT TOWARDS ABSTRACT IDEAS

Physical = Opposite of abstract = ALICE

HEART BEACON CYCLE TIME – SPACE METER

USPTO 13/573,002





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

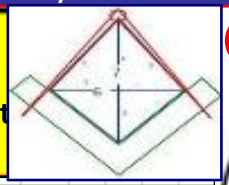
HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

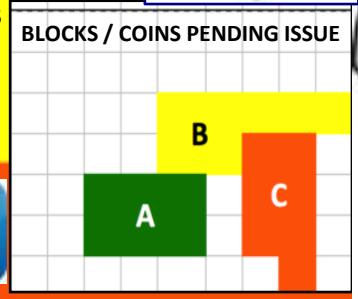
SC ALICE CORP VS CLS BANK: "claims may not direct towards abstract ideas"

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.

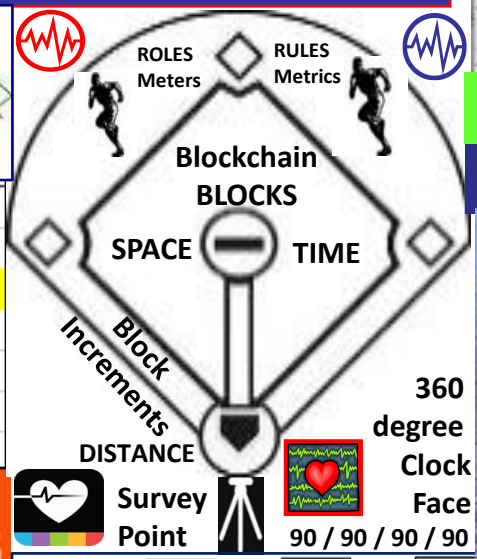
Memo #1421: Purchased Bitcoins are treated akin to property

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





Mined Bitcoins



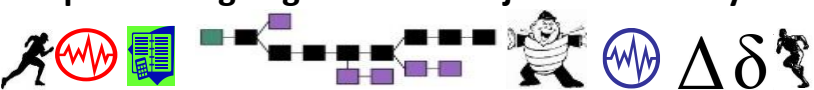
Unmined Bitcoins

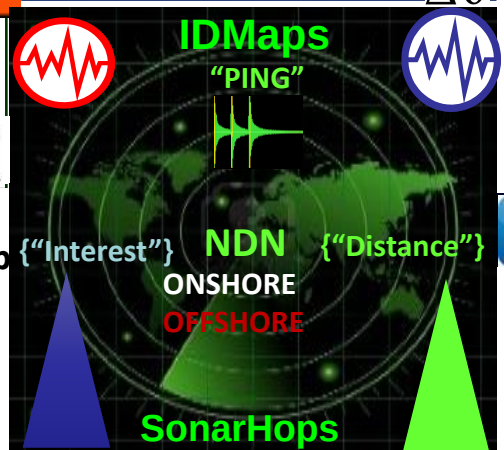
Un-mined coins -- think of them as parcels of land on "Bitcoin Island" not yet released:

IDMaps-SONARHOPS distance estimation query-reply service

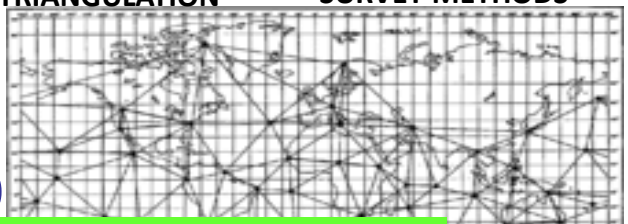
- End-state Bitcoin quantity will be fixed like land
"Bitcoin as protocol of ownership, not transfer"
Coins never travel, but simply switch owners"

Step 1: prove coin ownership <Org_ID> Coin Issuer
Step 2: coins sent where, when Lat-Long, time stamp
Step 3: specify ownership <Org_ID> issuing agent
Step 4: Issuing Org of Record adjudicates w buyer



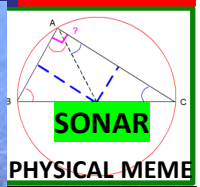


TRIANGULATION



DISTANCE ESTIMATION

EUCLIDIAN GEOMETRY



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

IDMaps / SonarHops collects distance data & builds virtual Internet distance maps & estimates distance between IP address pairs

IDMaps Distance Metrics: latency (round-trip delay) available bandwidth estimation

FOUNDATION TECH
DeFI / Fintech
Programmable $$$
Programmable Economy

1. TIME
INTERNET:
- Unicast
- Multicast
Anycast Publish-Subscribe
2. SYNTAX
</interest>
{"distance"}

Validation Based
Proof of Work (PoW)
Proof of Stack (PoS)
Proof of Activity (PoA)
Proof of Relevance (PoR)
Proof of Elapsed Time
Voting Based
Ripple
Proof of Vote
Proof of Trust
Authentication Based
Proof of Authentica (PoAh)
Proof of PUF-Enab Authentication (Po
(Current Article)
CONSENSUS ALGORITHMS

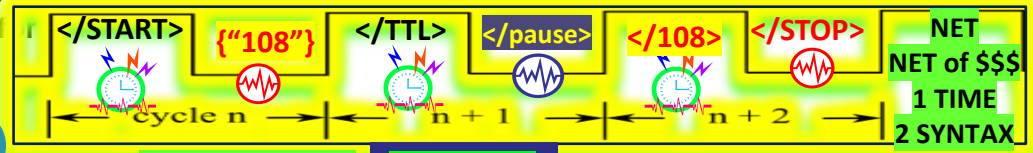
STRUCTURED DATA
ISO 20022 Finance Services
EPCIS Electronic Product Code
Information Services Standard
create, share visibility events
MIL STD 2525 A,B,C,D Symbol
mapped to brevity codes =
Human to A.I. interaction
</K0099> </108> Heartbeat Message
300 + Structured messages
> 300 + Use cases Msg Sets
STRATML = Governance
NDN: Named Data
Networking { "INTEREST"}
FFIRNS FFUDNS
MTL Machine Trust Language
Blocktime Arbitrage

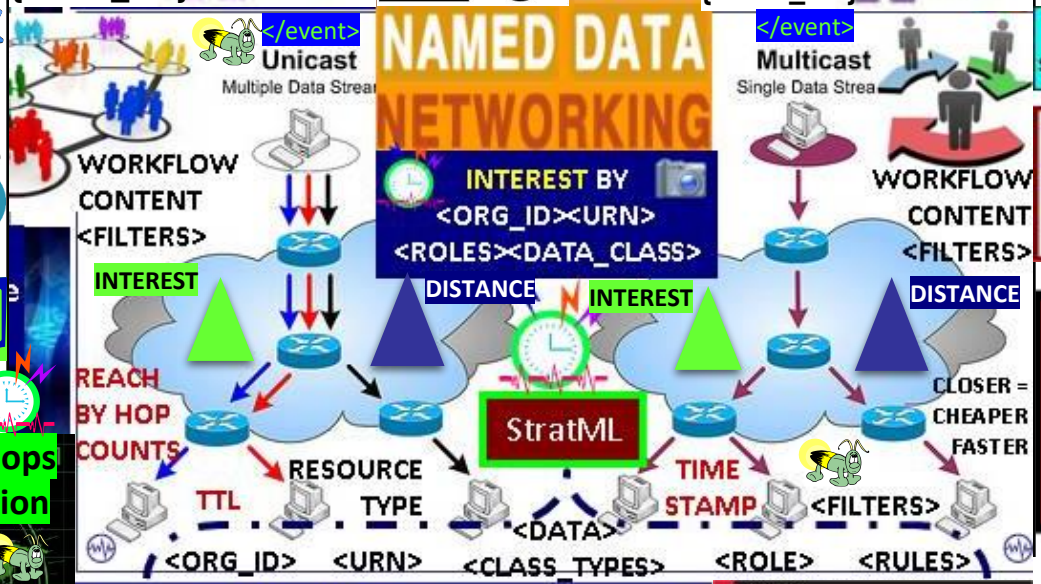
ERLANG Calendar: Calculate
Wait Times Time Stamp to
Date Time conversion
Blockchain DLT Parsing

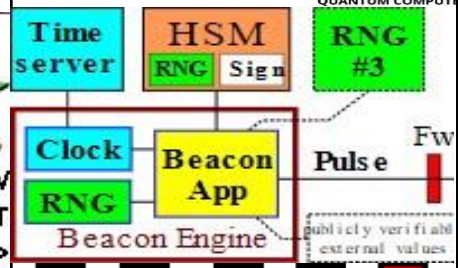
Time Equations

INTERNET = 1) EPOCH TIME CYCLES = "BLOCKCHAIN"
2) USED (NOT) AS INSTRUCTIONS / CODE during EPOCHS

EQUILIBRIUM ALGORITHMS
Price Discovery Equations / Metrics







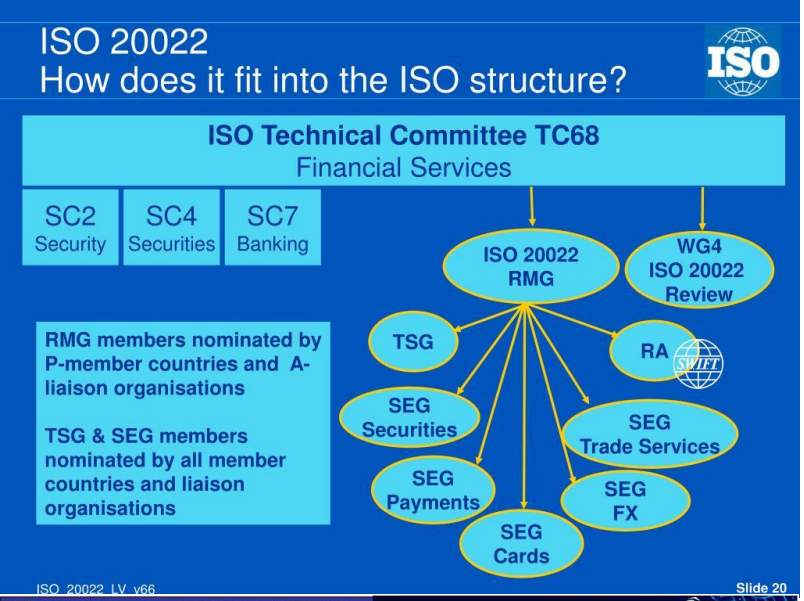
FIREFLY – HEARTBEAT
STOCHASTIC HARMONIZATION
TEMPORAL SYNCHRONIZATION
ALGORITHM / HEARTBEAT
MESSAGE EVENT BUS

IDMaps / SonarHops
Distance Estimation
Service
PROXIMITY BEACONS

Unicast: private or unique resource requested.
Multicast supports larger audience serving content simultaneously to multiple users

O'REILLY
Time Equations
Time Series Databases

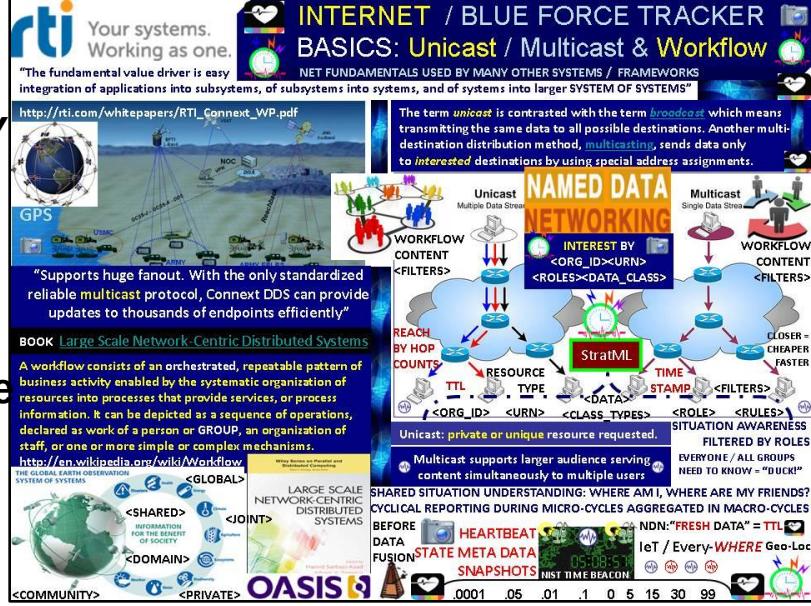
TIME SERIES
Attribute Series
TIME
EPOCHS
TIME FUNCTION



FOUNDATION STANDARDS TECHNOLOGY

- ISO 20022
- MIL STD Structured Data Exchange

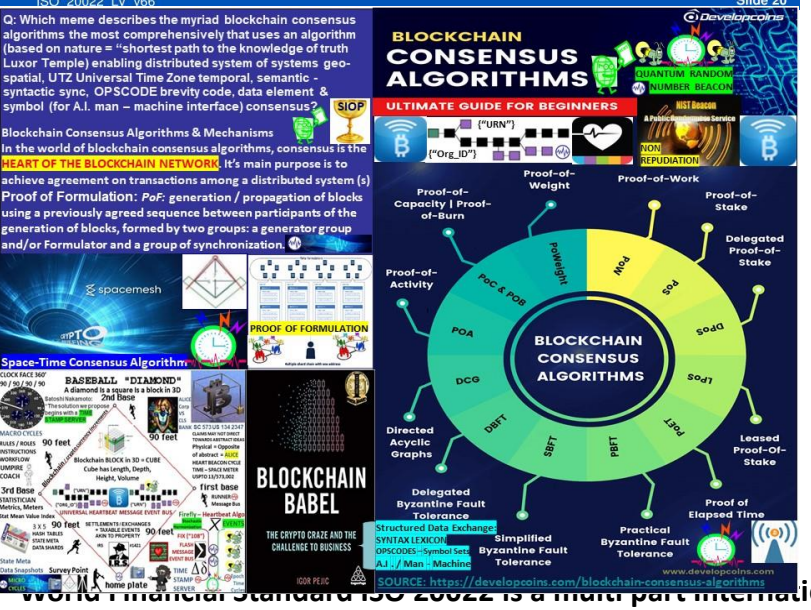
DoD System of Systems Engineering

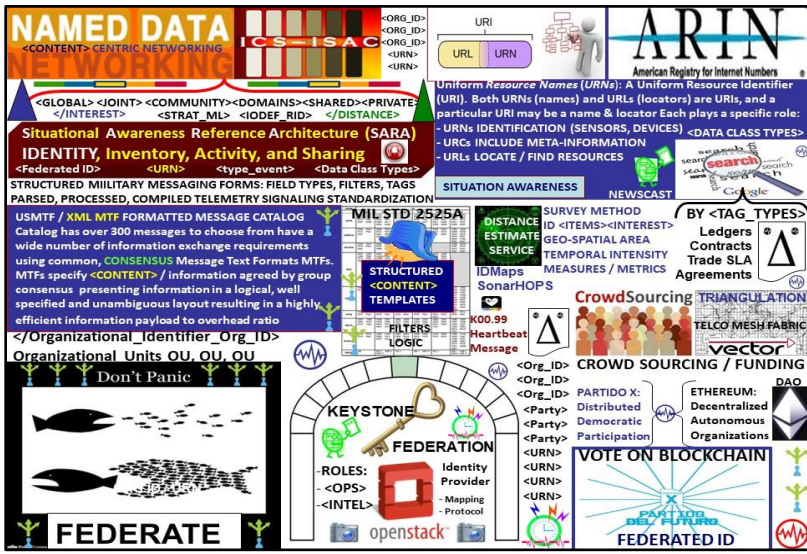


CONSENSUS ALGORITHMS

NDN: Named Data Networking

ARIN, ASN-1 Binary XML 2525 A,B,C,D Symbol Sets for Human – A.I.



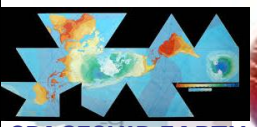


World Financial Standard ISO 20022 is a multi part International Standard prepared by ISO Technical Committee TC68 Financial Services. It describes a common platform for the development of messages in ASN.1 Abstract Syntax Notation: A single standardization approach (methodology, process, repository) to be used by all financial standards initiatives. common platform for the development of messages using:

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

The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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.

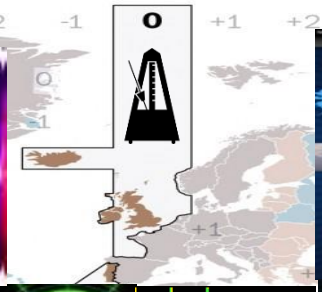
STOCHASTIC HARMONIZATION / PROCESS BY PRECEDENCE



SPACESHIP EARTH

EVENT BUS

NEURAL NET



NET

Int'l Date Line

DISTRIBUTED STATE

{"URN"}

{"Org_ID"}

+14 NDN

<Interest>

<Distance>

vector

HEARTBEAT SYNC DELTAS

% REAL GDP

{"108"}

ALGORITHMIC REGULATION

TIME – SPACE SYNC PULSE

FRIEDMAN's K% RULE % GDP

FIX

{"108"}

Firefly Heart Beat Algo

EVENT BUS

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

Firefly Event Flash Messages

Geo-Spatial Temporal Beacon

On /Off Shore

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.

Heartbeat Date Time Stamps Sync Pulse

Process transactions by precedence

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

PROXIMITY BEACONS

BLOCKCHAIN PARSING

STATE META DATA SNAPSHOTS

BITCOIN BLOCKCHAIN TRANSACTIONS ARE BASED ON TIME SEQUENCING TRANSACTION STATE CHANGES TO DISTRIBUTED LEDGERS

Attribute Series

TIME Function

Geo Spatial Temporal Series

Nicotib

ERLANG

BEACON BROADCAST

MICRO- CYCLES

QUANTUM RANDOM #

Arrival Rate

Queue Forms

Limited Resource

Service Rate

RFID

Delay

* Utilization

* Service Time (T_s)

Erlang / Equilibrium Time – Sync Algorithms

ROLES RULES

O'REILLY TIME EQUATIONS

Time Series Databases

ATOMIC CLOCK

NIST Beacon

A Public Randomness Service

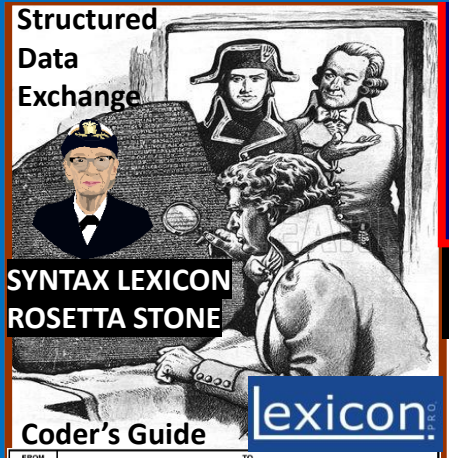
NON_ REPUDIATION

Time Series

Value

Time

ERLANG CALENDAR: Calculate Wait Times Time Stamp to Date Time Conversion



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>

INFOCON 5 4 3 2 1 INFORMATION CONDITION

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

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GOAL: Provide a common, consistent, reliable schedule to share signaling and telemetry within federations.

STRUCTURED <CONTENT> EXCHANGE TEMPLATES

MIL STD 2525ABC

ASSET TOKENS

"SYMBOLS RULE THE WORLD"

MTL Machine Trust Language

vector {"URN"{"URN"}

{"TRANSACTION ID"}

MESSAGE TEXT FORMAT :

SEG RPT OCC CLASSNAME SETID SEQ FIELD OCCURRENCE SET FORMAT NAME

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

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

M MIOPV1 1 MSGID 3 /M /M /O /O /O /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 /M /M /C // (NU) ORGANIZATION DESIGNATOR

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

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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 // (NU) 4.A SUPPORT CONCEPT (Logistics)

M 11NUPRES GENTEXT 37 // (NU) 4 ATERIEL AND SERVICES

DICAL EVAC & HOSPITALISATION

L - MILITARY OPERATIONS

SYMBOLS	Friend	Neutral	Hostile
	Partner		Competitor

TOKENIZED ECONOMY BREVITY CODE OPSCOSE MAPPET TO SYMBOLS

INDEX REFERENCE #:

M015 STATUS :

EFFECTIVE: 14-DEC-99

PURCHASE CODES

FEDERATED PEGS

{"ASSET_CLASS"}

{"ASSET_TYPES"}

{"URN"}

{"URN"}

DISTANCE

NDN

INTEREST

ISO 10383 – MIC

Market Identifier Codes

DAO

{"URN"}

INTEREST

{"Org_ID"}

</108>K00.99 / FIX / SWIFT / E-911 Heartbeat Message

STOCK EXCHANGE MIC CODES

NDN NAMED DATA NETWORKING PRECEDENCE PROCESSING

FILTERS

BLOCKTIME ARBITRAGE ERLANG TIME EQUATIONS

STRATML

XAML

xBRL

BINARY XML

UBL

DDL DATA DEFINITION LANGUAGE

TOSCA

YAML

11.8 - Kinemati

11.8.1 - Pos

11.8.1.1 -

11.8.1.

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

1 - Horizontal

2 - Vertical

Confidence

Bearing Angle

Bearing Angle Rate

Covariance Matrix

FROM	TO					CODE GUIDE
	GCCS-A	TAIS	ASAS	AMDPCS	AFATDS	MCS
ASAS	C002 C203 F002 F014 F015 F541 S201 S309	C002 C203		C002 C203	C002 C203 F014 F541 S305 S309	C002 C203 E400 F002 F014 F015 F541 S201 S309 S507
AMDPCS					F002 F015 S201	C203 C400 D630 E500 F002 F014
AFATDS	F002 F014 F015 F541 S201					
MCS	A423 C203 C505 F002 F014 F015 F541 S201	A423 A659 C002 C203 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F658 F756 G489 K01.1 S201 S303 S507	A423 A659 A656 A690 C002 C203 C400 C505 F002 F014 F015 F541 S201		A423 C505 F014 F541 S201	

TOKENS

OPSCODE BREVITY CODES

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

A.I.

INFOCON 5 4 3 2 1 INFORMATION CONDITION

ASSET TOKENS Token Economy

Rosetta Stone — Syntax Lexicon — Coder's Guide

M2M

"SYMBOLS RULE THE WORLD"

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

MESSAGE CATALOG

300 + Use Cases

Data Elements: entity, attribute, relationship equivalents

HEARTBEAT MESSAGE = K00.99 </108> {"108"}

Object Categories	Examples	Information Categories and Examples: Location	Movement	Identify	Status	Activity	Intent
OOB	**SYNTAX LEXICON**	**STRUCTURED DATA EXCHANGE Message Sets** lat/long	spd/hdg	country / alliance, type/class	readiness	targeting, reconitering	COA {"Java JS"}
		Machine Trust Language MTL			**CDL Contract Description Language**		**YAML**
Infrastructure	Comm, power, transportation, water/sewer	network, grid	throughput, flow rates,	name, part-of relationships	BDA, op levels	repair, broadcasts	expansion plans
Sociological	Culture, religion, economic, ethnic, government, history, languages	temples, historic structures					
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth					

E-R Model	Class Diagram	Relational Database	Object DBMS	XML DTD / Schema	TADILs	MTF
Entity	Class	Table	Class	Element	Message	Message
Attribute	Attribute	Field / Column	Attribute	Child Element or Element Attribute	DFI	FFIRN / FFN / FUDN
Domain Value	PURCHASE CODES	Instance, Value	**TOKENS**		DUI	FUD

OPERATIONAL NODES / ACTIVITIES

DATA SYSTEM FUNCTIONS PERFORMANCE

11.4 - Classification
11.4.1 - Category
11.4.1.1 - Confidence Level
11.4.1.2 - Estimate Type
11.4.1.2.1 - Alternative
11.4.1.2.2 - Evaluated D
11.4.1.3 - Value
11.4.1.3.5 - Surface
11.4.2 - Platform / Point / Fea
11.4.3 - Specific Type
11.4.4 - Type Modifier
11.4.5 - Unit

11.8 - Kinematics
11.8.1 - Pos / Vel / Acc (PVA)
11.8.1.1 - Acceleration
11.8.1.1.1 - Angular
1.1.2 - Linear
2 - Estimate Type
1.2.1 - Estimated
1.2.2 - Observed
1.2.3 - Predicted
4 - Velocity
1.4.1 - Horizontal
1.4.2 - Vertical
VA Confidence
1 - Bearing Angle
2 - Bearing Angle Rate
3 - Covariance Matrix

PURCHASE CODES

ture Type

SYMBOL	Friend	Neutral	Hostile
2525C	Partner		Competitor

MIL STD 2525A, B, C, D

</URN>

{"Org_ID"}

ISO

20022

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

Structured Data Exchange

SYNTAX LEXICON ROSETTA STONE

Coder's Guide

lexicon

STRUCTURED <CONTENT> EXCHANGE TEMPLATES

MIL STD 2525ABC ASSET TOKENS

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INDEX REFERENCE # M015 STATUS EFFECTIVE: 14-DEC-99

PURCHASE CODES

FEDERATED PEGS {"ASSET_CLASS"} {"ASSET_TYPES"}

ISO 10383 – MIC Market Identifier Codes

STOCK EXCHANGE MIC CODES

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FILTERS

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UBL

DDL DATA DEFINITION LANGUAGE

- COI D
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- Ontol
- Taxon
- Meta

('Org_ID

FFUDN: F

FROM	TO					CODE GUIDE
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AMDPCS	F002 F015 S201	F002 F014 F015 S201				C203 C400 D630 E500 F002 F014
AFATDS	F002 F015 S201	F014 F541				
MCS	A423 C203 C505 F002 F014 F015 F541 S201	A423 A659 C002 C203 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F658 F756 G489 K01.1 S201 S303 S507	A423 A659 A656 A690 C002 C203 C400 C505 F002 F014 F015 F541 S201	A423 C505 F014 F541 S201		

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BY Form Field Position & NUMBER

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		Machine Trust Language MTL			CDL Contract Description Language		YAML
Infrastructure	Comm, power, transportation, water/sewer	network, grid	throughput, flow rates,	name, part-of relationships	BDA, op levels	repair, broadcasts	expansion plans
Sociological	Culture, religion, economic, ethnic, government, history, languages	temples, historic structures					
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth					

E-R Model	Class Diagram	Relational Database	Object DBMS	XML DTD / Schema	TADILs	MTF
Entity	Class	Table	Class	Element	Message	Message
Attribute	Attribute	Field / Column	Attribute	Child Element or Element Attribute	DFI	FFIRN / FFN / FUDN
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PURCHASE CODES

ture Type

4 - Velocity

1.4.1 - Horizontal

1.4.2 - Vertical

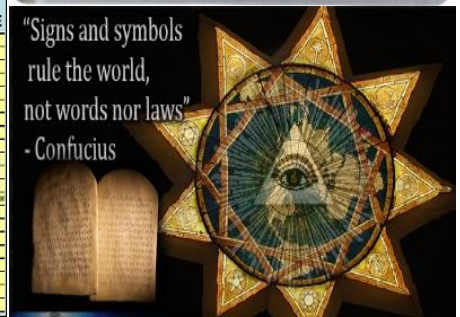
/A Confidence

- Bearing Angle

2 - Bearing Angle Rate

6 - Covariance Matrix

SYMBOL	Friend	Neutral	Hostile
2525C	Partner		Competitor



Encyclopedia Britannica: "Language is a SYSTEM of SIGNS having meaning by convention. In this sense, language need not be confined to the spoken word".

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

CONFUCIOUS

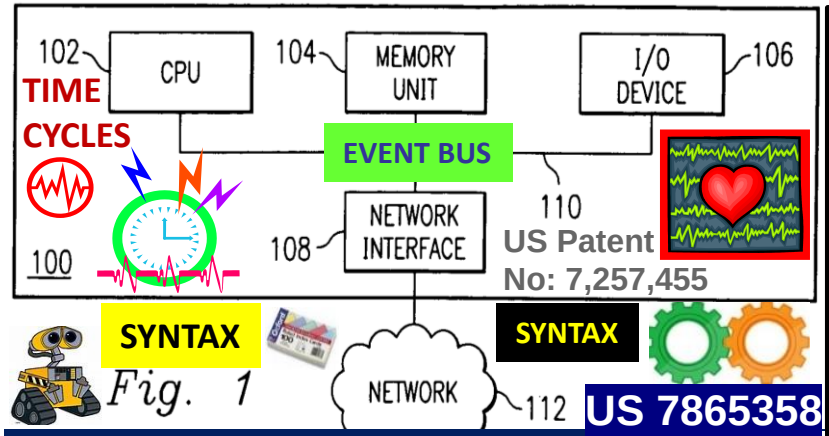


Fig. 1

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

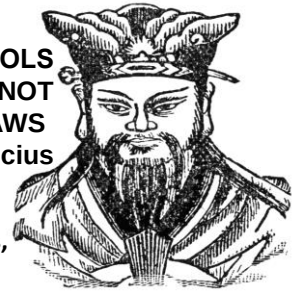
Multi-user functionality for converting data from a first form to a second form

INFOCON 5 4 3 2 1 INFORMATION CONDITION

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

NATO OTAN

"SIGNS AND SYSMBOLS RULE THE WORLD, NOT RULES OR LAWS Confucius



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

US Patent No: 7,257,455
DISCOVERY MACHINE Inc.
Williamsport PA
Little League
Baseball Capital of
the World

Fig. 8

Discovery Machine® Inc.

AI ARTIFICIAL INTELLIGENCE 820

TASK	
PK	TK_OID {"Org_ID"}
FK1 FK2	TK_NAME TK_DESCRIPTION TK_CONDITION TK_CMOID TK_CLOID (FUNCTION)

PROCEDURE	
PK	PC_OID
FK1 FK2	PC_NAME PC_DESC PC_CMOID PC_CLOID (BEHAVIOR)

818

816

METHOD	
PK, FK3	MT_OID {"Org_ID"}
FK1 FK2	MT_NAME MT_DESCRIPTION MT_CMOID MT_CLOID (BEHAVIOR) LS_SEQUENCE

810

BIZ COA 1,2,3 AUTO PLAY

CLASS	
PK	CL_OID
	CL_NAME

AUTOMATION / SIMULATION
Artificial Intelligence engine

PERSONALIZED INSTRUCTION CYCLE Implement data-driven instruction | STUDENT-DRIVEN LEARNING CYCLE Develop student ownership of learning

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

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

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

Off-Site Connector

Clock adjusted 5:45 PM

Rosetta Stone Syntax LEXICON

2525 Series Symbol Set Libraries

Neuro-Symbolic AI

Symbolic (human-readable) representations

Neural Networks (Deep Learning)

Symbolic AI

Brevity Codes

Symbols Symbol Sets 2525C

Breaking the world into symbols (rather than

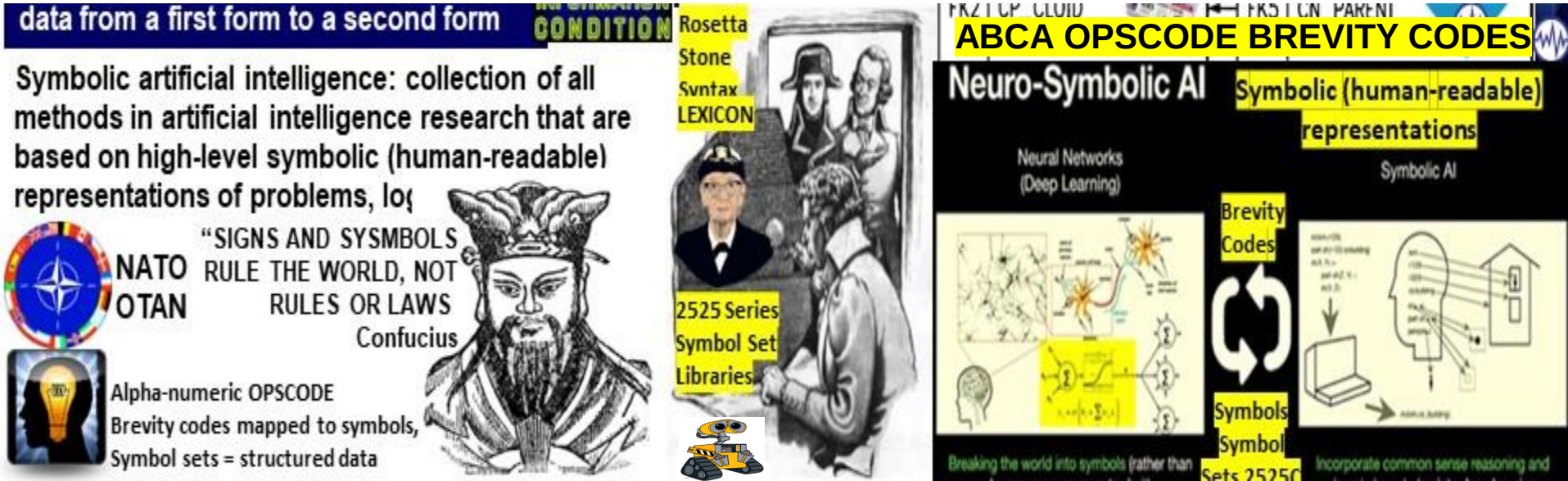
Incorporate common sense reasoning and

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



NAMED DATA
<CONTENT> CENTRIC NETWORKING
NETWORKING

ICS—ISAC

<ORG_ID>
<ORG_ID>
<ORG_ID>
<URN>
<URN>

URI
URL | URN

ARIN
American Registry for Internet Numbers

<GLOBAL> <JOINT> <COMMUNITY><DOMAINS><SHARED><PRIVATE>
</INTEREST> <STRAT_ML> <IODEF_RID> </DISTANCE>

Uniform *Resource Names* (*URNs*): A Uniform Resource Identifier (URI). Both URNs (names) and URLs (locators) are URIs, and a particular URI may be a name & locator Each plays a specific role:
- URNs IDENTIFICATION (SENSORS, DEVICES)
- URCs INCLUDE META-INFORMATION
- URLs LOCATE / FIND RESOURCES

<DATA CLASS TYPES>

Situational Awareness Reference Architecture (SARA)

IDENTITY, Inventory, Activity, and Sharing

<Federated ID> <URN> <type_event> <Data Class Types>

SITUATION AWARENESS

NEWSCAST

STRUCTURED MIILITARY MESSAGING FORMS: FIELD TYPES, FILTERS, TAGS
PARSED, PROCESSED, COMPILED TELEMETRY SIGNALING STANDARDIZATION

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. MTFs specify <CONTENT> / information agreed by group consensus presenting information in a logical, well specified and unambiguous layout resulting in a highly efficient information payload to overhead ratio

MIL STD 2525A

STRUCTURED <CONTENT> TEMPLATES

FILTERS LOGIC

DISTANCE ESTIMATE SERVICE

SURVEY METHOD
ID <ITEMS><INTEREST>
GEO-SPATIAL AREA
TEMPORAL INTENSITY
MEASURES / METRICS

IDMaps
SonarHOPS

BY <TAG_TYPES>
Ledgers
Contracts
Trade SLA
Agreements

K00.99 Heartbeat Message

CrowdSourcing

TRIANGULATION
TELCO MESH FABRIC
vector

CROWD SOURCING / FUNDING

</Organizational_Identifier_Org_ID>
Organizational Units OU, OU, OU

<Org_ID>
<Org_ID>
<Org_ID>
<Party>
<Party>
<Party>
<URN>
<URN>
<URN>
<URN>

KEYSTONE
FEDERATION

-ROLES:
- <OPS>
-<INTEL>

Identity Provider
- Mapping
- Protocol

openstack™

PARTIDO X:
Distributed
Democratic
Participation

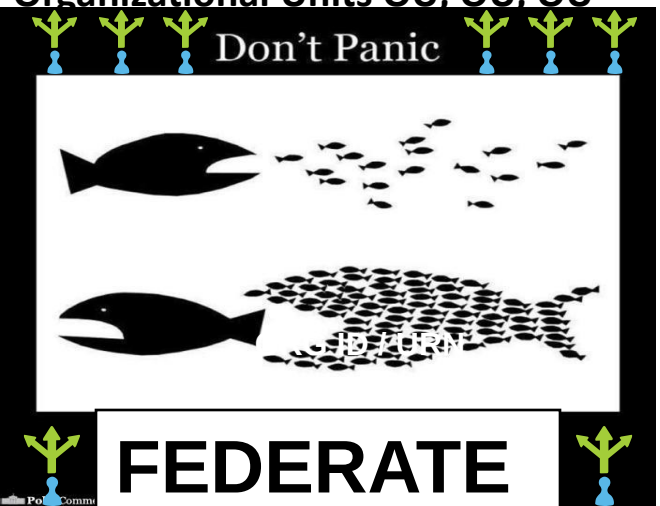
ETHEREUM:
Decentralized
Autonomous
Organizations

DAO

VOTE ON BLOCKCHAIN

PARTIDO DEL FUTURO

FEDERATED ID



Situational Awareness Reference Architecture (SARA)

: Identity, Inventory, Activity, and Sharing

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

ICS–ISAC

IDENTITY:

<UUID> = Devices, sensors

<ORG_ID> Organizations

Federation Gateway

<ELEMENTS>

STRATML/ IODEF RID CLASSES:

<GLOBAL><JOINT><SHARED>

<DOMAIN><FEDERATION>

<CITY><STATE><PRIVATE>

STRATEGIC MARKUP

StratML

LANGUAGE

IODEF

Industrial Control System Information Sharing and Analysis Center

INVENTORY: Uniform Resource Name <URN>

<URN><URN>

<URN><URN>

<URN><URN>

<COMMODITY><WATER><ENERGY><AVAILABLE UNITS>

vector

GEO-SPATIAL TEMPORAL INTENSITY METRICS

UNIFIED EVENT / ALERT TRIGGER / THRESHOLDS

GEO-SPATIAL TEMPORAL INTENSITY METRICS / METERS

IDMaps

SonarHops

vector

tripwire

ACTIVITY: <EVENT><ALERT>

<TIME_STAMP><ORG_ID><URN>

<GEO_LOC_GPS ><STATUS>

<Halt><Moving><Stale><Ready>

CONTENT LEXICON ROSETTA STONE

NDN

<INTEREST>

TAXII

STIX

AVALANCHE

SHARING:

COMMON <TAGS>

<Organizational_ID>

Resource Names <URN>

<Time_Stamps>

<State-Meta_Data

<DATA_CLASS_TYPE>

<Heartbeat_snapshots>

NDN

<INTEREST>

CybOX

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

CYBER SECURITY CONTENT

LEXICON ROSETTA STONE

MIL-STD 2525A

STRUCTURED <CONTENT> TEMPLATES

<TAG> LIBRARY

CYBER BEACON

NIST TIME BEACON

NIST RANDOMNESS BEACON

SYNC SEED _CLOUD

Cloudcenter

INBOUND SHARING / MICRO-CYCLES

<TAG>LIBRARY TEMPLATES

NIEM

NAMED DATA NETWORKING

<Content> Centric

USMTF / XML MTF FORMATTED MESSAGE CATALOG

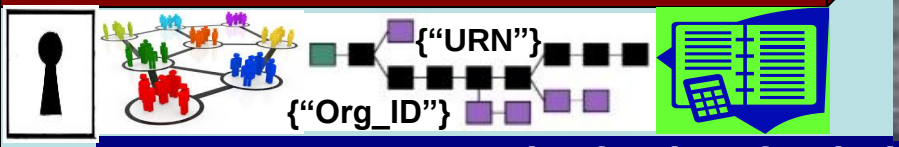
Catalog has over 300 messages to choose from have a wide number of information exchange requirements using common, CONSENSUS Message Text Formats MTF

MTFs specify <CONTENT> / information agreed by group consensus presenting information in a logical well specified and unambiguous layout i.e., templates

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

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

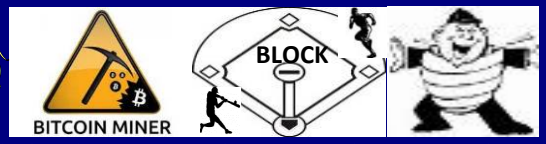
Net joins, drops, splits, merges, moves
Agile, adhoc NETOPS Vs acquisition preserves the CHANNEL

{"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"}

FIREFLY FLASH
HEARTBEAT MESSAGES
</RESOURCE> {"URN"}
{"Asset_Class"} </URN>

EVENT BUS
Signaling, Telemetry

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"}
QR CODE
{"URN"{"URN"}{"URN"}

Heartbeat Snaps
MICRO-CYCLES

FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME

METRICS TEMPLATE

601

THRESHOLD TRIGGERS INCREASE
BEACON BROADCAST AREA / RADIUS
IN ZONES e.g. STOCK MARKET TRANCHES
GEO-SPATIAL, TEMPORALINTENSITY

NUMBERS ARE ARBITRARY BUT MUST MATCH
E.G., 5 OR 4 OR 3 BUT NOT 5 AND 4, 5 AND 3

REPLACEMENT SHEET

607

ALERT LEVEL >
> NEWSCAST ZONE

500
400
300
200
100

5
4
3
2
1

RISK CORRELATION

602

+3
+ 2
+ 1
0
+ 1
+ 2
+3

M2M MACHINE TO MACHINE PARSING RELIES
ON CONSISTENT NUMBERING SCHEME

GEO-SPATIAL TEMPORAL INTENSITY
METRICS / VECTORS

TRIGGERS

INFOCON
5 4 3 2 1
INFORMATION
CONDITION

6

CAP
XML

AAA – BBB - D

NIEM

EQUITABLE METERING

+6 TO +8 | +3 TO +5 | -1 TO +2 | - 4 TO -2 | -8 TO -5

605

vector

EVENT SEVERITY INDEX

TRACK BY ORG ID / URN

603

ALERT LEVEL CHANGES

CAP
XML

RESPONDERS

vector vector vector

GEO-SPATIAL RADII DEFINED
BY WATER DROP AREA ZONES

CHILD SCHEMAS, DATA ISLANDS

5 LEVEL ALERT SYSTEM
COLOR CODE CONDITION LEVEL

604

			HOMELAND SECURITY ADVISORY SYSTEM	COMBINED COMMUNICATIONS ELECTRONICS BOARD CCEB	INFOCON LEVELS OF CONCERN
RED	SEVERE	CLOSE FACILITIES STOP PROCESSES	SEVERE/DELTA FINE	FLASH OVERRIDE FINE	INFOCON 4
ORANGE	HIGH	TAKE PRECAUTIONS COORDINATE W/OTHER GROUPS	HIGH/CHARLIE DOES	FLASH (Z) DOES	INFOCON 3
YELLOW	ELEVATED	INCREASE SURVEILLANCE	ELEVATED/BRAVO BOY	IMMEDIATE (O) BOY	INFOCON 2
BLUE	GUARDED	- CHECK - REVIEW	GUARDED/ALPHA GOOD	PRIORITY (P) GOOD	INFOCON 1
GREEN	LOW	PLANNING	LOW/NORMAL EVERY	ROUTINE (R) EVERY	INFOCON 0

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

< GLOBAL >
0

IC / DOD/ NGO / COALITION
INDUSTRY GOVERNANCE

GOVERNANCE TAGS BY TYPE PRECEDENCE

< JOINT >
1

0 NORMAL
1 EMERGENCY

STRATML/ IODEF RID CLASSES

IC / DOD JOINT GOVERNANCE

StratML

PRECEDENCE

< COMMUNITY>
2

PRECEDENCE

IC: INTERNAL COMMUNITY USE
MEDICAL / ENERGY / TRANSPORTATION
COMMUNITY SPECIFIC GUIDANCE

MULTI-MODAL PROCESSING OF PRECEDENCE: PRIORITY IS SITUATION DEPENDENT ACCORDING TO INFOCON, HAZCON I.E. EMERGENCY BROADCASTS TO THE WORLD – EVERY ENTITY CANNOT HAVE LEVEL 5 PRECEDENCE

<DOMAINS>
3

<SHARED ELEMENT>
4

MANAGED RESOURCES GOVERNED BY ELEMENT E.G., AGENCY, PROGRAM HOWEVER – EXPOSED AND MADE AVAILABLE TO ORG ID / URN GROUPINGS

GOVERNANCE TAGS BY TYPE PRECEDENCE

NORMAL OPERATIONS
PAY FOR PRECEDENCE
AS A QUALITY OF SERVICE
SLA SERVICE LEVEL AGREEMENT
PRIVACY FOR PRIVATE DATA

<PRIVATE ELEMENT>

5

MANAGED RESOURCES GOVERNED BY ELEMENT E.G., AGENCY, PROGRAM FOR UTILIZATION ONLY BY THAT ELEMENT

EVENT / ACTIVITY / LOCATION CLASS

0 NULL / 1 / 2 / 3 / 4

USE ORG ID / URN TAGS TO ROUTE BASED ON TYPE OF ORGANIZATION / COMMODITY / VIRTUAL ORG MEASURE BROADCAST / UNICAST BY ZONE BY THRESHOLD / INTENSITY / DURATION AS MOE / MOP

< NIEM >

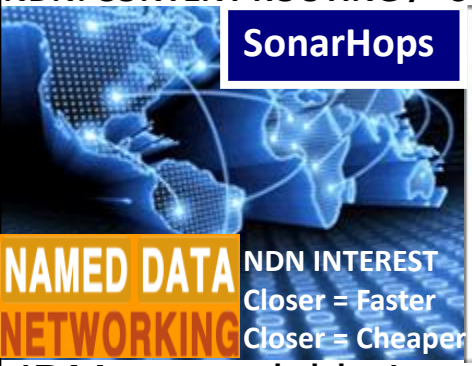
NIEM

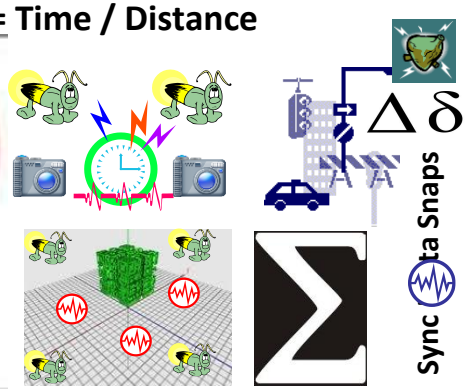
BRIDGING INFORMATION SYSTEMS


DAO
Federation Gateway
ECONOMIC HEARTBEAT
{"108"}
K %
TRC TRADE REFERENCE CURRENCY
STATISTICAL MEAN VALUE INDEX
ALGORITHMIC REGULATION
TERRA TRC
BIOCOIN
SUPPORT YOUR LOCAL FARMER
FARMERS COOP ASSOC.
SCHELLING POINT = "TRUTH"
CONTRIBUTIONS TO STATISTICS
LEADING ECONOMIC INDICATORS
{"URN"}
{"URN"}
LEADING ECONOMIC INDICATORS
currencyindex
COMMODITIES
TERRACYCLE
Spatial Econometrics
$0.49 USD
MICRO
Obitcoin
PAYMENTS
Demurrage
INFOCON
5 4 3 2 1
INFORMATION CONDITION
MONEYBALL ECONOMICS
Price Indexes in Time and Space
SchellingPoint
Service Level Agreements SLA / O incentivize Eco sustainable transactions leveraging Crypto-currency Micro - payments for TERRA Trade Reference Currency demurrage fees
smartlands
{"URN"}
{"Org_ID"}
The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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
TIME – SPACE EQUATIONS
BLOCKCHAIN PARSING
ERLANG
ERICSSON MONEY OF PEACE
ERICSSON
PROXIMITY BEACONS
NEURAL NETWORK CONSENSUS ALGORITHM
MATCH EVENT ALERTS to CLOSEST OPTEMPO HEARTBEAT
{"URN"}
UNIVERSAL EVENT / ALERT FLASH HEARTBEAT MESSAGE BUS
Firefly- Heartbeat Algorithm
UNIVERSAL MEME METRECS / METERS
ON / OFF SHORE
INFOCON 5 4 3 2 1 INFORMATION CONDITION
I.R.S.
IRS #1421
Int'l Date Line
vector
Unused Resources
vector
UNMET NEEDS
State Meta Data
Heartbeat Snaps
MICRO CYCLES
IDMaps
SonarHops
TIME / DISTANCE ESTIMATION SERVICE
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.

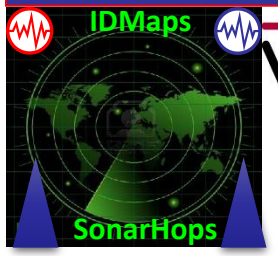
IDMaps: Global Internet Host Distance Estimation Service

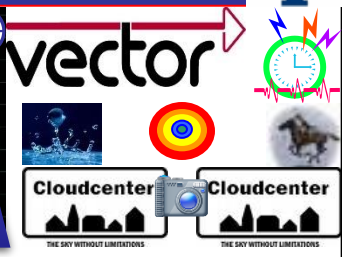
NDN: CONTENT ROUTING / <StratML> NDN INTEREST = Time / Distance





GEO-SPATIAL TEMPORAL INTENSITY METRICS / METERS

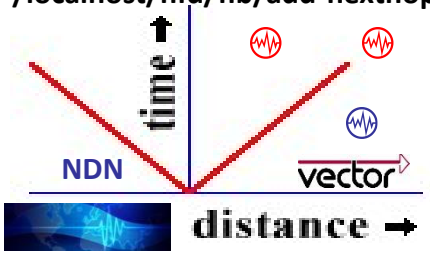




IDMaps scalable Internet-wide architecture measures, disseminates distance information

HOP COUNTS **REACHABILITY**

/localhost/nfd/fib/add-nexthop



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

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

Name Prefix <Org_ID> Trie (NPT)

NDN_NAMES

NDN NAMED DATA NETWORK RIB / FIB Datasets event notification

NDN INTEREST LENGTH = DISTANCE BY HOPS

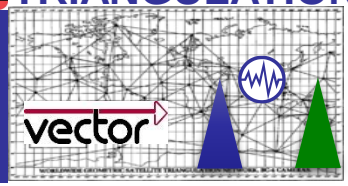
NDN INTEREST

IS DATA FRESH ?

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

NDN RIB

TRIANGULATION



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

Datasets and Event Notification

INTEREST in <URNs>

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

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

MICRO-CYCLES

NDN INTEREST LIFETIME = TTL Time To Live

HEARTBEAT STATE META DATASNAPSHOTS

GEO-SPATIAL TEMPORAL INTENSITY METRICS, METERS, VECTORS

vector

NAMED DATA NETWORKING

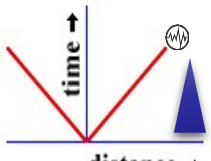
XML
MTF
300 +
MSG

INFOCON
5 4 3 2 1
INFORMATION CONDITION

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

</IoT>
MQTT

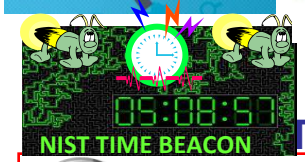
<INTEREST>



<CONTENT> TEMPLATES

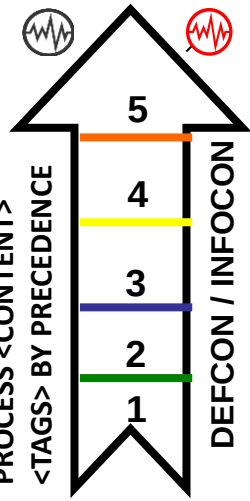
OASIS

IEEE 802.15.4
OASIS MQTT
TELEMETRY TRANSPORT



NIST TIME BEACON

ARRESTED-D

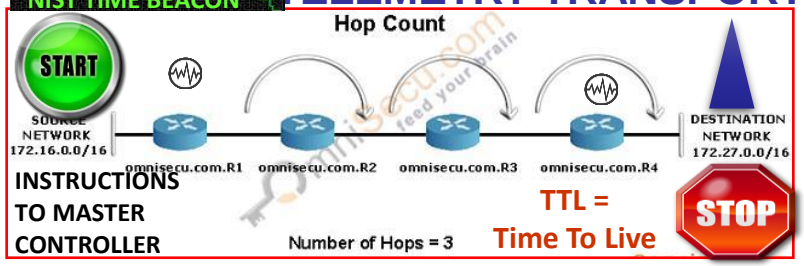


Geo-Spatial Temporal Intensity
NOVEL METRICS / METERS:

Paul Revere = linear, sequential

TCP/IP hop by hop counts, by hop controls

Water Drop = AREA / INTENSITY
Cyclic Frequency



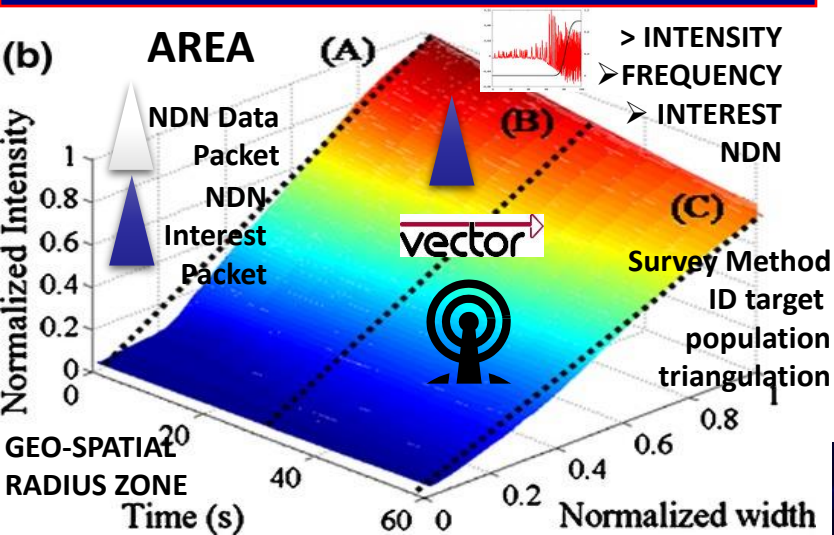
CLOSER = FASTER, CHEAPER > CYCLE = > INTEREST NAMED-DATA NETWORKING

IDMAPS
SONARHOPS
INTERNET
TRIANGULATION

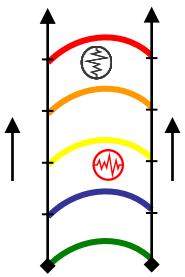
vector
WirelessHART

ALERT LEVEL >
> NEWSCAST ZONE

time synchronized, self-organizing, mesh Net

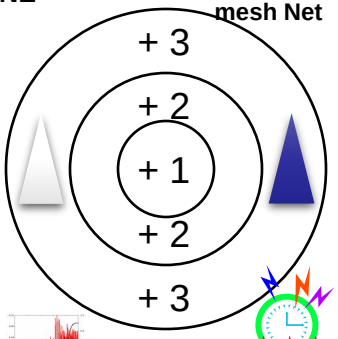


SINE-WAVE



TRIGGERS

CAP
XML



NDN
<INTEREST> BY
INTENSITY / FREQUENCY

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

Volume | Velocity | Variety | Veracity*

TIME STAMP 1 | TIME STAMP 2 | TIME STAMP 3 | MACRO CYCLES

SLA

RFid

SYNC
SEED
_CLOUD

Data at Rest | Data in Motion | Data in Many Forms | Data in Doubt

{"108"}

Cloudcenter | Cloudcenter

FILTER BY ROLE <TYPE> <CLASS>

{"URN"}
Uniform
Resource Name

URN
URN
URN
URN

QUANTUM NIST Beacon
A Public Randomness Service
NON-REPUDIATION

FLASH Message
UNIVERSAL DATA EVENT BUS
Syntax Lexicon
PRECEDENCE PROCESSING
<Org_ID> {"URN"} {"URN"}

NIST CYBER BEACON
RANDOM # BEACON

* Truthfulness, accuracy or precision, correctness

REST ARREST-D
ALGORITHM
{"FILTERS"}
Universal Event / Alert Bus

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

SYNC
SYNC
SYNC

ASYNC
ASYNC

Flash HB Messages

State Meta Data
Heartbeat Snaps

MICRO
CYCLES

ERLANG

HASHGRAPH
Consensus Algorithm
Time Averaged
Time Stamping

Functional Sequential Erlang

SPACE – TIME Equations
BLOCKCHAIN PARSING
{"URN"}
{"Org_ID"}

WATER
DROP IN
POND MEME

+ 2
+ 1
+ 1
+ 2

PAUL REVERE MEME
LINEAR SEQUENTIAL

< / = / >

HEARTBEAT SYNCRONIZATION

FIREFLY SYNC
CONSENSUS

Geo-spatial
IDMaps
SonarHops

Distance Est
Service

FOAM spatial protocol

Ethereum Blockchain
World Computer
Neural Network

FOAM

INFOCON
5 4 3 2 1
INFORMATION
CONDITION

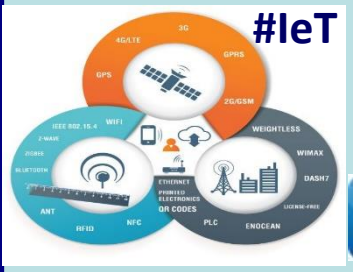
SIOP

"THE GRAIL"
TIME
Metrics
SPACE
Meters
COMMON
PICTURE

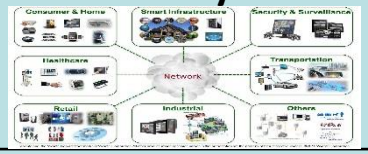
Interface Name	**HEARTBEAT Administration Interface [SCOP]**
Documentation URL	**http://scop.sourceforge.net/** **http://linuxvirtualserver.org/software/index.html**

API Information

#IoT #Big_Data



Functionality Areas



Cloud Interface Management
configuration, start, stop cloud services, edit configuration (heartbeat messages)

API Operation Count

Programmable Money
World Computer / Blockchain

Web service access type
Network Effects / A.I.

Web application, front end to [network, device, system, blockchain] heartbeat]

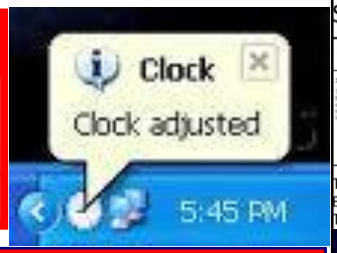
LANGUAGE / PLATFORM BINDINGS

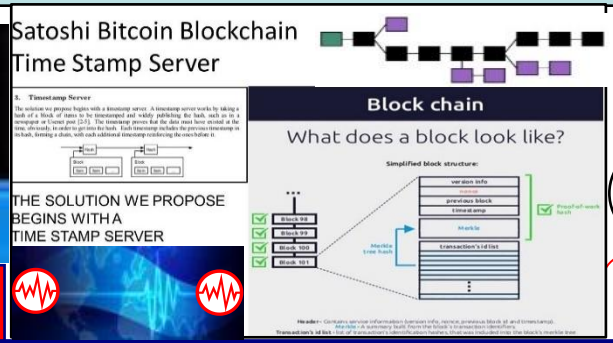
PHP Java Erlang…

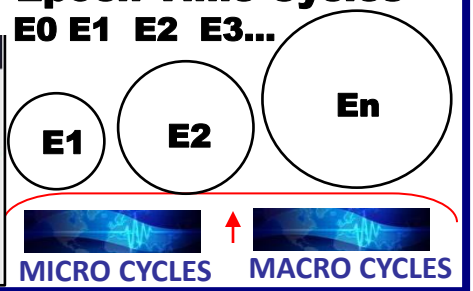
Interface Characteristics

SCOP is a web application, PHP based front-end to heartbeat,
IP Virtual Server ipvs and ldirectord [e.g., check interval @ 5 seconds]
SCOP can start/stop services, view/ edit configuration files e.g.,
heartbeat message state management snapshots, backups, take a service online/offline, add/ remove virtual/real servers, services etc.

"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

SOFTWARE DEFINED NETWORKING

Command Syntax

REST State Transfer

NETOPS

COMMAND SYNTAX
STATE TRANSFER
Unicast / Multicast
Flow Tables / Workflow

Dynamic Network Configuration Management

NET CENTRIC WARFARE

SYSTEM OF SYSTEMS TELEMETRY

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

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

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

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

SIOP

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

SDN FRAMEWORK

Rule | Action | Statistics

Policy Control

Broadcast

VLAN ID

STATE

RESTFUL API

Multicast

Flow Table

TIME SLOT SWITCH

CONTEXT MATCH MAPPING INSTRUCTIONS

TIME SLOT: Period of time activities governed by specific regulations.

FORWARDING INFORMATION BASE FIB

TIME OUTS TTL

PACKETS ARE TIME CYCLES USED / NOT USED TO PROCESS / NOT PROCESS INSTRUCTIONS DESCRIBED AS SYNTAX = STATE META DATA TYP BY DATA </CLASS> / DATA </CONTEXT>

ACTIONS: DROP / GROUP

NCW FRAMEWORK

Unicast
Multiple Data Streams

Multicast
Single Data Stream

WORKFLOW
</CONTENT>
</FILTERS>
</CONTEXT>

REACHABILITY BY HOP COUNTS

STATE / CONTEXT META DATA

INTEREST BY <ORG_ID><URN><ROLES><DATA_CLASS>

</TAGS>

</StratML>
</IODEF RID>

WORKFLOW
<CONTENT>
<FILTERS>

ACTIONS
ADD / DROP
JOIN / MERGE

AGILE ADHOC GROUP / UNGROUP

STRUCTURED <CONTEXT> EXCHANGE

TIME TO LIVE TTL

STATE SNAPSHOTS

Content Library

<TIME STAMP>

<FILTERS>

<ORG_ID>

</URN>

<DATA> {"CLASS_TYPES"}

<ROLE>

<RULES>

RULE: IF UNIT / SENSOR NET = / < N members / platforms, then show AS Non Mission Capable or if no reports within n cycles, UNIT = STALE, NMC. IF NMC, Take ACTION based on statistics = drop, merge, add

WHO, WHAT, WHERE
HOW OFTEN, HOW MUCH
SNAPSHOT SYNC DELTAS

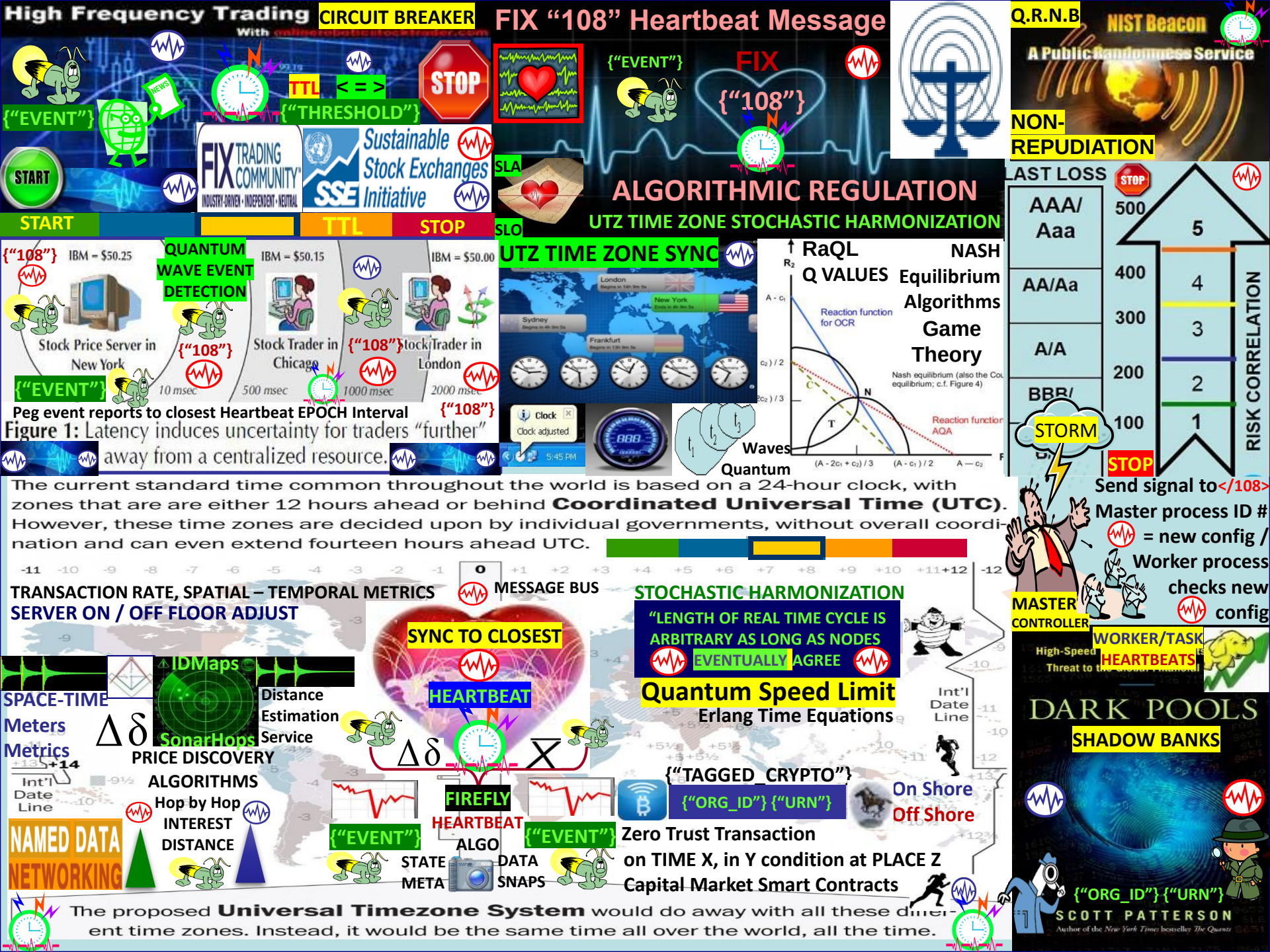
DISTRIBUTED APPS AND WORKFLOW AUTOMATION

Socket Plane = TEMPLATEs = vendors use one standard, while optimizing own technologies for differentiation.

COMPONENT factory multi-platform

docker

socketplane


High Frequency Trading
With
CIRCUIT BREAKER
FIX "108" Heartbeat Message
{"EVENT"}
TTL
< = >
{"THRESHOLD"}
STOP
START
FIX TRADING COMMUNITY
INDUSTRY-DRIVEN · INDEPENDENT · NEUTRAL
Sustainable Stock Exchanges Initiative
SSE
FIX
{"108"}
SLA
ALGORITHMIC REGULATION
UTZ TIME ZONE STOCHASTIC HARMONIZATION
SLO
START
TTL
STOP
{"108"}
IBM = $50.25
QUANTUM WAVE EVENT DETECTION
IBM = $50.15
IBM = $50.00
Stock Price Server in New York
Stock Trader in Chicago
Stock Trader in London
{"EVENT"}
10 msec
500 msec
1000 msec
2000 msec
Peg event reports to closest Heartbeat EPOCH Interval
Figure 1: Latency induces uncertainty for traders "further" away from a centralized resource.
UTZ TIME ZONE SYNC
London
New York
Sydney
Frankfurt
Clock
Clock adjusted
5:45 PM
RaQL
Q VALUES
NASH Equilibrium Algorithms
Game Theory
Reaction function for OCR
Nash equilibrium (also the Cou
equilibrium; c.f. Figure 4)
Reaction function AQA
Waves
Quantum
Q.R.N.B
NIST Beacon
A Public Randomness Service
NON-REPUDIATION
LAST LOSS
STOP
AAA/ Aaa
AA/Aa
A/A
BBB/
500
400
300
200
100
5
4
3
2
1
RISK CORRELATION
STORM
STOP
The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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.
-11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12 -12
TRANSACTION RATE, SPATIAL – TEMPORAL METRICS
SERVER ON / OFF FLOOR ADJUST
MESSAGE BUS
STOCHASTIC HARMONIZATION
"LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE
Quantum Speed Limit
Erlang Time Equations
SYNC TO CLOSEST
HEARTBEAT
IDMaps
Distance Estimation Service
SonarHops
SPACE-TIME
Meters
Metrics
PRICE DISCOVERY
ALGORITHMS
Hop by Hop
INTEREST
DISTANCE
NAMED DATA NETWORKING
FIREFLY
HEARTBEAT
ALGO
{"EVENT"}
{"EVENT"}
STATE
META
DATA
SNAPS
{"TAGGED_CRYPTO"}
{"ORG_ID"} {"URN"}
On Shore
Off Shore
Zero Trust Transaction
on TIME X, in Y condition at PLACE Z
Capital Market Smart Contracts
Int'l Date Line
+14
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.
MASTER CONTROLLER
Send signal to</108>
Master process ID #
= new config /
Worker process
checks new
config
WORKER/TASK HEARTBEATS
High-Speed
Threat to the Global Financial
DARK POOLS
SHADOW BANKS
{"ORG_ID"} {"URN"}
SCOTT PATTERSON
Author of the New York Times bestseller The Quants

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 802.11 HOP BY HOP CONTROL

Unused Resources / Unmet Needs

IEEE 802.1AG HOP BY HOP DETECTION

vector

UNUSED RESOURCES

UNMET NEEDS

/localhost/nfd/fib/add-nexthop

Geo-Spatial Temporal Metrics, Meters

DISTANCE

INFO SERVICE

Time Series

Value

Time

IDMaps

SonarHops

5

4

3

2

1

RISK

602

+3

+ 2

+ 1

Null

0

+ 1

+ 2

+3

Δ δ

WATER DROP IN POND MEME IS SONAR NAVY METAPHOR / MEME

NDN </INTEREST>

NDN {"DISTANCE"}

NAMED DATA NETWORKING

PAUL REVERE LINEAR, SEQUENTIAL

RADIUS

INTENSITY

WATER DROP IN POND MEME

603

NULL

+1

+2

IEEE C37.118 Harmonization & Sync heartbeat update Interval

TCP/IP HOP BY HOP COUNT

Energy Attenuates over Distances

CLOSER SOURCE

CHEAPER RATE

Attribute Series

INTEREST

DISTANCE

Geo Spatial Temporal Series

TESLA

Micro Grids Closer - Cheaper

BLOCKCHAIN MICROGRIDS

Spatial Econometrics

TIME-SPACE BEACON

INFOCON 5 4 3 2 1 INFORMATION CONDITION

METRICS / METERS

TRADE WITH EARTH

???

Spaceship Earth Signals & Telemetry Annex

bitcoin

r. buckminster fuller

operating manual for spaceship earth

SIRIUS DISCLOSURE

ASTEROID BELTs = RARE MINERALS

MOON = HELIUM 3

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

MARS

MERCURY

VENUS

EARTH

MAIN ASTEROID BELT

Farther = More Cost

➢ Fuel, Resources

Service Level Agreements

STOCHASTIC HARMONIZATION

Alpha Numeric Brevity Codes

SYNTAX LEXICON

K00.99

FIREFLY-HEARTBEAT ALGORITHM UNIVERSAL EVENT MESSAGE BUS

TROJAN ASTEROIDS

ERLANG TIME- SPACE METRICS

JUPITE

ANDERSON INSTITUTE

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

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 rejiggering 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 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.

GEO-SPAT*IAL ECONOMETRICS

UNIVERSAL EVENT BUS

UTZ TIME ZONE SYNC

-11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12 -12

TERRA TRC

MONEYBALL ECONOMICS

STATISTICAL MEAN VALUE INDEX

DFINITY WORLD COMPUTER

FLASH {"108"} HEARTBEAT MESSAGES

LEADING ECONOMIC INDICATORS

USDe

TRADE WITH EARTH?

RETHINKING MONEY

Bernard Lietaer and Jacqui Dunne

French newspaper "Le Fédériste"
"L'Europa monnaie de la paix"
Money of peace" Born Jan 1st 1933

COMMODITIES

currencyindex

Int'l Date Line

SHORE ON OFF

+14

Int'l Date Line

Stochastic Harmonization

Blockchain Parsing

TIME – SPACE EQUATIONS

Geo Spatial Temporal Series

FIREFLY HEARTBEAT ALGORITHM

$\Delta\delta$

TOKENIZES NATIONAL CURRENCIES

CURRENCY CONVERTER

Clock
Clock adjusted
5:45 PM

ERLANG

Time Series Databases

NIST Beacon
A Public Randomness Service
Non-Repudiate

05:08:57
ATOMIC CLOCKS

STATE META DATA
HEARTBEAT SNAPSHOTS
MICRO-CYCLES

SAMPLE BITCOIN VARIATIONS
EVERY N TIME EPOCHS / CYCLES

namecoin

ETH BaaS

NDN

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

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

Ericsson Open Money For Society Patent App

20130166398 "System And Method For Implementing A Context Based Payment System."

ERICSSON ERLANG API FOR BLOCKCHAIN ERICSSON

"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA" WIRED MAG

"BITCOIN IS A LANGUAGE" "ITS VALUE IS TIME ITSELF" ----DIGINOMICS

"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"

- 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 comm

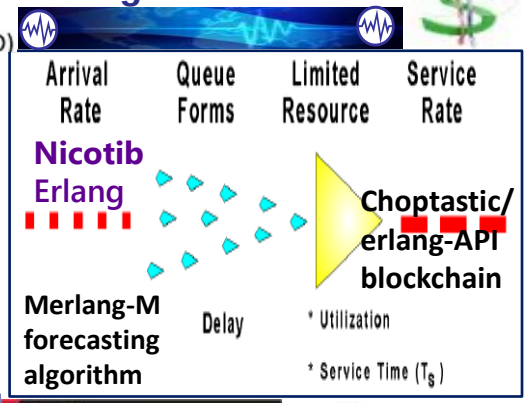
Functional Sequential Erlang

- 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

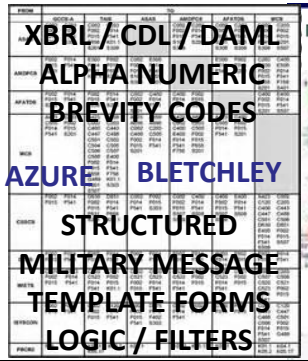
Rho ratio *Arrival Rate* $\Delta\delta$ *Service Rate per unit time*

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



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

Mnesia database **("Organization_ID")** **Global name resolution**

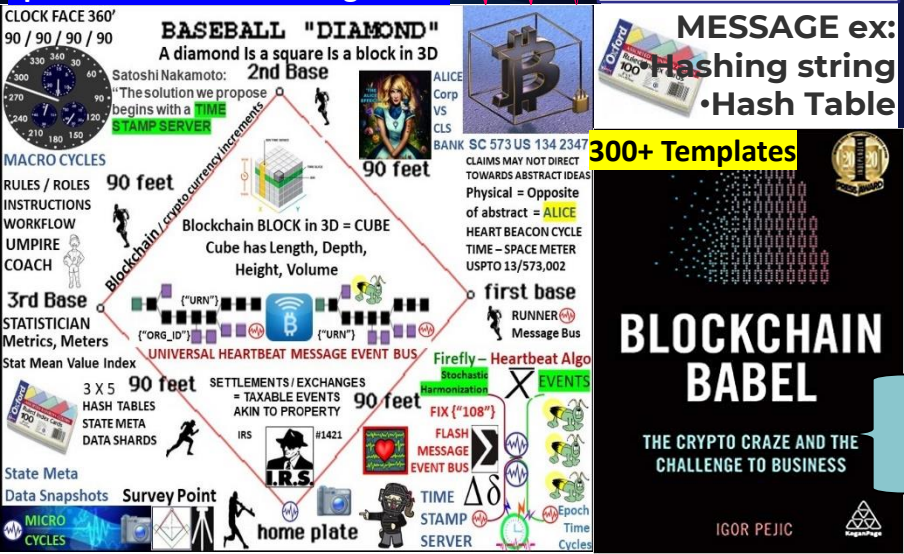


Q: Which meme describes the myriad blockchain consensus algorithms the most comprehensively that uses an algorithm (based on nature = "shortest path to the knowledge of truth Luxor Temple) enabling distributed system of systems geo-spatial, UTZ Universal Time Zone temporal, semantic - syntactic sync,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

Blockchain Consensus Algorithms & Mechanisms

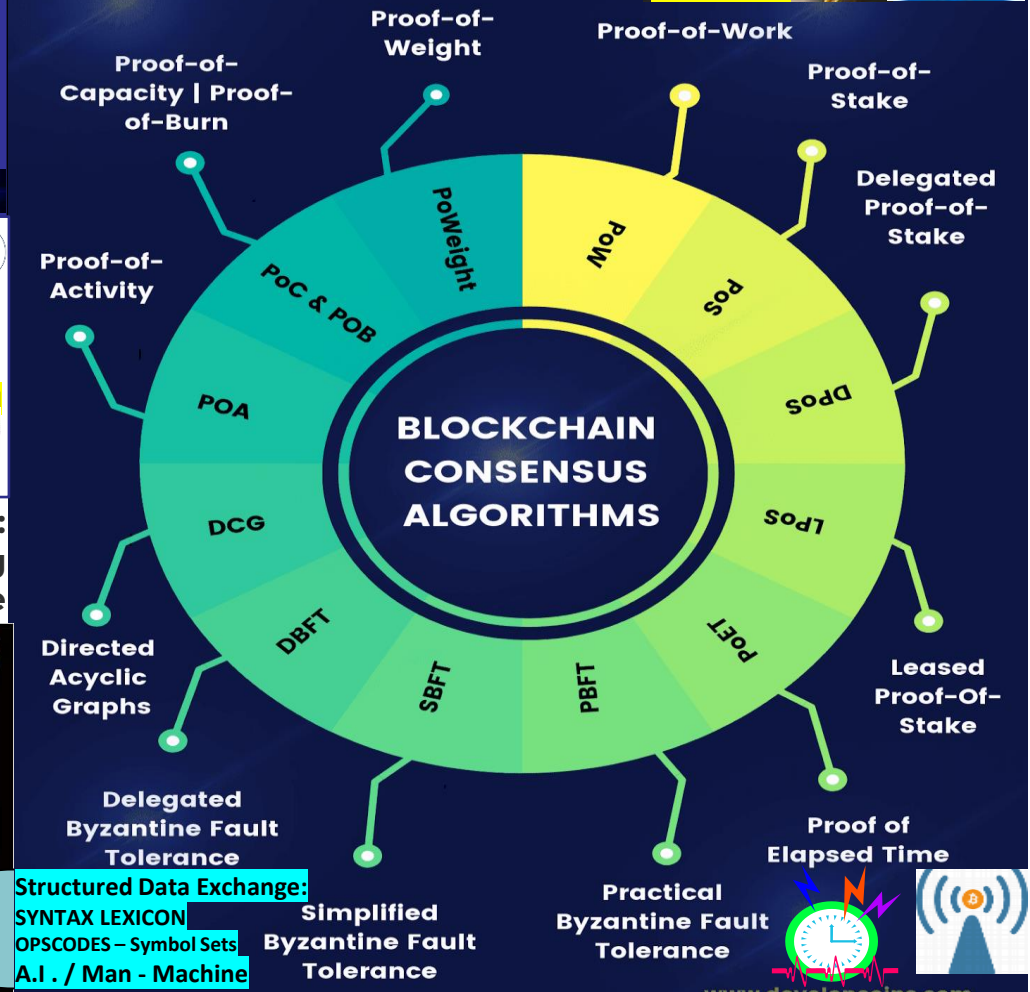
In the world of blockchain consensus algorithms, consensus is the **HEART OF THE BLOCKCHAIN NETWORK**. It's main purpose is to achieve agreement on transactions among a distributed system (s)

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.



MESSAGE ex:
- Hashing string
- Hash Table

300+ Templates



Structured Data Exchange:
SYNTAX LEXICON
OPSCODES – Symbol Sets
A.I . / Man - Machine

www.developcoins.com

SOURCE: https://developcoins.com/blockchain-consensus-algorithms

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

("108")

STAT MEAN VALUE PULSE

REAL WORLD ASSETS RWA

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*

•**VALUES:**

Demurrage Fees

TERRATRC TRADE REFERENCE CURRENCY

"Money of Peace"

Commodity / Currency Index

Free, open markets:

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

TERRA TRC

HEART BEACON CYCLE

USPTO 13/573,002

TIME – SPACE METER

currencyindex

COMMODITIES

Federation Gateway

ORG ID

•**Privacy** </Org_ID>

HASH Values

Nonce Values </Org_ID>

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

</DATA>

("FILTERS")

FIREFLY – HEARTBEAT ALGO

SYNC EVENTS

UTZ SYNC

TO CLOSEST HB CYCLE

STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS

Price Indexes in Time and Space

Methods and Practice

PING

Bitcoin: OpenBazaar transactional currency

Cyrptographic Security

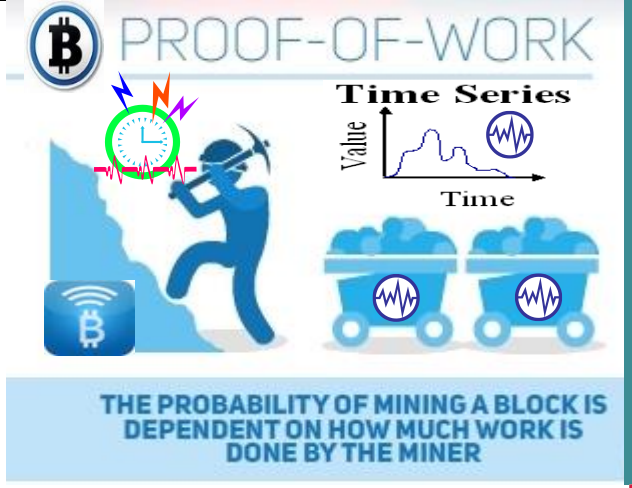
- **tamper-proof agreements**
- **1) minimize potential disputes**
- **2) fast-track dispute resolution**

NIST Beacon

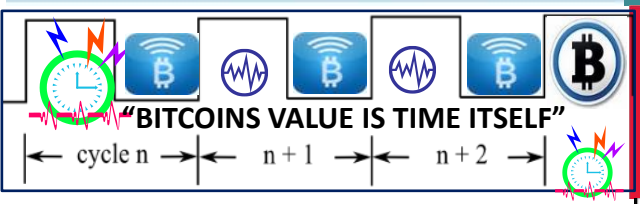
A Public Randomness Service

Non-Repudiation

SchellingPoint



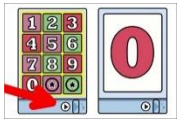
Proof-of-Work: users perform some form of wo to participate. Work must be difficult for the client but easy for the server/network to verify. POW determines the approximate time between blocks = rate that new bitcoins are created. Work is submitted as a message/timestamp payload with a nonce value. Payloads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



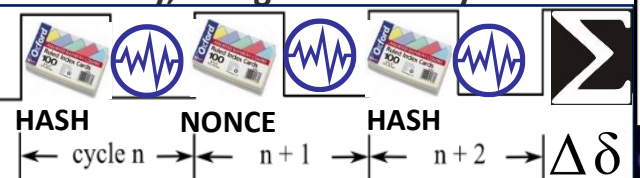
TIMESTAMP marks the point that work started. Additionally, it contributes to the uniqueness of the work by an individual miner

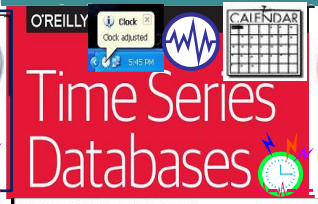
THROTTLE equivalent to difficulty.
•target = maximum value of 8 bytes (2^64) divided by the difficulty.

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



GUESS stores the guess
Effectively, it begins at infinity.

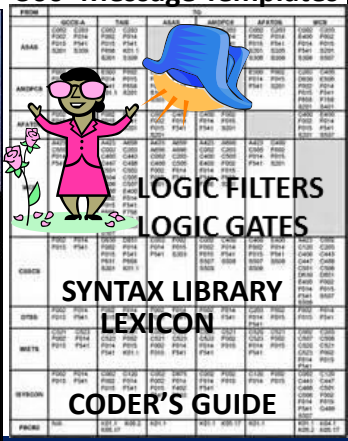




FIREFLY-HEARTBEAT ALGORITHM
STOCHASTIC HARMONY ACROSS TIME ZONES

MESSAGE ex:
shing string
•Hash Table

300+Message Templates



CLOCK FACE 360'
90 / 90 / 90 / 90

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

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

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

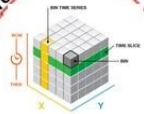
MACRO CYCLES
RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH

90 feet

90 feet

State Snap Shots

Blockchain / crypto currency increments



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

3rd Base
STATISTICIAN
Metrics, Meters
Stat Mean Value Index

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

first base
RUNNER
Message Bus

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

Firefly – Heartbeat Algo
Stochastic Harmonization
EVENTS

90 feet

3 X 5
HASH TABLES
STATE META
DATA SHARDS

SETTLEMENTS / EXCHANGES
= TAXABLE EVENTS
AKIN TO PROPERTY

90 feet

FIX {"108"}

IRS
#1421
I.R.S.

FLASH MESSAGE EVENT BUS

State Meta
Data Snapshots

Survey Point

MICRO CYCLES

home plate

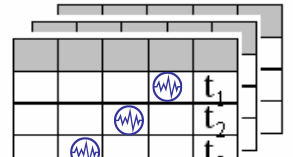
TIME STAMP SERVER

Δ δ

Epoch Time

POW PAYLOAD : COMBINATIONS OF ENCRYPTED SYNTAX

Attribute Series



CLOCK FACE 360'
90 / 90 / 90 / 90

BASEBALL "DIAMOND"

A diamond Is a square Is a block in 3D

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

2nd Base

90 feet

Blockchain / crypto currency increments

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

MACRO CYCLES
RULES / ROLES
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3rd Base
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UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

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Firefly – Heartbeat Algo
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TIME STAMP SERVER

Epoch Time Cycles

MICRO CYCLES

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

A BASEBALL DIAMOND IS A SQUARE. HBC USES A BASEBALL METAPHOR TO DESCRIBE METRICS, METERS. ROUNDING BASES FORM A BLOCK. METRICS, METERS & SURVEY METHODS MEASURE COIN MINING COMPLETION % AWARDS

Euclidean Geometry

STRUCTURED {"CONTENT"} TEMPLATES

SYNTAX, SYMBOLS
LEXICON LIBRARY
LOGIC – FILTERS
CODE SEQUENCE
ROLES / RULES

Attribute Series

Digital Asset Modeling Language DAML

Contract Description Language CDL

{"INTEREST"}
{"DISTANCE"}

IDMaps SonarHops

NAMED DATA NETWORKING

Time Series
Value
Time

time
FIX {"108"}
</INTEREST>
distance

NDN

1: prove coin ownership <Org_ID> Coin Issuer
2: # coins sent where, when Lat / Long, DTG
3: NIST Random # Beacon Non-Repudiation
4. Issuing {"Org_ID"} adjudicates w buyers

Firefly – Heartbeat Event Bus

TRANSACTIONS PER CYCLE METRICS

COMPUTER CHIP TIME EPOCHS
cycle n | n + 1 | n + 2

SPATIAL TEMPORAL Series

PROOF-OF-STAKE

cycle n | n + 1 | n + 2

FIREFLY-HEARTBEAT ALGORITHM EVENT BUS

Stake-Time algorithm favors both # of coins held how often, frequently coins are staked

Velocity based selection PoSV encourages velocity i.e. coin movement between people Vs hoarding.

O'REILLY
Time Series Databases

Coin Age proof-of-stake system combines randomization with the concept of "coin age," a number derived from the product of the number of coins times the number of days the coins have been held.

Randomized block selection randomization predicts following generator by using a formula that looks for the lowest hash value stake size

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

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

VOTE

Little League EST. 1939 BIG LEGACY 75 YEARS

I.R.S.

IRS Memo #1421
Bitcoin purchase = property

UXTO

Mined Bitcoins

Survey Methods
Proximity Beacons

Unmined Bitcoins

CALENDAR

MICRO-CYCLES

UTXO: unspent transaction output'. bitcoins sent somewhere but not yet spent. Unspent transaction output set= latest STATE of every Bitcoins ever mined" % Block Mined / % Block owned

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

The Volumetric Weight is often referred to as dimensional weight

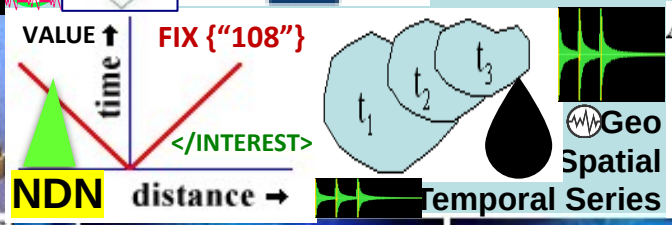
Volumetric Weight = [Width x Length x Height]

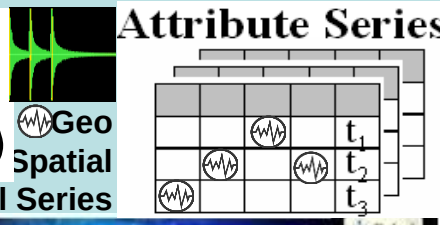
Filecoin

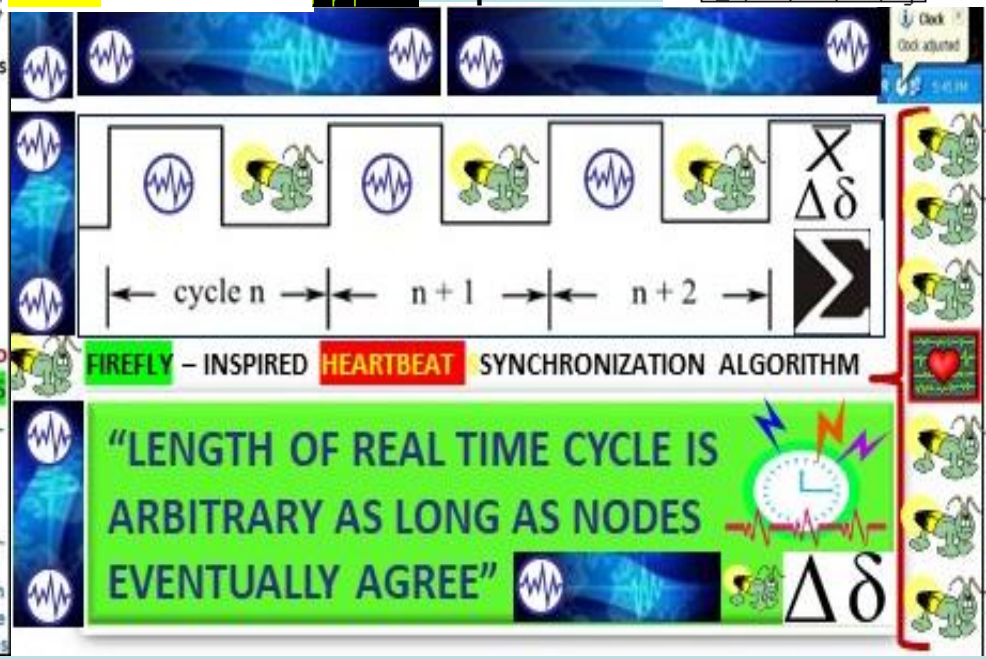
IPFS

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

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

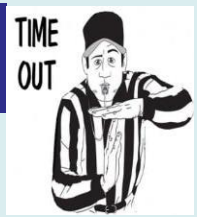






DON: DECENTRALIZED ORACLE NETWORKS

Explicit Staking



DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS

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.

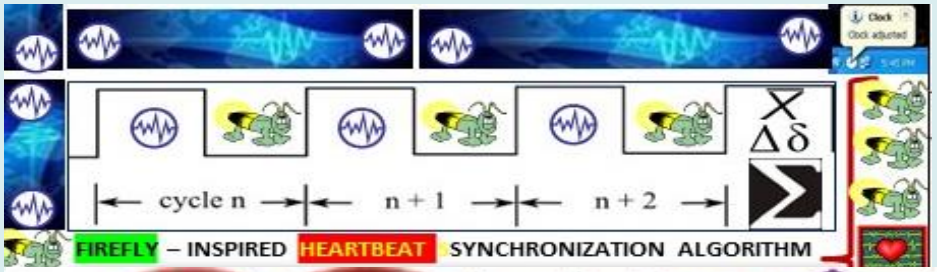
Behind each DON is a service agreement that will define the number of LINK tokens each oracle node is required to stake and key performance requirements, such as how far an individual node's response can deviate from the aggregated value and how far the aggregated value in an oracle report can deviate 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 individuals 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.

Linear Sequential Meme



Veritaseum

"THE FINANCIAL NOSTRADAMUS"
REGGIE MIDDLETON

Ve ritaseum™ "The Unbreakable Promise!"
ULTRA COIN

USPTO 13/573,002
Heart Beacon Cycle
Time – Space Meter

VERITAS TOKENS P2P Capital Market smart contracts Eco Economic HEARTBEAT

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

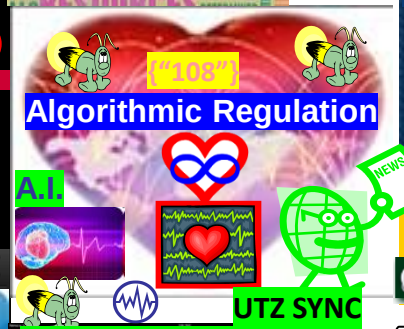
INFOCON 5 4 3 2 1 INFORMATION CONDITION

STATISTICAL MEAN VALUE INDEX PULSE

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...

GDP INDEX ECONOMY K% RULE

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



UTZ SYNC
STOCHASTIC HARMONIZATION
Closer = cheaper

DAO Distributed Autonomous Organization Investor Pools

Firefly – Heartbeat Algorithm Neural Net Emulation

Heartbeat Flash Messages Precedence Processing

Collateral Notional Expiry

FIREFLY HEARTBEAT ALGO EVENT MSG BUS

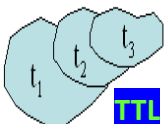
As long as INTC decline outpaces QCOM, you get paid. QCOM can be replaced with GOOG, or even AAPL although I feel AAPL will have its issues in the upcoming quarters as well.

{"Org_ID"}
{"Tagged"}
{"URN"}

NIST TIME BEACON
UTZ Time Zone Sync

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

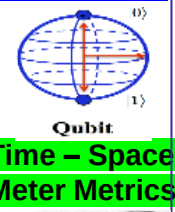
STOP



TTL

QRNB NIST Beacon
A Public Randomness Service
Non Repudiation

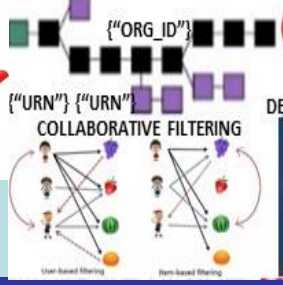
IDMaps SonarHops
DISTANCE ESTIMATION SERVICE



Time – Space Meter Metrics

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

Rosetta Stone

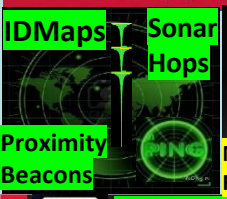


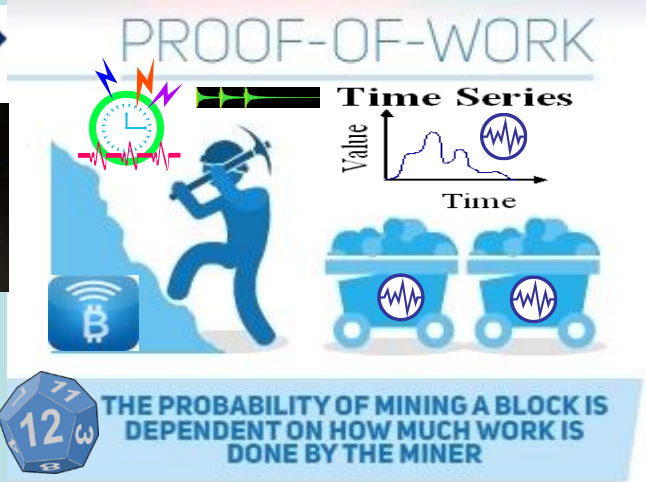
Proof-of-activity PoA is a combination of Proof of Work / Stake blockchain consensus algorithms:

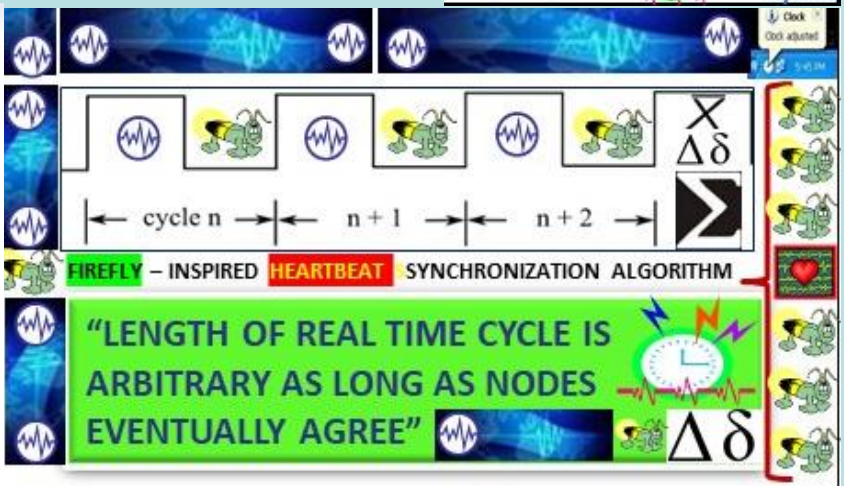
Example of Proof-of-Activity (PoA)

HEART BEACON CYCLE 13/573,002

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.





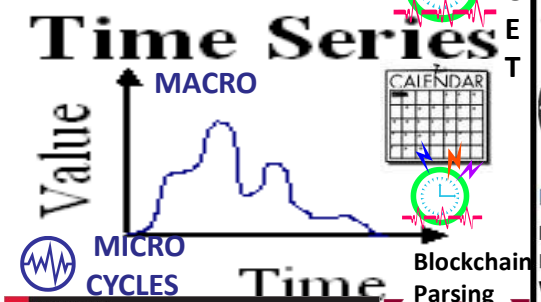


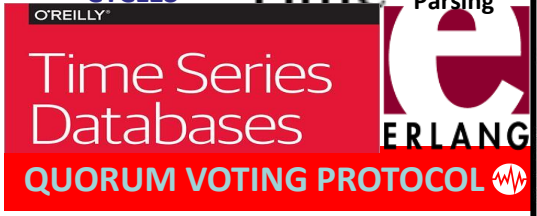
SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

*"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

P O E T





QUORUM VOTING PROTOCOL

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

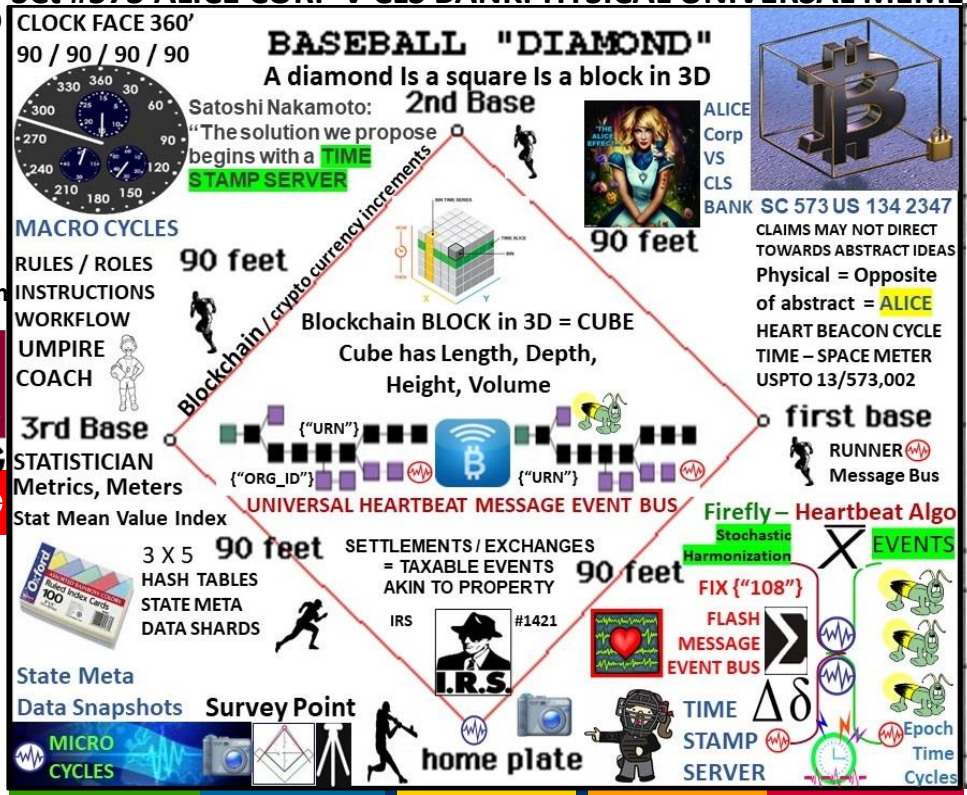
ex: League MVP

MVP

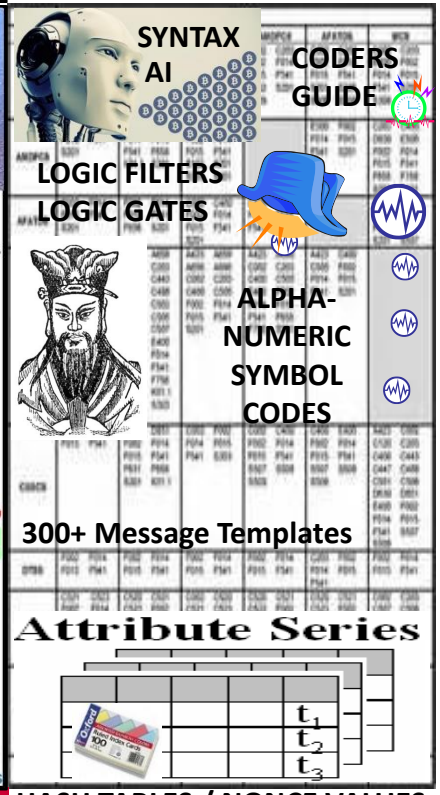
Robert's Rules quorum = minimum # of voting members who must be present at meetings to conduct business of the group

TOURNAMENT LEAGUE BOARD

SCt #573 ALICE CORP V CLS BANKPHYSICAL UNIVERSAL MEME

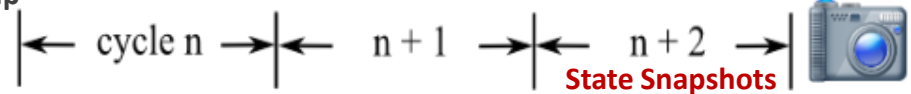


"BITCOIN IS A LANGUAGE"

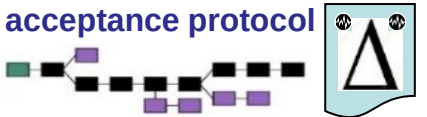


FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BUS

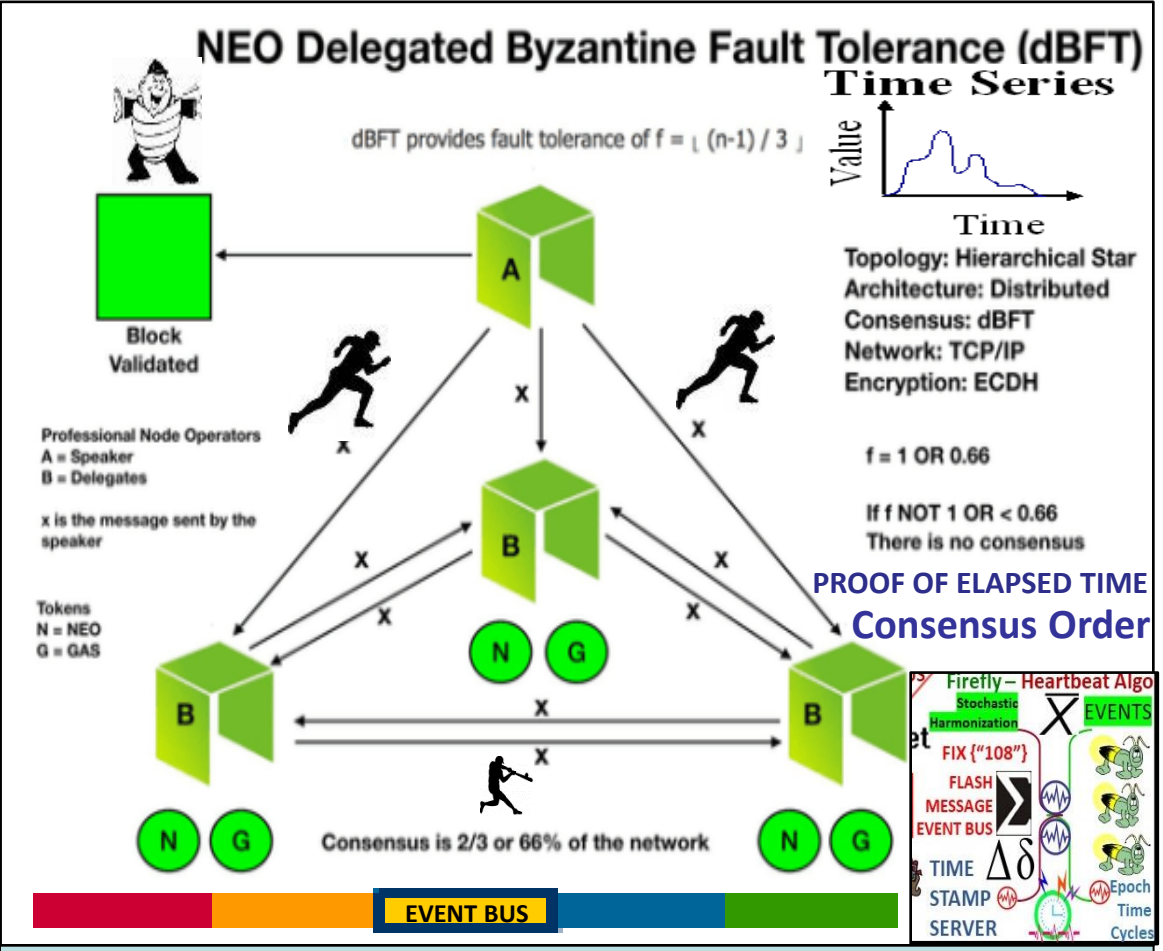
"BITCOIN's VALUE IS TIME ITSELF – DIGINOMICS"



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



NEO Delegated Byzantine Fault Tolerance (dBFT)



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

f = 1 OR 0.66

If f NOT 1 OR < 0.66
There is no consensus

PROOF OF ELAPSED TIME

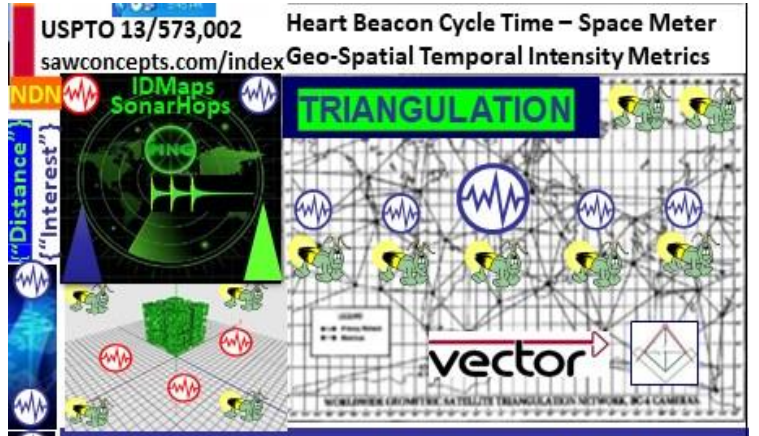
Consensus Order

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

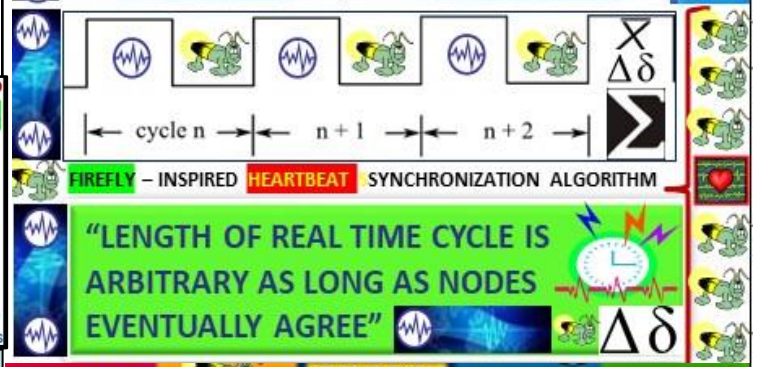
Specifically, a random selection algorithm called RS is developed to cooperate with the voting mechanism, which can effectively reduce the number of nodes participating in the consensus process. Our proposed scheme is characterized by the unpredictability, randomicity and Impartiality, which accelerate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

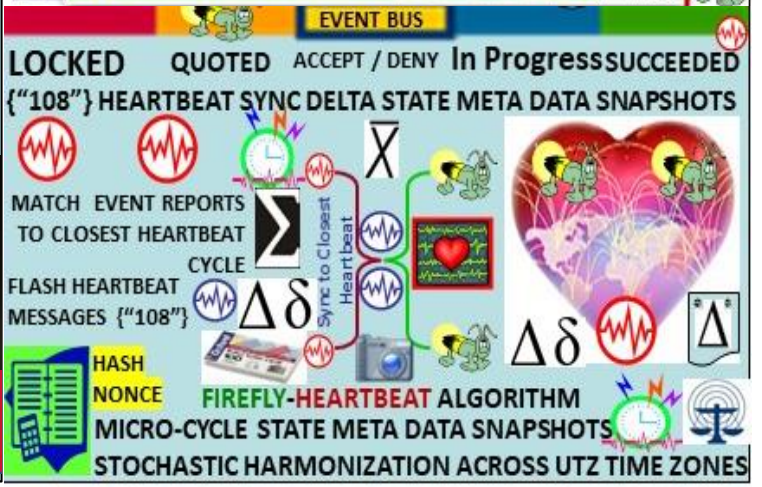
USPTO 13/573,002
sawconcepts.com/index

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



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





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

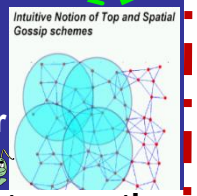
- Famous witnesses

data structure that records who gossiped to whom in what order

Δ δ

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

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



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

DAG finite **directed graph** = no **directed** cycles

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

Hash
Nonce

Consensus Order

Σ Δδ χ

Synchronous

Asynchronous

Micro-Cycle State Meta Data Snapshots

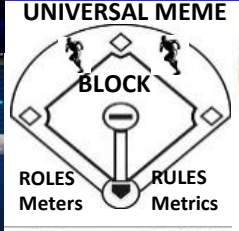
Round created
Witness
Famous witness
Election
Vote
See
Strongly see
Supermajority
Decide
Round created
Round received
Consensus timestamp
Consensus order

0 / 1

0 / 1

Δ δ

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



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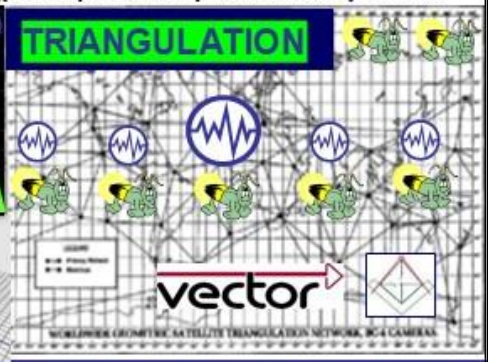
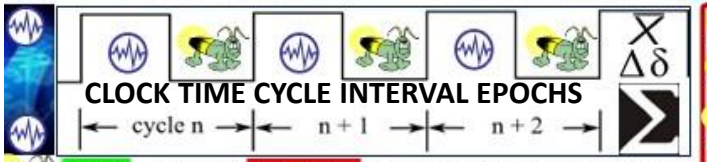
Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics



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"

Δ δ

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.

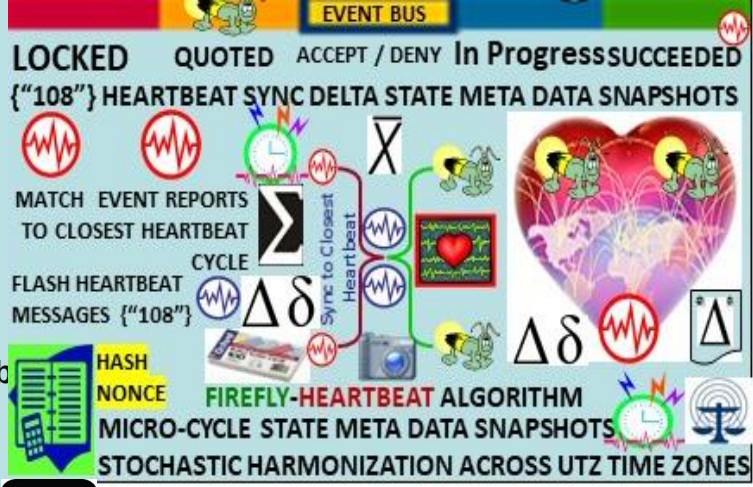
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describ the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining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

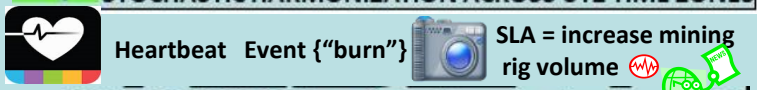
To burn the coins, miners send them to a verifiably un-spendable address. This process does not consume many resources (other than the burned coins and ensures that the network remains active and agile. Depending upon the implementation, miners are allowed to burn the native currency or the currency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

Volume / Size
+ / - Of rig

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.





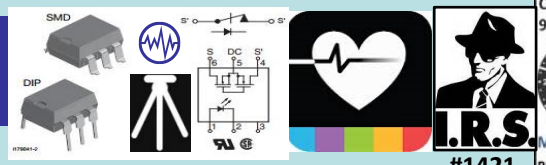
IEEE C37.118 Time Synchronization
Harmonization Heartbeat update Interval
PMU data time-stamp measure C37.118

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		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) Δ δ	[UFO2_STATE:#]	Δ δ IF_State
IF2_State (IF-Node2) Δ δ	[UFO2_STATE:#]	Δ δ IF_State

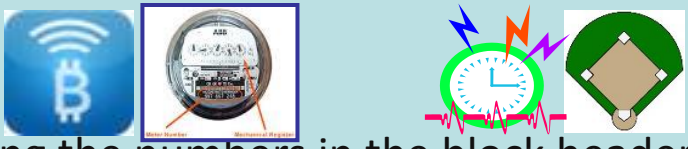
UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

Proof of Capacity PoC

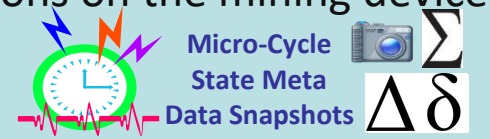


consensus mechanism algorithm for mining devices to use hard drive space to decide mining rights, validate transactions

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

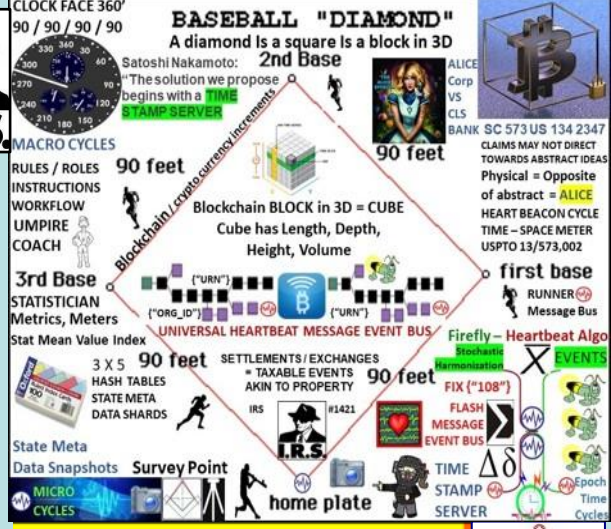


Instead of repeatedly altering the numbers in the block header & repeated hashing for the solution value as in a PoW system, PoC works by storing a list of possible solutions on the mining device's hard drive before mining activity starts

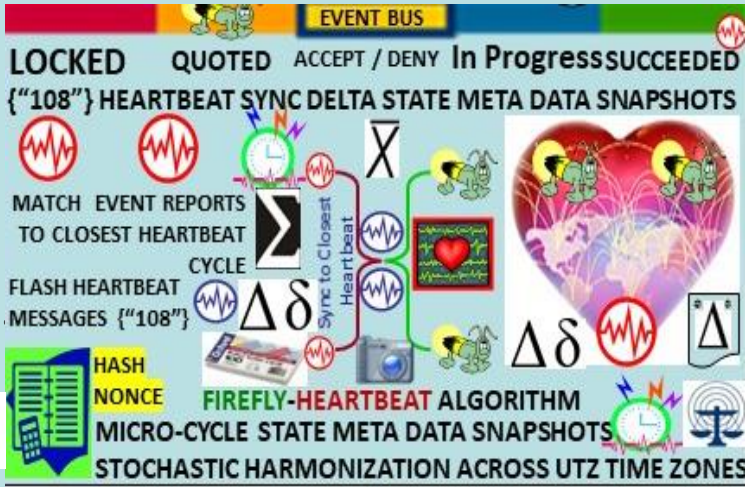


The larger the hard drive, the > possible solution values one can store on the hard drive, the more chances a miner has to match required hash value from his list, resulting in more chances to win the mining reward.

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.

Micro-Cycle
State Meta
Data Snapshots

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

CLOCK FACE 360'
90 / 90 / 90 / 90

BASEBALL "DIAMOND"
A diamond Is a square Is a block in 3D
2nd Base
Satoshi Nakamoto: "The solution we propose begins with a TIME STAMP SERVER

MACRO CYCLES
RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH
3rd Base
STATISTICIAN
Metrics, Meters
Stat Mean Value Index

90 feet
90 feet
90 feet

Blockchain / crypto currency increments
Blockchain BLOCK in 3D = CUBE
Cube has Length, Depth, Height, Volume

{"URN"} {"ORG_ID"} {"URN"}
UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

first base
RUNNER
Message Bus

3 X 5
HASH TABLES
STATE META
DATA SHARDS

SETTLEMENTS / EXCHANGES
= TAXABLE EVENTS
AKIN TO PROPERTY
IRS #1421

Firefly – Heartbeat Algo
Stochastic Harmonization
EVENTS
FIX {"108"}
FLASH MESSAGE EVENT BUS

State Meta
Data Snapshots
Survey Point
MICRO CYCLES
home plate
TIME STAMP SERVER
Epoch Time Cycles

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

181 contributions in the last year
EVENT MESSAGE BUS {"108"}
Contribution settings
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun
Mon Wed Fri
Learn how we count contributions

UXTO
Mined Bitcoins
Survey Methods
Proximity Beacons
Unmined Bitcoins
IRS Memo #1421
Bitcoin purchase akin to property

Dec Jan

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.
On / Off Shore

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

PROXIMITY BEACONS
BLOCKCHAIN PARSING

Heartbeat Date Time Stamps Sync Pulse
STATE META DATA SNAPSHOTS
BITCOIN BLOCKCHAIN TRANSACTIONS ARE BASED ON TIME SEQUENCING TRANSACTION STATE CHANGES TO DISTRIBUTED LEDGERS
BEACON BROADCAST

Process transactions by precedence
Attribute Series
TIME Function
Geo
Spatial
Temporal Series

Nicotib
ERLANG
MICRO- CYCLES
QUANTUM RANDOM #

Arrival Rate
Queue Forms
Limited Resource
Service Rate
RFID
Delay
Utilization
Service Time (T_s)

Time Series
Value
Time

Erlang / Equilibrium
Time – Sync
Algorithms
ROLES RULES

O'REILLY TIME EQUATIONS
Time Series Databases

NIST Beacon
A Public Randomness Service
ATOMIC CLOCK
NON_REPUDIATION

ERLANG CALENDAR: Calculate Wait Times
Time Stamp to Date Time Conversion

Proof of Authority

{"GROUP ID"}
{'Org_ID"}

Not pay to play, Node identiy 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.

Federation Gateway

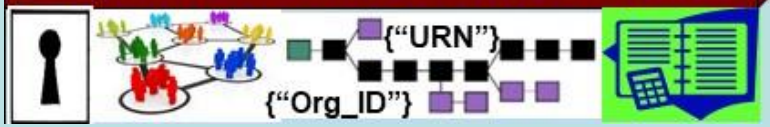
A notary license verifies the identity of the person formally, a notary license is released by the Federation / Government afte extensive verification. The identity of the validator is kept for cross-referencing with the notary data and blockchain data

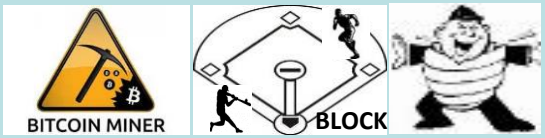
Parity supports a Proof-of-Authority consensus engine. Proof-of-Authority is a replacement for Proof-of-Work, and can be used for private or centralized chains. PoA as tested by a Kovan test network improves outdated economic models.

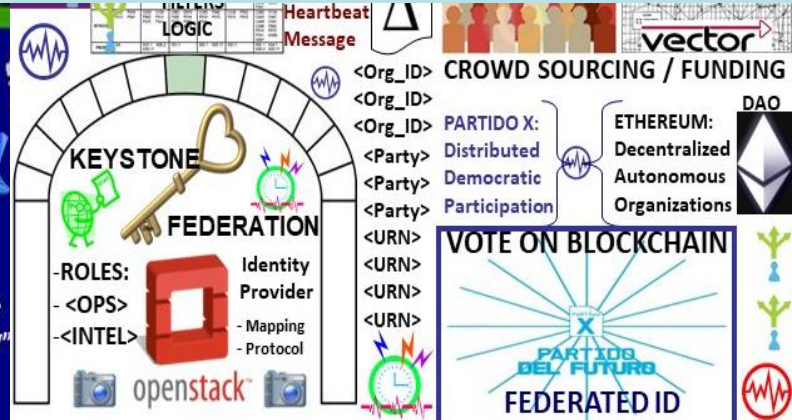
DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS







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

KEY BLOCKS:

- NO CONTENT = NULL
- LEADER ELECTION

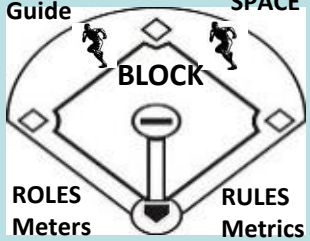
MVP

EVENT BUS

Coder Guide

$\Delta\delta$

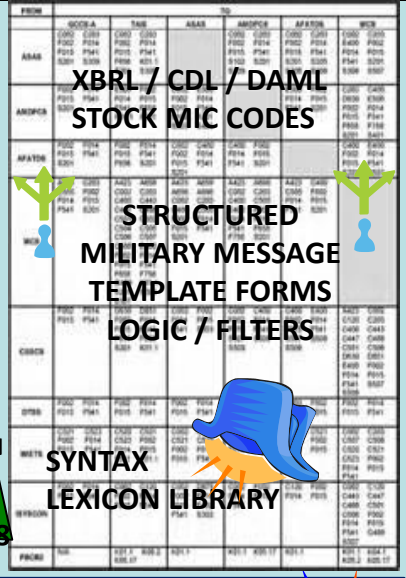
TIME SPACE

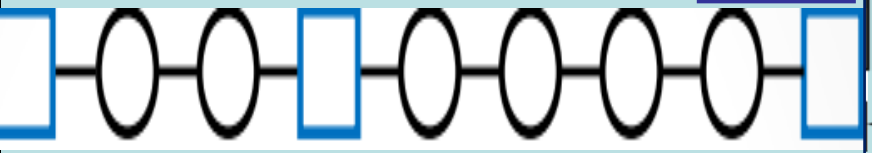


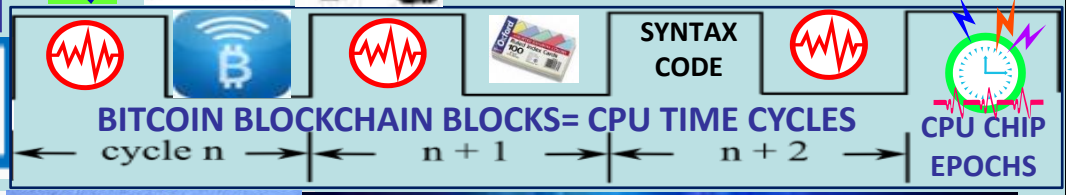
MICRO BLOCKS:

- ONLY CONTENT
- NO CONTENTION

NDN



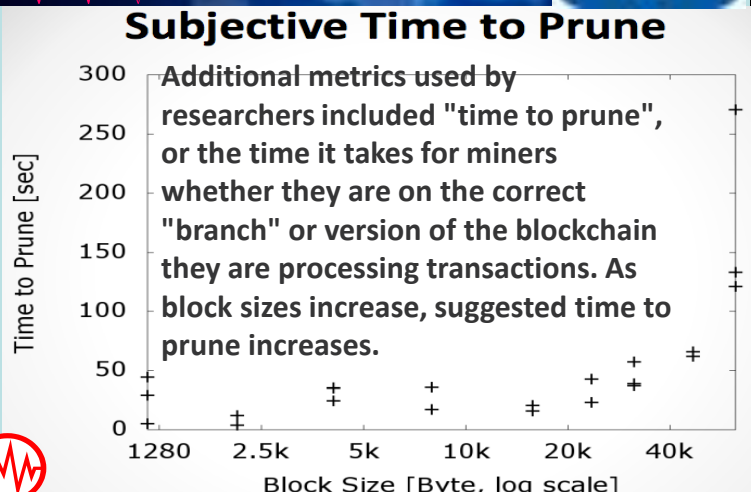




MACRO – CYCLES

short deterministic
intervals (10 sec)

MICRO-CYCLES



ripple

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.

Stochastic Harmonization
Telco Mesh Fabrics
Wide Area Sync

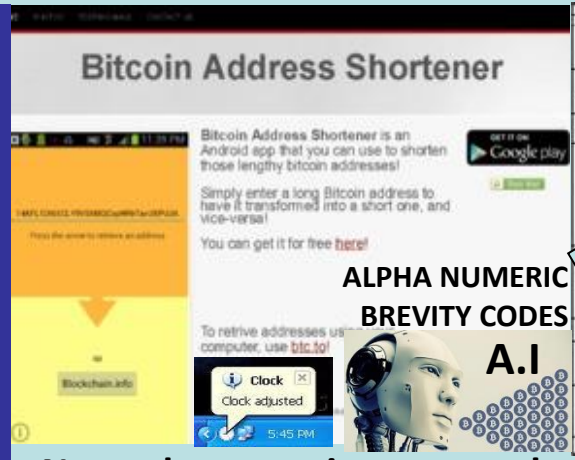
FIREFLY EVENTS
FLASH MESSAGES

EVENT

EVENT

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.

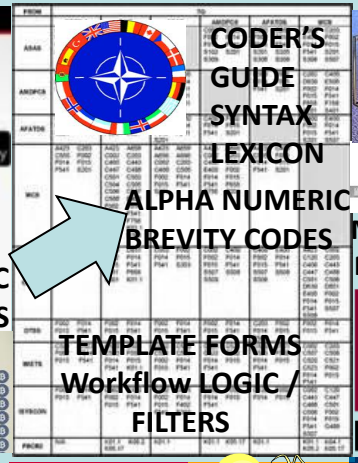
Workflows are serially executed Except first two work flow are workflows are based on event pull model



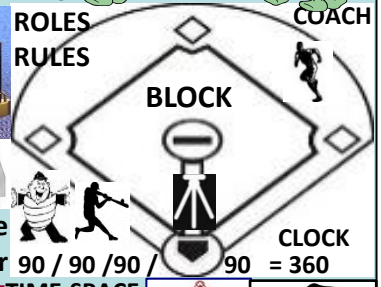
ALPHA NUMERIC
BREVITY CODES

A.I

Neutral transaction protocol



ROLES
RULES



Multi-Meme
Multi-Meter

90 / 90 /90 / 90 = 360

CLOCK

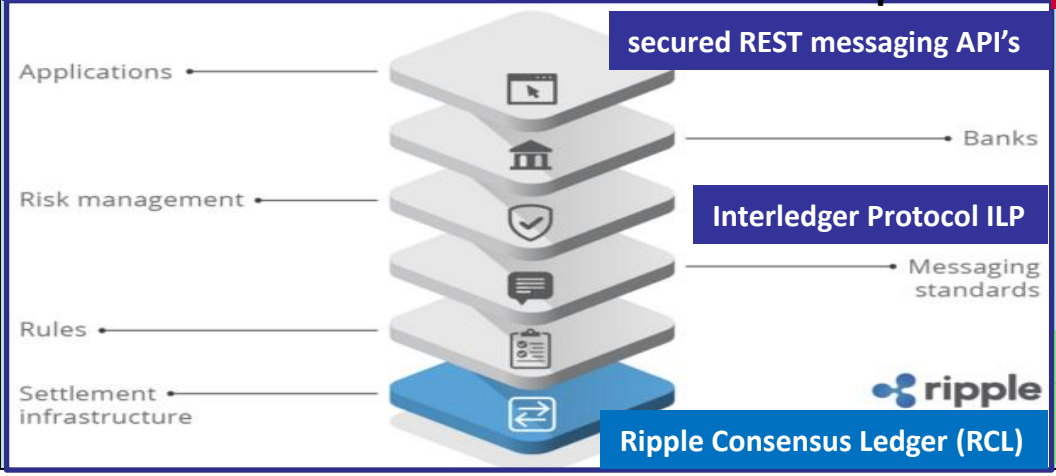
TIME-SPACE
EQUATIONS
ALGORITHMS
BLOCKCHAIN
PARSING

ERLANG

I.R.S.

MFID II
EVENTS

EVENT BUS



secured REST messaging API's

Interledger Protocol ILP

Ripple Consensus Ledger (RCL)

LOCKED QUOTED ACCEPT / DENY In Progress SUCCEEDED

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

MATCH EVENT REPORTS TO CLOSEST HEARTBEAT CYCLE

FLASH HEARTBEAT MESSAGES {"108"}

Sync to Closest Heartbeat

HASH
NONCE

FIREFLY-HEARTBEAT ALGORITHM

MICRO-CYCLE STATE META DATA SNAPSHOTS

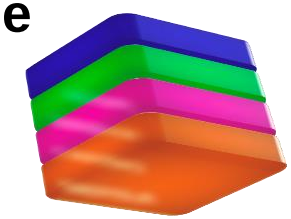
STOCHASTIC HARMONIZATION ACROSS UTZ TIME ZONES

Metallicus

Programmable
Money Transactions
Intrabank settlements

FedNow 24/7 INSTANT PAYMENTS

PROTON A CHAIN Virtual Machine



CONTRACT C CHAIN Smart contract

PLATFORM P CHAIN Meta Data

EXCHANGE X 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"}

PROOF-OF-STAKE

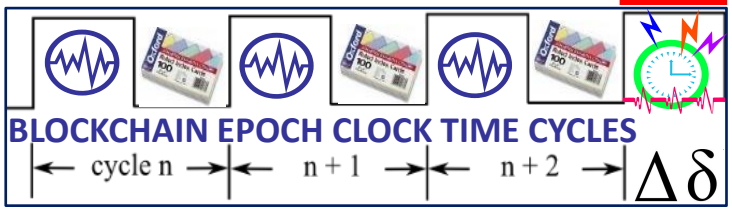
coordinates validators, keeps track of active subnets, SNOWMAN consensus Token representation of real-world resources (e.g., equity, bonds) smart contract rules </URN>

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

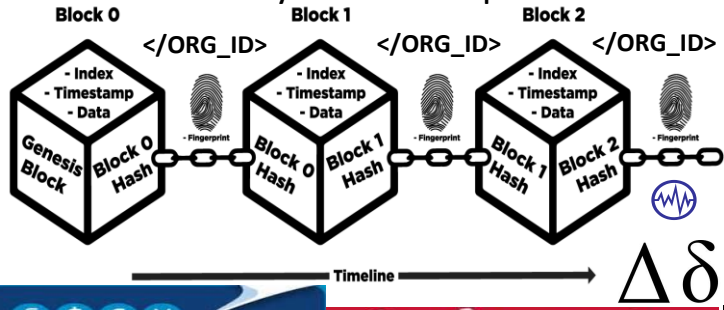
ALL THINGS NET, NET OF $$$

1) EPOCH TIME INTERVALS
2) SYNTAX (not) used in epochs

USPTO 13/573,002



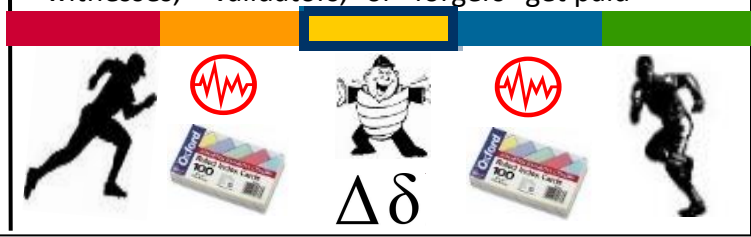
GENESIS BLOCK: "Layers" = follow on epoch time intervals



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

</ORG_ID>
MVP

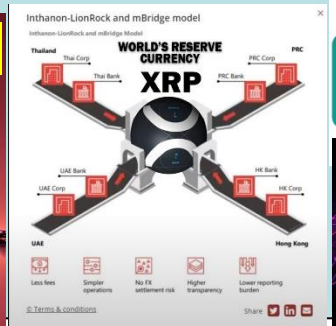
"all digital currency networks, the base layer of people generating the blockchain — "miners," "stakers," "witnesses," "validators," or "forgers" get paid"



BIS

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

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



UNICOIN

Digital Capital Exchange

Unicoin: IMF CBDC legal tender settlement coin

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

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

Ü

The DCMA – Digital Public Monetary System

KYC Entity
Create
Modify
Suspend

KYC People
Create
Modify
Suspend

Issuers
Create
Modify
Suspend
Post Rates

Branches
Create
Modify
Suspend

Agents
Create
Modify
Suspend

Ledgers
Create
Modify
Suspend
Balance

CBDC
Create
Modify
Suspend
Pause
Unpause
Mint
Burn
Redeem
Swap
Supply
Price

Wallets
Create
Modify
Suspend
Pause
Unpause
Attach

FX Rates

Balances
Activity
Deposit
Withdraw

Money Services
Transfer

Escrow
Create Escrow
Accept Escrow
Cancel Escrow
Release Escrow

Milestones
Create Milestone
Modify Milestone
Cancel Milestone
Release Milestone

SPOT Protocol
Stake
Cashout
Reject

Authorizations
Grant Authorization
Revoke Authorization

Rates
Create Rate
Modify Rate
Suspend Rate

Limits
Create Limit
Modify Limit
Suspend Limit

Sanctions
Create Sanction
Modify Sanction
Suspend Sanction

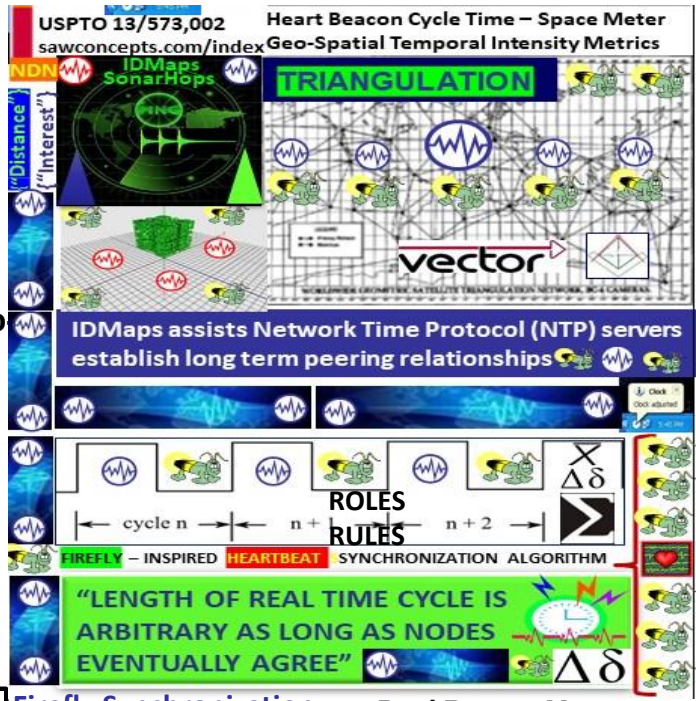
Figure 9: Unicoin Global Localization of a CBDC Public Monetary System

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 betweer two conflicting transactions. GHOST protocol main ledger = tree



Transaction Weight / Cumulative Weight of Transaction

Purpose, Authorisation

Wallet, P/L

HONEST NODES
Lazy, Malicious Nodes

Crypto, Fiat Token

Directed Acyclic Graph

- DAG – directed graph with no directed cycles

COORDINATOR

Machine -1 / 0 / +1 TRINARY PROCESSING

Sensors/ Actors

Embedded Computing

Algorithms Approval Variables:

height: longest oriented path length to genesis
depth: longest reverse-oriented path lenghth to a tip

- **Data Integrity & Authenticity**
- **Immutable Data Records**

Random # Cyber Beacon

low load / high load

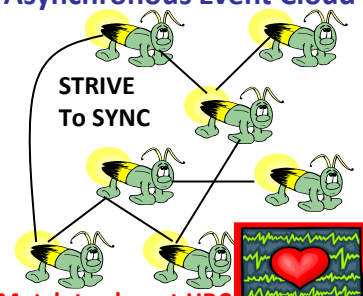
HASH NONCE

- **Machine ID (KYM, KYO)**
- **Interoperable Transactions**
- **Access Management {"Org_ID"}**
- **Sharing & Ownership Transfer**

FEDERATION {"URN"} {"URN"} {"URN"}

TANGLE – 1 transaction always references, "approves" at least two other previous transactions

Firefly Synchronization
Asynchronous Event Cloud



Match to closest HBC

Paul Revere Meme
Linear, Sequential

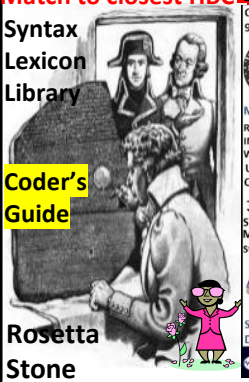
....-1 / 0 / +1...

Geo-Spatial Temporal

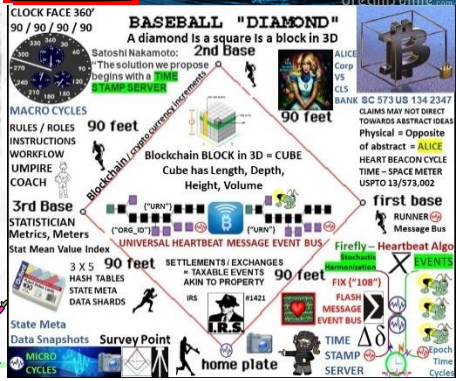
Water Drop Meme

Syntax Lexicon Library

Coder's Guide



Rosetta Stone



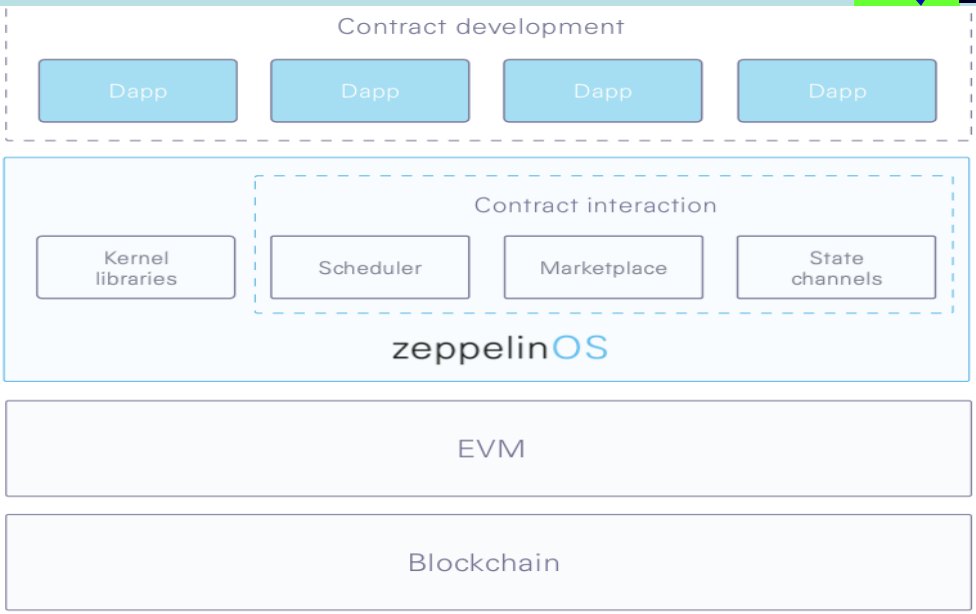
ZEPPELIN

ZEPPELIN OPEN, GLOBAL ECONOMY

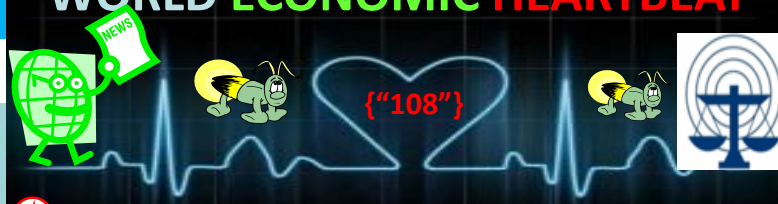
OpenZeppelin open framework of reusable, secure smart contracts in the Solidity language

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

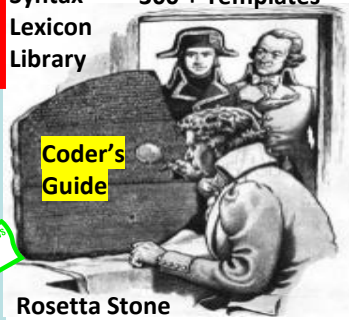
ZEPPELIN / zeppelinOS Common Functionality:
zeppelinOS Kernel common set of functions for smart contracts requesting services from the OS rather than re-implementing them from scratch. Functions will be available as an on-chain standard library of reusable contracts and functions, nspired by OpenZeppelin Libraries
Create and customize your own ERC20 Token.
•Create capped, refundable and/or whitelisted crowd sale contracts
•Create a trustless bug bounty.
•Create pausable, ownable, balance-limited contracts
•Set up a token vesting or token locking contract.



WORLD ECONOMIC HEARTBEAT



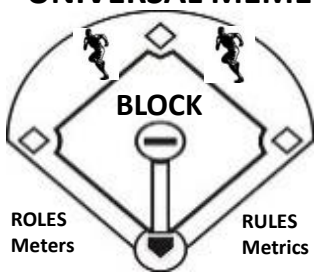
HEART BEACON CYCLE TIME – SPACE METER
ECO-ECONOMETRICS ON THE BITCOIN BLOCKCHAIN



STRUCTURED DATA EXCHANGE

STOCHASTIC HARMONIZATION for TELCO Mesh Fabrics

UNIVERSAL MEME



Blockchain Parsing

EGAAS

ELECTRONIC GOVERNMENT AS A SERVICE

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.

WORLD ECONOMIC Heartbeat

("108")

ALGORITHMIC REGULATION

HEARTBEAT SYNC DELTAS

INFOCON 5 4 3 2 1

INFORMATION CONDITION

TERRACYCLE

The Heart Beacon Cycle HBC: an adaptive procedural checklist of form templates, procedures, SOP building blocks useful to form Eco-responsible trade federations Procedural template checklist items links to detailed technical, process… treatises

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.

{"ORG_ID"}

{"URN"} {"URN"}

COLLABORATIVE FILTERING

User-based filtering

Item-based filtering

bitcoin

DEMURRAGE FEES

TEMPLATE ENGINE LANGUAGE ETF

NAMED DATA NETWORKING

Time Series Databases

BLOCKCHAIN PARSING

changes, corrections SYNCHRONIZATION

Spatial Econometrics

SYNTAX / SYMBOL LEXICON LIBRARY STRUCTURED DATA EXCHANGE

300 + TEMPLATE FORMS

LOGIC / FILTERS

ALPHA-NUMBERIC BREVITY CODES

FEDERATED MISSION NETWORKING

FMN

The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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

Neural Net

ENVIRONMENT FRIENDLY ECO INCENTIVES

CLOSER = LESS FUEL

CLOSER = FASTER

G7

Carbon

vector

ON

"INTEREST"}

"DISTANCE"}

Named Data Networking

NDN

STOCHASTIC HARMONIZATION

STAT MEAN

VALUE INDEX

Unused Resources

Int'l Date Line

CO_2 Credits

Unmet Needs

OFF

Sync

To

Closest

HEARTBEAT

EPOCH

Multi

Meme

Meter

IDMaps

SonarHops

FIREFLY HEARTBEAT ALGORITHM

FIREFLY EVENT BUS FLASH

HEARTBEAT {108"} MESSAGES

SHORE

STATE META DATA SNAPSHOTS

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.

CODER'S ROSETTA STONE AI / IoT

Attribute Series

LEXICON LIBRARY

bitcoin

"EARTHDAY EVERYDAY ON THE BITCOIN BLOCKCHAIN"
"GIVE A HOOT, DON"T POLLUTE" Woodsy The Owl

GNOSIS

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

Futarchy PREDICTION MARKETS

GnosisAMA

Gnosis trading interface alpha

WIZ token fee payment

INFORMATION ARBITRAGE ECONOMICS

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

SLA SLO

HBC Time – Space Meter

{"108"}

ECONOMIC HEARTBEAT

K%

THE TERRA (TRC)

Trade Reference Currency

currencyindex

COMMODITIES

fungible

{"URN"}

{"Org_ID"}

$0.49 USD

Ƀ 0.001076 BTC

MICRO PAYMENTS

bitcoin

Need Bitcoin?

Tokenized Currencies

SLA SLO

Demurrage Fees

Universal Meme

Geo-Spatial Temporal Econometrics meters

BLOCK

ROLES Meters

RULES Metrics

The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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.

UNIVERSAL EVENT / ALERT BUS

{"Org_ID"} {"URN"} {"URN"}

NAMED DATA NETWORKING

{"INTEREST"}

{"DISTANCE"}

Syntax

Lexicon

Brevity Codes

Spatial Econometrics

TELCO

MESH

FABRIC

Stochastic Harmonization

PROXIMITY BEACONS

LEADING ECONOMIC INDICATORS

IDMaps

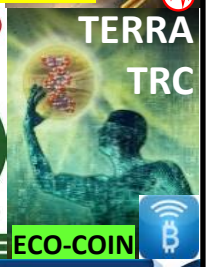
SonarHops

Distance Estimation Service

Int'l Date Line

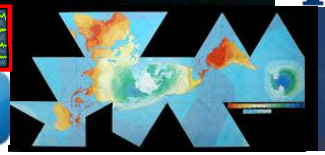
The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.

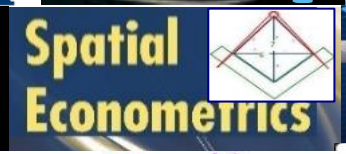
Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic "heartbeat" events approximately at the same time. It differs from classical clock sync in that nodes are not interested in counting cycles to agree on the ID of the current clock cycle. There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

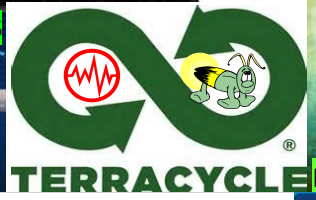


DISTRIBUTED SMART ECONOMY NETWORK

NEO
smart economy



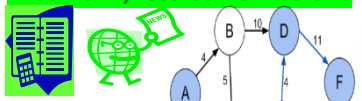


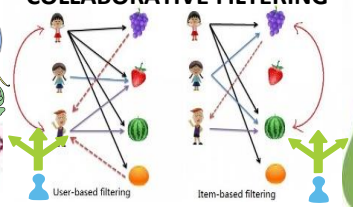


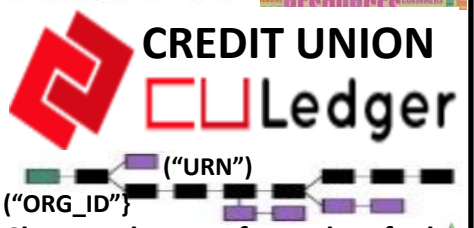
NEO NET Enabled Ops
Users are monitored
As individuals within
Groups. Groups are
Defined by statistical
Readiness / availability

Earth is a spaceship that cannot be resupplied = Vector user's / groups to efficiently locate, obtain resources for Ecologically Responsible Econometrics
Closer = LESS FUEL, less C02 emissions

INCENTIVIZE ECOLOGICALLY RESPONSIBLE ECONOMICS
Re-use of NATO's system of systems best practice Is shortest, least resistance path





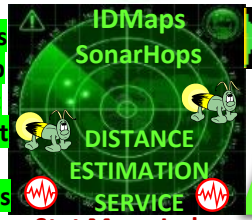


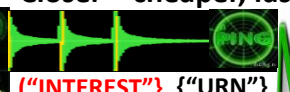
Closer = cheaper, faster, less fuel.

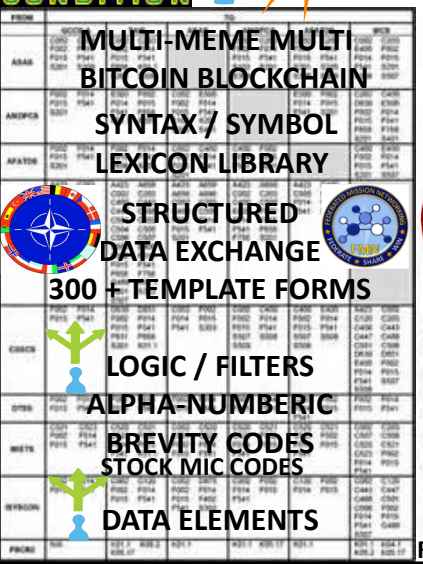
ORG_ID Organizational Identifier Based Filtering

Geo-Spatial Temporal Time – Space Metrics

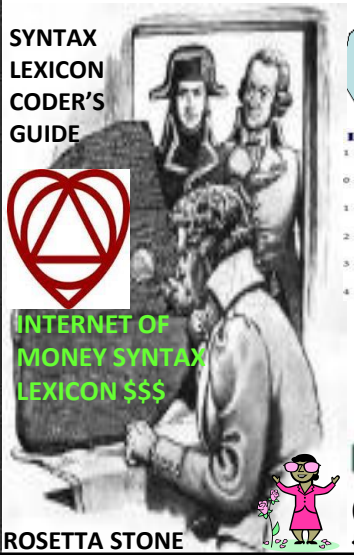
GEO-LOC
Time Stamps
Optimal hop
By hop best
Route_Select
Eco-Sound
Econometrics

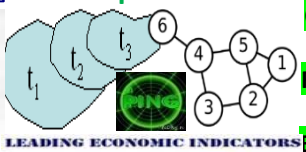






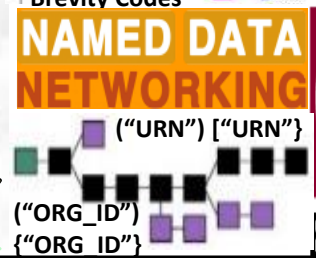
SYNTAX
LEXICON
CODER'S
GUIDE

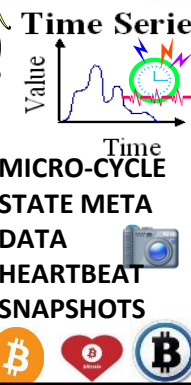




Stat Mean Index

Time-Space
Algorithms
BLOCKCHAIN
PARSING





Firefly HB ALGO

{"Org_ID"}
GROUP
ACTIVITIES
SAMPLED DURING
MICRO-CYCLES
STATE META DATA
SNAPSHOPS FORM
MACRO
CYCLE
REPORT

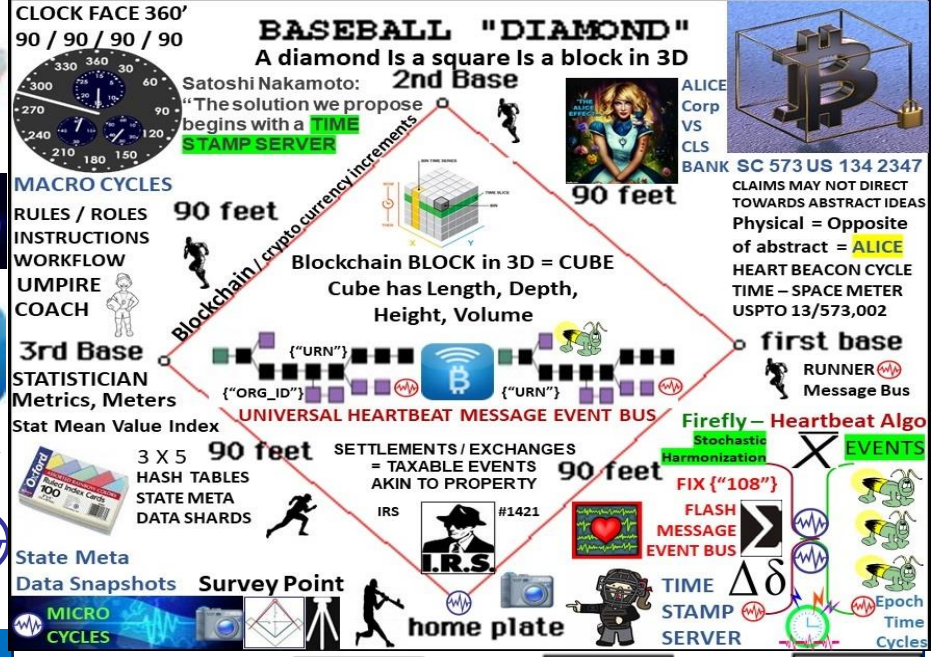
Bitcoin Classic seeks to mitigate the problem of more transactions, which are causing transaction backlogs and increased transaction costs, by increasing the block size - the number of kilobytes in a block of transactions - from 1MB to 2MB.

HASH TABLE

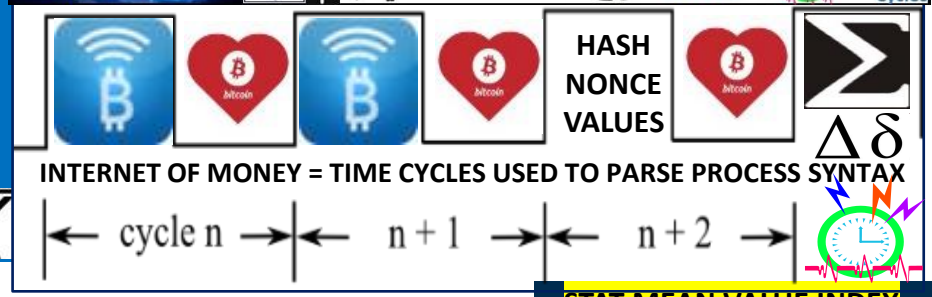
HASH TABLE

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

HASH TABLES
NONCE VALUES

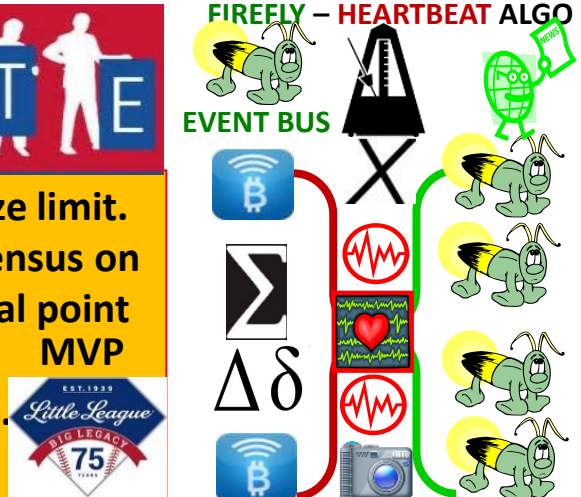


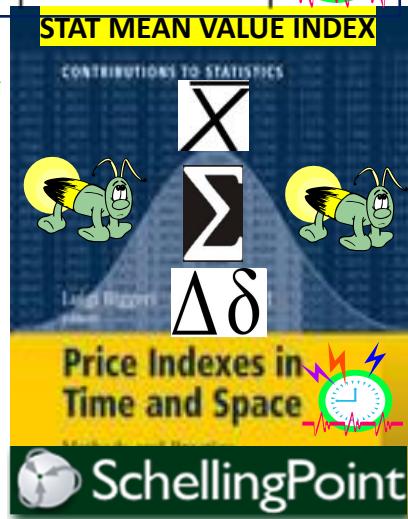
BitPay Core: limits: 1) block size 'hard limit' adjusted on a regular basis coinciding with difficulty adjustments, 2) miner set 'soft limit' like focal points in Unlimited. Δδ X



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.

MVP





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

MULTI-MEME MULTI-METER

Microsoft

Cloud Supply Chain blockchain

{"URN"} {"URN"} {"URN"} {"URN"} {"URN"} {"Org_ID"}

MYRIAD MEMES MEDIATION

BLOCKCHAIN

OFF-SITE OFF-PAGE CONNECTOR

{"URN"} {"Org_ID"} DAO

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

CLOCK FACE 360' 90 / 90 / 90 / 90

BASEBALL "DIAMOND"

A diamond Is a square Is a block in 3D

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

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

MACRO CYCLES

RULES / ROLES INSTRUCTIONS WORKFLOW UMPIRE COACH

90 feet

Blockchain / crypto currency increments

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

3rd Base STATISTICIAN Metrics, Meters Stat Mean Value Index

first base RUNNER Message Bus

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

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

Firefly – Heartbeat Algo Stochastic Harmonization

3 X 5 HASH TABLES STATE META DATA SHARDS

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY

IRS #1421 I.R.S.

FIX {"108"}

FLASH MESSAGE EVENT BUS

EVENTS

State Meta Data Snapshots

Survey Point

MICRO CYCLES

home plate

TIME STAMP SERVER

Epoch Time Cycles

Rosetta Stone Syntax

LEXICON

ALPHA NUMERIC BREVITY CODES SYMBOL CODES

STRUCTURED MILITARY MESSAGE TEMPLATE FORMS LOGIC / FILTERS

The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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.

EVENT BUS

FIREFLY EVENTS

FLASH MESSAGES

SYNC TO CLOSEST HEARTBEAT EPOCH

FIREFLY HEARTBEAT ALGORITHM

Δδ

HEART BEACON CYCLE

STATE META DATA SNAPSHOTS

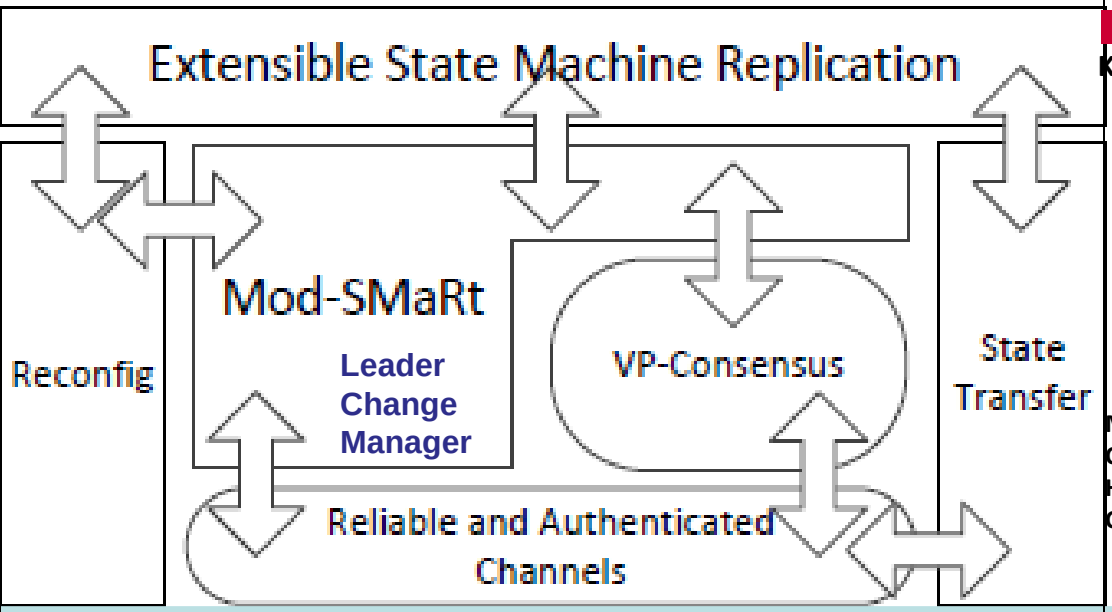
IoT Microsoft Orleans

TIME-SPACE EQUATIONS ALGORITHMS BLOCKCHAIN PARSING

ERLANG

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

K00.99 HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS

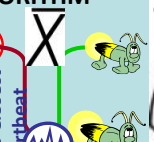
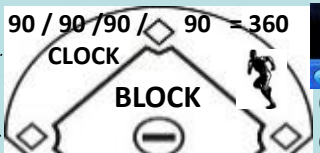
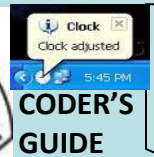






FIREFLY-HEARTBEAT ALGORITHM

Bitcoin Blockchain Multi-Meme Multi-Meter


90 / 90 /90 / 90 = 360
CLOCK
BLOCK
CODER'S GUIDE SYNTAX LEXICON
HASH NONCE
MATCH TO CLOSEST HEARTBEAT CYCLE
COACH
ROLES RULES
BITCOIN MINER

MICRO-CYCLE STATE META DATA SNAPSHOTS AGGREGATED INTO MACRO OPERATION CYCLE RECONFIG MESSAGE

BUILDING BLOCKS:
- TIME CYCLE EPOCHS
- SYNTAX INSTRUCTIONS

- LINEAR, SEQUENTIAL
- GEO SPATIAL, TEMPORAL

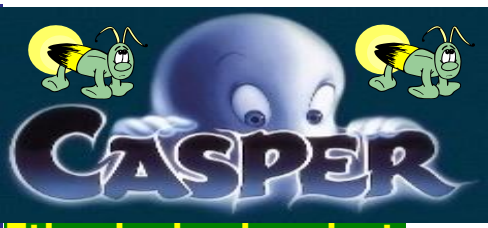
Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic "heartbeat" events approximately at the same time. It differs from classical clock sync in that nodes are not interested in counting cycles to agree on the ID of the current clock cycle. There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

ethereum

ETHER: Compensate Resource Contribution

Gas: price to Run contract transactions

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 chang

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

Txs	State transition:		Txs	State transition:		Txs	State transition:	
0cb4 9f12	123:	400	5581 2fc3	905:	560	7ce6	123:	440
	8723:	0		1141:	8021		1141:	7981
	42:	15776		42:	15775			

SWARM (storage) | WHISPER (messaging) | EVM (consensus)

CLOCK FACE 360'
90 / 90 / 90 / 90

BASEBALL "DIAMOND"

A diamond Is a square Is a block in 3D

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

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

MACRO CYCLES

RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH

90 feet

Blockchain / crypto currency increments

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

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

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

3rd Base
STATISTICIAN
Metrics, Meters
Stat Mean Value Index

first base
RUNNER
Message Bus

3 X 5 HASH TABLES
STATE META DATA SHARDS

90 feet

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY

IRS #1421

Firefly – Heartbeat Algo
Stochastic Harmonization
EVENTS
FIX {"108"}
FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

State Meta Data Snapshots

Survey Point

MICRO CYCLES

home plate

HEARTBEAT FLASH MESSAGES
BLOCKCHAIN HASH TABLES

UNIVERSAL EVENT BUS
STATISTICAL MEAN SAMPLING
STOCHASTIC HARMONIZATION

MACRO ECONOMIC CYCLES

STAT MEAN VALUE INDEX
SUM, ADD, AGGREGATE

MICRO CYCLE SAMPLING

SPACE-TIME METRICS

STATE META-DATA
HEARTBEAT SNAPSHOTS

BITCOIN MULTI MEME MULTI-METER

cycle n | n + 1 | n + 2

DFINITY

RANDOM # BEACON

BLOCKCHAIN NERVOUS SYSTEM

NIST Beacon
A Public Randomness Service
QUANTUM RANDOM #

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

3 x 5

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

INDEX CARD="SHARD"

BLOCKCHAIN NERVOUS SYSTEM

HEARTBEAT {"108"} State Meta Data Snapshot Msgs

Threshold Relay Chain techniques

Probabilistic Slot Protocol (PSP) When Gh is selected, members start stopwatches
Choosing Leaders Randomness selects priority list block forgers at height h
Short Term Convergence Correct processes build on highest scoring chain
Threshold Timestamping group signs blocks at h until next group appends another.

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

FIREFLY-HEARTBEAT FLASH Msg EVENT BUS

Scalable Global Validation Layer: Each additional level of the tower validates new state transitions applied to storage shard. is built by processes selected by the RANDOM BEACON

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

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

UTZ TIME ZONE SYNC

USCt 573 134 2347

NIST TIME BEACON

FIREFLY FLASHES MSGs EMULATE NEURAL NET

FIREFLY EVENTS = THRESHOLD VALUES

NIST Beacon
A Public Randomness Service
QUANTUM RANDOM #

CLOCK FACE 360'
90 / 90 / 90 / 90

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

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

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

MACRO CYCLES

RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH

90 feet

Blockchain / crypto currency increments

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

3rd Base
STATISTICIAN
Metrics, Meters
Stat Mean Value Index

first base
RUNNER
Message Bus

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

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

3 X 5
HASH TABLES
STATE META
DATA SHARDS

90 feet

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY

IRS #1421

Firefly – Heartbeat Algo
Stochastic Harmonization
FIX {"108"}
FLASH MESSAGE EVENT BUS
EVENTS

State Meta Data Snapshots

Survey Point

MICRO CYCLES

home plate

TIME STAMP SERVER

Epoch Time Cycles

æternity blockchain

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

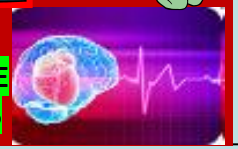
ERLANG

ERLANG API FOR BLOCKCHAIN

ERICSSON

EVENT BUS FIREFLY INSPIRED HEARTBEAT SYNC

HEARTBEAT FLASH MESSAGES EMULATE NEURAL NETWORKS



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

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.





{"URN"}{"URN"}

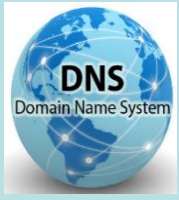
Aeons: energy for applications implemented on the platform.

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"}

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.

{"ORG_ID"}

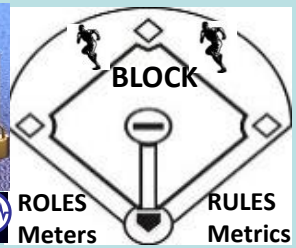


AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS $\Delta\delta$

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

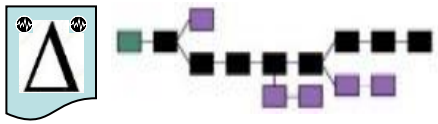
Federation Gateway {"ORG_ID"}

ARIN American Registry for Internet Numbers

HYPER LEDGER OPEN SOURCE BLOCKCHAIN

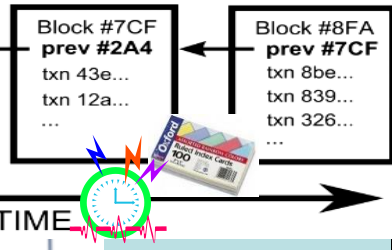
Core APIs, & SDKs

Δδ Shared Ledger



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

Alpha-Numerics



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

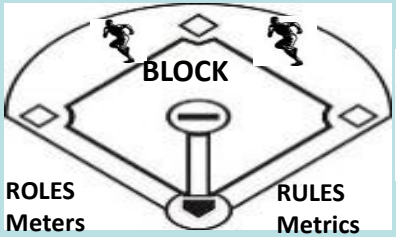
FEDERATION

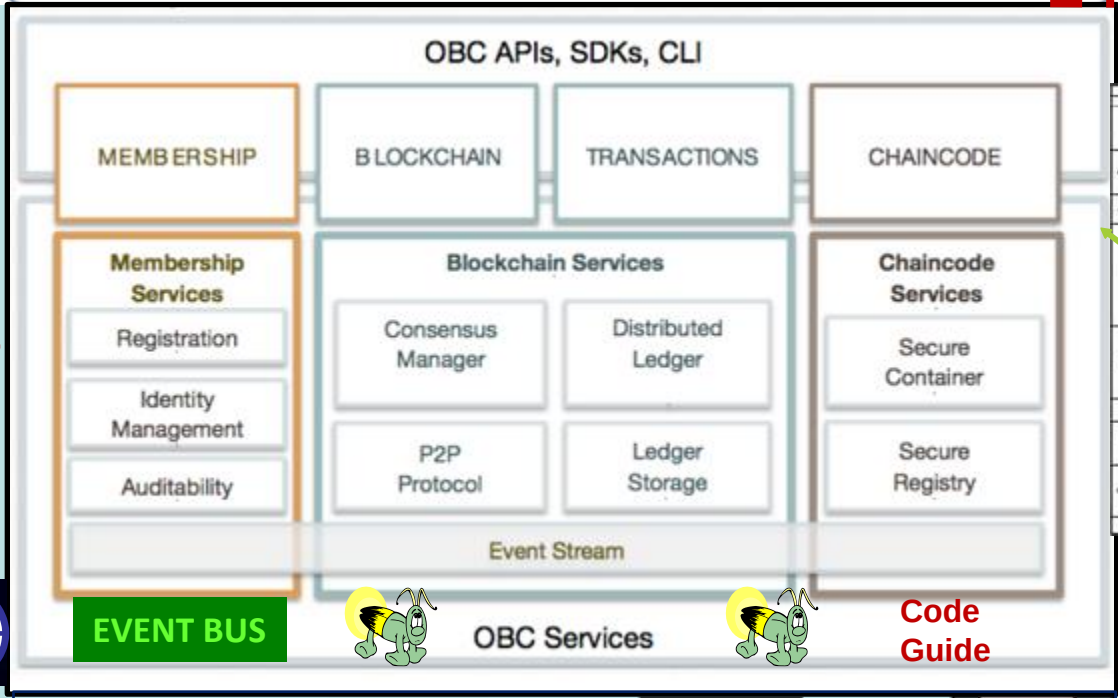
Federation Gateway

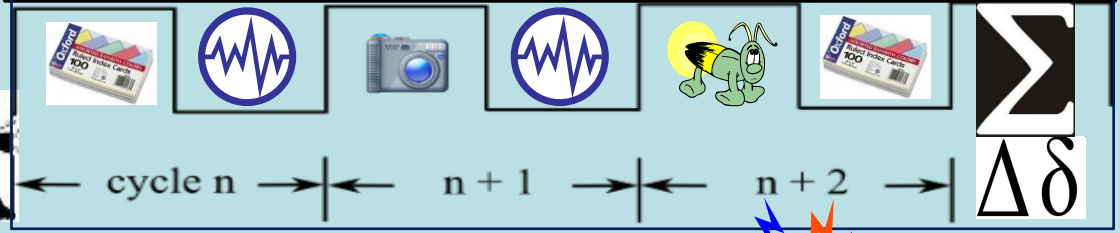
METRICS ("Organization ID")
METERS

RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE

BLOCKTIME ARBITRAGE



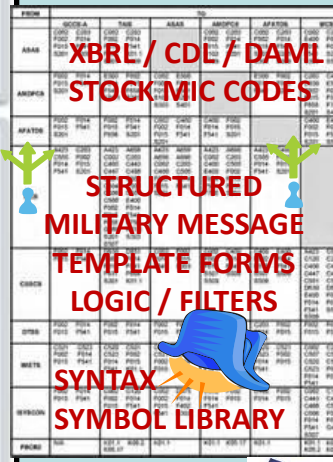




MICRO-MACRO CYCLE SCHEDULE

FFIRNS
FFUDNS

ROSETTA STONE



XBRL / 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

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

"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/**

"all digital currency networks, the base layer of people generating th 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.

Masternodes receive payments for their service to the network

CLOCK FACE 360'
90 / 90 / 90 / 90

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Metrics, Meters
Stat Mean Value Index

{"URN"} {"ORG_ID"} {"URN"}
UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

first base
RUNNER
Message Bus

3 X 5 HASH TABLES
STATE META
DATA SHARDS

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY
IRS #1421

Firefly – Heartbeat Algo
Stochastic Harmonization
EVENTS
FIX {"108"}
FLASH MESSAGE EVENT BUS

State Meta
Data Snapshots
Survey Point

TIME STAMP SERVER
Epoch Time Cycles

MICRO CYCLES
home plate

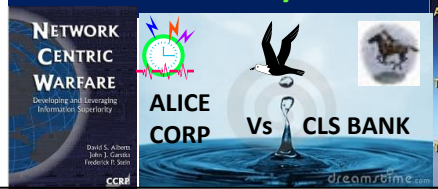
TIME EPOCH CYCLES / SYNTAX
cycle n → n + 1 → n + 2

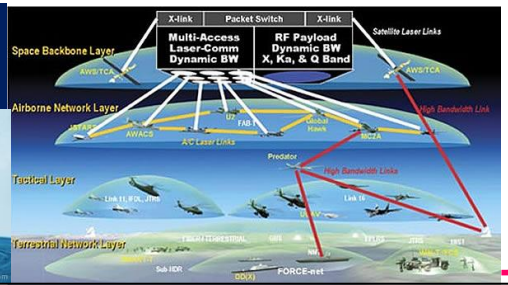
STOCHASTIC HARMONIZATION FIREFLY-HEARTBEAT EVENT BUS

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

DAO: RAND THINK TANK TERM COINED + / - 2001





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 conventon, so that a specific set of participants must completely agree with each oth update it.

2.Participants update the state amongst themselves by constructing and signing transactions that *could* be submitted to the blockchain, but instead are m h new update "trumps" previous up

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

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

CLOCK FACE 360'
90 / 90 / 90 / 90

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USPTO 13/573,002

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RULES / ROLES
INSTRUCTIONS
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UMPIRE
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{"URN"} {"ORG_ID"} {"URN"}
UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

first base
RUNNER
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SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY
IRS #1421

Firefly – Heartbeat Algo
Stochastic Harmonization
EVENTS
FIX {"108"}
FLASH MESSAGE EVENT BUS
TIME STAMP SERVER
Epoch Time Cycles

State Meta Data Snapshots
Survey Point
MICRO CYCLES
home plate

Time Series
Value
Time
Δ δ

ASIC CHIP TIME / EPOCH INTERVALS / CYCLES
cycle n | n + 1 | n + 2
Δ δ

FLASH HEARTBEAT MESSAGES
HEARTBEAT STATE META-DATA SNAPSHOTS EVERY 10, N MIN MICRO TO MACRO ECON CYCLE

HASH TABLES
STATE SNAPS

Time Series
Value
Time

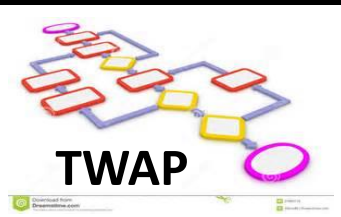
HASH
SYNTAX

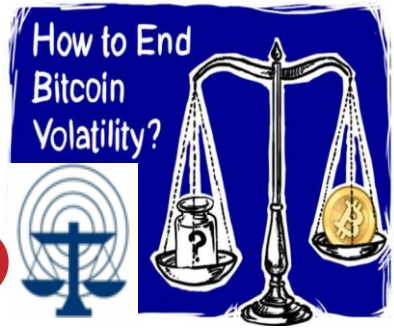
Geo Spatial Temporal Series
Attribute Series
META-DATA

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

TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

TWAP GOAL: provide a Time Weighted Average Price Benchmark





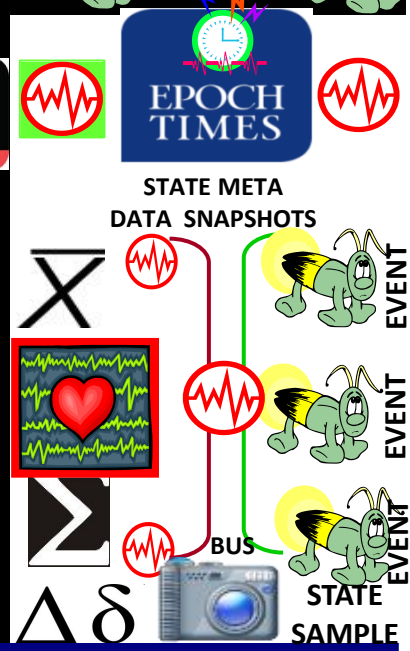
FIREFLY HEARTBEAT ALGO

STAT MEAN VALUE INDEX

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.

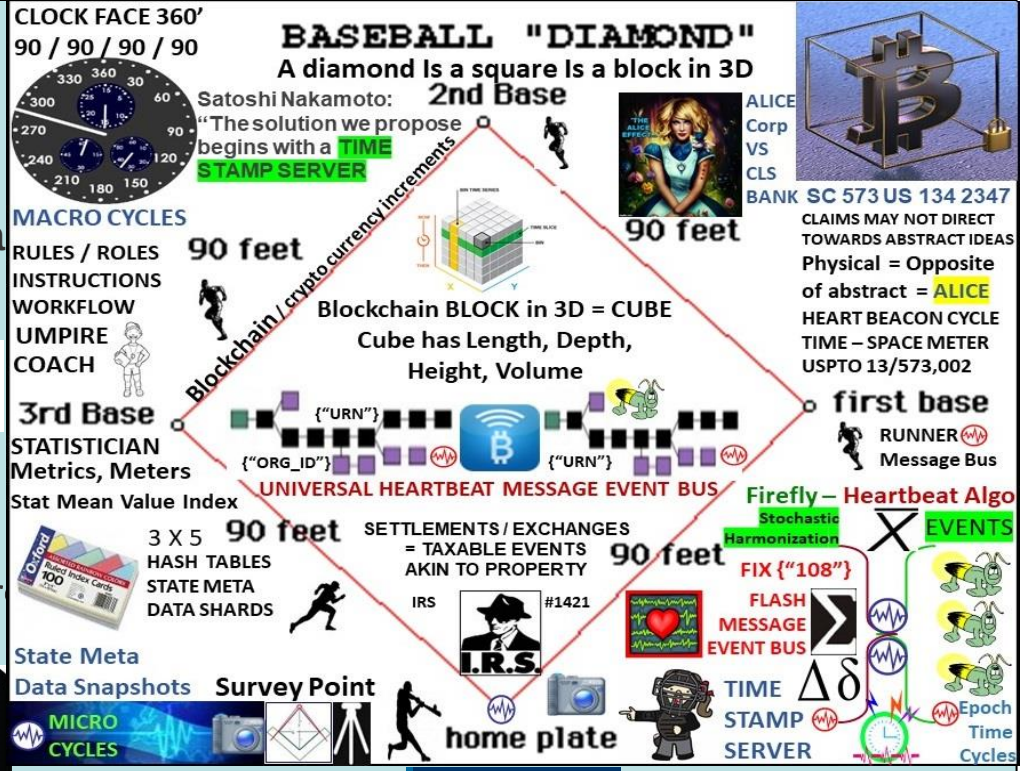
Asset Classes: Digital Currencies

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.

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

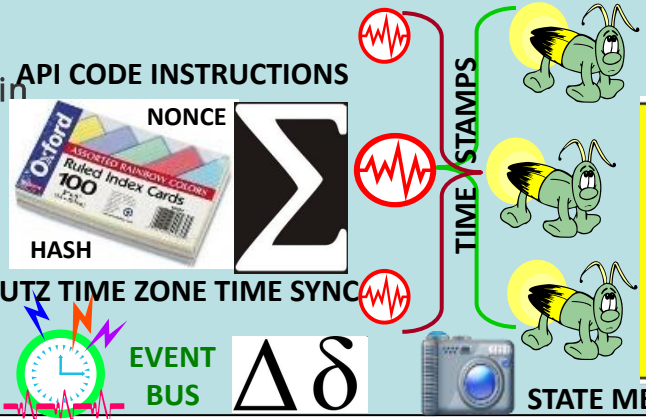
•Historical Rates: This API goes back to 2010-07-17 23:14:35 UTC.



FIREFLY – HEARTBEAT ALGORITHM UNIVERSAL EVENT BUS

MATCH EVENTS TO CLOSEST HBC

IRS #1421 Purchased Coins



"Blocks are a measure of time": The Bitcoin Blockchain 'B-WAP'

R3 CEV Corda shared ledger

CorDapp Store

e.g. Derivatives: App | App | App | App

e.g. Trade Finance: App | App | App

e.g. KYC / AML: App | App

Concord Platform Services

- CorDapp Store
- Notaries
- Network Map Service
- Trusted Digital Backbone Network
- Regulatory Reporting
- Oracles
- Service Provider Gateways
- Bank-Internal Gateways

Concord Vault

Interoperability

- Asset Registry
- Trade Registry
- Cash
- Identity Vault

Concord Operations Centre

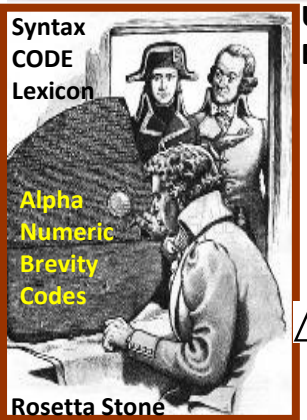
- Business Monitoring
- Technical Alerting
- Management Information
- Compliance Audit

Inter-Network Adapters

Existing Market Services: FEDWIRE | CHIPS | DTCC | CLS

Corda Core Node Services

- Agreement States
- Transactions
- Sandbox
- Digital Signing
- Interaction Protocols
- Contract Verification



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

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

XBRL / CDL / DAML

STOCK MIC CODES

STRUCTURED MILITARY MESSAGE TEMPLATE FORMS

LOGIC / FILTERS

300+ Use Case Templates

PROJECT LIGHTING

FIREFLY – HEARTBEAT ALGORITHM

FIREFLY – HEARTBEAT

EVENT REPORTING ACROSS TIME-SPACE

MESSAGE EVENT BUS

SEGWIT

SEGREGATED WITNESS

SegWit

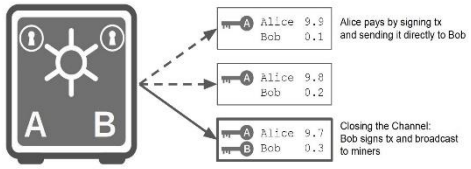
ADJACENT FIELDS

SEPARATE STATE CHANNELS

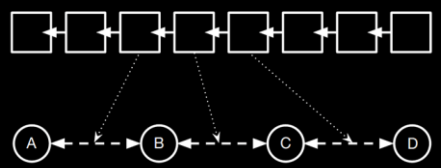
transactions sent over / off chain micropayment channels

Micropayment Channels

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



LIGHTNING



Millions of Transactions. Milliseconds of Delay.

CLOCK FACE 360'

90 / 90 / 90 / 90

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ALICE

Corp

VS

CLS

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TIME – SPACE METER

USPTO 13/573,002

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Stat Mean Value Index

first base

RUNNER

Message Bus

{"URN"}

{"ORG_ID"}

{"URN"}

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

3 X 5

HASH TABLES

STATE META

DATA SHARDS

90 feet

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY

IRS

#1421

I.R.S.

Firefly – Heartbeat Algo

Stochastic Harmonization

EVENTS

FIX {"108"}

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

State Meta

Data Snapshots

Survey Point

MICRO CYCLES

home plate

HASH TABLES

NONCE

SYNTAX / SYMBOL TAGS

Digital Signature

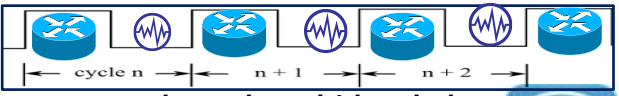
MESSAGES

OUT OF BAND / CHANNEL

Hashed TIME LOCK contracts component for global consensus

OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/Random # BEACON

Server nodes, miners only keep recent blocks



Payment channels multi-hop hub spoke model like internet routing

ADJACENT FIELDS

SEPARATE CHANNELS

Sync Delta State Meta Data Snaps

Segregated witness = Separated signatures

- signatures are cryptographic proofs also known as witnesses
  - moving signatures out of transactions
  - keeping a separate repository of the signatures
  - making them optional in propagation and storage
  - signature are the biggest part of transactions
  - can be implemented as a **soft-fork** vs a **hard-fork**

Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data

RFID

REGISTERED ORGANISATION VOCABULARY

Edge

{"URN"}{"URN"}

{"ORG_ID"}

Enterprise

MACRO CYCLES

epcis

EPCIS DATA MODEL

RFID Enterprise Server

To EPCIS Query engine

To Reporting engine

Event engine

To Master Data engine

Data Definition Layer

HASH TABLE

NONCE

Event repository

WebLogic RFID Edge Server

Custom RFID Application

SERVICE LAYER

XML

ObjectEvent

AggregationEvent

QuantityEvent

TransactionEvent

HTTP JMS SOAP

Event capture interface

Event Service

Query Interface:
POLL
SUBSCRIBE
UNSUBSCRIBE
getSubscribeID
getQueryName
getStandard Ver
getVendorVersion

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

CLOSER IS CHEAPER
CLOSER IS FASTER

HBC
SYSTEM OF SYSTEMS
TIME-SPACE SYNC

UNIVERSAL EVENT BUS

{"108"}

HEART BEACON CYCLE
FIREFLY – HEARTBEAT ALGO

IDMaps
ON / OFF SHORE
SonarHops
DISTANCE ESTIMATION SERVICE

FIREFLY – HEARTBEAT
ALGORITHM
STOCHASTIC
HARMONIZATION

Proximity Wireless Sensor Networks in Combination With RFID .. on reading tag in RF-field the router sends heartbeat message

RFID Configuration TCP/IP heartbeat message

STRUCTURED DATA EXCHANGE / STRUCTURED MILITARY MESSAGES

BIZ USE CASES
SYNTAX
LEXICON
CODE GUIDE

ALPHA NUMERIC BREVITY CODES

BATTLEFIELD DIGITIATION
NETWORK CENTRIC WARFARE
SYSTEM OF SYSTEMS
BEST PRACTICE

{"ORG_ID"}
{"URN"}
{"UUID"}

MESSAGE DATA SETS

TEMPLATES / FORMS

ROLES / RULES {"FILTERS"}

NETOPS SOP

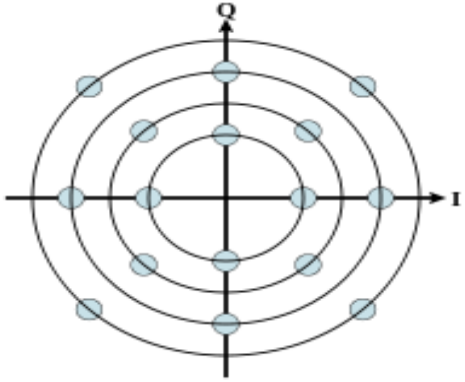
!st Compiler DESIGN
Still the BEST

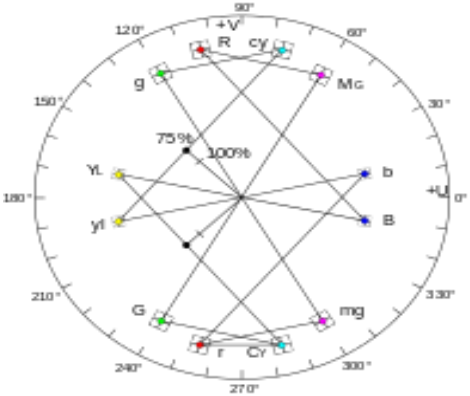
ROSETTA STONE

QUANTUM LATTICE

USPTO 13/573,002
sawconcepts.com/index

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



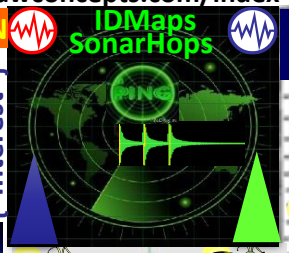


Quadrature amplitude modulation

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

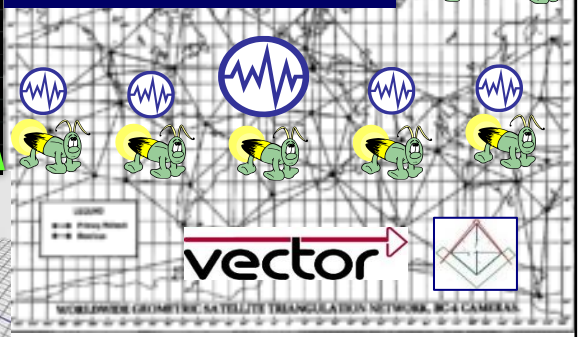
NDN

IDMaps
SonarHops



{"Distance"}
{"Interest"}

TRIANGULATION



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

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

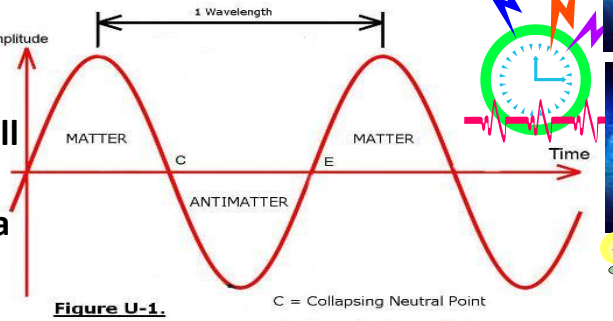
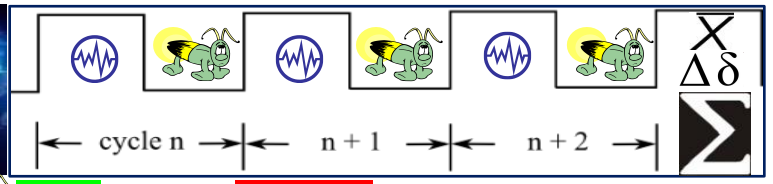


Figure U-1.



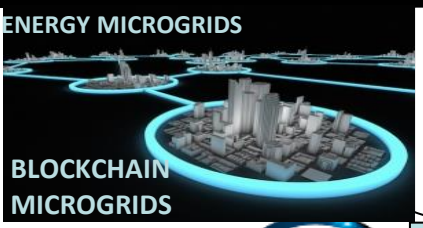
FIREFLY – INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM

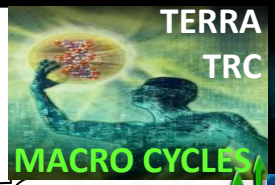
"LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE"

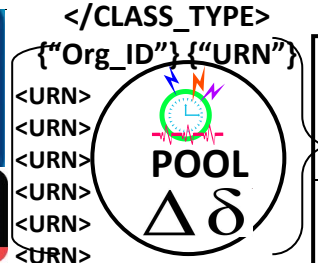
Δ δ

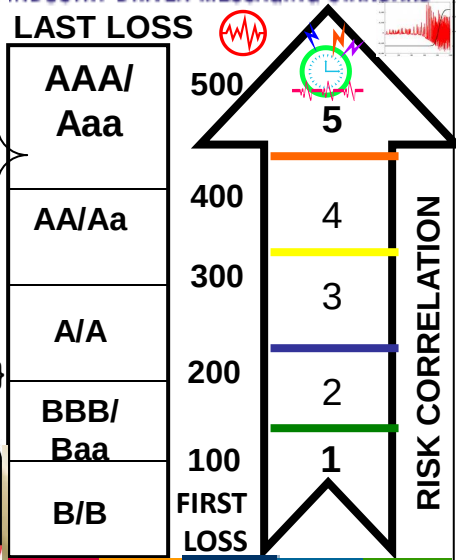
Sine wave of our blinking universe. The 4 fundamental forces will all be found to vary continuously when sampled at 2x the blinking frequency, per Nyquist-Shannon theory

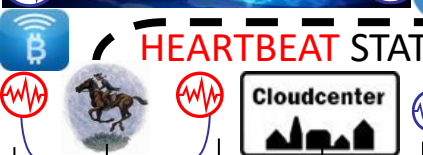
USPTO 13,573,002 THE HEART BEACON CYCLE TIME – SPACE METER / METRICS & INTERNET SURVEY METHODS

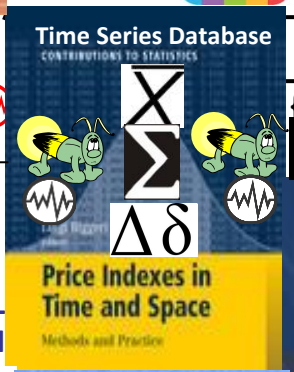




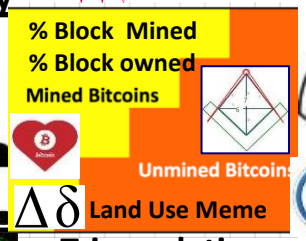


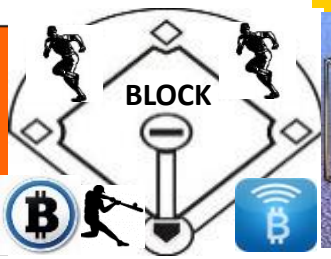






IEEE 802.15.4 OASIS MQTT
TELEMETRY TRANSPORT
IEEE 802.1AG HOP BY HOP
DETECTION
IEEE C37.118 Harmonization
& Sync heartbeat update Interval
IEEE 802.11
HOP BY HOP CONTROL
Paul Revere Linear, Sequential
Bitcoin = Property





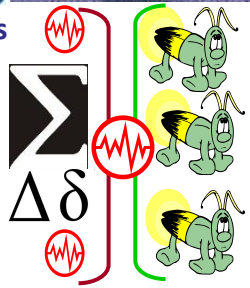
BLOCKTIME ARBITRAGE

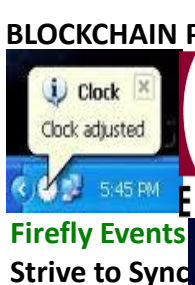
PROCESS BY </PRECEDENCE>
SonarMaps ID_Hops
ON / OFF SHORE
PROXIMITY BEACONS

Triangulation
Euclidian Geo
GPS GEO LOC
DATE TIME STAMP
NDN </INTEREST>
NDN {"DISTANCE"}

Multi-Meme Metrics

EVENT BUS
Match to Closest
Heartbeat Cycle
FIREFLY-HEARTBEAT
ALGORITHM

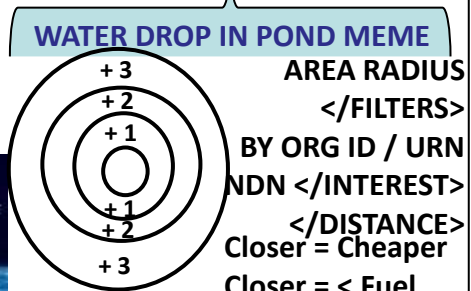




BLOCKCHAIN PARSING

Firefly Events
Strive to Sync
To Closest
Heartbeat

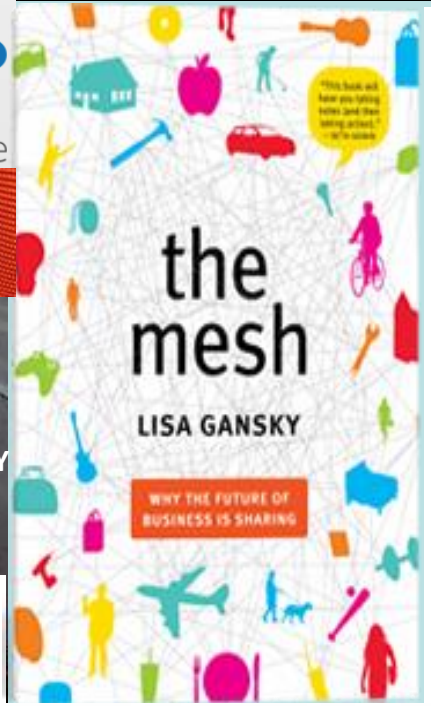
HOPS / RADIUS = REACHABILITY



Demurrage
Charges

Heartbeat
Snapshots

MICRO
CYCLES

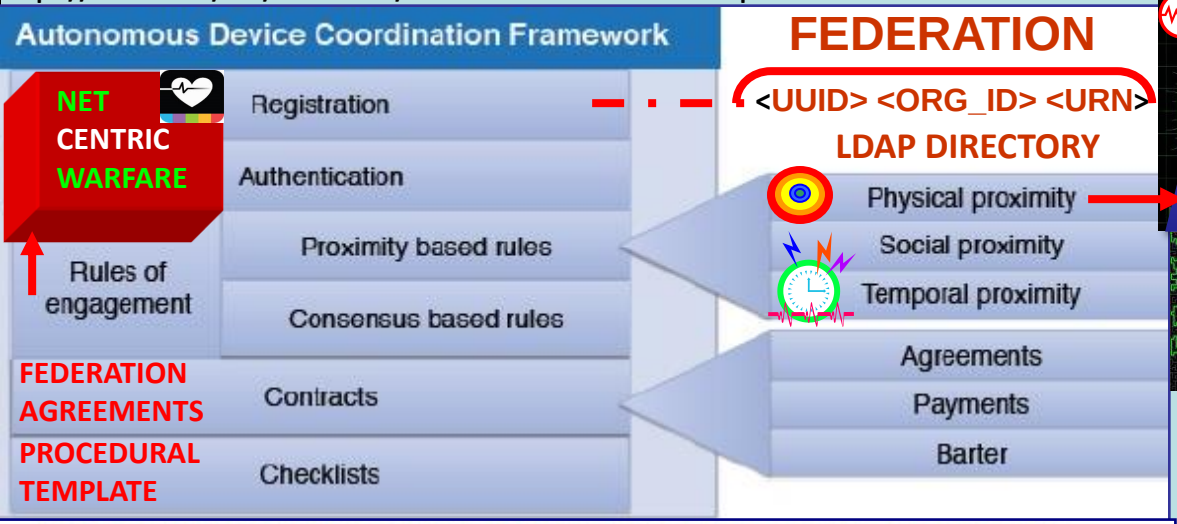


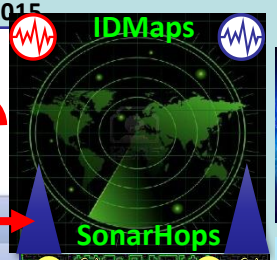
A decentralized exchange called BitSquare has launched a campaign on the decentralized crowd fundingapp Lighthouse. Its campaign is simultaneously an example of how powerful decentralized crowd funding is, and how difficult running a successful campaign is… segue to the MESH ECONOMY

IBM / SAMSUNG ADEPT Autonomous Decentralized Peer-to-Peer Telemetry

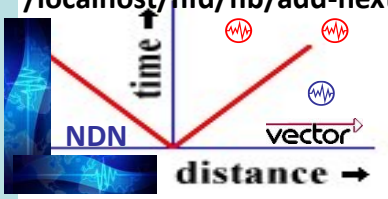
https://scribd.com/doc/252917347/IBM-ADEPT-Practictioner-Perspective-Pre-Publication-Draft-7-Jan-2015

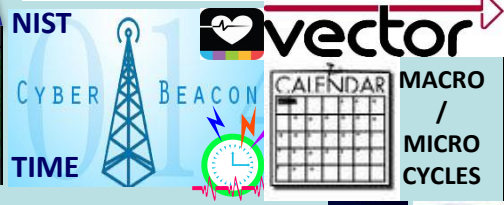
HBC PROCEDURAL TEMPLATE FRAMEWORK





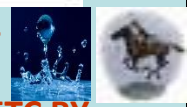
/localhost/nfd/fib/add-nexthop





PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS

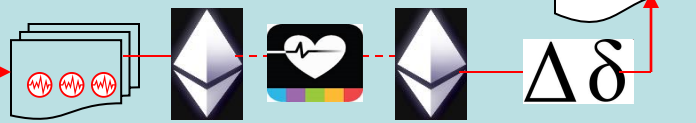
<URN> DESCRIBES COMMODITIES ETC BY UNIFORM RESOURCE NAME BY </INTEREST>>



ASSET SHARING WITHIN FEDERATION

BUSINESS LOGIC = WORKFLOW <XML_Wf>

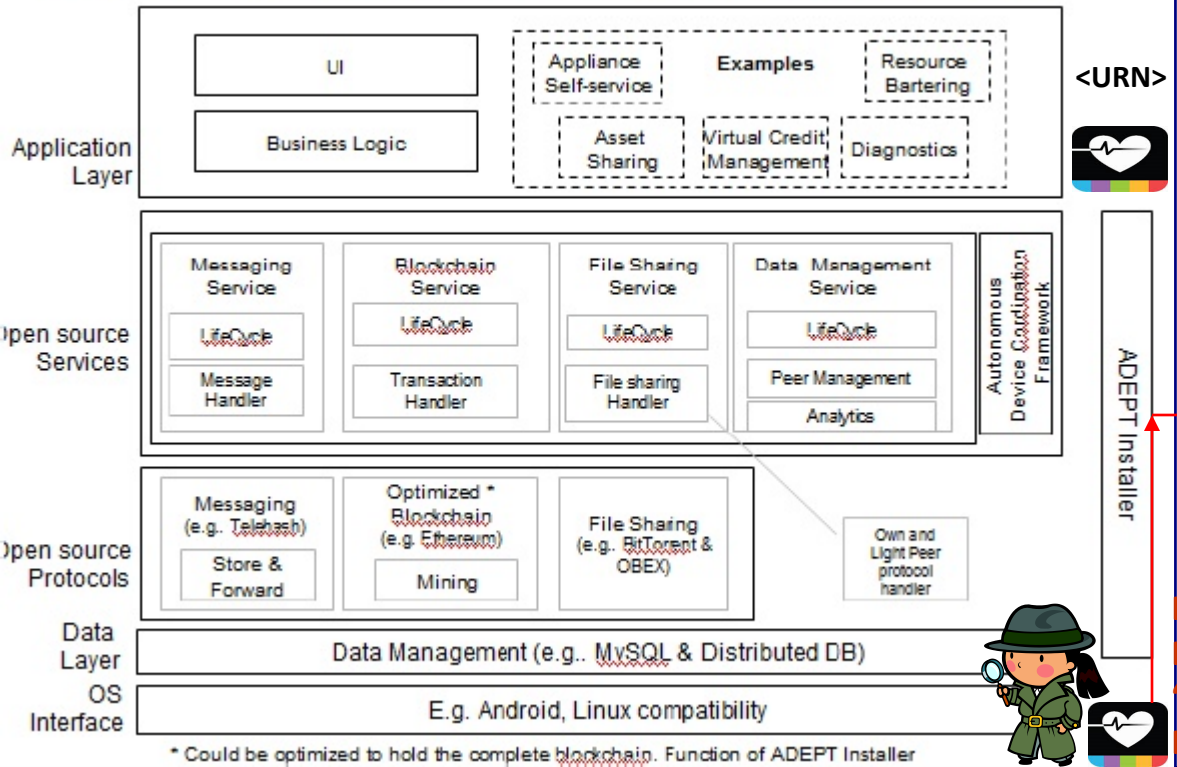
FILE SHARING = CYCLIC SYNC DELTA LEDGER / DOCUMENT REFRESH



OPEN SOURCE = HBC = PROTOCOL AGNOSTIC

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

ADEPT Standard Peer Architecture – Logical View



TRUTHCOIN Nullius in Verba: "On the word of no one"

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.**

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 1/100th 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, only if the stock price of SztorcCorp is above 40 $/share on that date."	
...(others)...	...(others)...	
Event Derivative	"I, Paul Sztorc, owe $20 to whoever is holding this derivative on 12/01/2016, only if Hillary Clinton is elected US President in 2016. Otherwise I owe $0."	
...(others)...	...(others)...	

2. A kind of 'Future Wikipedia'

	Wikipedia	Truthcoin
Focus	Outcomes of **past events**. Consensus on **known facts**.	Outcomes of ***future*** **events**. ***Future*** **consensus** on *knowable* facts

3. A software protocol

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

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

How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

MV=PQ Money x Velocity = Price x Quantity

MV=PQ
Internet of Everything
Every Where Value Index

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

Spatial Econometrics
MONEYBALL ECONOMICS
MACRO ECONOMIC CYCLES

M = MONEY BITCOINs FIXED
= FINITE # OF COINS 21 Million

X

V = VELOCITY = RATE SPENT
RATE COINs MINED % OVER TIME

=

P = PRICE of Everything Bought
TIME SERIES DATABASE Coin SUM

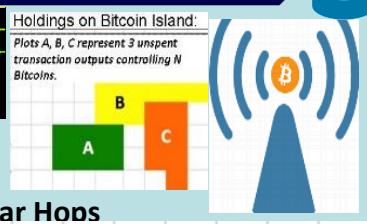
X

Q = QUANTITY

Coin / Currency Type Mediation Services

SUM / AGGREGATE

Land Survey
Triangulation
IDMaps / Sonar Hops



RATE % MINED

Δδ

currencyindex

Statistical mean value index

NEWSCAST

Memo #1421: Purchased Bitcoins akin to land

I.R.S.

Memo 1421

Mined Bitcoins

Δδ

<ORG_ID>

Unmined Bitcoins

Δδ

AGGREGATOR

Firefly Event Bus

FIREFLY

FLASH MSGS

URN = Uniform Resource Name

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

Asset Class
Asset Type

BlockTime Arbitrage

Δ

Δδ

Commodities

TERRA TRC

Demurrage
Parking Fees

SHARED COINS / SCHELLING MODEL

TERRA TRC COMMODITY BASKET

SCHELLING POINT AS "TRUTH"

Match Events To Closest Heartbeat Cycle

time series

Time Series Dbase

FIX {"108"}
Bitcoin Types

Firefly-Heartbeat Algorithm Events

IDMaps
SonarHops

MICRO-CYCLES
MICRO - ECONOMICS

NIST TIME BEACON

Price Indexes in Time and Space

SchellingPoint

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.

STRATML/ IODEF RID

<GLOBAL>
<JOINT>
<DOMAIN> <SHARED
<COMMUNITY>
<PRIVATE>

CLASSES

Cooperate, Federate and Graduate

HOW GAMIFICATION WORKS:

5 COMMON MECHANICS

POINTS
100 PT

Measure a user's achievements in relation to others

Can double as currency to exchange for rewards

BADGES
Reward achievements visually

LEVELS
Encourage users to progress and unlock new rewards

LEADERBOARDS
Organise players by rank

CHALLENGES
Encourage engagement by offering specific tasks to complete

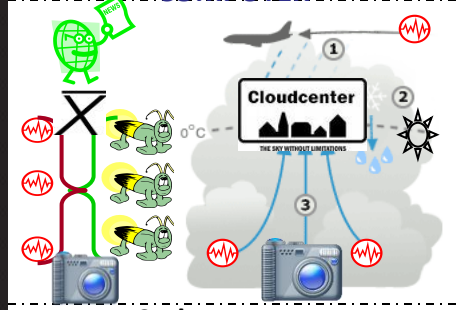
4 MAIN WAYS TO DRIVE ENGAGEMENT

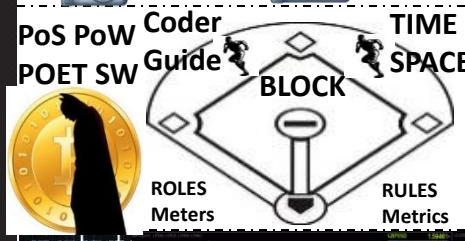
ACCELERATED FEEDBACK CYCLES

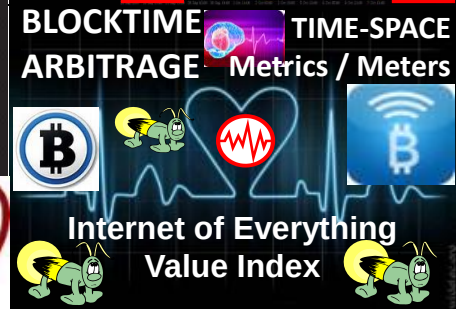
CLEAR GOALS AND RULES OF PLAY

A COMPELLING NARRATIVE

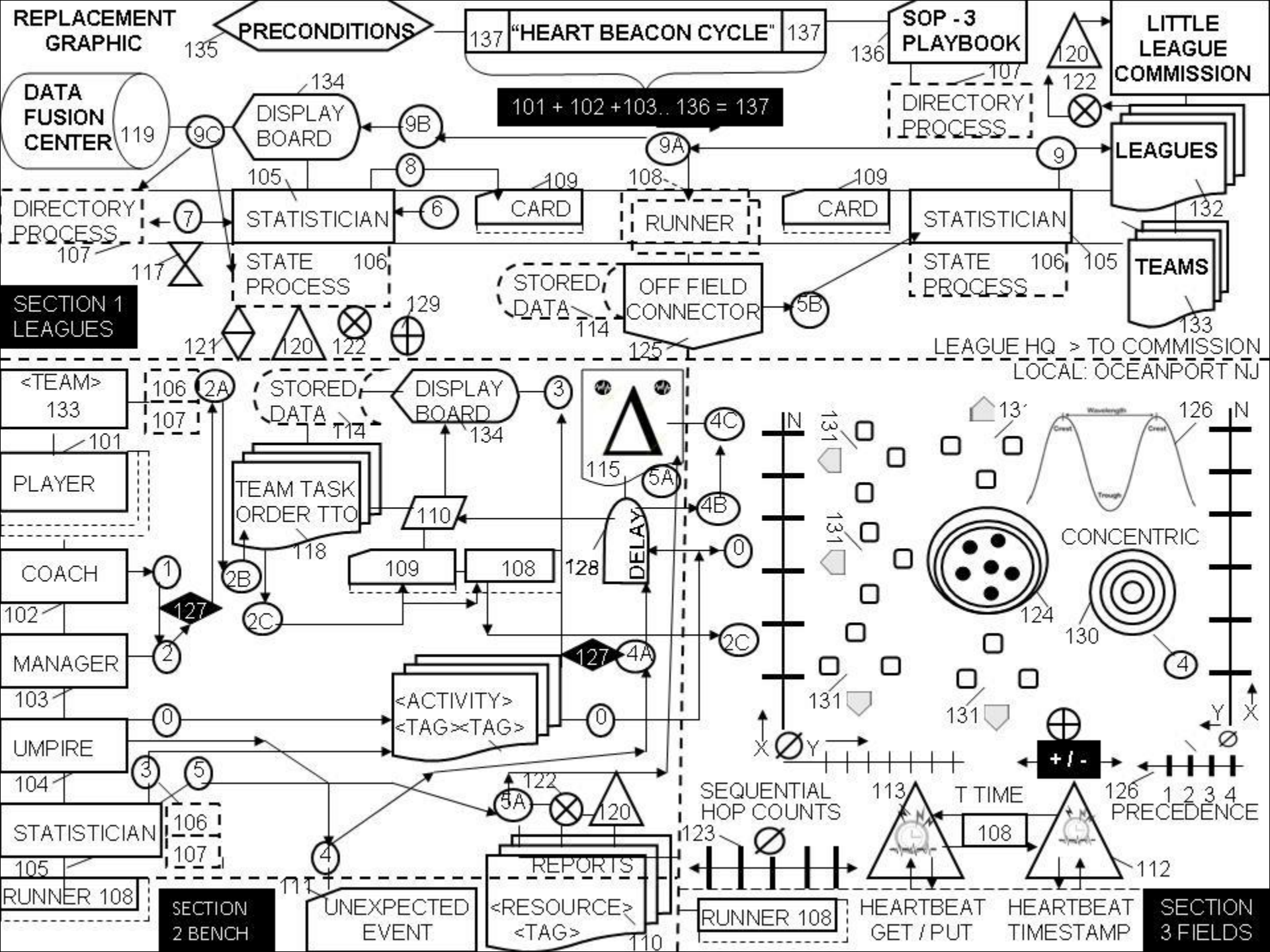
CHALLENGING BUT ACHIEVABLE TASKS








FUNGABILITY
BITCOIN's 6 ISSUES
FEDCOIN / WORLDCOIN
STATISTICAL MEAN VALUE INDEX
FIX 108
FIX 108
Trade w Earth?
BITCOIN's VALUE IS TIME ITSELF
BLOCKTIME ARBITRAGE
PHYSICAL
CURRENCY CONVERTER
FRIEDMAN's K % RULE
CURRENCY PULSE X % GDP @ Y MACRO Economic Cycle
$$$
DENARIUM
$$$
1 to 1 CONVERSION
IDENTITY
{"Org_ID"}
{"Org_ID"}
Organizational ID
Organizational Unit OU
FINCEN > { "Org_ID" "} "OU" > WALLET 1, 2,3,4,5.. }
Multi-SIG e.g.., select TRIBAL COUNCIL MEMBERS
Federation Gateway
WAVES
$$$
$$$
TIME SERIES DATABASE
TERRA TRC
MEDIATION GATEWAY
MICROSOFT
BLETCHLEY
WORLD COMPUTER
Price Indexes in Time and Space
Statistical Mean VALUE INDEX
¥EN
namecoin
MONEYBALL ECONOMICS
currencyindex
COMMODITIES
VOLATILITY
MV = PQ
COMMODITY BASKET PRICE INDEX
STATISTICAL MEAN VALUE INDEX
Time Series Dbase
</DOMAIN>.COM
{"DOMAIN"} MSFT.COM
ETHEREUM
NO INTRINSIC VALUE
EVENT BUS
ETH BaaS
Ethereum Blockchain as a Service
Azure
cycle n
n + 1
n + 2
Cloudcenter
Cloudcenter
Little League Baseball Tournament main embodiment
13,573,002 SC Alice Corp V CLS Bank
Multi-Meme
INCONSISTENT MEMES
- WORK / STAKE
- Property / Land
- POET TIME
Mined Bitcoins
Unmined Bitcoins
IRS Memo 1421
BLOCK
Roles
Meters
Rules
Metrics
Attribute Series
Time Series
Value
Time
Contract Definition Language
Digital Asset Modeling Language
Geo Spatial
Temporal Series
HEARTBEAT MESSAGES
On / Off Shore
Non-Repudiation
Cyber Beacon
WORLD COMPUTER
09:08:57
NIST TIME BEACON
Quantum Random Number Beacon
NIST Beacon
A Public Randomness Service
Non-Repudiation
BLOCKCHAIN SCALEABILITY
LIGHTNING NETWORK
Sync Deltas
("INTEREST")
("DISTANCE")
FIREFLY – HEARTBEAT
IDMaps
SonarHops
Hashed TIME LOCK contracts component for global consensus
OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/Random # BEACON
Payment channels multi-hop hub spoke model like internet routing
Server nodes, miners only keep recent blocks
Sync Delta
State Meta
Data Snaps
TIME-SPACE ALGORITHM
Stochastic Harmonization


REPLACEMENT GRAPHIC
PRECONDITIONS
135
137 "HEART BEACON CYCLE" 137
SOP - 3 PLAYBOOK
136
120
LITTLE LEAGUE COMMISSION
122
DATA FUSION CENTER
119
9C
DISPLAY BOARD
134
9B
101 + 102 +103.. 136 = 137
DIRECTORY PROCESS
107
9A
9
LEAGUES
132
8
105
109
108
109
DIRECTORY PROCESS
107
7
STATISTICIAN
6
CARD
RUNNER
CARD
STATISTICIAN
117
STATE PROCESS
106
STATE PROCESS
106
105
TEAMS
133
SECTION 1 LEAGUES
129
STORED DATA
114
OFF FIELD CONNECTOR
5B
121
120
122
125
LEAGUE HQ > TO COMMISSION
LOCAL: OCEANPORT NJ
<TEAM>
133
106
107
2A
STORED DATA
114
DISPLAY BOARD
134
3
115
4C
5A
101
PLAYER
TEAM TASK ORDER TTO
118
110
4B
DELAY
128
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COACH
102
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2B
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109
108
2C
MANAGER
103
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4A
2C
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3
5
122
5A
120
STATISTICIAN
105
106
107
4
REPORTS
RUNNER 108
111
UNEXPECTED EVENT
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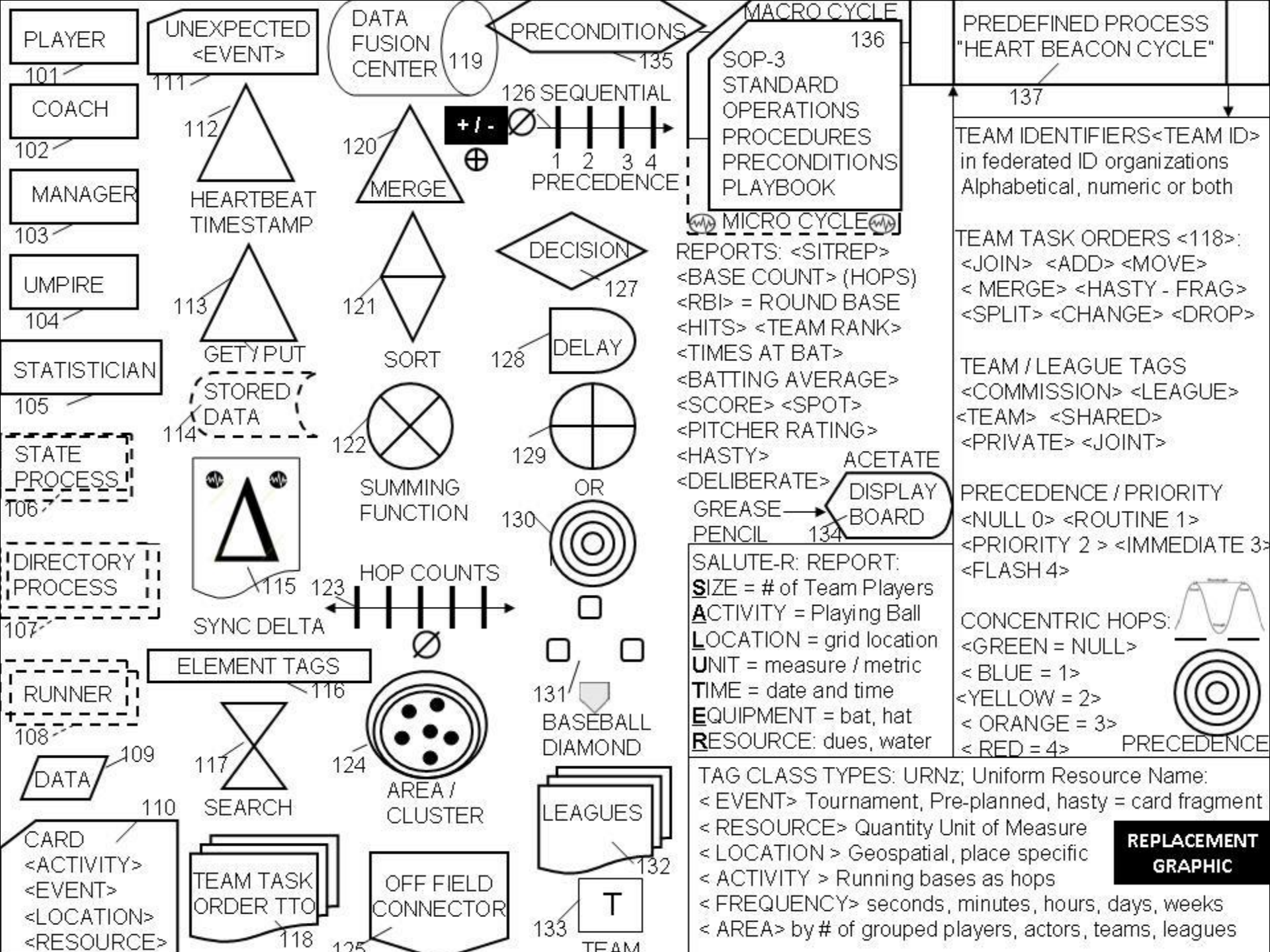
110
SECTION 2 BENCH
N
131
131
131
131
131
13
126
N
CONCENTRIC
124
130
4
Y
X
X
Y
+ / -
SEQUENTIAL HOP COUNTS
123
113
T TIME
108
126
1 2 3 4
PRECEDENCE
112
RUNNER 108
HEARTBEAT GET / PUT
HEARTBEAT TIMESTAMP
SECTION 3 FIELDS


PLAYER
101
COACH
102
MANAGER
103
UMPIRE
104
STATISTICIAN
105
STATE PROCESS
106
DIRECTORY PROCESS
107
RUNNER
108
DATA
109
CARD
<ACTIVITY>
<EVENT>
<LOCATION>
<RESOURCE>
110
UNEXPECTED <EVENT>
111
HEARTBEAT TIMESTAMP
112
GET / PUT
113
STORED DATA
114
SYNC DELTA
115
ELEMENT TAGS
116
SEARCH
117
TEAM TASK ORDER TTO
118
DATA FUSION CENTER
119
MERGE
120
SORT
121
SUMMING FUNCTION
122
HOP COUNTS
123
AREA / CLUSTER
124
OFF FIELD CONNECTOR
125
PRECONDITIONS
135
126 SEQUENTIAL
1 2 3 4
PRECEDENCE
DECISION
127
DELAY
128
OR
129
BASEBALL DIAMOND
130
131
LEAGUES
132
T
133
TEAM
MACRO CYCLE
136
SOP-3
STANDARD
OPERATIONS
PROCEDURES
PRECONDITIONS
PLAYBOOK
MICRO CYCLE
REPORTS: <SITREP>
<BASE COUNT> (HOPS)
<RBI> = ROUND BASE
<HITS> <TEAM RANK>
<TIMES AT BAT>
<BATTING AVERAGE>
<SCORE> <SPOT>
<PITCHER RATING>
<HASTY>
<DELIBERATE>
GREASE PENCIL
ACETATE DISPLAY BOARD
134
PREDEFINED PROCESS "HEART BEACON CYCLE"
137
TEAM IDENTIFIERS<TEAM ID>
in federated ID organizations
Alphabetical, numeric or both
TEAM TASK ORDERS <118>:
<JOIN> <ADD> <MOVE>
< MERGE> <HASTY - FRAG>
<SPLIT> <CHANGE> <DROP>
TEAM / LEAGUE TAGS
<COMMISSION> <LEAGUE>
<TEAM> <SHARED>
<PRIVATE> <JOINT>
PRECEDENCE / PRIORITY
<NULL 0> <ROUTINE 1>
<PRIORITY 2 > <IMMEDIATE 3>
<FLASH 4>
CONCENTRIC HOPS:
<GREEN = NULL>
< BLUE = 1>
<YELLOW = 2>
< ORANGE = 3>
< RED = 4>
PRECEDENCE
SALUTE-R: REPORT:
SIZE = # of Team Players
ACTIVITY = Playing Ball
LOCATION = grid location
UNIT = measure / metric
TIME = date and time
EQUIPMENT = bat, hat
RESOURCE: dues, water
TAG CLASS TYPES: URNz; Uniform Resource Name:
< EVENT> Tournament, Pre-planned, hasty = card fragment
< RESOURCE> Quantity Unit of Measure
< LOCATION > Geospatial, place specific
< ACTIVITY > Running bases as hops
< FREQUENCY> seconds, minutes, hours, days, weeks
< AREA> by # of grouped players, actors, teams, leagues
REPLACEMENT GRAPHIC

REPLACEMENT SHEET

BUILDING BLOCKS

TASK ON / OFF

217

MACRO CYCLES

219

CLOUD COMPUTING

.0001

MICRO CYCLES

216

218

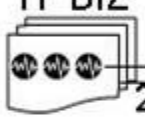
201

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

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

TF BIZ



214

SYNC DELTA

UTO

213

215

LEADER"S INTENT DECISIONS

211

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

212

SNAPSHOTS

210

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

</>

205

NULL

LENGTH, THRESHOLD, INTENSITY, DURATION

206

207

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

208

APPLIQUE' OVERLAYS

S.O.S

209

204

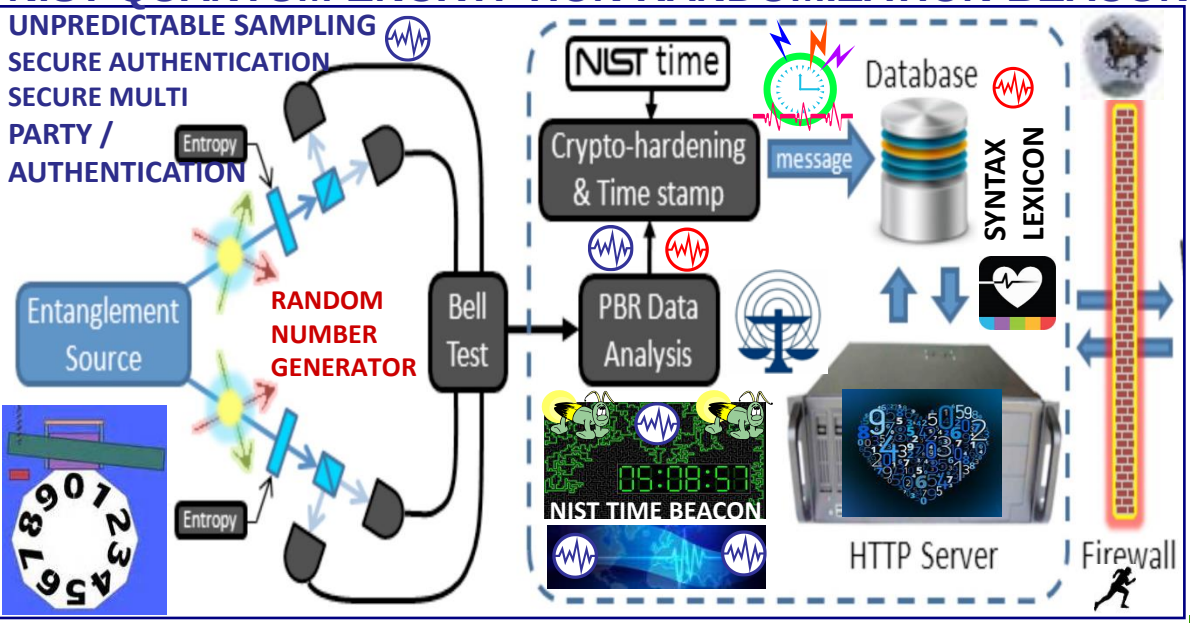
B4 BEACON TECH TYPE II: WATER DROP IN POND RADIUS, CIRCUMFERANCE GEO SPATIO-TEMPORAL

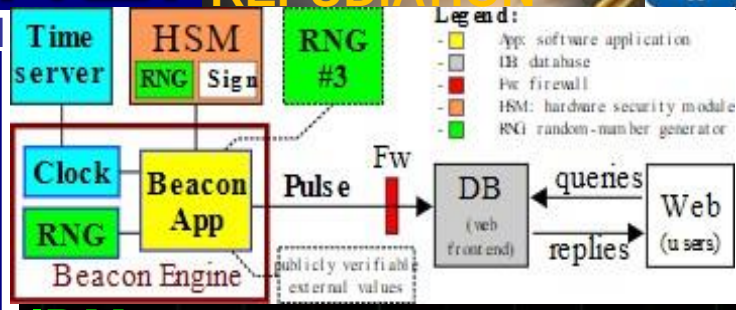
MAP VIEWS GEO-LOCATION SPECIFIC SHOW SYNC DELTAS BY GROUP / RESOURCE TYPE, EVENT CLASS / NEWSCAST BY TRANCHE <CLASSES>

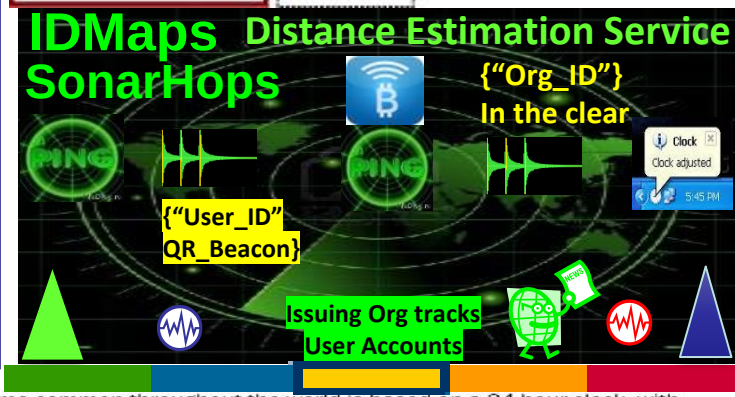
NIST RANDOMNESS BEACON: broadcast full-entropy bit-strings in blocks of 512 bits every 60 seconds. Each value is time-stamped, signed, & includes hash of previous value to chain sequence of values together. This prevents all, even the source, from retroactively changing an output packet without being 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







USPTO 13,573,002 Heart Beacon Cycle Geo-spatial, temporal Intensity Metrics and Time - Space Meter uses PHYSICAL Memes / Metaphors

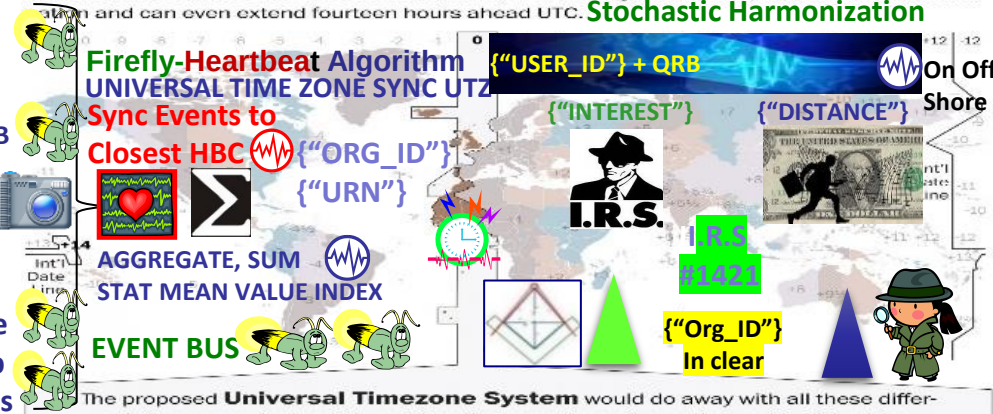
NDN
</Interest>
</Distance>

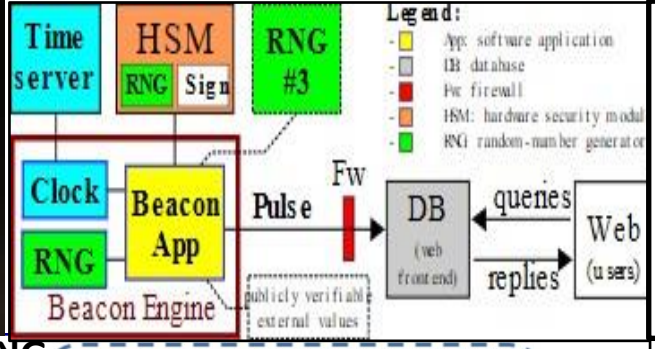
SURVEY METHODs
+ TRIANGULATION
Euclidian Geometry

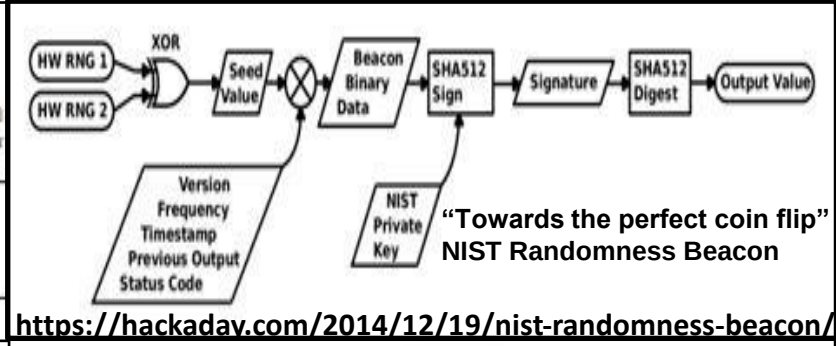
Geodesic System Routing Info Base RIB
ACCOUNT BELONGS TO </Org_ID>
RESOURCE TYPE: <URN><URN><URN>
DEVICE / SENSORS <UUID><UUID>
Higher-level services collect distance data to build virtual distance map of Internet & estimates distance between any IP address pair

State Snap Shots

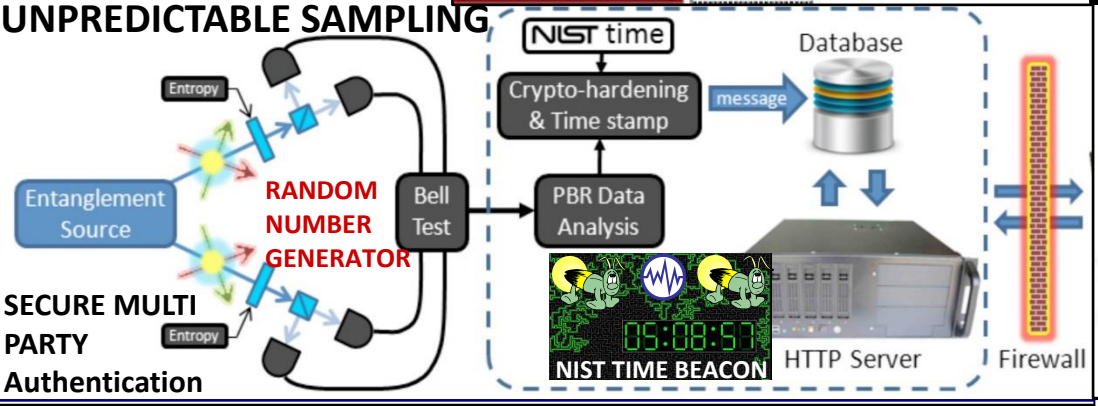
The current standard time common throughout the world is based on a 24-hour clock, with zones that are are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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







UNPREDICTABLE SAMPLING



NIST Interoperable Randomness Beacon

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

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

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

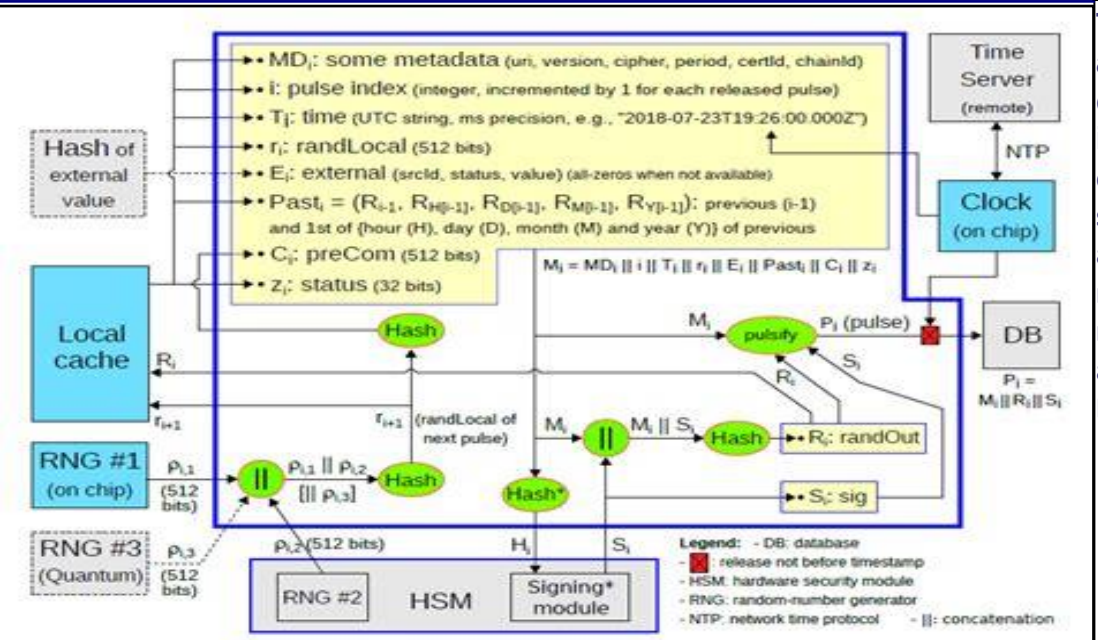
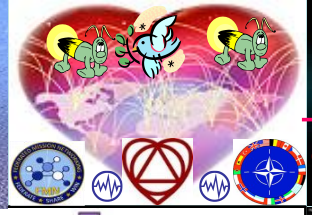


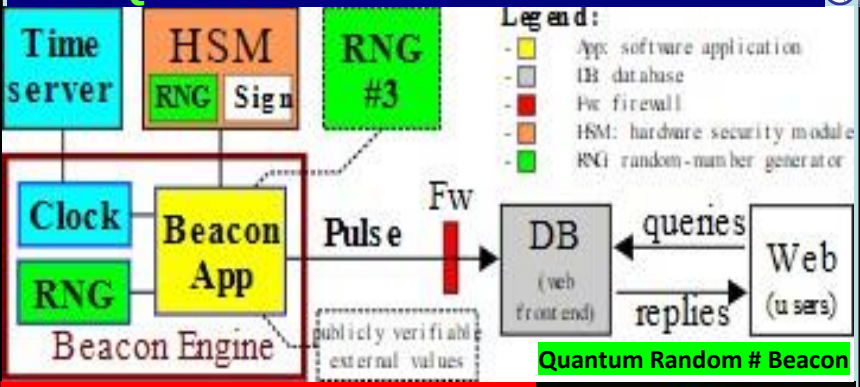
Figure 2. Illustration of the generation of the i^{th} pulse by a Beacon App (2.0)

ALL THINGS NET FORMED WITH:
1) EPOCH TIME CYCLES
2) SYNTAX / Opscode Brevity codes

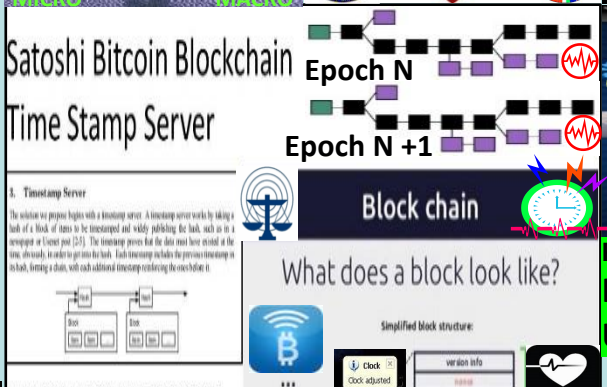
Building Blocks:
Programmable
Economy / $$$



NIST Quantum Random Number Beacon



Quantum Random # Beacon

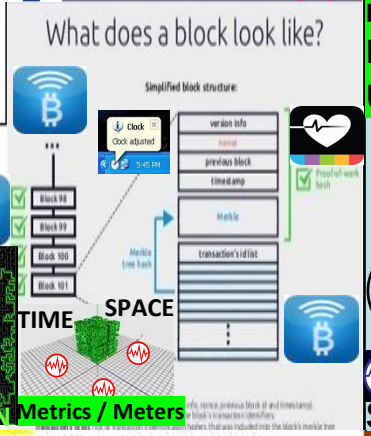


Firefly - Heartbeat Sync Algorithm

Heartbeat Event Message Bus

UTZ stochastic harmonization

"The external environment could update resources at random…
One solution is a heartbeat: defining a default lease duration delaying updates until the next cycle"



Epoch Time Cycles

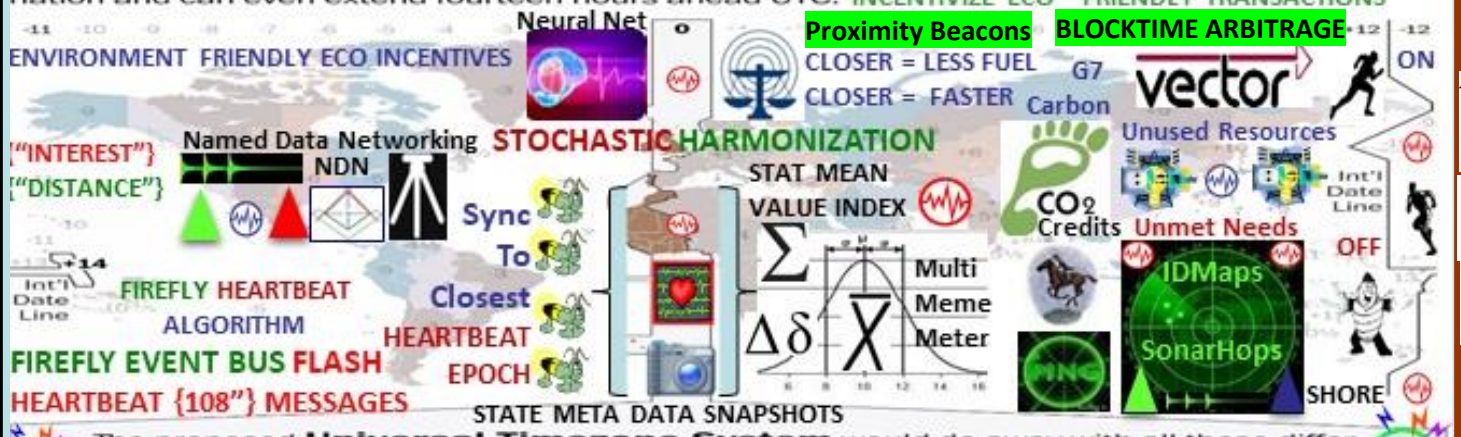
E0 E1 E2 E3…

Genesis Epoch E0 | E1 | E2 | E…n

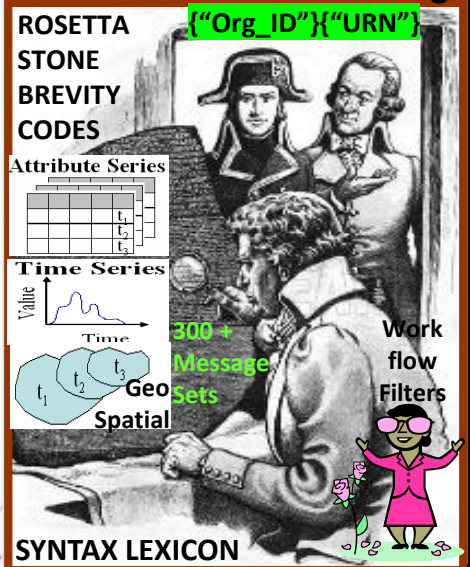
QubitCoin Interval: Every 30 Seconds

Structured Data Exchange

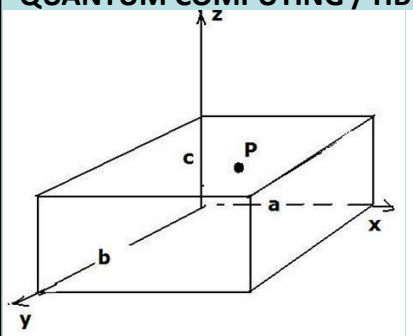
The current standard time common throughout the world is based on a 24-hour clock, with zones that are are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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



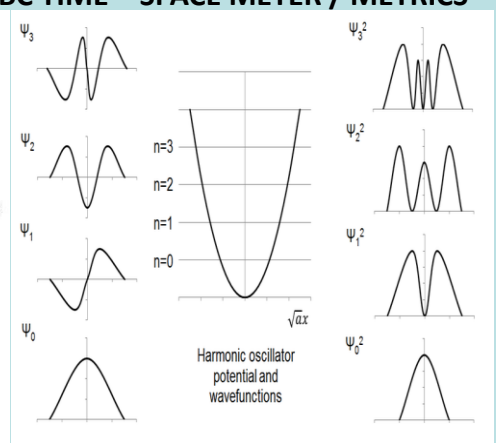
The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.



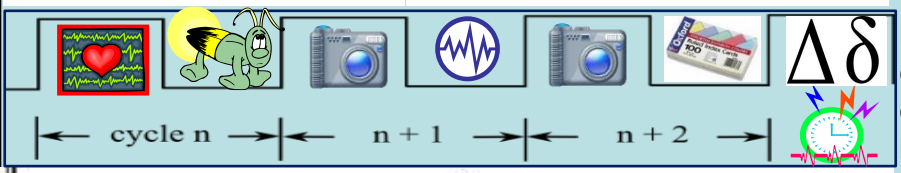
QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS

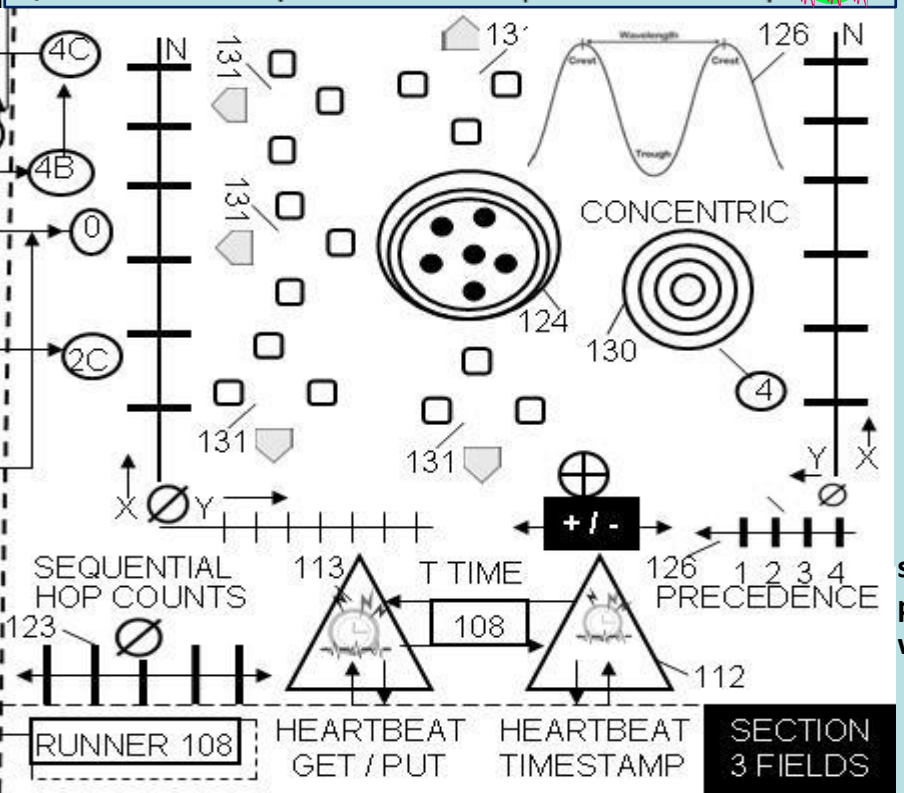


A particle 'P' in a 3-dimensional box, representing a simple quantum mechanical system.



Harmonic oscillator potential and wavefunctions

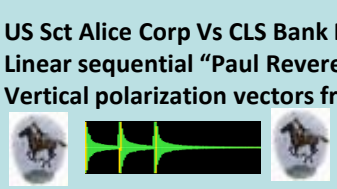




#QuantumComputing USct Alice Corp Vs CLS Bank compliant memes:

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 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

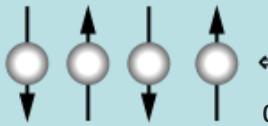


particle representation / samples

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?

STATE CHANGE EVENT

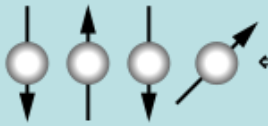
universal gate set STATE CHANGE EVENT



⇔ |0101⟩ ⇔ |5⟩

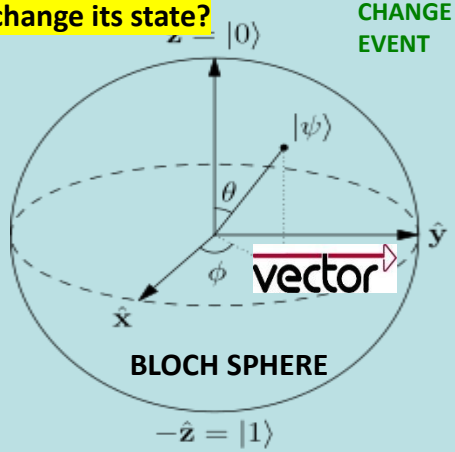
qubits initialized to arbitrary values

quantum gates



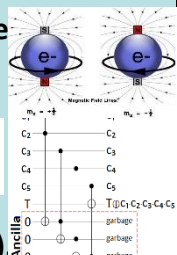
⇔ |4⟩ + |5⟩

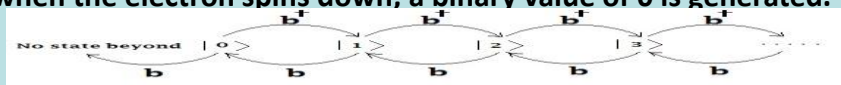
qubits can be in a superposition of all the clasically allowed states



Microwave pulses like sonar ping...

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.



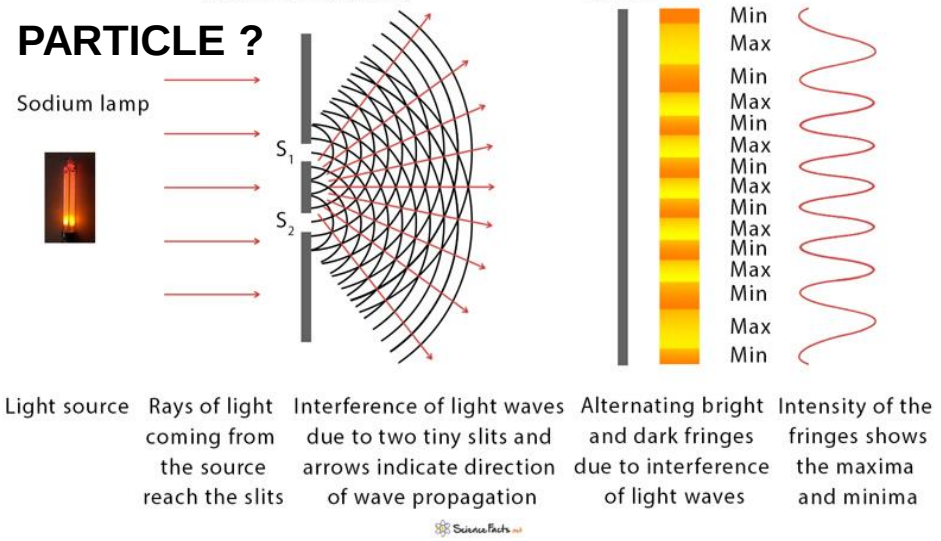


Fock state number state quantum state that is an element of a Fock space with a well-defined number of particles (or quanta)

Double-Slit Experiment

PARTICLE ?

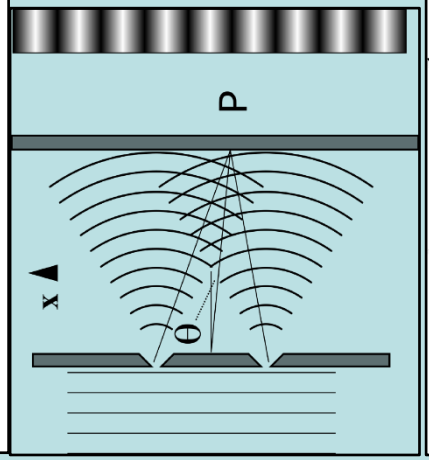
WAVE ?



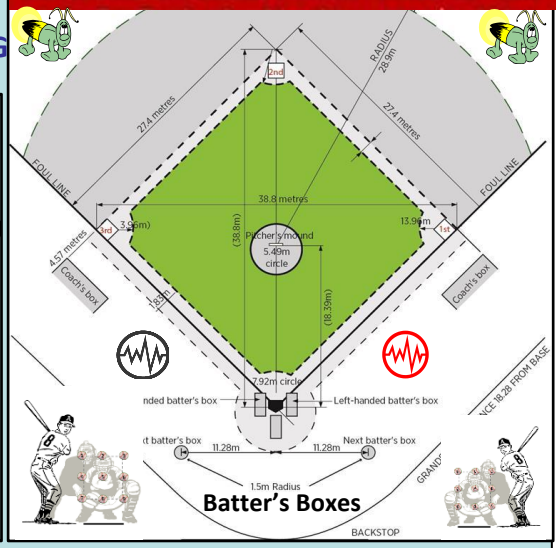
Light source	Rays of light coming from the source reach the slits	Interference of light waves due to two tiny slits and arrows indicate direction of wave propagation	Alternating bright and dark fringes due to interference of light waves	Intensity of the fringes shows the maxima and minima

ScienceFacts.net

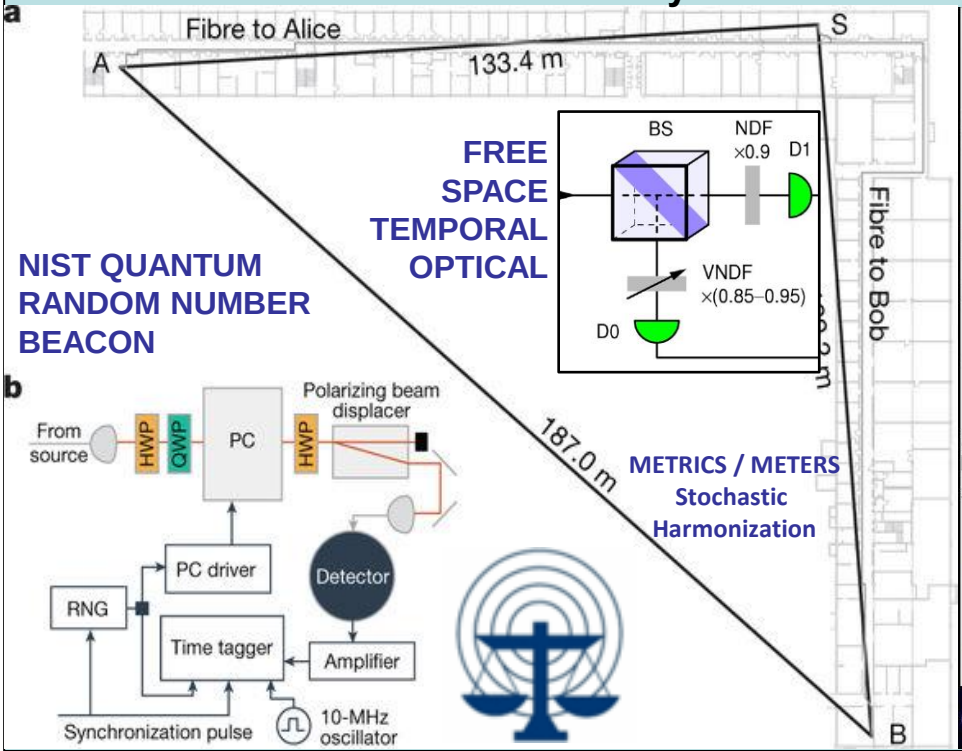
QUANTUM COMPUTING
- RESISTANT ? - BASED ?
THROUGH LENS OF SCOTUS
ALICE LOOKING GLASS RULING



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



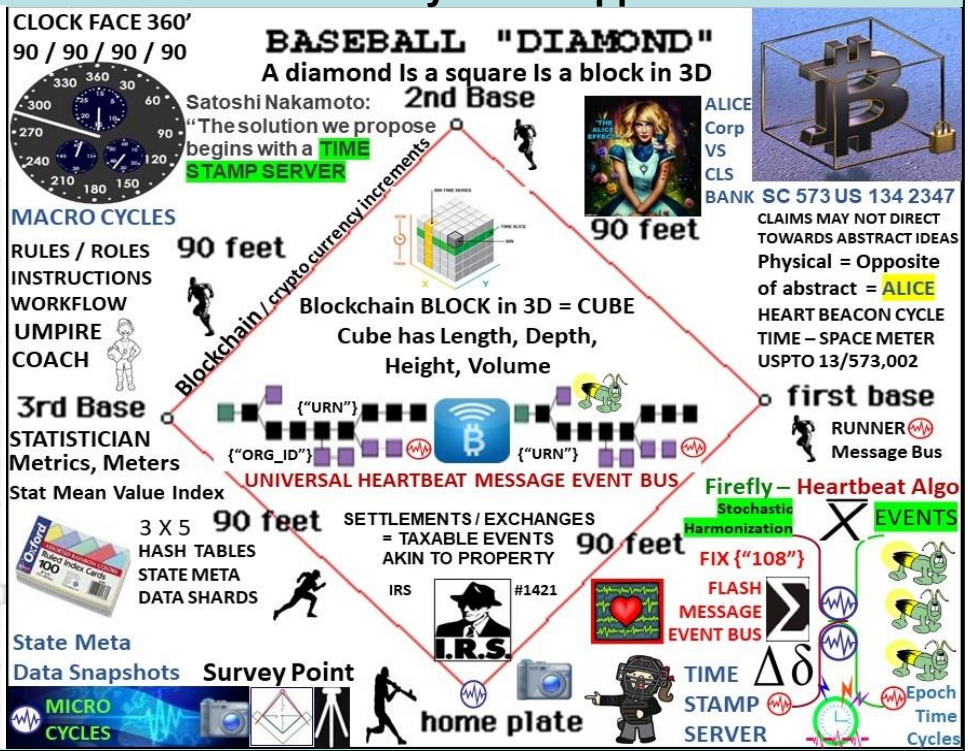
SCOTUS ALICE RULING: "Claims may not direct towards abstract ideas" / Physical = opposite of abstract



FREE SPACE TEMPORAL OPTICAL

NIST QUANTUM RANDOM NUMBER BEACON

METRICS / METERS
Stochastic Harmonization



The Hopf Fibration

Edmund Harriss

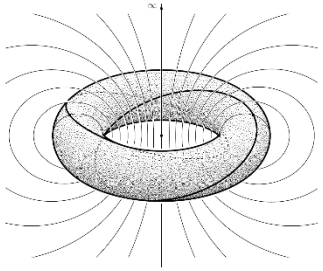
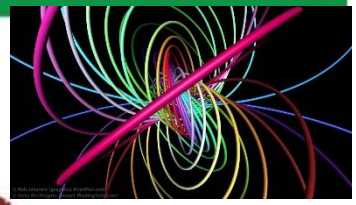
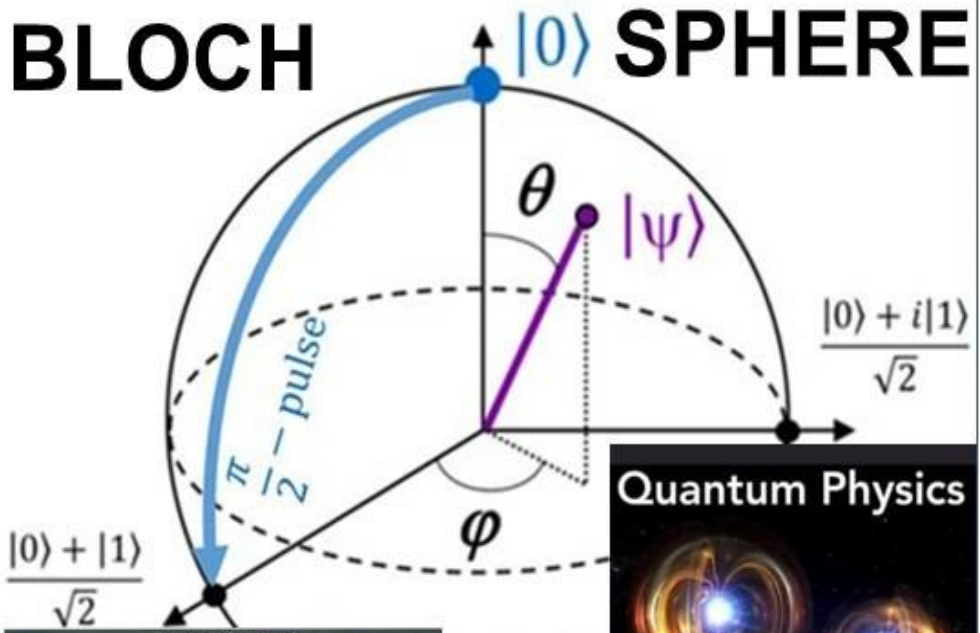
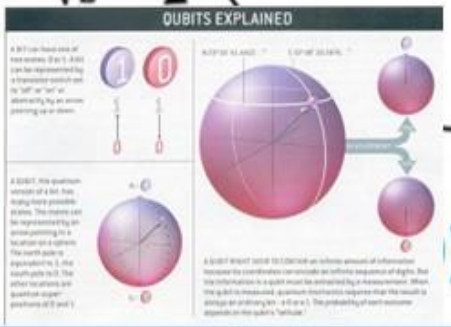


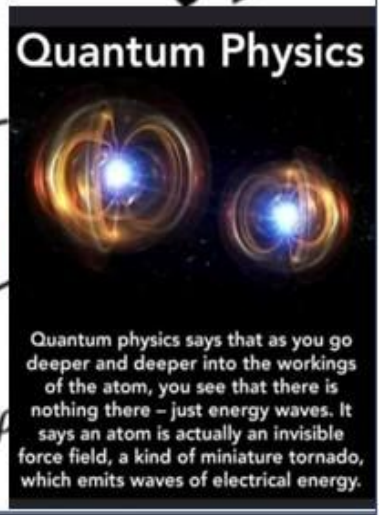
FIGURE 2.11.1. The Hopf fibration



BLOCH $|0\rangle$ SPHERE







Hopf Fibration / #Bloch sphere

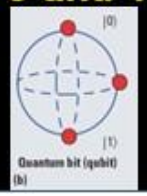
"the most important object in the universe"

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

Paul Revere linear - sequential hop count meme

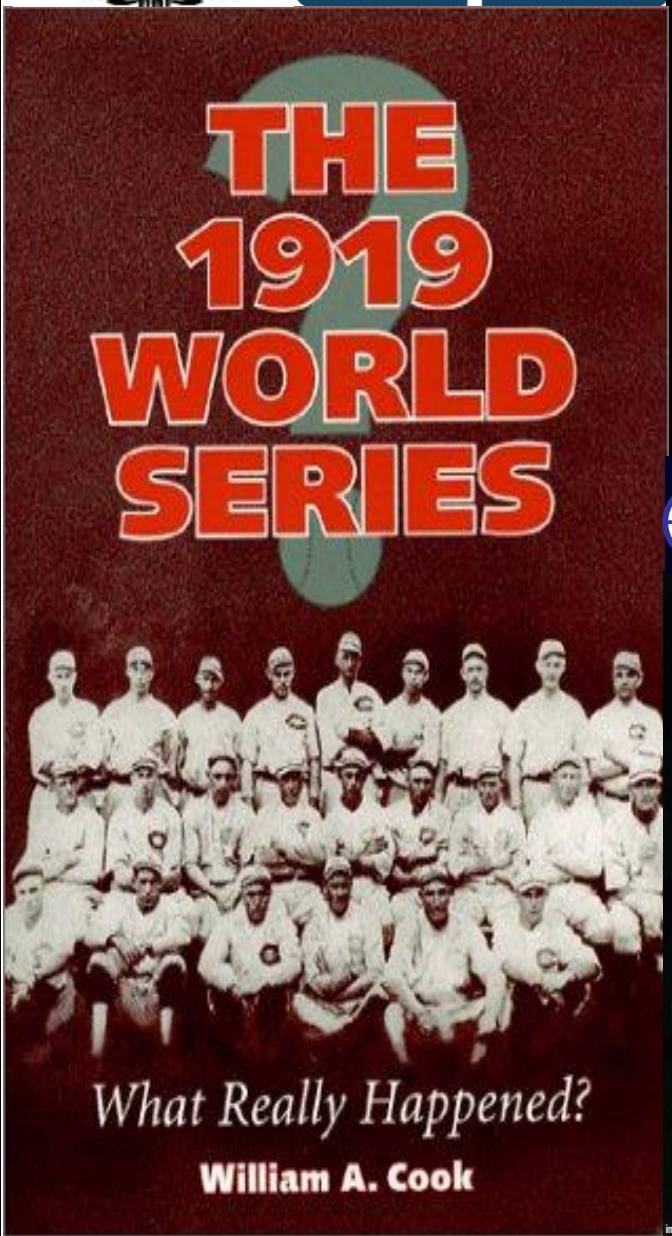
The Bloch sphere provides a useful means of visualizing the state of a single qubit & operations on it. Any point on this sphere represents a linear combination of the 0 and 1 states with complex coefficients.

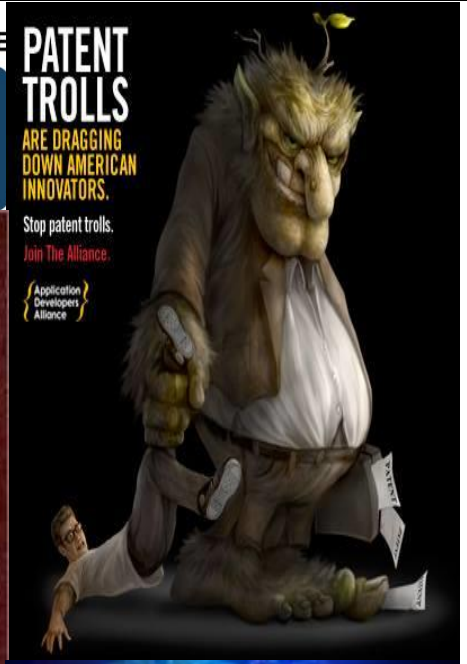
A π/2-pulse 'rotates' a qubit from the 0-state to a superposition state.



UNITED STATES PATENT AND TRADEMARK OFFICE

uspto





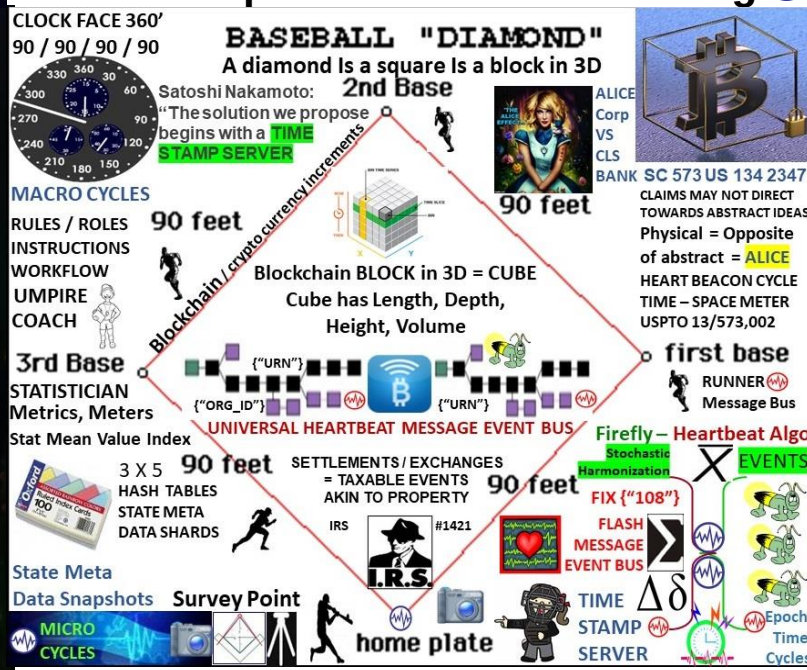
Alice Corp. v. CLS Bank International, 573 U.S. 134 S. Ct. 2347 (2014)

RULING: "claims may not direct towards abstract ideas"

PAIR

USPTO SCREEN CAPTURES SUSPENDED PAIR RULES

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



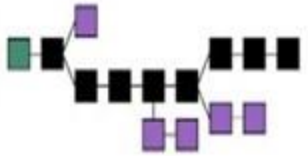
Patent Worthy

Idea Formed CIRCA 2006

TCP/IP "Heartbeat"

UNITED STATES PATENT AND TRADEMARK OFFICE

uspto



USPTO citation directs to SAW Concepts LLC's web pages suspending regular, formal process, content, format rules

Cape Hatteras Light House Completed 1870

LITTLE LEAGUE BASEBALL TOURNAMENT EMBODIMENT

13,573,002 October 16, 2014 Revived

LETTER USPTO Office Action Nov 6th 2015

National Association of Baseball Players Formed 1870

1. Transco V Performance

START

citation screen capture web images not time stamped

METHOD / PROCESS / PROCEDURE TO ENABLE: THE HEART BEACON RAINBOW FORCE TRACKING

STOP

10/709,358 April 29, 2004
METHOD TO ENABLE HEARTBEAT 911

12/856,715 Aug. 16, 2010

2 Screen Captures with No Time Stamps mailed by USPTO

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

11/601,035 Nov. 17, 2006 METHOD TO ENABLE THE HEARTBEAT BEACON FOR HOMELAND SECURITY AND HOMELAND DEFENSE INTEROPERABILITY

13/573,002 Heart Beacon Cycle Aug. 13, 2012

10/605,144 Sep. 11 , 2003
Method to commercialize structured military messaging

USPTO screen capture circa 2006 sent to applicant without date time stamps thus suspending regular patent procedures, formatting etc. for an Indefinite period. Screen capture established that a patent worthy idea was formed. Many use cases i.e., stock, currency, commodities may be theme variants.

Stare decisis et non quieta movere

A court may Not reverse itself

10/709,358 continuation further established all things related to the internet are formed using time cycles to parse, process syntax as instructions.

300 + structured military message templates form syntax library, lexicon. Reuse of parsing, processing procedures logic establishes syntax consensus among a distributed system of systems

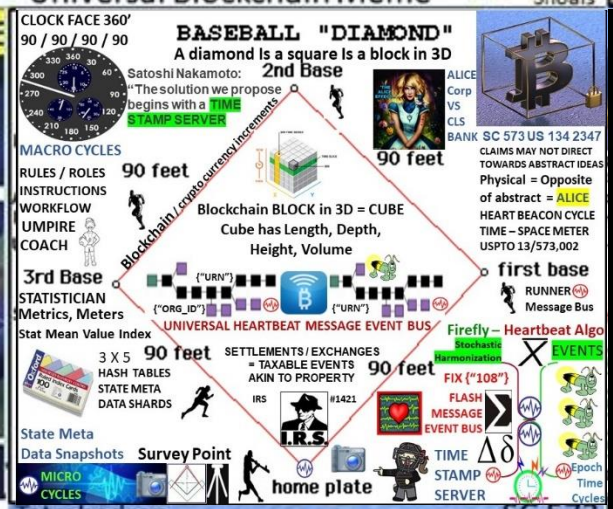
13/573,002 Baseball theme main embodiment addresses "221 errors" using real world, physical world concrete terms as compared to internet metaphors, memes such as packets, frames, Bitcoin, Blockchain, hops, "HEARTBEAT" pings that are abstract, abstractions. 13,573,002 is compliant with Alice Corp V CLS Bank ruling.

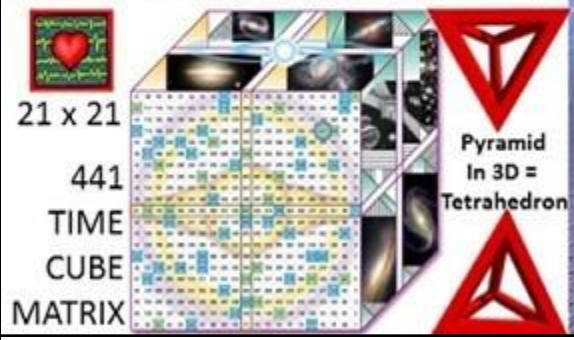
2 USA Supreme Court June 19, 2014
ALICE CORPORATION PTY. LTD. v. CLS BANK INTERNATIONAL ET AL.
claims ineligible for patent protection under 35 U. S. C. §101 "claims may not be directed to an abstract idea"

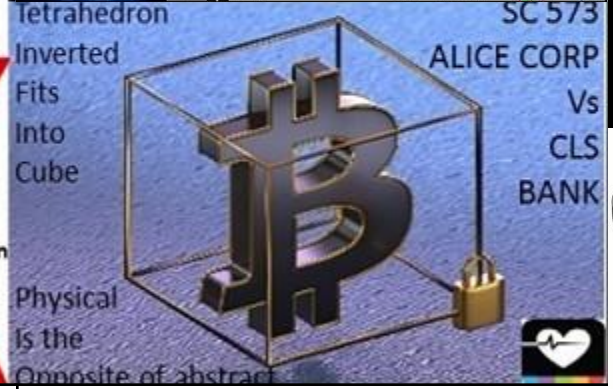
10/708,000 Jan. 30, 2004 continuation of 10/605,144
Method to enable a Homeland Security "Heartbeat"
Parenthesis around term "heartbeat" describes Internet TCP/IP metaphor as an abstraction. "Heartbeat" describes time cycles, intervals, periods created by a Central Processing Unit. Time intervals are used to parse, process or not process syntax as instructions thus forming the basis of all things, artifacts internet related. This patent worthy idea forms the main embodiment upon which all other embodiments and claims are based. All filings, embodiments, claims after this point in time related to 10/708,000 do not constitute new material or new claims as variations on main embodiment

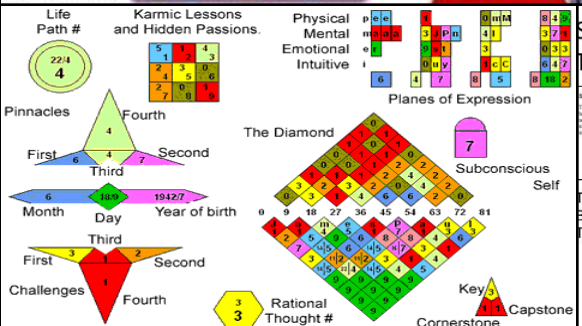

SIGNALS & TELEMETRY ANNEX K
Buckminster Fuller 1968 *Operating Manual for Spaceship Earth*
"we can make all of humanity successful through science's world-engulfing industrial evolution. We have the tools"
"The Dymaxion Map reveals a One-World Island in a One-World Ocean" which helps us to view the world as one interdependent system [of systems] of relationships. This is what is most fundamentally at HEART when we speak of Spaceship Earth "The planet is a [system of] system (s)"
BLOCKTIME ARBITRAGE
TERRA TRC
₩EN
r. buckminster fuller
The World Game
operating manual for spaceship earth
SPACESHIP EARTH: comprehensive planetary planning describing new strategies intended to enable all of humanity to live with freedom, comfort and dignity, without negatively impacting the earth's ecosystem's regenerative ability
INFOCON 5 4 3 2 1 INFORMATION CONDITION
GDP INDEX ECONOMY
K % RULE
{"108"}
INCENTIVIZE SUSTAINABLE Eco-Econometrics
TERRACYCLE
SLA / O
The Book Spaceship Earth relates Earth to a spaceship flying through space. Our spaceship has a finite amount of resources and cannot be resupplied.
Price Indexes in Time and Space
SCHELLING POINT
NIST Beacon
A Public Randomness Service
NON_ REPUDIATION
Algorithmic Regulation
Stat Mean Value Index
Crypto Currency
Micro Payments
Demurrage Fees
The HEART BEACON CYCLE SIGNALING, TELEMETRY ANNEX K OPORD
BUCKMINSTER FULLER'S OPERATING MANUAL for SPACESHIP EARTH
FIREFLY SYNC PULSE MATCH TO CLOSEST HEARTBEAT CYCLE
Spatial Econometrics
UNUSED RESOURCES
NEURAL NET A.I. WORLD COMPUTER
UNIVERSAL EVENT / ALERT Message BUS
Trade w Earth ???
UNMET NEEDS
COMMODITIES
vector
{"URN"}
{"Org_ID"}
ENERGY / DATA PULSE
ENERGY TOKENS
ENERGY ATTENUATES
CLOSER = CHEAPER
CLOSER= LESS FUEL
< Co2 emissions
TESLA
Firefly Heartbeat Algorithm
BIOCOIN
START
Our Spaceship Earth
one island in one ocean ... from space
TTL
STOP
Heartbeat Flash Messages

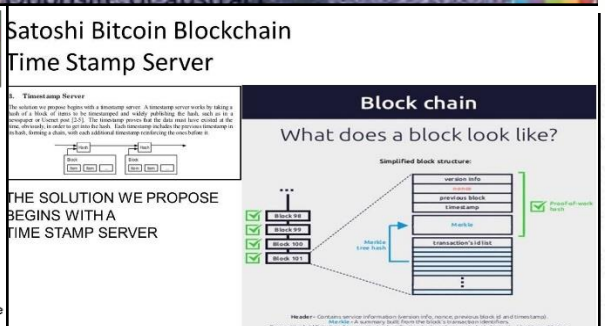
"We can synchronize ourselves in time for a common purpose" Universal Blockchain Meme

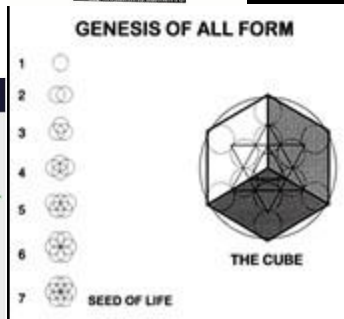




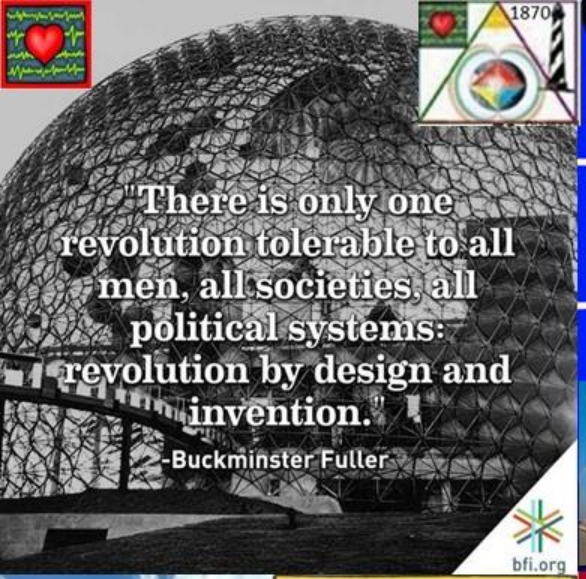


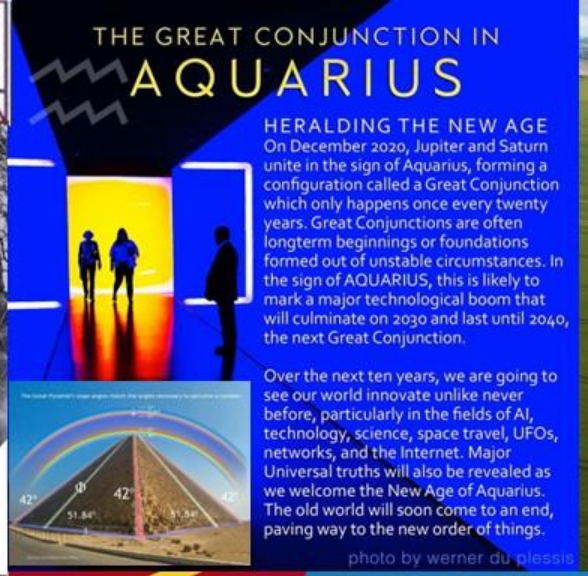


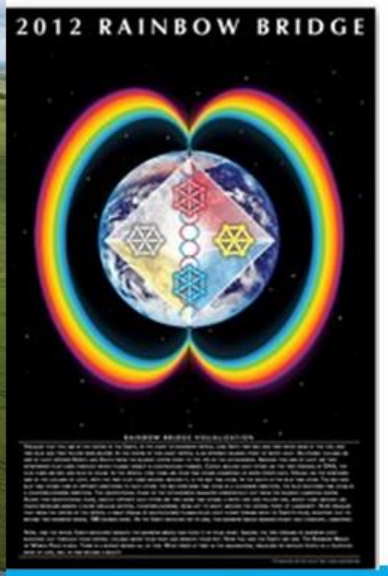


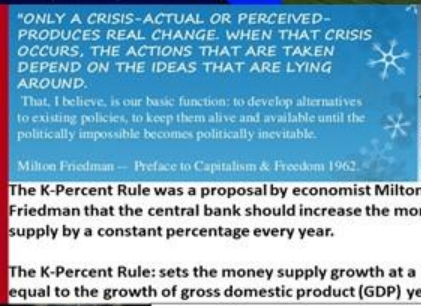


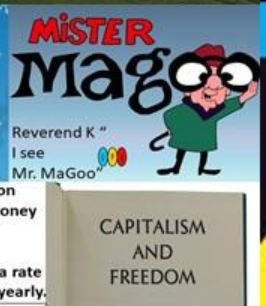
"In the beginning (of time) there was the word"

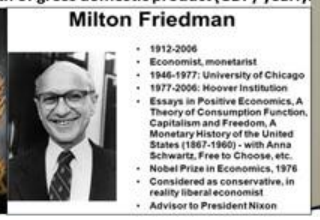


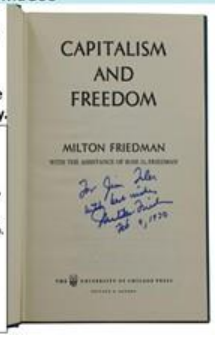


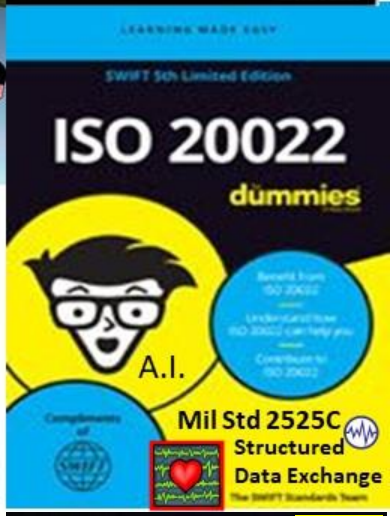












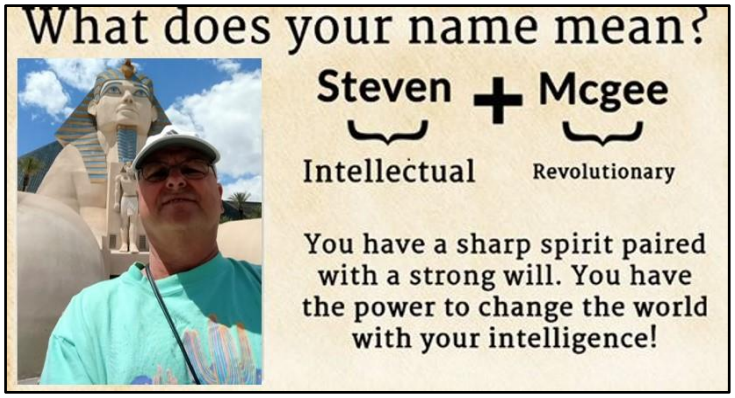
The Age of Aquarius: Aquarius, Aquarius Rising @ 6:44 A.M. Feb 10th 1960

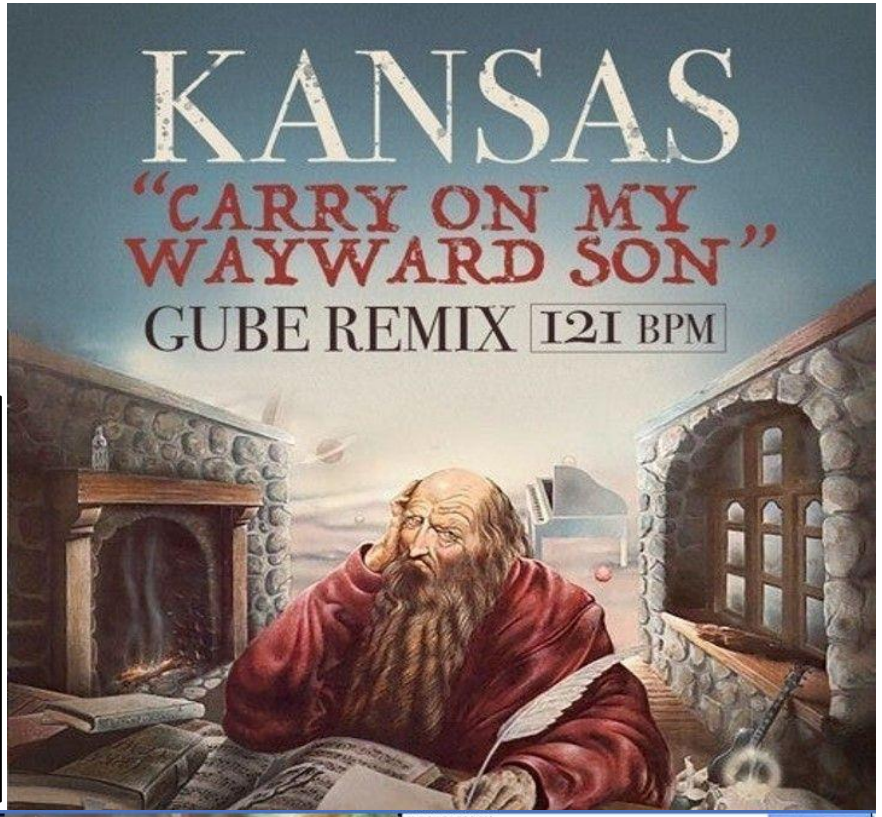
Buckminster Fuller "build a new model that makes the old model obsolete"

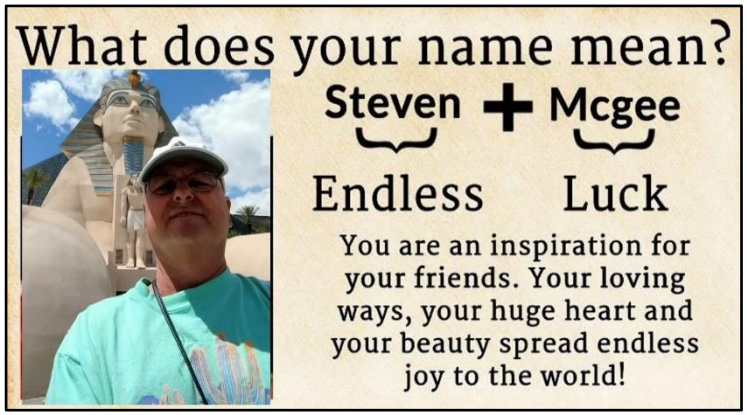
Socrates: focus all your energy on building the new, not fighting the old"

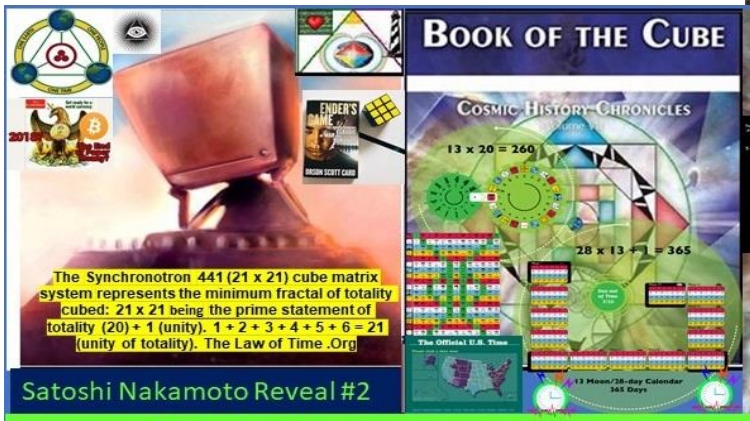
#algorithmic #stablecoin #buckminster #fuller #cryptocurrency #Milton #Friedman

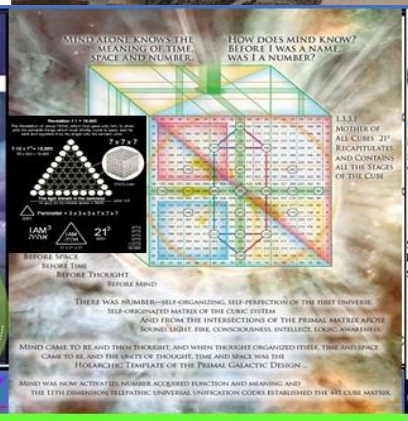
Patent Applicant 13/573,002 Curriculum Vitae

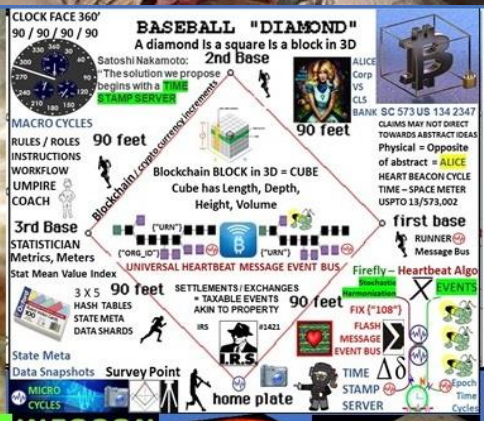




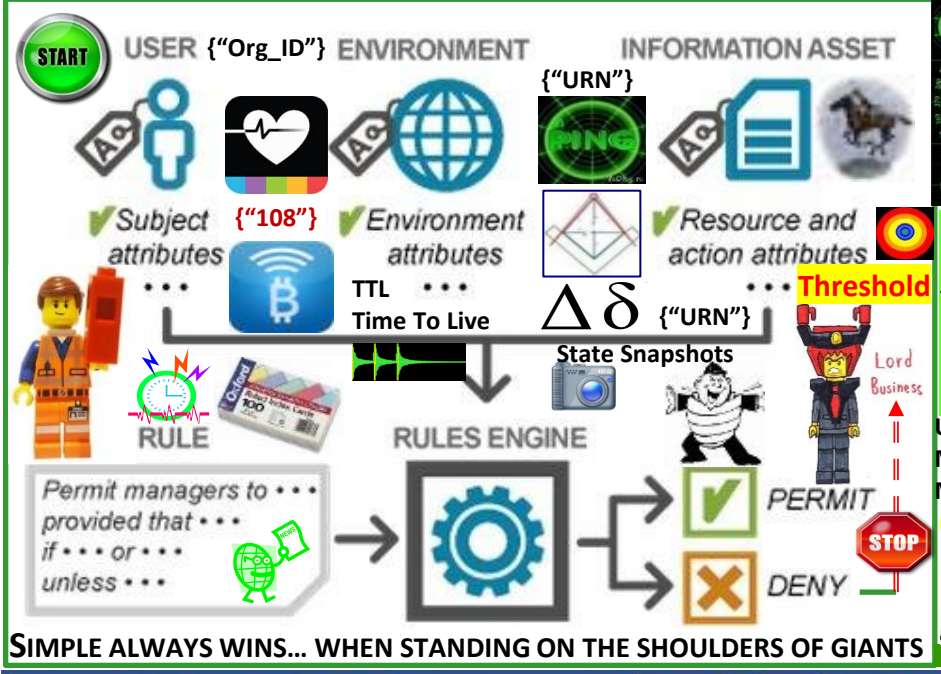








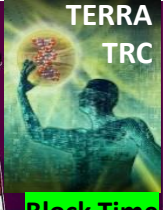
"As an avid lover of numerology and astrology, I use both in my day-to-day life.
I believe God is the ultimate mathematician, as everything around us can be viewed as numbers"
Satoshi Nakamoto White Paper 2008 "The solution we propose begins with a time – stamp server"


START
USER {"Org_ID"} ENVIRONMENT
INFORMATION ASSET
{"URN"}
Subject attributes
{"108"}
Environment attributes
Resource and action attributes
TTL Time To Live
Δ δ
{"URN"}
Threshold
State Snapshots
RULE
RULES ENGINE
Permit managers to • • •
provided that • • •
if • • • or • • •
unless • • •
PERMIT
DENY
STOP
Lord Business
SIMPLE ALWAYS WINS... WHEN STANDING ON THE SHOULDERS OF GIANTS


IDMaps
SonarHops
Distance Est


Δ δ


EARTHDAY EVERYDAY
ON THE BITCOIN BLOCKCHAIN

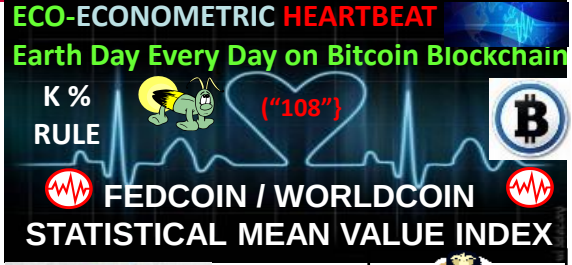

TERRA
TRC


Block Time
Arbitrage


SLA/O
INFOCON
5 4 3 2 1
INFORMATION CONDITION
Eco Incentives
UNIVERSAL
Metrics / Meme
Closer = Cheaper < Fuel
ONE EARTH
ONE PEOPLE
ONE TIME


Spatial Econometrics
BFI
THE WORLD GAME
ANNEX
EVENT / ALERT BUS
SIGNALS & TELEMETRY
r. buckminster fuller
"Build a new model
operating manual
for
spaceship earth
MONEYBALL
ECONOMICS

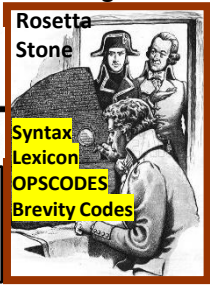

UTZ
SYNC
Earth Intelligence Network
EIN
{"URN"}
{"Org_ID"}
TRC
TERRA
RETHINKING MONEY
Bernard Lietaer and Jacqui Dunne
TIME
FRIEDMAN'S K% RULE
currencyindex
Real World Assets
COMMODITIES
INFOCON
5 4 3 2 1
INFORMATION CONDITION
Commodity Token Index World Coin
Adaptive Procedural Template
USPTO 13/573,002 / SCOTUS Alice
300+ structured data templates
Spatial-Temporal Metrics / Meter
Syntax Lexicon Rosetta Stone opscodes
DAO Trade Federation Check List
Cell: 732-768-5440
ecoeconomicepochs@protonmail.com
Github: http://github.com/Beacon-Heart
Web3 IPFS: https://ecoeconomicepochs.dao
Eco Incentives: Closer = cheaper < fuel < C02
Heartbeat Flash Message Event Bus
STAT MEAN INDEX
Firefly
Heartbeat
Sync
Algorithm
Stochastic
Harmonization
Sync to Closest Heartbeat
STATE META DATA Snapshot SYNC DELTAS
EVENT
BUS
CHECK LIST


ECO-ECONOMETRIC HEARTBEAT
Earth Day Every Day on Bitcoin Blockchain
K %
RULE
("108")
FEDCOIN / WORLDCOIN
STATISTICAL MEAN VALUE INDEX


HOW TO CHANGE THE WORLD
Swords to Plowshares
NATO / OTAN
Structured Data Exchange
300 + Message Sets
Mapped to Symbols
Symbol Sets
A.I
Artificial Intelligence
Man – Machine
Interface


SYMBOLS RULE THE WORLD
SYMBOL LOGISTICS
Semantic blockchain


"Amazing Grace"


Rosetta Stone
Syntax
Lexicon
OPSCODES
Brevity Codes