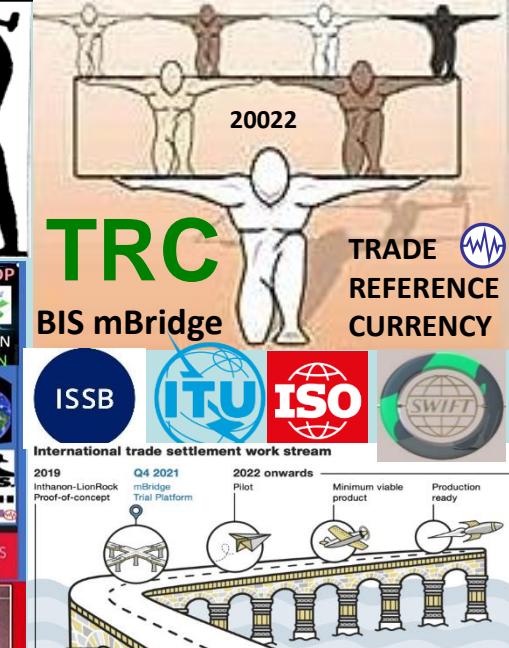


World Game Annex K

Signals & Telemetry



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



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



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

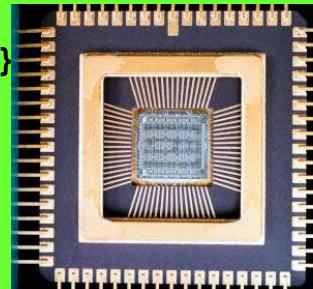


THESIS: All things internet, programmable net of \$\$ money are formed using:



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

BREVITY

CODES / SYNTAX

COMMODITIES SYMBOLS

STANDARDS

COMPLIANCE

CONSENSUS

TIME SYNC

STOCHASTIC

HARMONIZATION

QUANTUM



OPSCODE Brevity Codes / Symbols



SYSTEM OF SYSTEMS

STRUCTURED DATA



The diagram illustrates the concept of **</Org_ID>** as a sequence of **EPOCH**s and **Sync Delta** intervals.

NET OF MONEY formed by 1) Time Cycles 2) Syntax

Sync Delta

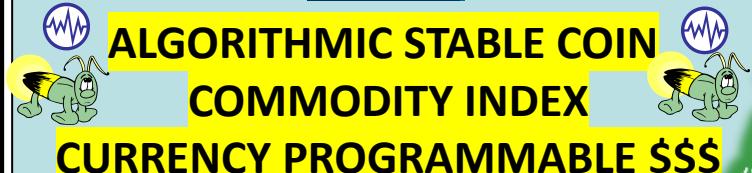
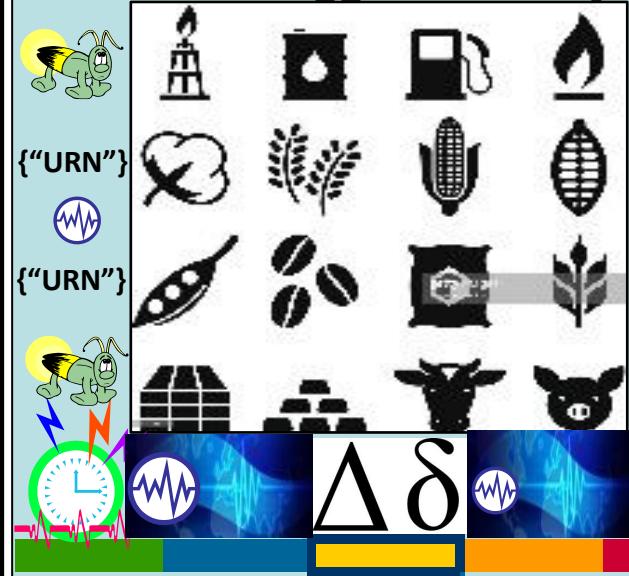
is Faster

WATER DROP PHYSICAL NATURAL MEME USPTOb13/573,002

Time Series

Tokenization of Physical Assets

RWA Pegged Currency

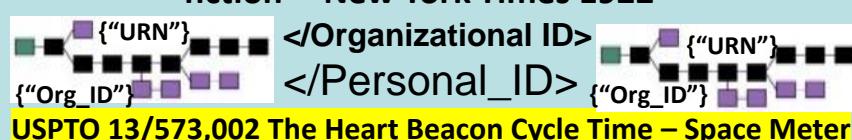


FIREFLY – HEARTBEAT ALGORITHM CHINA: nature-inspired metaheuristic optimization algorithm developed by Xin-She Yang flashing behavior of fireflies (Yang, 2008), adapted to solve continuous optimization problems (Lukasik and Žak) 2010, 2013

Thomas Edison's Monetary Option Cambridge University Press 2009

"Crops hold their value best over time"

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





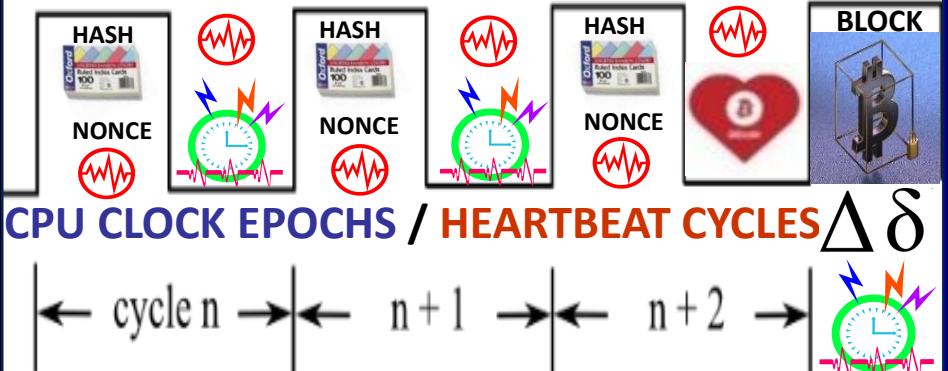


ALGORITHMIC REGULATION

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



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



ECONOMIC HEARTBEAT



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

K% RULE ECONOMIC HEARTBEAT 

THE ECONOMIC HEARTBEAT: 4% VARIABLE YEARLY GDP SNAPSHOT



WAVI



TOKENIZES CURRENCIES

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



LEADING ECONOMIC INDICATORS



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



Firefly - Heartbeat Algo



University of Bologna Italy / Hungary

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

ECO ECONOMIC HEARTBEAT

$\Delta\delta X$

("108")



K%

$\Delta\delta$

X

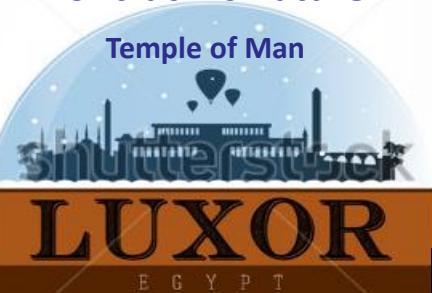
ECONOMIC MACRO CYCLES

TIME-SPACE SYNC

K% GDP ECONOMIC PULSE FEDCOIN WORLDCOIN

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

Temple of Man



LUXOR
EGYPT

FIREFLY inspired Heartbeat Sync Algo

PRECEDENCE UTZ SYNC SYNC
PROCESSING PULSE DELTAS



NEURAL NET
EMULATION



BLOCKCHAIN
PARSING Erlang
TIME EQUATIONS



{"Org_ID"}
{"URN"}

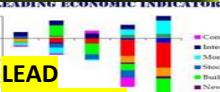
NIST Beacon
A Public Randomness Service

Crypto Currency
TIME STAMP
SERVER / SERVICE



TERRA
TRC

COMMODITY
PRICE INDEX



LEAD
ECONOMIC
INDICATORS



Will There Be a Recession?
Economist Milton Friedman



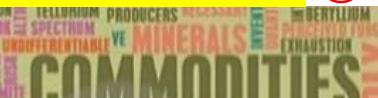
FRIEDMAN's K% RULE



STAT MEAN VALUE INDEX
SCHELLING POINT TRUTH



Price Indexes in
Time and Space
Methods and Practice



ALGORITHMIC REGULATION
TOKEN ECONOMICS

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

UTZ TIME ZONE SYNC



SYNC TO CLOSEST HEARTBEAT
{"URN"} {"URN"} {"URN"}
HEARTBEAT EVENT FLASH MESSAGE BUS

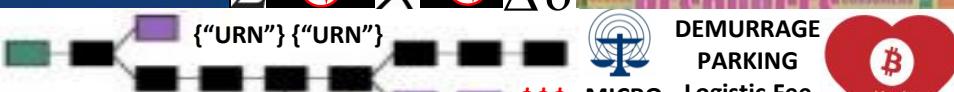
UTZ STOCHASTIC HARMONIZATION
Universal Metrics / Meters

Geo-spatial Temporal Syntax-Semantic Sync & Consensus

SAMPLING CURRENCY PAIR ON / OFF SHORE

SYNC DELTA 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.



DEMURRAGE
PARKING
MICRO Logistic Fee Payments
Incentives



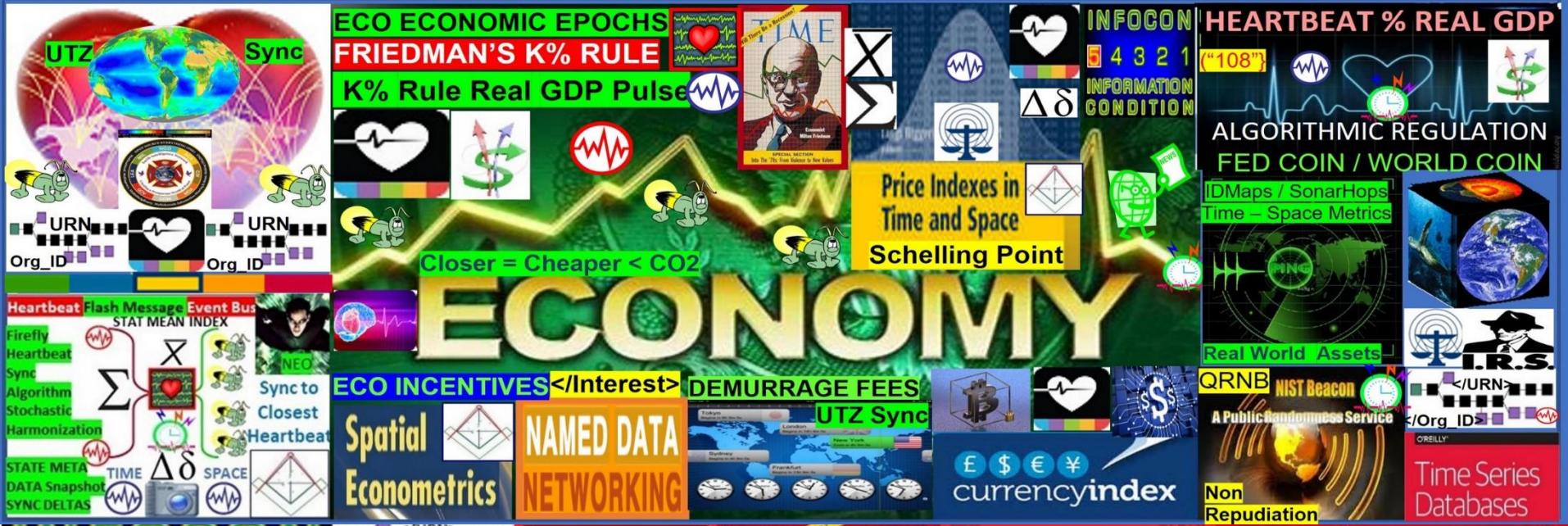
All things Net, Net of \$\$\$ formed by Time Epoch Cycles

cycle n n + 1 n + 2

$\Delta\delta$

"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



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

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

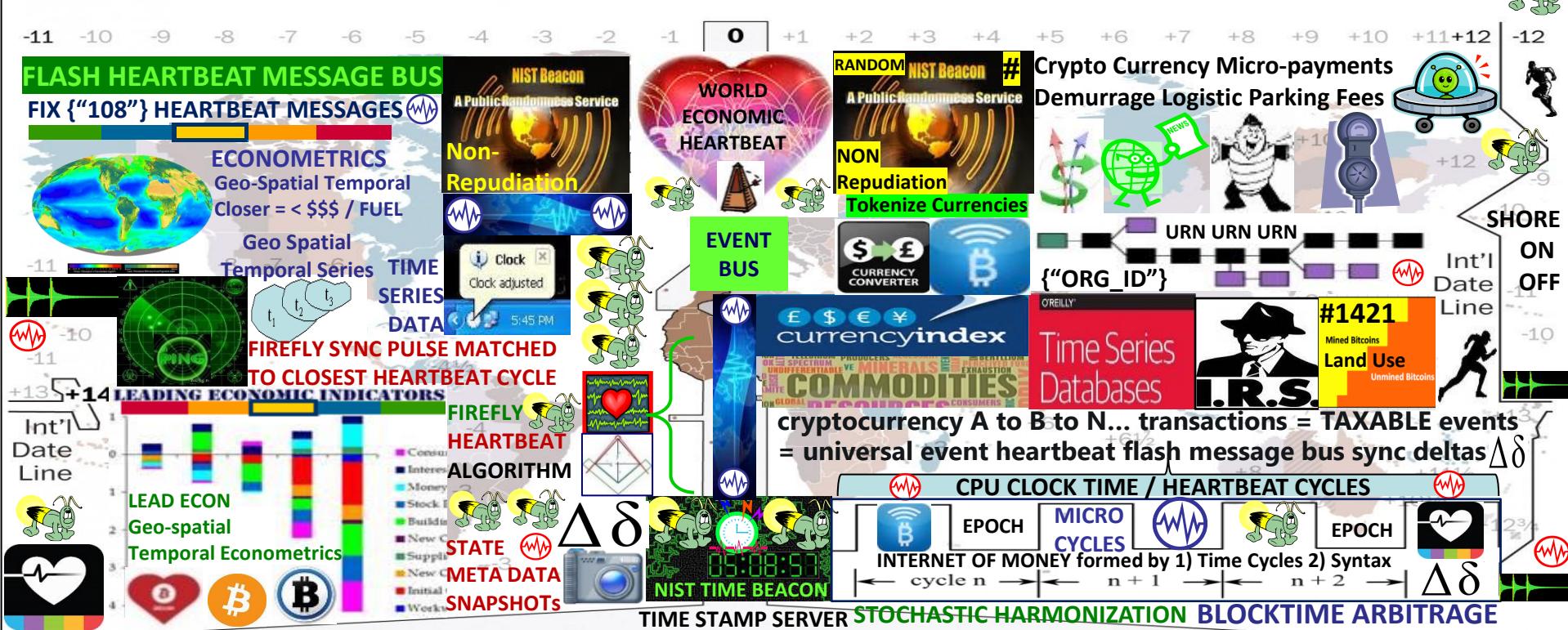


Attribute Series





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



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

Quantum Financial System vs BlockChain

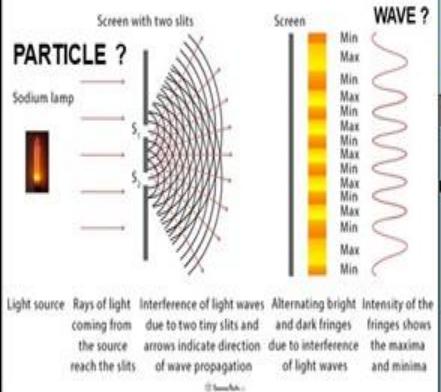
TIME
CHAIN

QFS

TIME
STAMP
SERVER

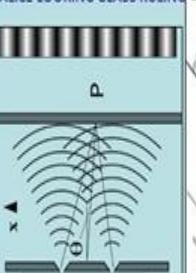
<https://gesara.news>

Double-Slit Experiment



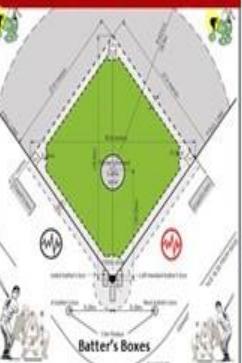
QUANTUM COMPUTING

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

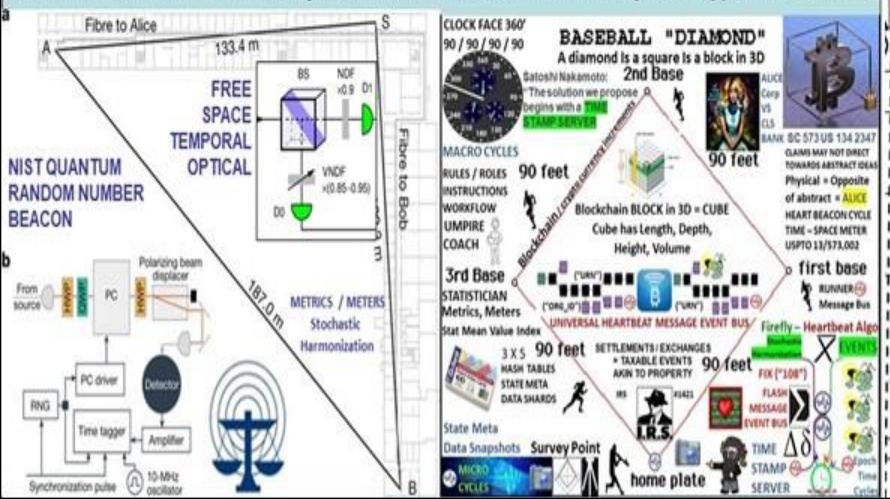


USPTO APPLICATION 13/573,002

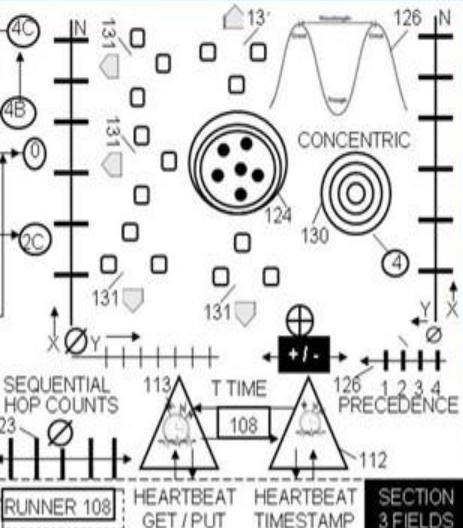
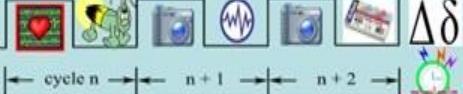
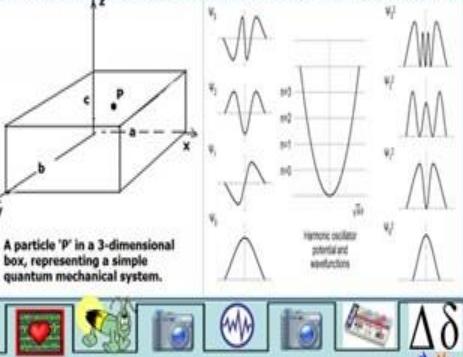
The Heart Beacon Cycle Time-Space Meter
Main Embodiment: Baseball Diamond = Block in 3D = cube



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



QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS



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

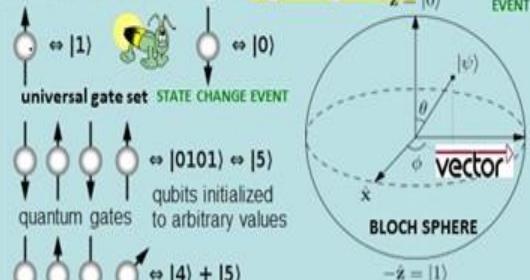
US Ct Alice Corp Vs CLS Bank Physical memes

Linear sequential "Paul Revere" meme = horizontal polarization

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

particle representation / samples

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



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

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

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



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

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

"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"



QuantumComputing USet Alice Corp Vs CLS Bank compliant memes:
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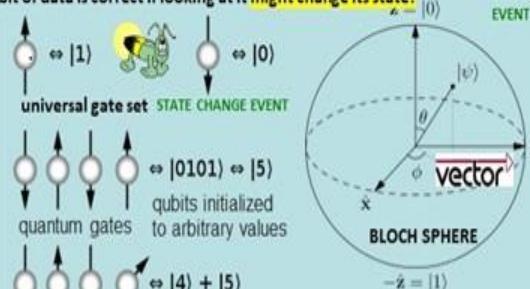
US Ct Alice Corp Vs CLS Bank Physical memes

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

Humanitarian Assistance Networked Donor System

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



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



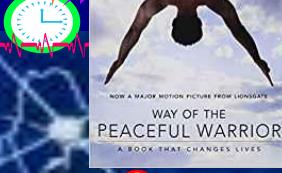
Reuse adaptive procedural template guides from Battlefield Digitization among a federated systems of systems improving synergy, synchronicity to achieve shared sustainable goals



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



OPERATIONS
OTHER
THAN
WAR



Beacon Communities

Vernetzte Operationsführung



PING

Proximity Beacons

JAEGERS

BIOCOIN



Closer < \$\$\$ < FUEL

PING

Event / Alert Flash Heartbeat Message Bus

ALGORITHM

FREELY

HEARTBEAT

EVENT / ALERT Flash Heartbeat Message Bus

JBFSA



"PAINT IT A
DIFFERENT
COLOR"

Joint Blue Force
Situational Awareness

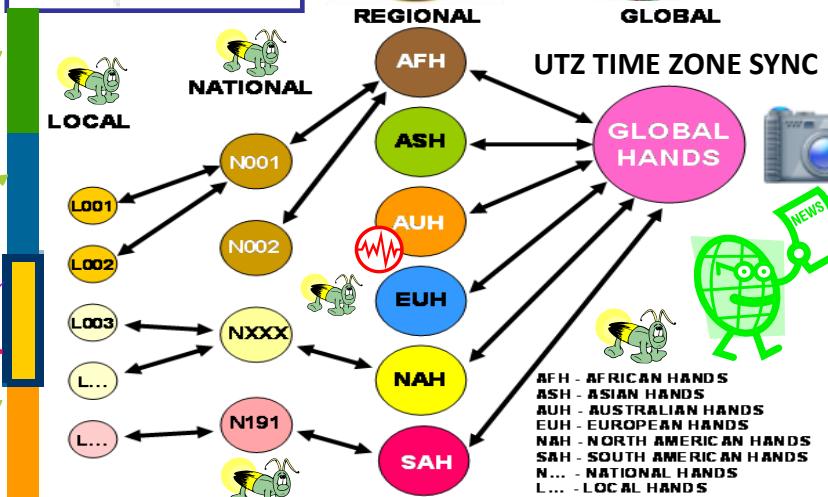


FEDERATE *
SHARE * WIN



GLOBAL

SYSTEM
Of
SYSTEMS



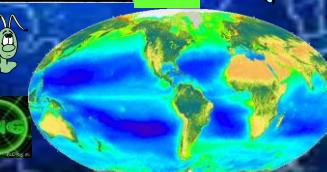
AFH - AFRICAN HANDS
ASH - ASIAN HANDS
AUH - AUSTRALIAN HANDS
EUH - EUROPEAN HANDS
NAH - NORTH AMERICAN HANDS
SAH - SOUTH AMERICAN HANDS
N... - NATIONAL HANDS
L... - LOCAL HANDS



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



DAN MILLMAN



OFF SHORE
OUTER BANKS



KAIJU

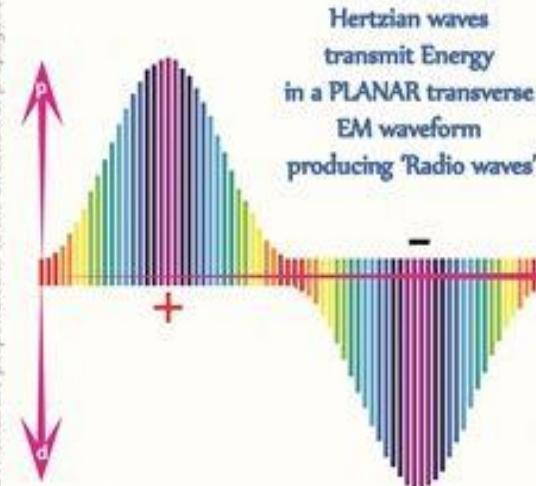


CLOSER = < Infrastructure
= CHEAPER SLA

ElectroMagnetic waveforms



ENERGY / DATA
Over
Transmission
Lines / Airwaves



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

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



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

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

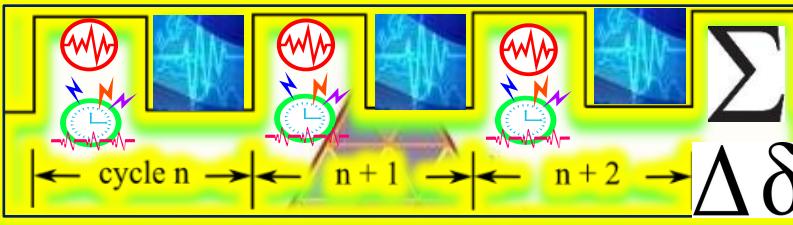
Through longitudinal waves, Tesla transferred energy to receiving devices. He sent electrostatic forces through the air, transferred electrical energies and noted the lethal forces produced by these waves.

Heinrich Hertz

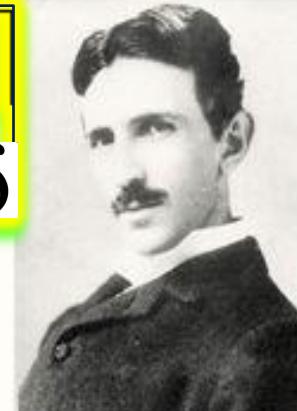


(22 February 1857 - January 1 1894)

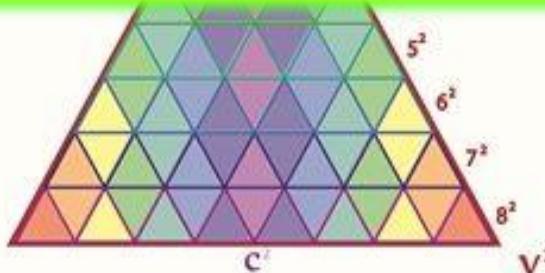
INTERNET = 1. TIME EPOCH CYCLES 2. Syntax (not) Processed in cycle



Nikola Tesla



(10 July 1856 – 7 January 1943)



Cycles per Second

Volts per Second

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

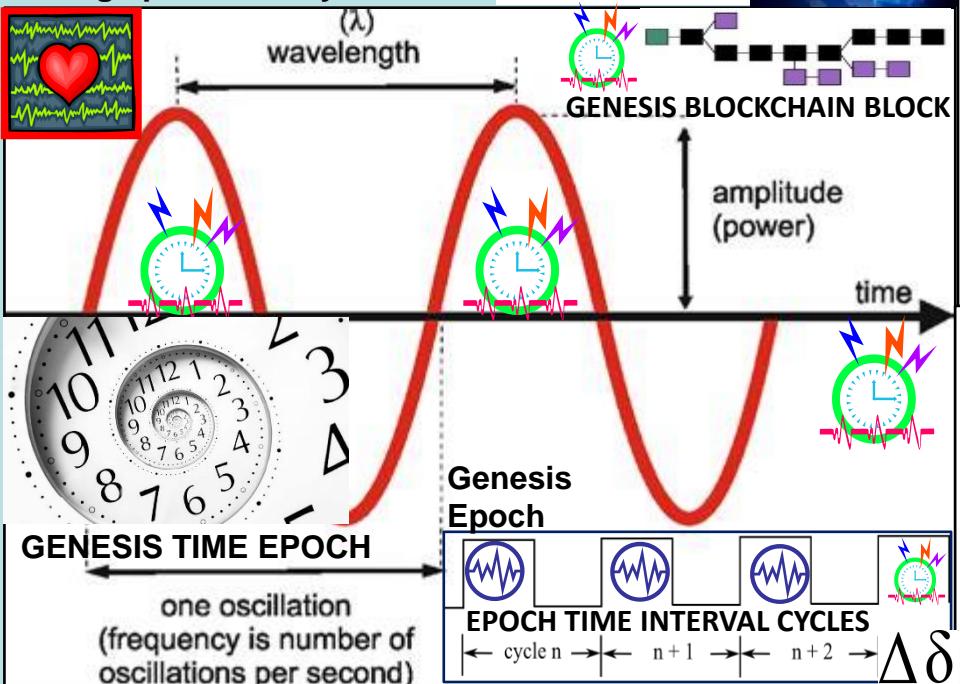
THESIS: All things net, net of programmable \$\$\$ are formed using:

ENERGY / DATA WAVE METRICS / METERS

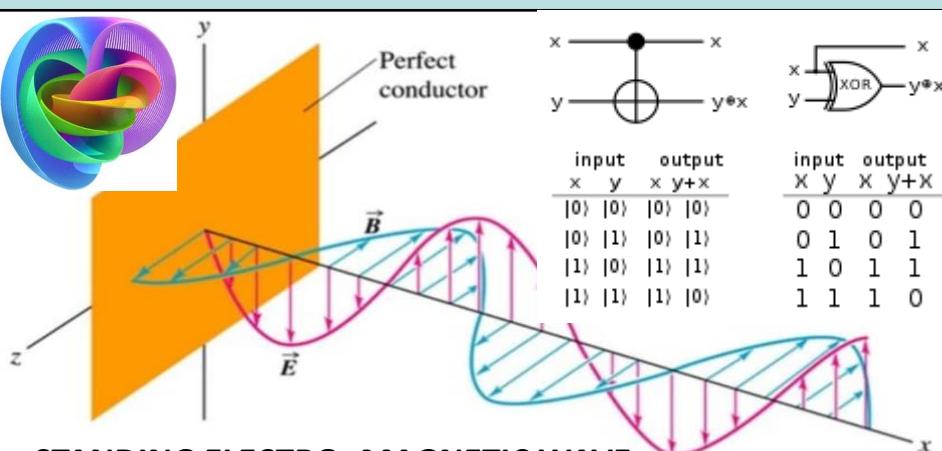
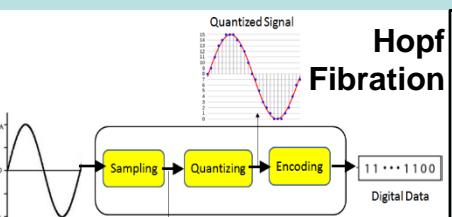
BELL STATE QUANTUM COMPUTING

1) Time epochs created by quartz crystal silicon chips

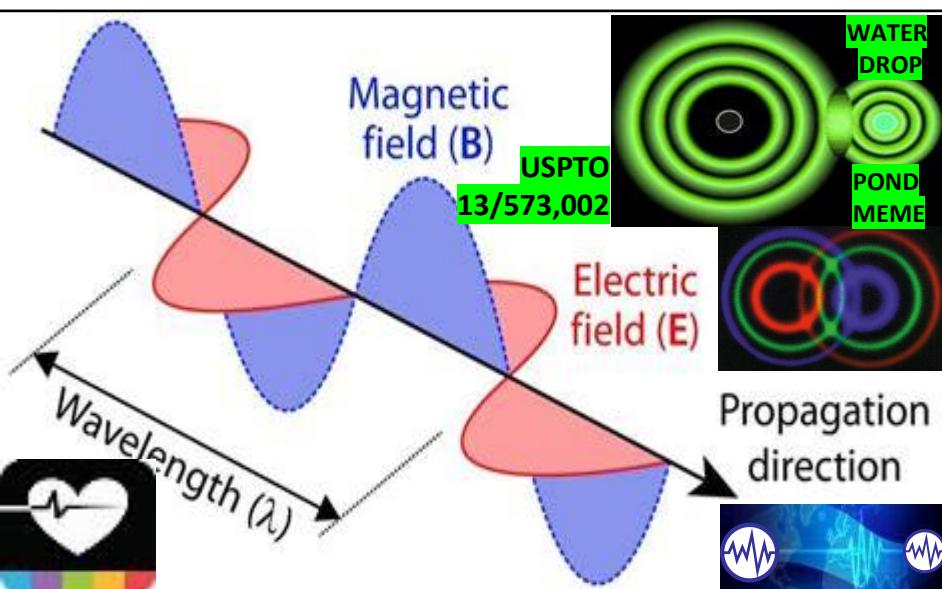
2) Syntax used / not used as programming instructions during epoch time cycles



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

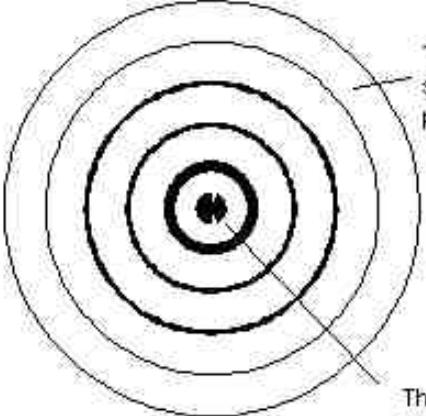


A **standing** electromagnetic wave does not propagate along the x-axis; instead, at every point on the x-axis the E and B fields simply oscillate.



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

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



Paul Revere Linear, sequential meme

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

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

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

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

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

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

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

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

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



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



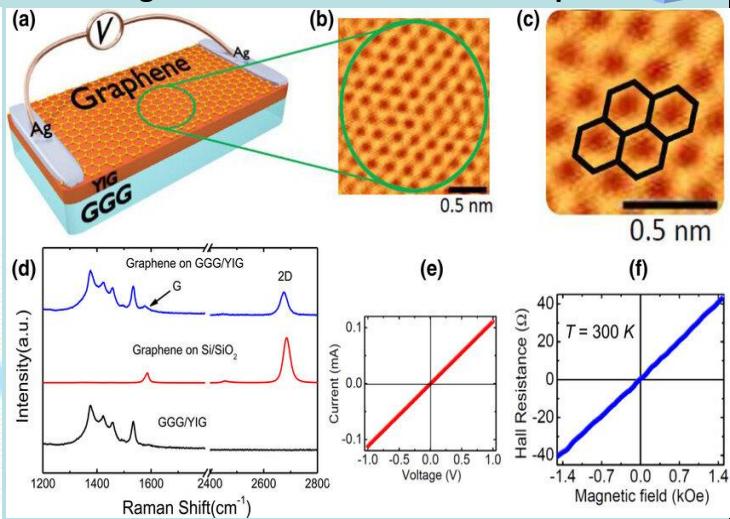
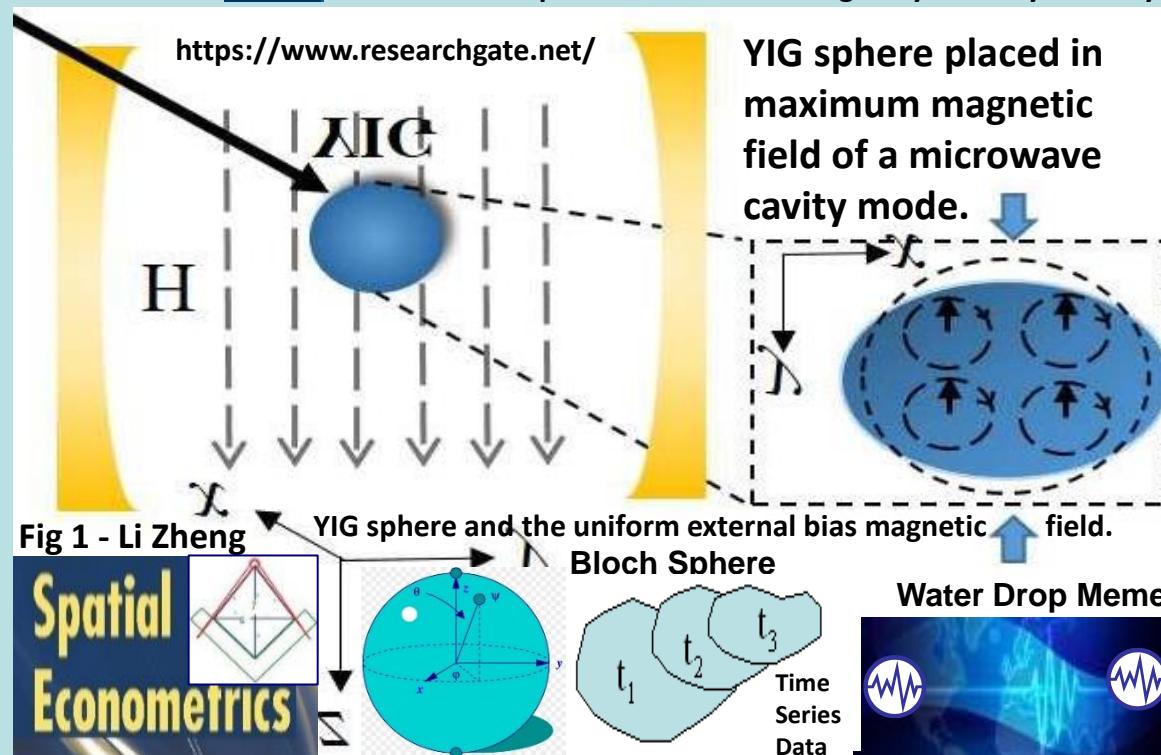
TESLA Harmonic Sphere Flux Resonator

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

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

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

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



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

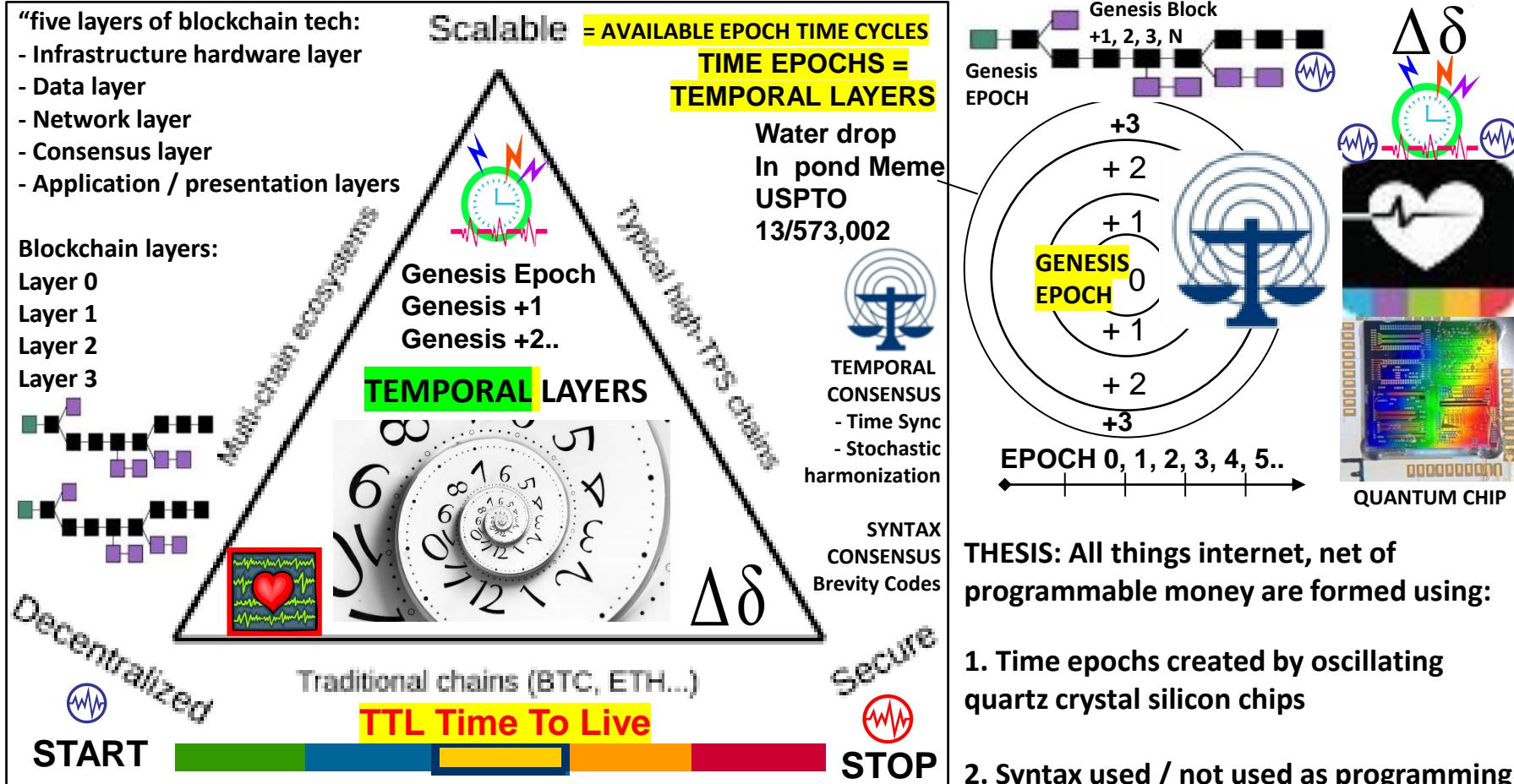
IEEE 802.1AG HOP BY HOP DETECTION
IEEE 802.11 HbH HOP BY HOP CONTROL

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





Blockchain Quad-lemma



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

Database Flat File

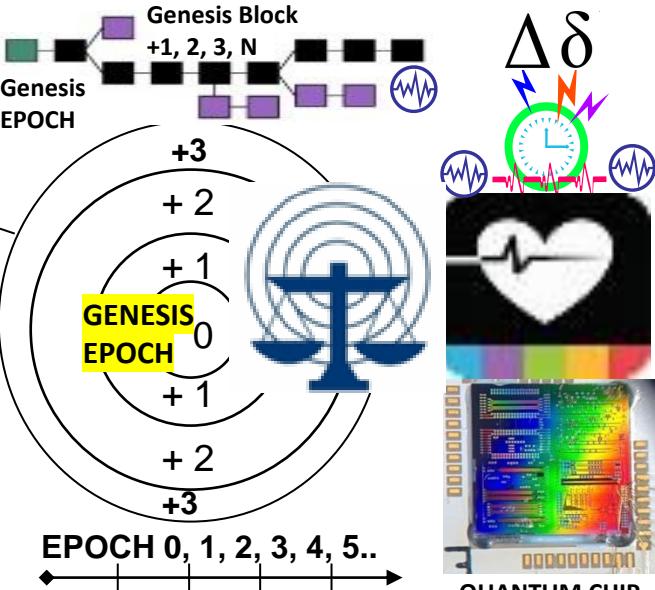
"BLOCKCHAIN" = LEDGER / Database

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

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

NET, Net of programmable \$\$\$ Programming Reality Ground Truth

No Layers L0, L1, L2... only GENESIS EPOCH, Follow on Epoch time cycles, intervals, cycles



THESES: 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..

THE BITCOIN BLOCKCHAIN FOR DUMMIES



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

Satoshi Nakamoto Bitcoin Paper



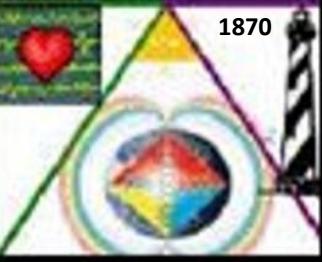
Satoshi Nakamoto



Craig WRIGHT
a.k.a.
Satoshi Nakamoto



"Bitcoin is a LANGUAGE"



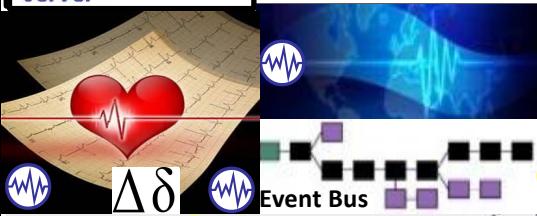
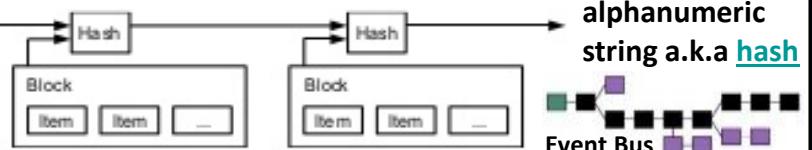
Wright Brother's 1st Flight
Cape Hatteras Outer Banks

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

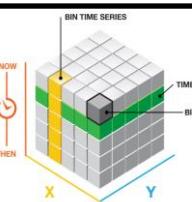
3. Timestamp Server

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

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



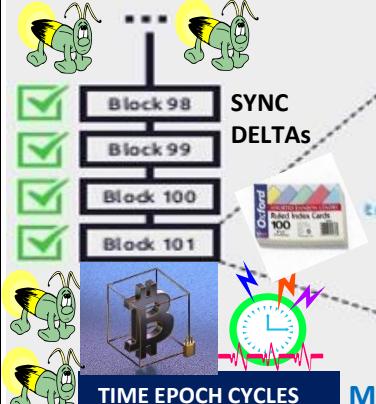
JapanNet Crypto Time Authentication Service (Timestamp Service)



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



"THE VALUE OF BITCOIN IS TIME ITSELF"



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

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

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

CLOCK FACE 360'
90 / 90 / 90 / 90



MACRO CYCLES

RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH

3rd Base
STATISTICIAN
Metrics, Meters
Stat Mean Value Index

State Meta
Data Snapshots
Survey Point
MICRO CYCLES

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

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



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

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

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

90 feet
FIX {"108"}
FLASH MESSAGE EVENT BUS
TIME STAMP SERVER



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

first base
RUNNER Message Bus

Firefly – Heartbeat Algo
EVENTS
X
TIME STAMP SERVER
TIME CYCLES

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

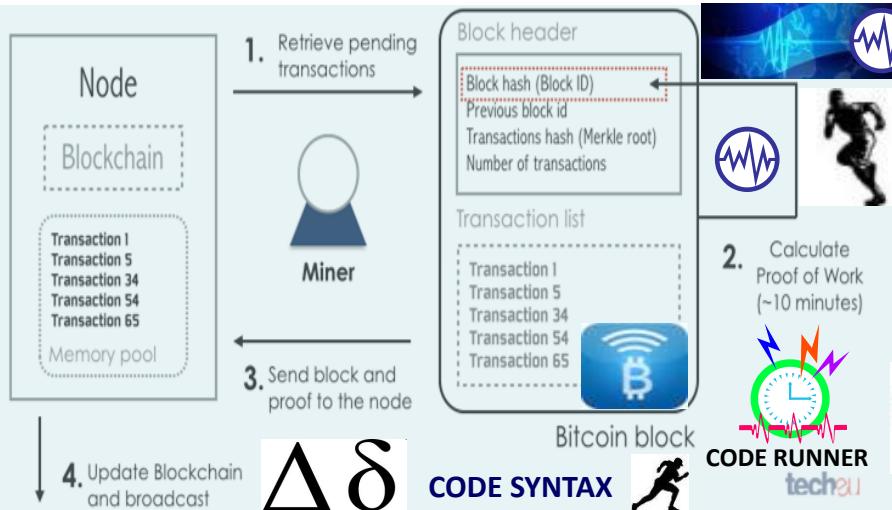


“Bitcoin is a Language”

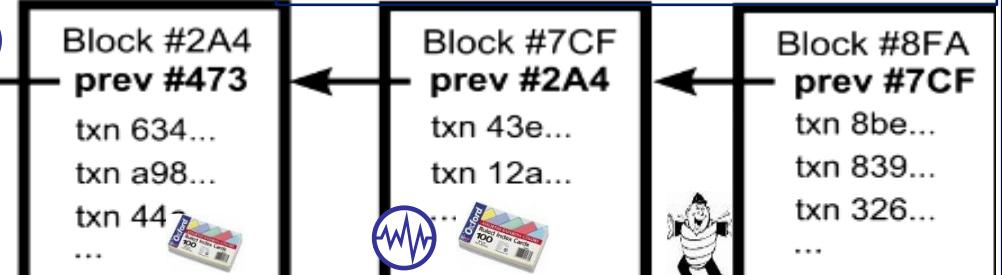
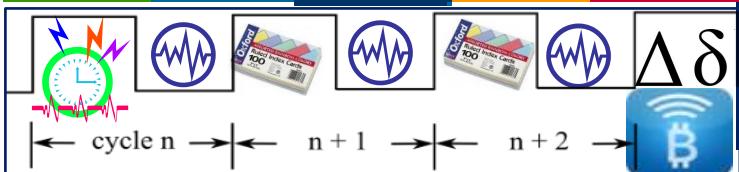
WIRED

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

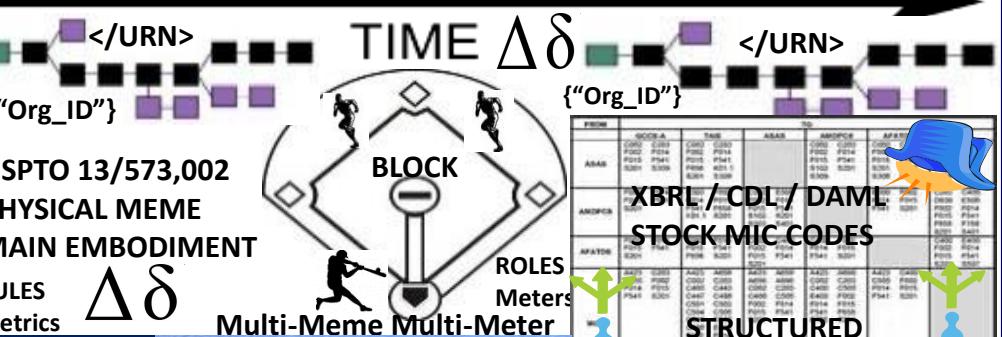
Alice Corp. v. CLS Bank International, 573 U.S. 134 SCt 2347 (2014) is a 2014 decision of the United States Supreme Court about patentable subject matter (patent eligibility).[2] The issue in the case was whether certain claims about a computer-implemented, electronic escrow service for facilitating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



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



BLOCKCHAIN = TIME / SYNTAX



TIME EPOCHS CYCLES



The diagram illustrates the interconnected nature of financial reporting standards and their practical applications:

- XBRL / CDL / DAML** are shown at the top, with arrows pointing down to **STOCK MIC CODES**.
- STOCK MIC CODES** are connected to **STRUCTURED DATA EXCHANGE**, **TEMPLATE FORMS**, **LOGIC / FILTERS**, **SYNTAX**, and **LEXICON LIBRARY**.
- STRUCTURED DATA EXCHANGE**, **TEMPLATE FORMS**, **LOGIC / FILTERS**, **SYNTAX**, and **LEXICON LIBRARY** are interconnected among themselves.
- On either side of the central components are two stylized human figures, each holding a green arrow pointing upwards, symbolizing the flow of information or the integration of different parts of the system.

Net of \$\$\$ formed with:

1 EPOCH TIME CYCLES

2 {"Syntax"} "The Word"

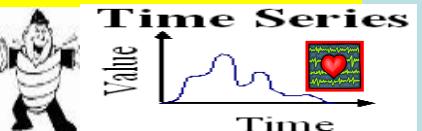
"In the Beginning" Genesis Block

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

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

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

NAMED DATA NETWORKING



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



STRUCTURED DATA EXCHANGE

TEMPLATE FORMS

300+ USE CASES

LOGIC / FILTERS



SYNTAX / SYMBOL LEXICON LIBRARY

SYNTAX LEXICON Library

1st Compiler

R W A

Real World Assets

Alpha Numeric Brevity Codes

Coder Guide

State Meta

Data Snapshots

Survey Point

MICRO CYCLES



"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA"

"Bitcoin's Value is TIME itself"

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



ALICE CORP VS CLS BANK

"claims may not be directed towards an abstract idea"

US SC 573 US 134 2347



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

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



MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW

UMPIRE

COACH

3rd Base

STATISTICIAN

Metrics, Meters

Stat Mean Value Index

3 X 5 HASH TABLES

STATE META DATA SHARDS

Settlements / Exchanges

= TAXABLE EVENTS

AKIN TO PROPERTY

IRS #1421

home plate

TIME STAMP SERVER

BASEBALL "DIAMOND"

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



Blockchain BLOCK in 3D = CUBE

Cube has Length, Depth,

Height, Volume

Blockchain / crypto currency increments

90 feet

90 feet

90 feet

90 feet

SETTLEMENTS / EXCHANGES

= TAXABLE EVENTS

AKIN TO PROPERTY

IRS #1421

home plate

TIME STAMP SERVER

Fix "108"

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

Delta



BANK SC 573 US 134 2347

CLAIMS MAY NOT DIRECT

TOWARDS ABSTRACT IDEAS

Physical = Opposite

of abstract = ALICE

HEART BEACON CYCLE

TIME – SPACE METER

USPTO 13/573,002

first base

RUNNER

Message Bus

Firefly – Heartbeat Algo

X EVENTS

Stochastic Harmonization

Fix "108"

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

Delta

Directed Acyclic Graphs

Proof-of-Work

Proof-of-Stake

Delegated Proof-of-Work

Proof-of-Elapsed Time

Proof-of-Blockchain

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

HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

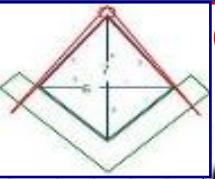
SC ALICE CORP VS CLS BANK: “claims may not direct towards abstract ideas”

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

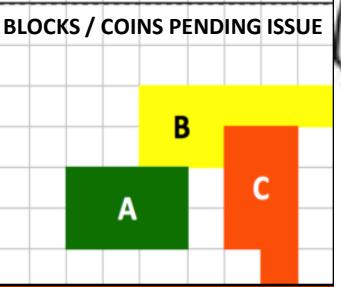


Memo #1421: Purchased Bitcoins are treated akin to property

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



Mined Bitcoins



$$\Delta\delta$$

Unmined Bitcoins



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

IDMaps-SONARHOPS distance estimation query-reply service

- End-state Bitcoin quantity will be fixed like land

“Bitcoin as protocol of ownership, not transfer”

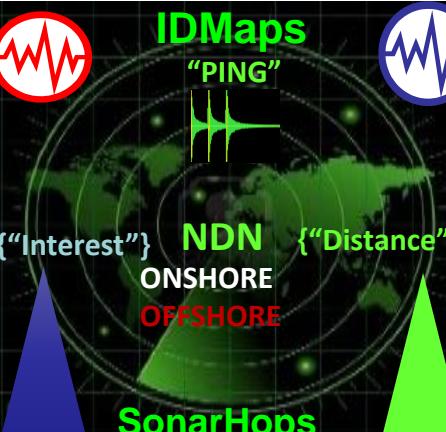
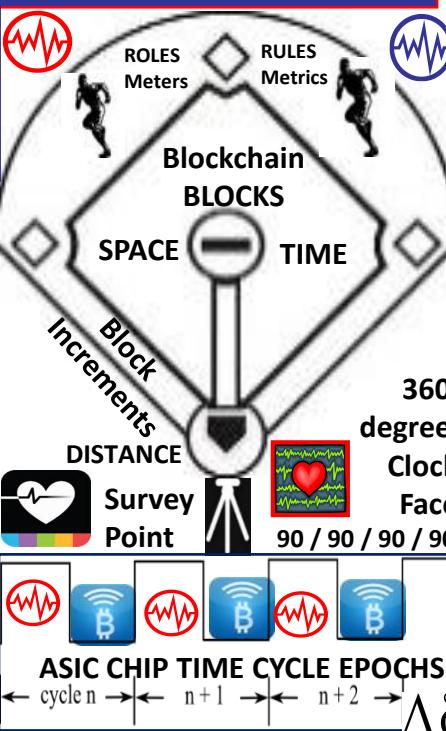
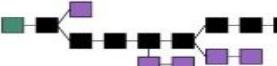
Coins never travel, but simply switch owners”

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

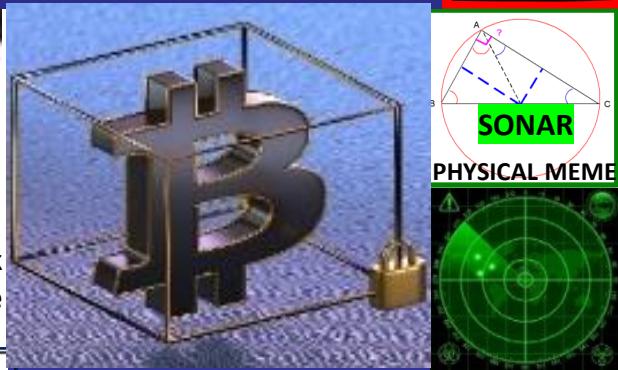
Step 4: Issuing Org of Record adjudicates w buyer



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





ISO Technical Committee TC68

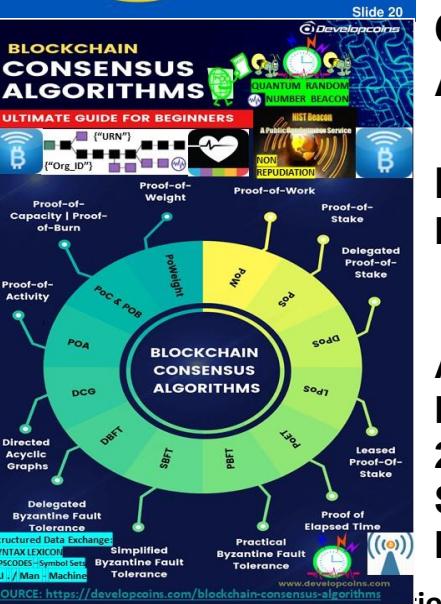
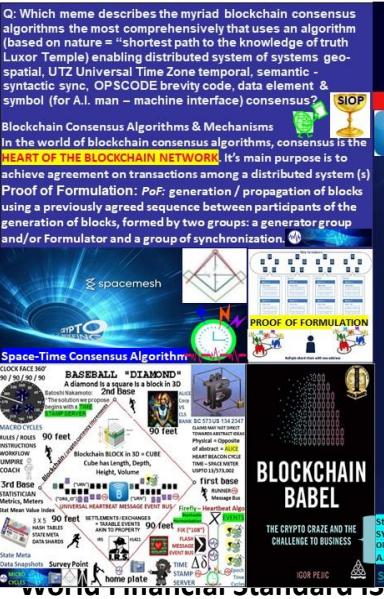
Financial Services

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

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

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

ISO 20022 LV 66



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>

NET FUNDAMENTALS USED BY MANY OTHER SYSTEMS / FRAMEWORKS

"The fundamental value driver is easy integration of applications into subsystems, of subsystems into systems, and of systems into larger SYSTEM OF SYSTEMS"

The term *unicast* is contrasted with the term *broadcast*, which means transmitting the same data to all possible destinations. Another multi-destination distribution method, *multicasting*, sends data only to *interested* destinations by using special address assignments.



"Supports huge fanout. With the only standardized reliable multicast protocol, Connext DDS can provide updates to thousands of endpoints efficiently"

BOOK Large Scale Network Centric Distributed Systems

A workflow consists of an orchestrated, repeatable pattern of business activity enabled by the systematic organization of resources into processes that provide services, or process information. It can be depicted as a sequence of operations, declared as work for a person or GROUP, an organization of staff, or one or more simple or complex mechanisms.

<http://en.wikipedia.org/wiki/Workflow>

THE GLOBAL EARTH OBSERVATION SYSTEM OF SYSTEMS

White Boxes vs. Parallel and Distributed Computing

<SHARED>

<GLOBAL>

<JOINT>

<DOMAIN>

<COMMUNITY>

<PRIVATE>

<GLOBAL> <JOINT> <COMMUNITY><DOMAINS><SHARED><PRIVATE>

<INTEREST> <STRAT_ML> <IDDEF_ID> <DISTANCE>

Situational Awareness Reference Architecture (SARA)

IDENTITY, Inventory, Activity, and Sharing

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

STRUCTURED MILITARY 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 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

</Organizational_Identifier_Org_ID>

Organizational Units OU, OU, OU

Don't Panic

STRUCTURED <CONTENT> TEMPLATES

FILTERS LOGIC

MIL STD 2525A

DISTANCE ESTIMATE SERVICE

IDMaps SonarHOPS

K0.99 Heartbeat Message

CROWD SOURCING TRIANGULATION

vector CROWD SOURCING / FUNDING

PARTIDO X: Distributed Democratic Participation

ETHEREUM: Decentralized Autonomous Organizations

VOTE ON BLOCKCHAIN FEDERATED ID

KEYSTONE FEDERATION

Identity Provider

- Mapping - Protocol

openstack

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

<Part> <Part> <Part>

<URN> <URN>

<ROLE> <RULES>

TIME STAMP

CLOSER = CHAPERONE

SITUATION AWARENESS

FILTERED BY ROLES

EVERYONE / ALL GROUPS NEED TO KNOW = "DUCK!"

SHARED SITUATION UNDERSTANDING: WHERE AM I, WHERE ARE MY FRIENDS? CYCLICAL REPORTING DURING MICRO-CYCLES AGGREGATED IN MACRO-CYCLES

BEFORE DATA STATE META DATA SNAPSHOTS JUST TIME BEACON

NDN: "FRESH DATA" = TTL

IoT / Every-WHERE Geo-Lo

ARIN American Registry for Internet Numbers

Uniform Resource Names (URNs): A Uniform Resource Identifier (URI). Both URNs (names) and URLs (locators) are URLs, and a particular URI may be a name & locator. Each plays a specific role:

- URNs IDENTIFICATION (SENSORS, DEVICES) <DATA CLASS TYPES>

- URLs LOCATE / FIND RESOURCES

SITUATION AWARENESS NEWSCAST

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

BY <TAG TYPES> Ledgers Contracts Trade SLA Agreements

CROWD SOURCING TRIANGULATION

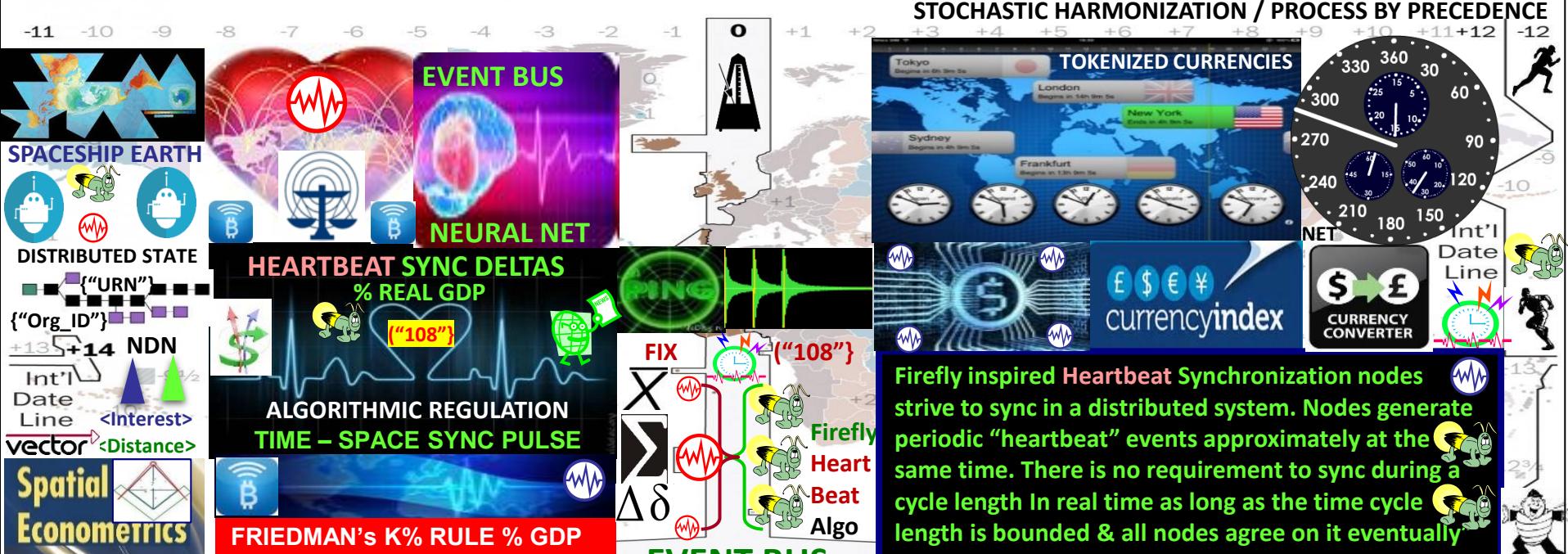
TELCO MESH FABRIC vector

PARTIDO X: Decentralized Autonomous Organizations

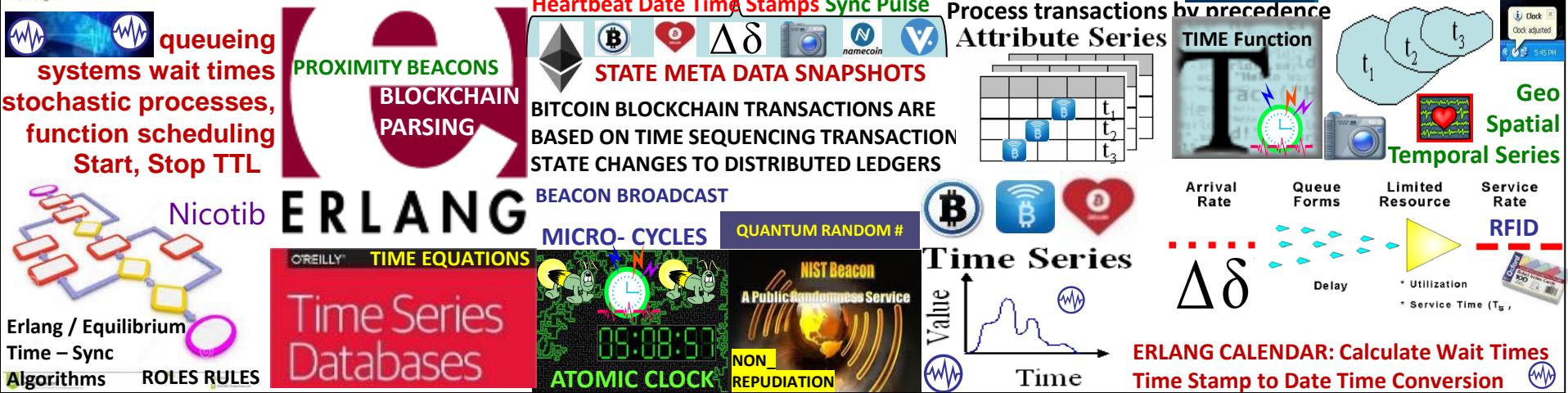
ETHEREUM: DAO

VOTE ON BLOCKCHAIN FEDERATED ID

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



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



Structured Data Exchange



SYNTAX LEXICON
ROSETTA STONE

Coder's Guide lexicon.

STRUCTURED
<CONTENT>
EXCHANGE
TEMPLATES

MIL STD 2525ABC

ASSET TOKENS

"SYMBOLS RULE THE WORLD"

11.8 - Kinematic
11.8.1 - Pos
11.8.1.1 -
11.8.1 -

STRATML XAML

XBRL
THE BUSINESS REPORTING STANDARD
BINARY XML
Decision

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

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

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



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

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

MTL Machine Trust Language



{"URN"} {"TRANSACTION ID"}

MESSAGE TEXT FORMAT :

SEG RPT OCC CLASSNAME SETID SEQ FIELD OCCURRENCE SET FORMAT NAME

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

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

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



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



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



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



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

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

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

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



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

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

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

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

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

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

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

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

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

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

SYMBOLS	Friend	Neutral	Hostile	DICAL EVAC & HOSPITALISATION
	Partner		Competitor	M - MILITARY OPERATIONS

TOKENIZED ECONOMY BREVITY CODE OPSCOSE MAPPET TO SYMBOLS

Δδ INDEX REFERENCE #: M015 STATUS :

EFFECTIVE: 14-DEC-99

PURCHASE CODES

FEDERATED PEGS

{"URN"} {"ASSET_CLASS"}

{"URN"} {"ASSET_TYPES"}

ISO 10383 – MIC

Market Identifier Codes

DAO {"URN"} {"Org_ID"}

{"Org_ID"} {"URN"}

BLOCKTIME

ARBITRAGE

ERLANG

TIME

EQUATIONS

STOCK NDN NAMED DATA

EXCHANGE NETWORKING

MIC CODES PRECEDENCE

FILTERS PROCESSING

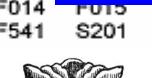
BLOCKTIME

ARBITRAGE

ERLANG

TIME

EQUATIONS

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

MESSAGE CATALOG

300 + Use Cases

Data Elements: entity, attribute, relationship equivalents

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

Information Categories and Examples

Information Elements Roles

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



FFUDN: Field Format Unit Designator

EFIRN Field Format Index Reference #

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



PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES

DATA SYSTEM FUNCTIONS

PERFORMANCE

11.4 - Classification	11.8 - Kinematics
11.4.1 - Category	11.8.1 - Pos / Vel / Acc (PVA)
11.4.1.1 - Confidence Level	11.8.1.1 - Acceleration
11.4.1.2 - Estimate Type	11.8.1.1.1 - Angular
11.4.1.2.1 - Alternative	1.1.2 - Linear
11.4.1.2.2 - Evaluated D	2 - Estimate Type
11.4.1.3 - Value	PURCHASE CODES
	1.2.1 - Estimated
	1.2.2 - Observed
	1.2.3 - Predicted

SYMBOL

Friends

Neutral

Hostile

25250

Partne

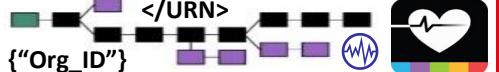
1

Competitor

11.4.1.3.4 - Substance		4 - Velocity
11.4.1.3.5 - Surface		1.4.1 - Horizontal
11.4.2 - Platform / Point / Feature Type	Feature Type	1.4.2 - Vertical
11.4.3 - Specific Type		VA Confidence
11.4.4 - Type Modifier		1 - Bearing Angle
11.4.5 - Unit		2 - Bearing Angle Rate
		3 - Covariance Matrix



MIL STD 2525A, B, C, D



20022

STRUCTURED
DATA
EXCHANGE
SYNTAX LEXICON
ROSETTA STONE

Coder's Guide lexicon

STRUCTURED <CONTENT> EXCHANGE TEMPLATES	
MIL	STD 2525ABC
MIL	ASSET TOKENS
MIL	"SYMBOLS RULE THE WORLD"
MIL	11.8 - Kinematics 11.8.1 - Pos. 11.8.1.1 - 11.8.1.1 - Vertical 11.8.1.2 - Horizontal 11.8.1.3 - Vertical

STRATML

XBRL XAML

Inform BINARY XML

• COI D
• Search
• Ontology
• Taxonomy
• Metadata

UBL TOSCA

DDL DATA
DEFINITION
LANGUAGE

FFUDN: F

INFOCON
4 3 2 1
INFORMATION
CONDITIONSYMBOLS
RULE THE
WORLD"SYMBOLS
RULE THE
WORLD"

"108" NDN

Firefly-Heartbeat Flash Messages

PROCESS MESSAGE BY PRECEDENCE
UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES

DATA SYSTEM FUNCTIONS PERFORMANCE

11.4 - Classification
11.4.1 - Category11.4.1.1 - Confidence Level
11.4.1.2 - Estimate Type11.4.1.2.1 - Alternative
11.4.1.2.2 - Evaluated
11.4.1.3 - Value

PURCHASE CODES

SYMBOL Friend Neutral Hostile Competitor

2525C Partner

11.4.1.3.5 - Surface

11.4.2 - Platform / Point / Feature Type

11.4.3 - Specific Type

11.4.4 - Type Modifier

11.4.5 - Unit

11.4.1.1.1 - Angular

11.4.1.1.2 - Linear

11.4.1.2.1 - Estimated

11.4.1.2.2 - Observed

11.4.1.3 - Predicted

11.4.1.4 - Smoothed

11.4.1.5 - Interpolated

11.4.1.6 - Extrapolated

11.4.1.7 - Covariance Matrix

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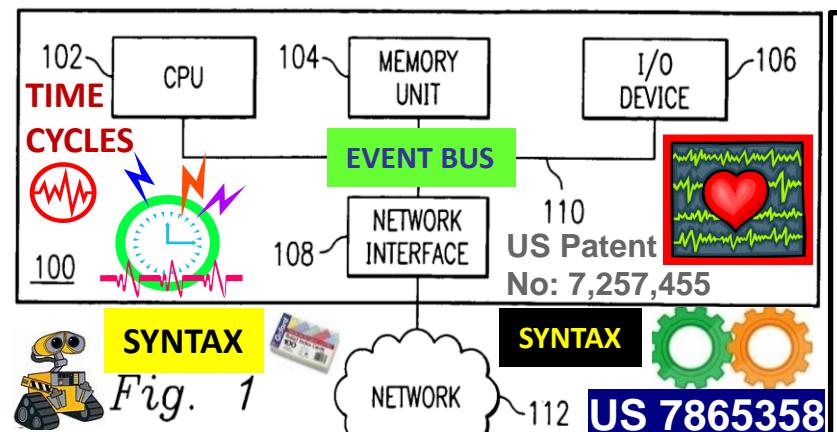
11.4.1.226 - Covariance Matrix

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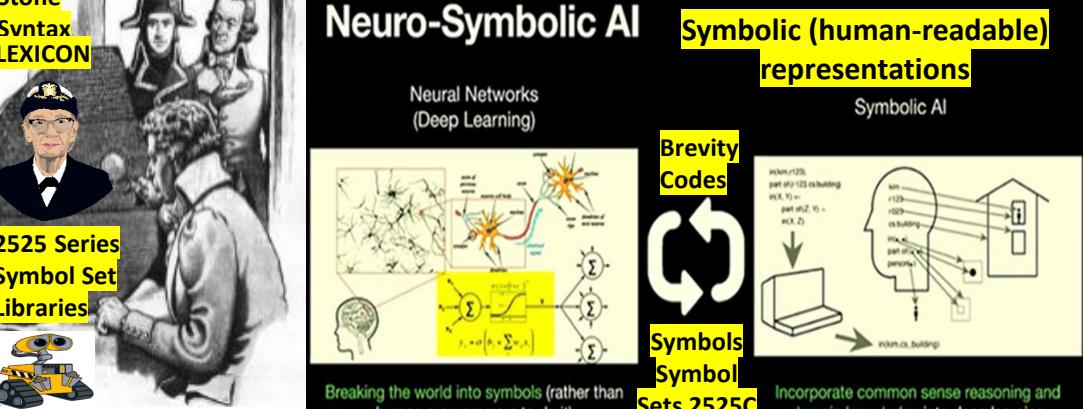
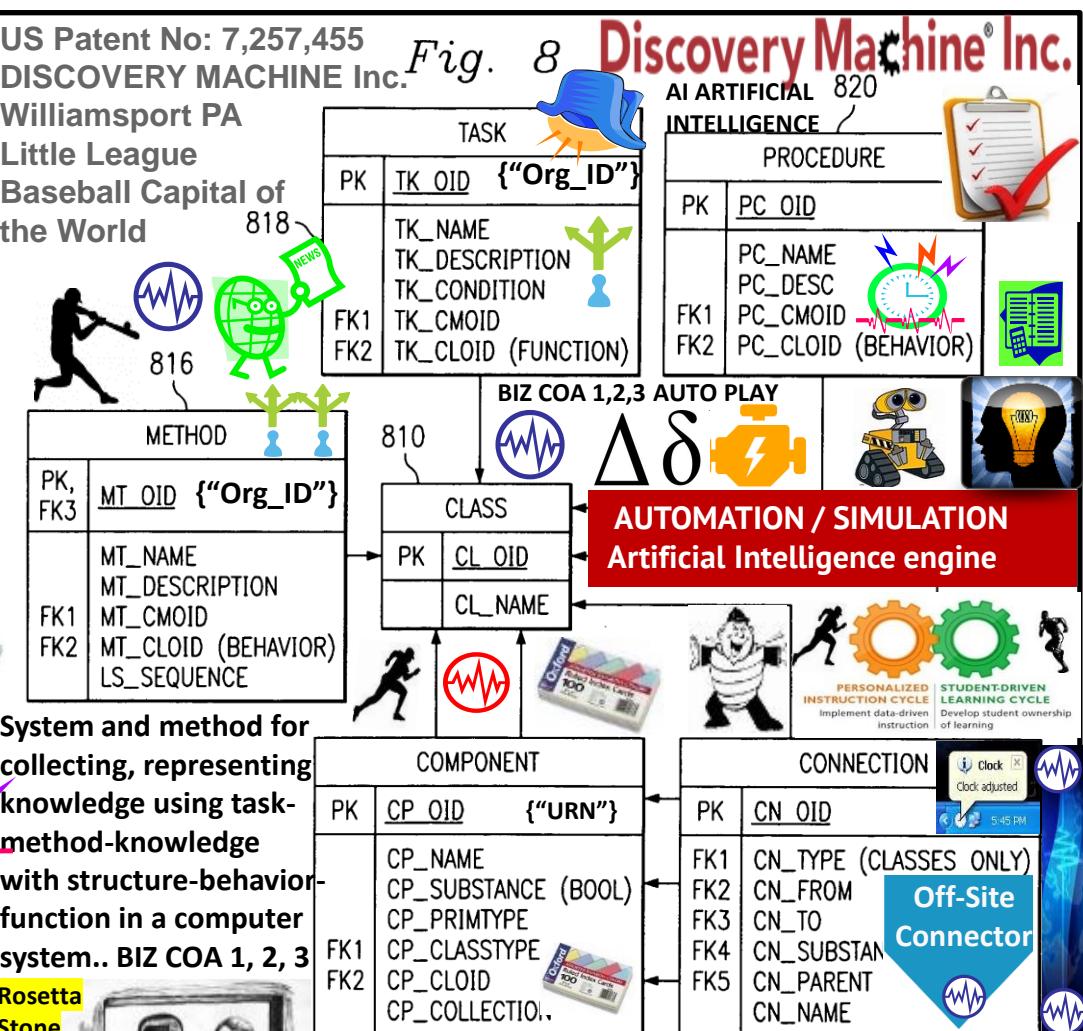
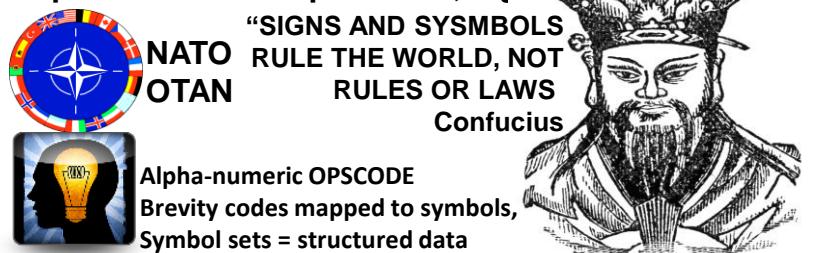


Machine-based system for transforming data from a source form to a target form, a tool is provided for sharing information established in developing a transformation model. The shared information may relate to rules for mapping source collection terms to standardized terms, rules for ordering or SYNTAX,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

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

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

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



Symbolic artificial intelligence: collection of all methods in artificial intelligence

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

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

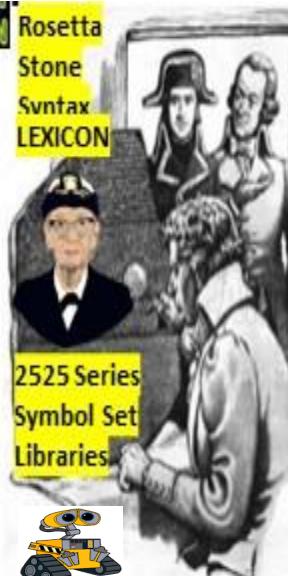
This claim implies both that human thinking is a kind of symbol manipulation (because a symbol system is necessary for intelligence) and that machines can be intelligent (because a symbol system is sufficient for intelligence).[3] The idea has philosophical roots in Hobbes (who claimed reasoning was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

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

data from a first form to a second form

CONDITION

Rosetta
Stone
Syntax
LEXICON



2525 Series
Symbol Set
Libraries



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



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

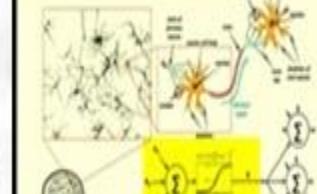
FRZ TLP CLOUD FRS TUN PAREN

ABCA OPS CODE BREVITY CODES

Neuro-Symbolic AI

Symbolic (human-readable)
representations

Neural Networks
(Deep Learning)



Breaking the world into symbols (rather than
symbolic symbols)

Brevity
Codes



Symbols



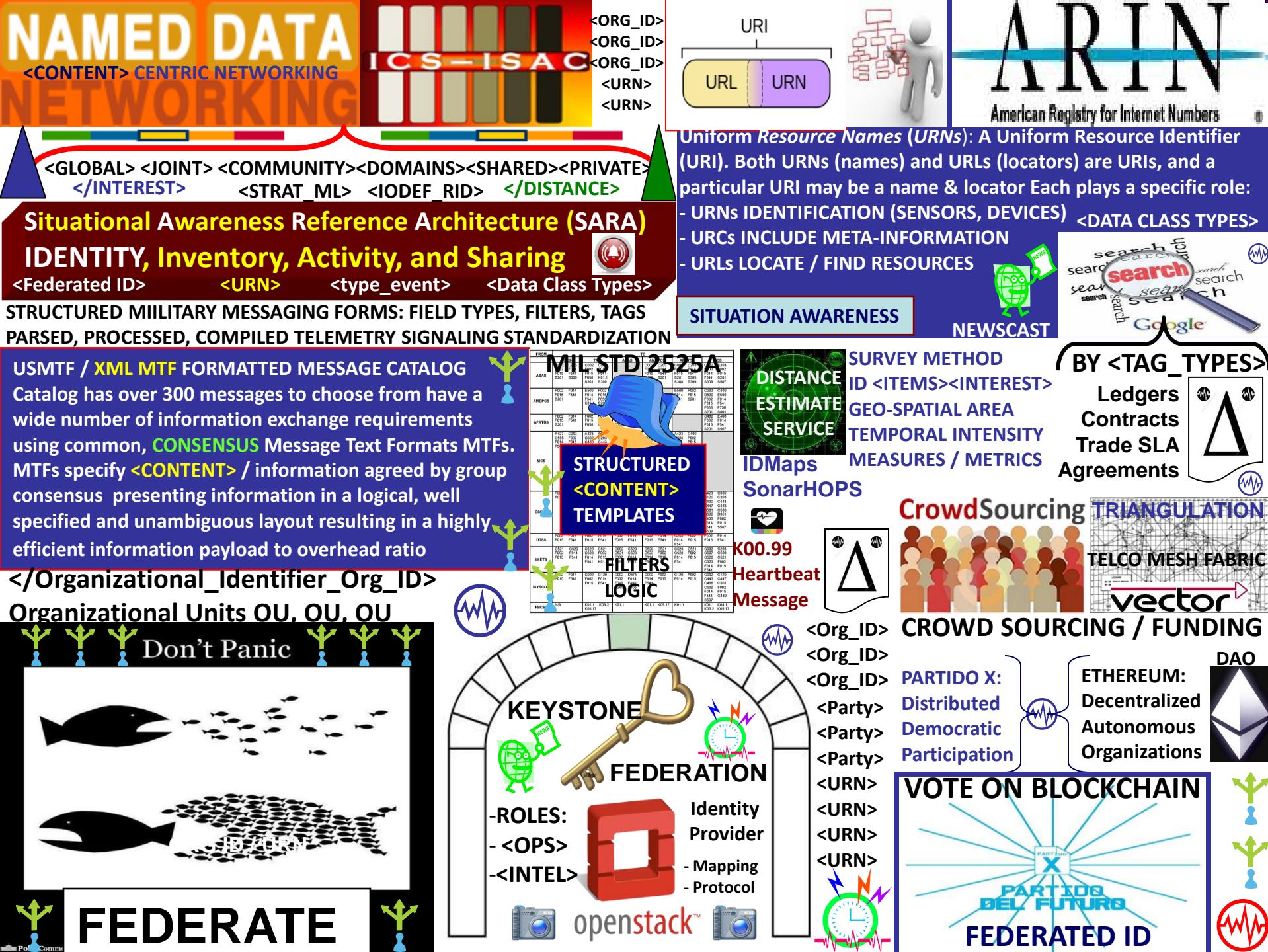
Symbol



Symbolic AI



Incorporate common sense reasoning and



Situational Awareness Reference Architecture (SARA)

Identity, Inventory, Activity, and Sharing

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



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

<ELEMENTS>

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

STRATEGIC MARKUP

StratML

LANGUAGE

Industrial Control System Information Sharing and Analysis Center

INVENTORY: Uniform Resource Name <URN>

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

UNIFIED EVENT / ALERT TRIGGER / THRESHOLDS

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

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

CONTENT LEXICON
ROSETTA STONE

SHARING:

COMMON <TAGS>

<Organizational_ID>

Resource Names <URN>

<Time_Stamps>

<State-Meta_Data>

<DATA_CLASS_TYPE>

<Heartbeat_snapshots>

<TAG>LIBRARY
TEMPLATES



AVALANCHE

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

NIST CYBER SECURITY FRAMEWORK

FROM	TO	MCS
QCB2-A	TAB	AMOPCS
ABAD	F012 F014 F015 F016 F018 F019 F020 F021 F022 F023 F024 F025 F026 F027 F028 F029 F030 F031 F032 F033 F034 F035 F036 F037 F038 F039 F040 F041 F042 F043 F044 F045 F046 F047 F048 F049 F050 F051 F052 F053 F054 F055 F056 F057 F058 F059 F060 F061 F062 F063 F064 F065 F066 F067 F068 F069 F070 F071 F072 F073 F074 F075 F076 F077 F078 F079 F080 F081 F082 F083 F084 F085 F086 F087 F088 F089 F090 F091 F092 F093 F094 F095 F096 F097	
AMOPCS	F012 F014 F015 F016 F018 F019 F020 F021 F022 F023 F024 F025 F026 F027 F028 F029 F030 F031 F032 F033 F034 F035 F036 F037 F038 F039 F040 F041 F042 F043 F044 F045 F046 F047 F048 F049 F050 F051 F052 F053 F054 F055 F056 F057 F058 F059 F060 F061 F062 F063 F064 F065 F066 F067 F068 F069 F070 F071 F072 F073 F074 F075 F076 F077 F078 F079 F080 F081 F082 F083 F084 F085 F086 F087 F088 F089 F090 F091 F092 F093 F094 F095 F096 F097	

CYBER SECURITY CONTENT
LEXICON ROSETTA STONE

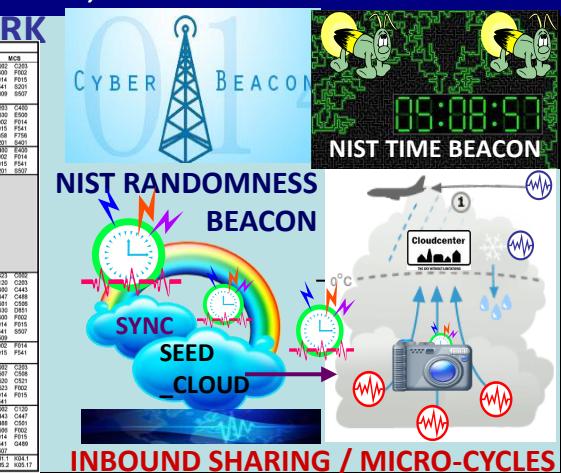
MIL-STD-
2525A

STRUCTURED
<CONTENT>
TEMPLATES

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

<TAG>
LIBRARY



Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



ECONOMIC HEARTBEAT
K %



GOVERNANCE 2.0



BITNATION



FEDERATE
SHARE
WIN



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

Federation
Gateway



CHANNEL

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

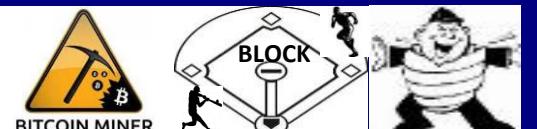
{"GLOBAL"}
{"SHARED"}
{"DOMAIN"}
{"COMMUNITY"}
{"PRIVATE"}
{"GROUP ID"}



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



Bitcoin Mining Pools
MEME / METAPHOR MEDIATION



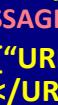
DISTRIBUTED AUTONOMOUS ORGANIZATION = DAO RAND Corp

term coined circa 1991 now in use by Blockchain tech corporations

Uniform_Resource_Name



IeT DEVICE / PLATFORM
IoT SENSOR DEVICE



</RESOURCE> {"URN"}

{"Asset_Class"} </URN>

STOCK EXCHANGE

MIC MARKET IDENTIFIER

CODES / BREVITY CODES

</RESOURCE> {"URN"}

{"Asset_Class"} </URN>

STOCK EXCHANGE

MIC MARKET IDENTIFIER

CODES / BREVITY CODES

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

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

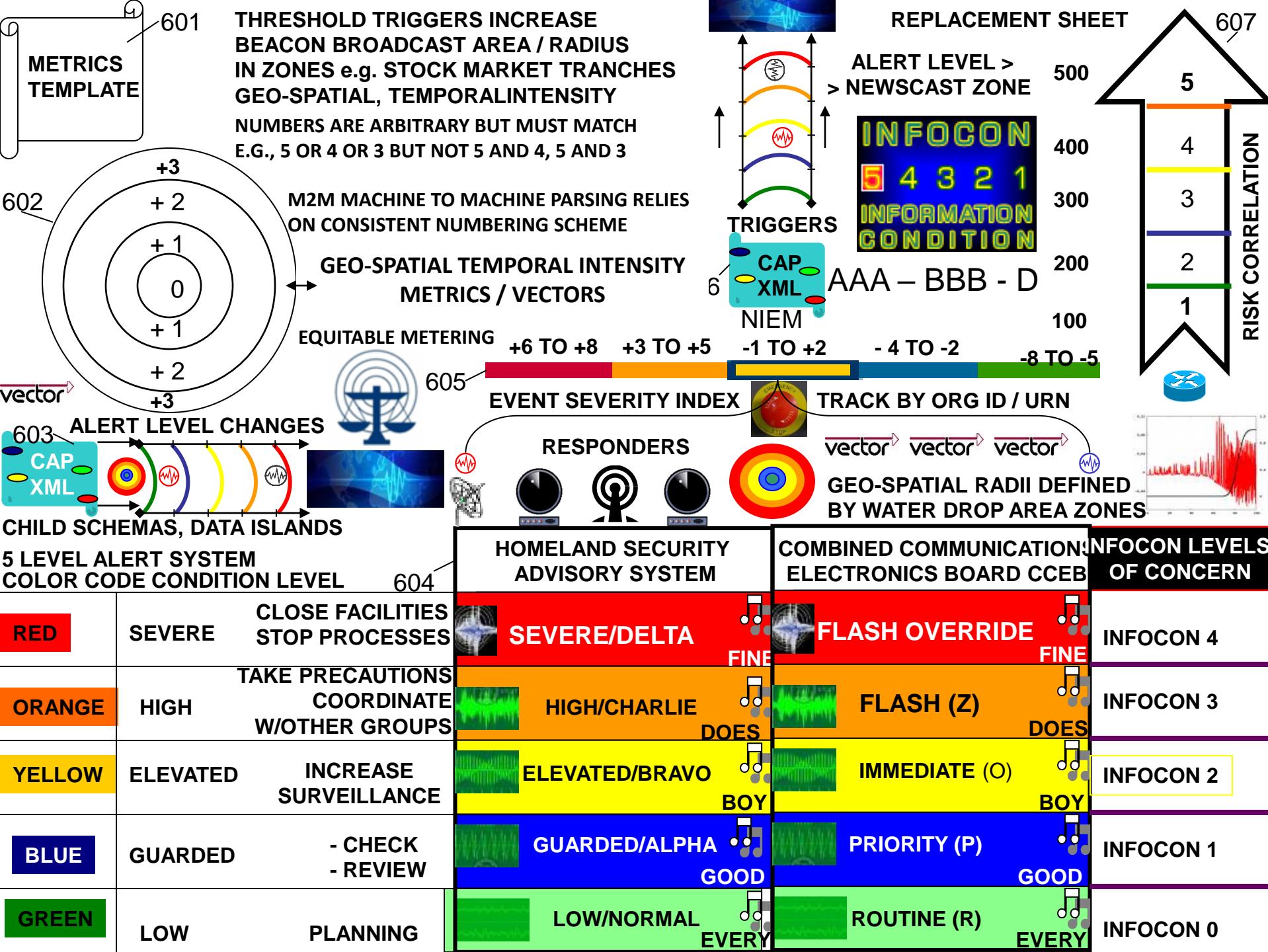
UUID 123e4567-e89b-12d3-a456-426655440002





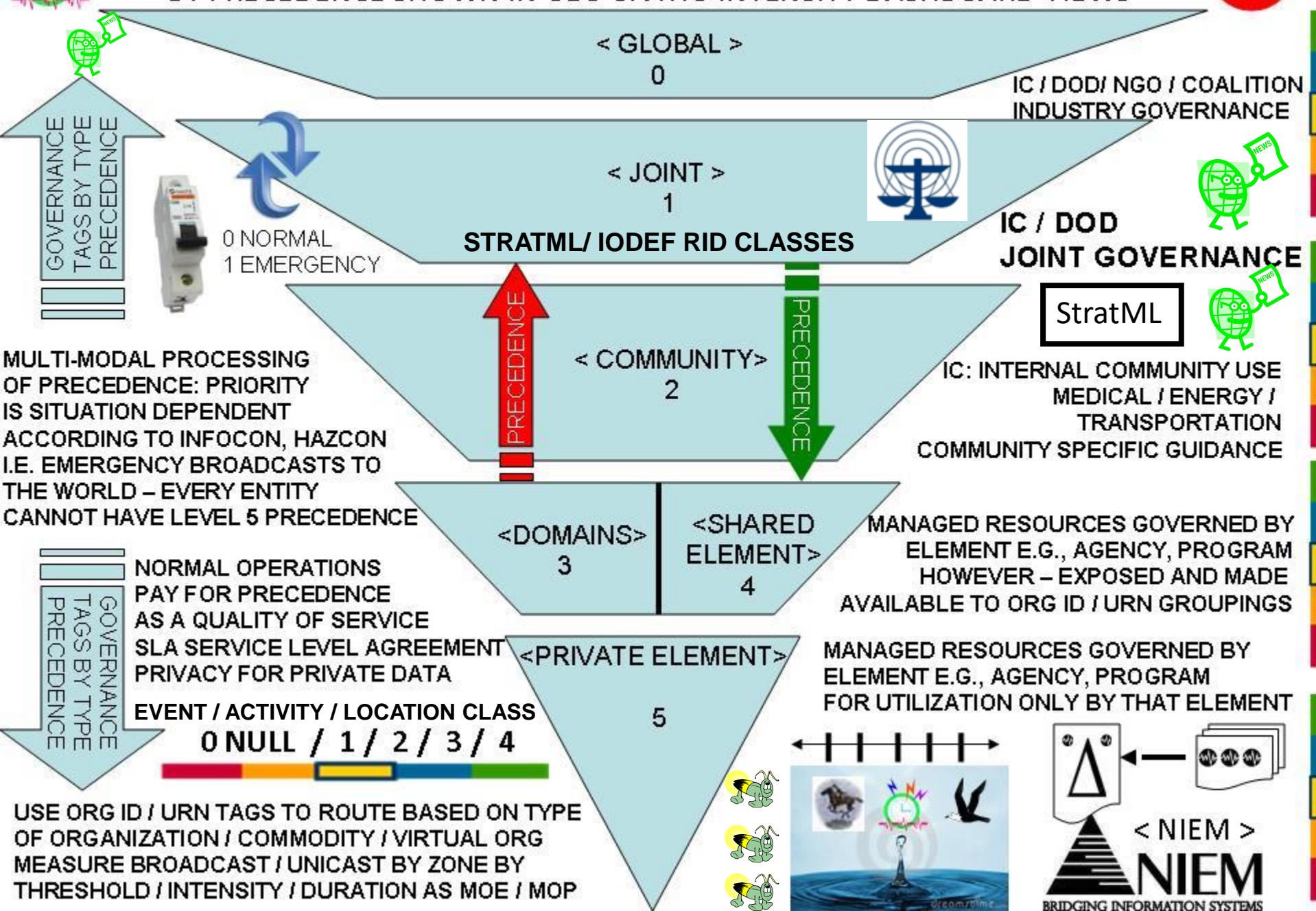
FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME







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





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



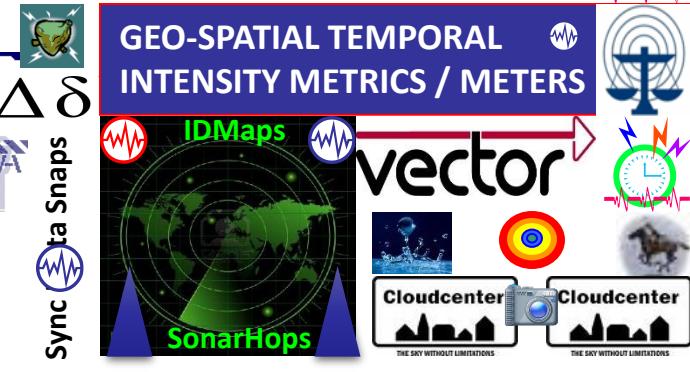
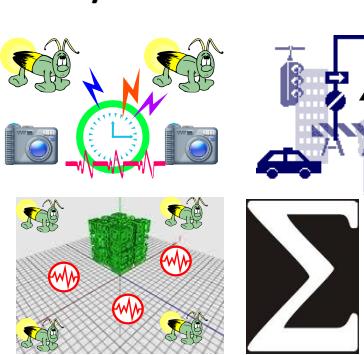
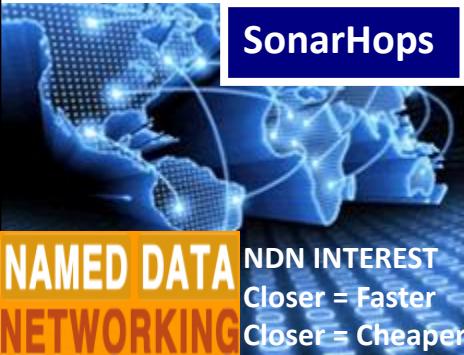
The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.



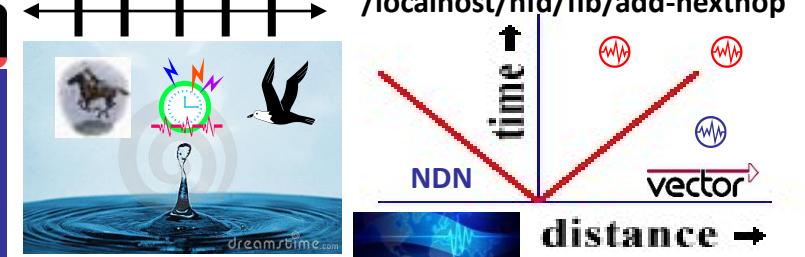
IDMaps: Global Internet Host Distance Estimation Service



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



IDMaps scalable Internet-wide architecture measures, disseminates distance information
/localhost/nfd/fib/add-nexthop



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

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

Name Prefix
<Org_ID> Trie (NPT)



NDN NAMES

NDN NAMED DATA NETWORK RIB / FIB Datasets event notification

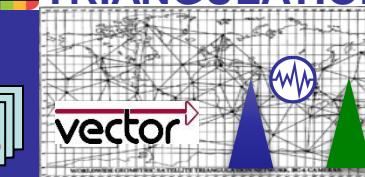
Distance information adjusts to “permanent” topology changes e.g., splits, joins, adds, moves, drops, merges in lieu of formal merger / acquisition

NDN INTEREST LENGTH = DISTANCE BY HOPS

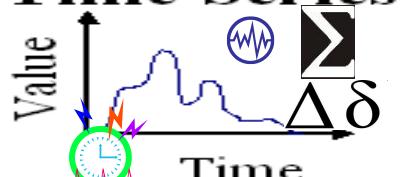
NDN INTEREST

IS DATA FRESH ?

TRIANGULATION



Time Series



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

Datasets and Event Notification

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



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



MICRO-CYCLES



NDN INTEREST LIFETIME = TTL Time To Live



HEARTBEAT STATE META DATASNAPSHOTS

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”

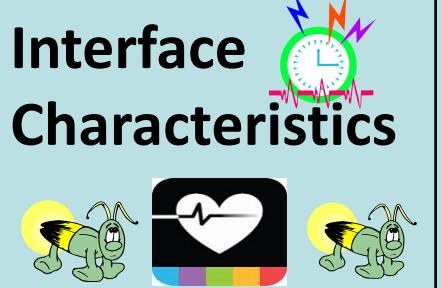
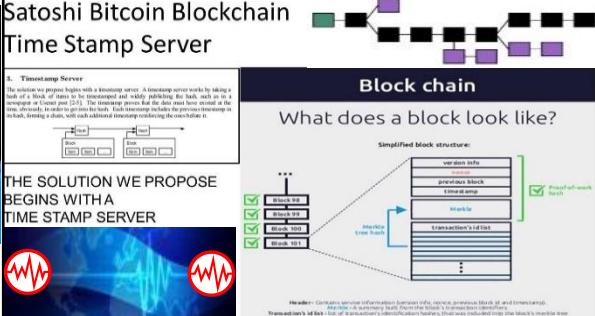
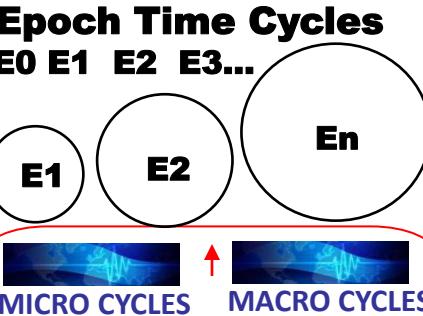
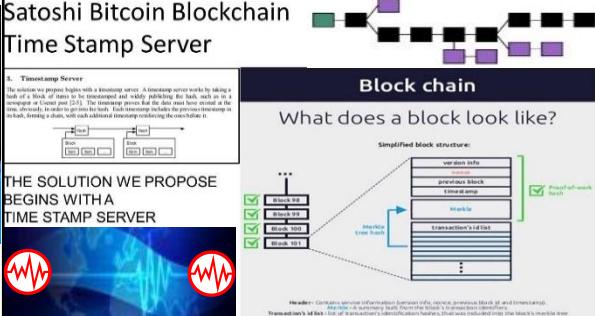
The four dimensions of Big Data

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

TIME STAMP BY Org_ID, URN Before FUSION CENTER

Position of a point in space relative to another point



Interface Name	HEARTBEAT Administration Interface [SCOP]		
Documentation URL	http://scop.sourceforge.net/ http://linuxvirtualserver.org/software/index.html		
API Information	 	#Big_Data  	Cloud Interface Management configuration, start, stop cloud services, edit configuration (heartbeat messages)
Programmable Money World Computer / Blockchain	 	API Operation Count	
Interface Characteristics		Web service access type Network Effects / A.I. LANGUAGE / PLATFORM BINDINGS	Web application, front end to [network, device, system, blockchain] heartbeat  
<p>"The external environment could update <u>resources</u> at random... One solution is a heartbeat: defining a default lease duration delaying updates until the next cycle"</p>		<p>SCOP is a web application, PHP based front-end to heartbeat, IP Virtual Server ipvs and Idirectord [e.g., check interval @ 5 seconds] SCOP can start/stop services, view/ edit configuration files e.g., heartbeat message state management snapshots, backups, take a service online/offline, add/ remove virtual/real servers, services etc.</p>	 Epoch Time Cycles E0 E1 E2 E3... 
<p>QubitCoin Interval: Every 30 Seconds</p>		 	

SOFTWARE DEFINED NETWORKING

NETOPS

Command Syntax

REST State Transfer

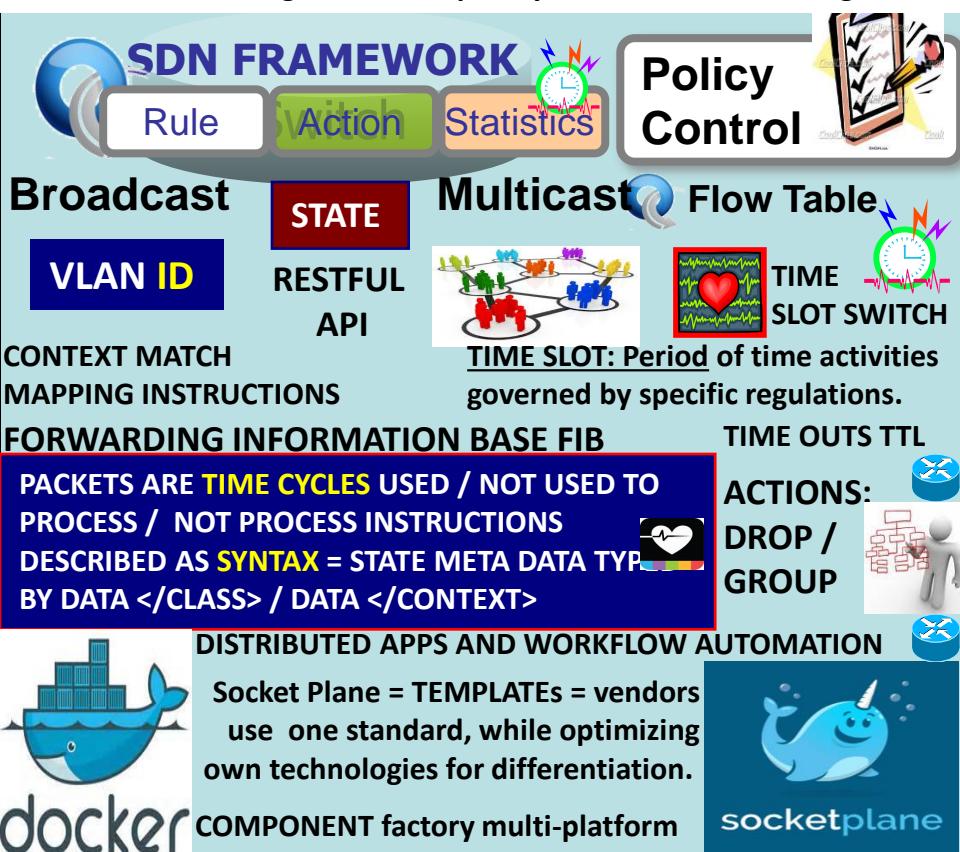
COMMAND SYNTAX
STATE TRANSFER
Unicast / Multicast
Flow Tables / Workflow
Dynamic Network
Configuration Management

NET CENTRIC WARFARE
SYSTEM OF SYSTEMS TELEMETRY

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

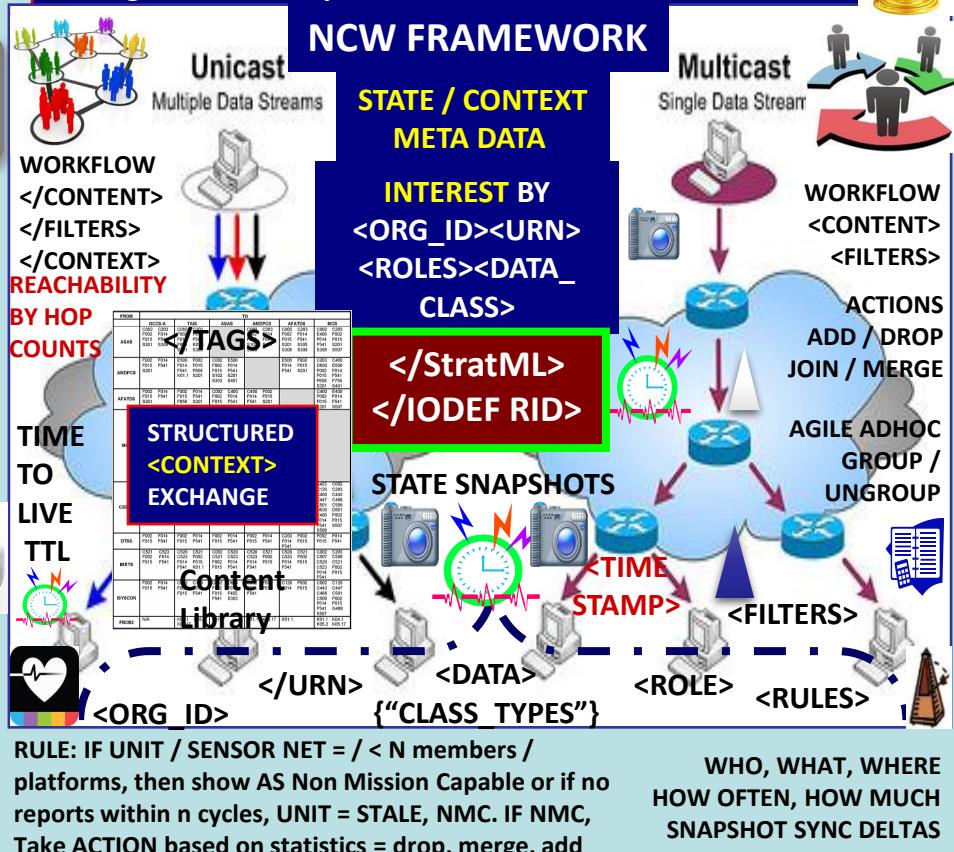
- SDN is a *framework* to allow network administrators to *automatically* and dynamically manage and control a *large number* of network devices, *services*, topology, traffic paths, and packet handling (quality of

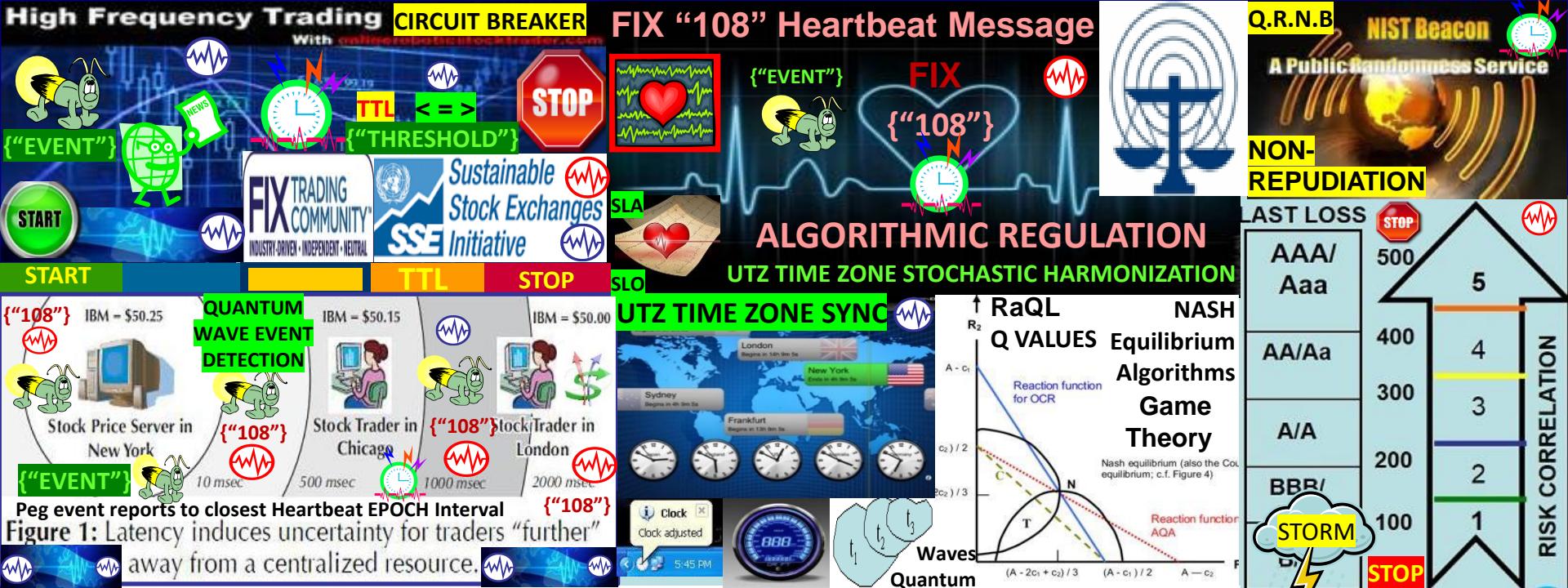
DevOps model and tools to enable scale, programmable agility, and policy-driven automation, and provides network virtualization to mask network configuration complexity with set of networking APIs



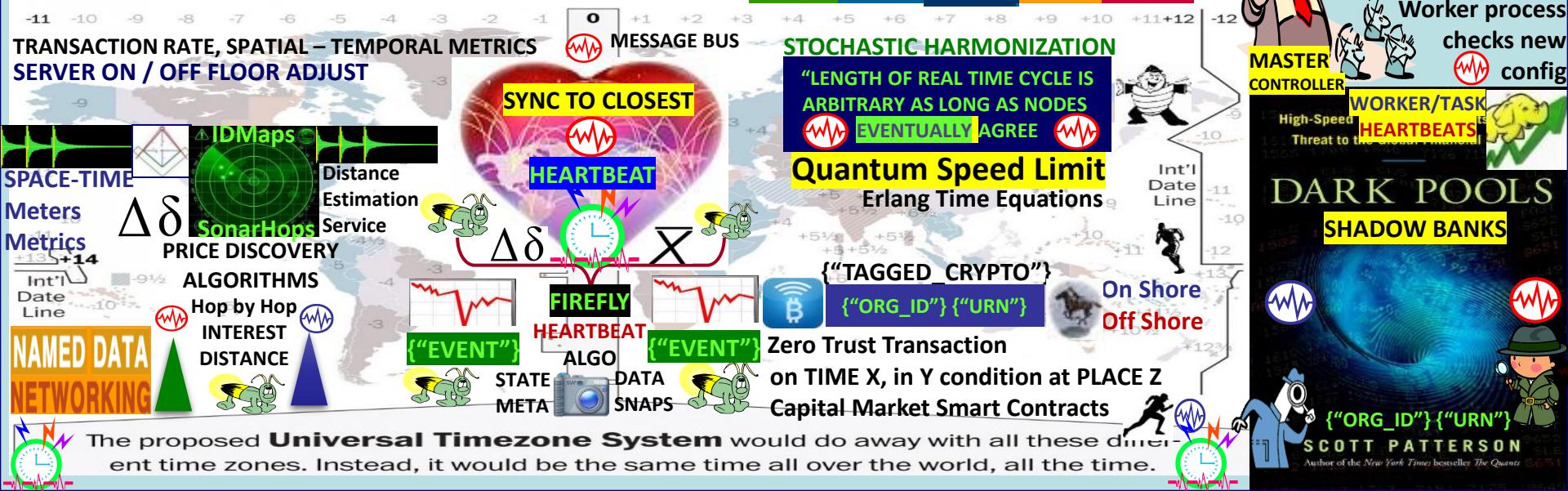
Netcentric / "network-centric" participating in a continuously evolving, complex community of people, devices, information and services interconnected by a network to optimize resource management and provide information on events and conditions.

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





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.



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

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

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



TIME / DISTANCE SERVICE LEVEL
AGREEMENT SLA / O Operations

IEEE 802.15.4 OASIS MQTT

TELEMETRY TRANSPORT

IEEE 802.1AG HOP BY HOP
DETECTION

IEEE 802.11
HOP BY HOP CONTROL



Unused Resources / Unmet Needs

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

DISTANCE
INFO SERVICE

Time Series

Value
Time

vector

602



UNUSED RESOURCES
UNMET NEEDS

WATER DROP IN POND MEME IS
SONAR NAVY METAPHOR / MEME

NDN </INTEREST>
NDN {"DISTANCE"}

NAMED DATA
NETWORKING

IEEE C37.118
Harmonization
& Sync heartbeat
update Interval

CLOSER SOURCE
CHEAPER RATE

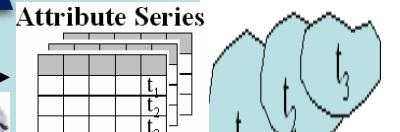


PAUL REVERE
LINEAR, SEQUENTIAL

603

RADIUS
WATER DROP IN POND MEME

INTENSITY
WATER DROP IN POND MEME



Attribute Series
INTEREST
DISTANCE

Temporal Series
Geo Spatial

Micro Grids Closer - Cheaper

BLOCKCHAIN
MICROGRIDS

43 22 13 0 1.5 2.7 5.2

Spatial
Econometrics



TIME-SPACE BEACON INFOCON

5 4 3 2 1

INFORMATION
CONDITION

METRICS / METERS
TRADE WITH EARTH

???
Spaceship
Earth
Signals &
Telemetry
Annex

buckminster fuller
operating manual
for spaceship earth

SIRIUS DISCLOSURE

MOON =

HELIUM 3

"Numbers are the
Universal Language

offered by deity to humans as
confirmation of the truth"

MAIN ASTEROID BELT

MERCURY

VENUS

EARTH

MARS

ASTEROID BELTS =
RARE MINERALS

Farther = More Cost

➢ Fuel, Resources

STOCHASTIC
HARMONIZATION

Service Level Agreements

SYNTAX LEXICON

KOO.99

Alpha Numeric
Brevity Codes

CODE

FIREFLY-HEARTBEAT
ALGORITHM

UNIVERSAL
EVENT MESSAGE BUS

ERLANG

TIME- SPACE METRICS

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Light minutes

Astronomical units

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43



Blockchain

BLUEPRINT FOR A NEW ECONOMY



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



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

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



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



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



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



Functional Sequential Erlang

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

SORTING ALGO'S

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



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

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

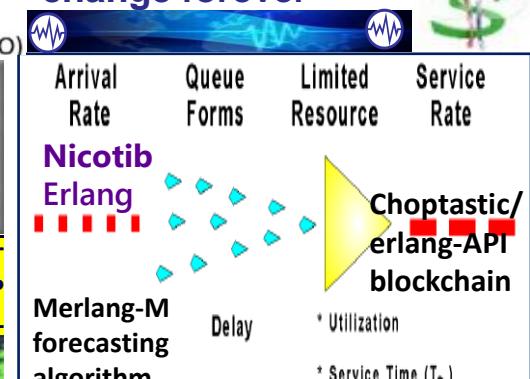
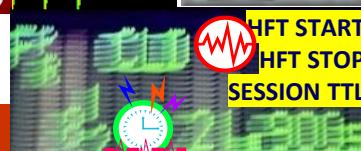


Rho ratio *Arrival Rate* $\Delta\delta$ queueing systems wait times
Service Rate per unit time stochastic processes, function scheduling Start, Stop TTL



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

Mnesia database ("Organization_ID") Global name resolution



FROM	SOCA	THAI	ABAD	AMPOKE	AFATOK	WIKI
ALPHANUMERIC						
BREVITY CODES						
AZURE						
STRUCTURED						
MILITARY MESSAGE						
TEMPLATE FORMS						
LOGIC / FILTERS						





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



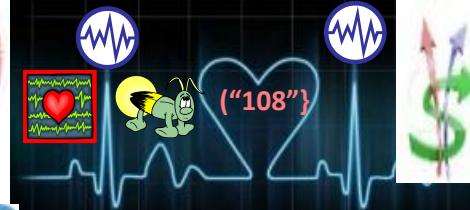
- Creates an online store for users to sell goods for Bitcoin
- Connects these stores directly to each other on a global network
- Users browse individual stores, search for products across whole network
- A buyer directly connects, purchases good from the merchant using Bitcoin
- Bitcoin payments via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

OPENBAZAAR.ORG
BLOCKCHAIN ARBITRAGE



CLOSER = < \$
CLOSER = < CO2

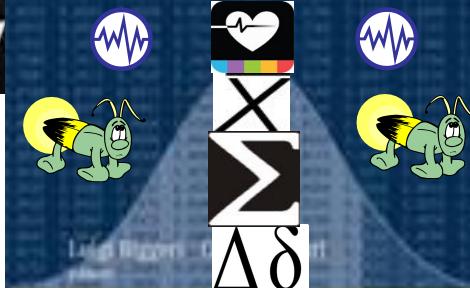
SLA
COMMODITIES
ECONOMIC HEARTBEAT



STAT MEAN VALUE PULSE
REAL WORLD ASSETS RWA

STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS



Price Indexes in
Time and Space
Methods and Practice

SchellingPoint

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

PROJECT PHILOSOPHY: **MAKE TRADE FREE**

Mission: *shift trade to a decentralized platform*



Demurrage TERRATRC TRADE
Fees REFERENCE CURRENCY
“Money of Peace”



Free, open markets: Commodity / Currency Index

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



• Privacy </Org_ID>



HASH Values
Nonce Values </Org_ID>



</DATA>
("FILTERS")



Bitcoin: OpenBazaar transactional currency



Cryptographic Security

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

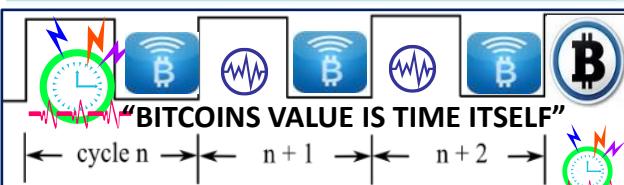


NIST Beacon
A Public Randomness Service
Non-Repudiation

PROOF-OF-WORK



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



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

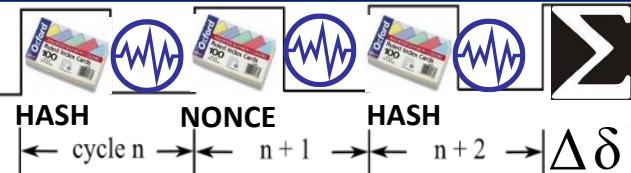


THROTTLE equivalent to difficulty. State
•target = maximum value of 8 bytes Snap
Shots

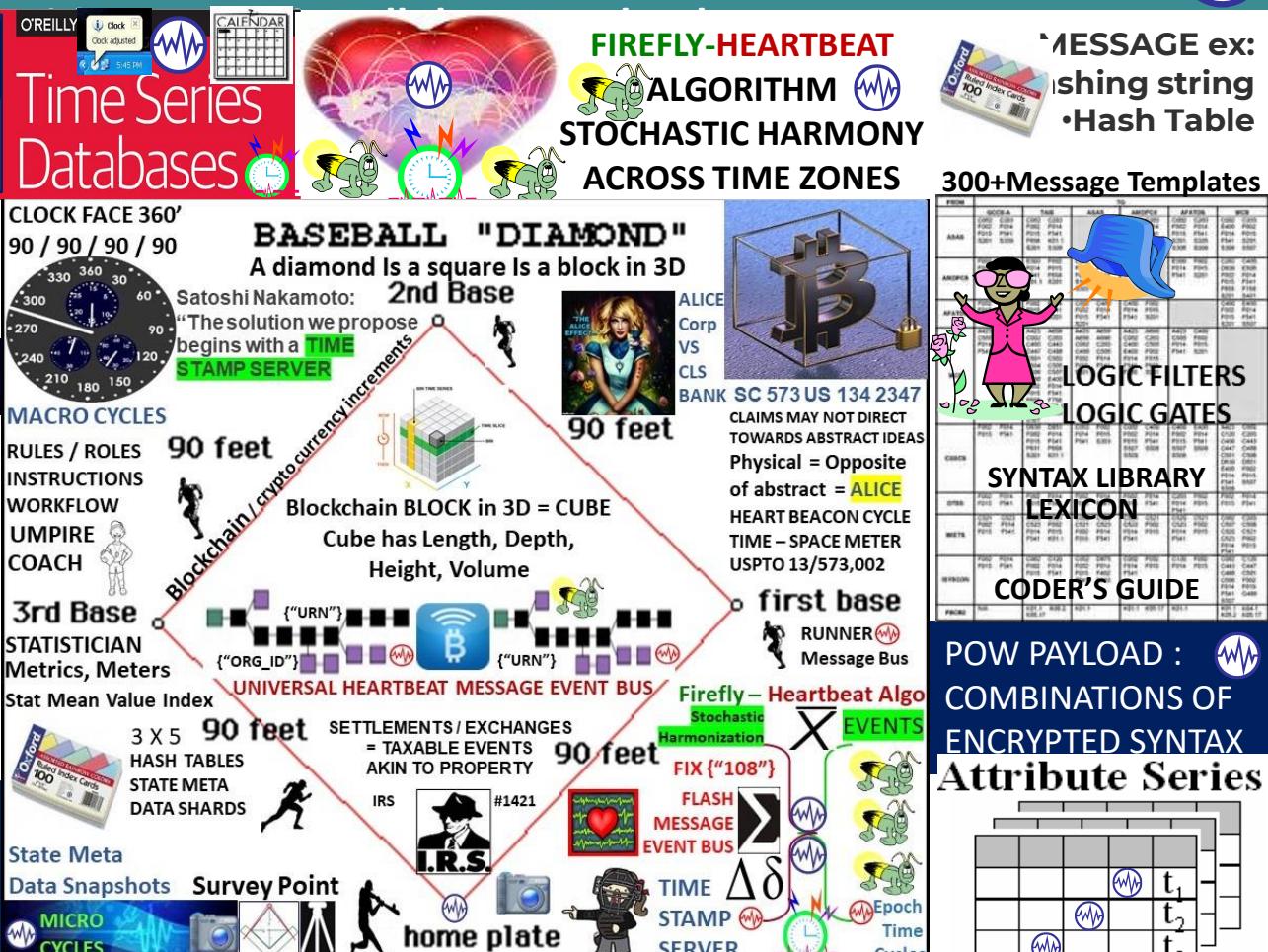


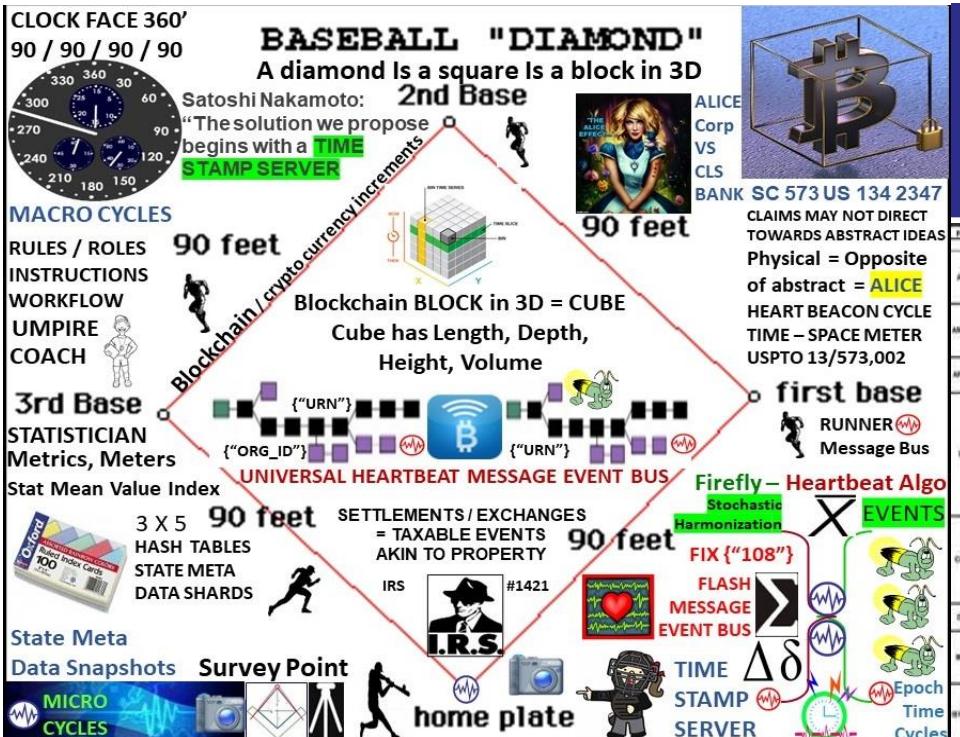
NONCE increments from 0..N until the target is met.

GUESS stores the guess
Effectively, it begins at infinity.



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





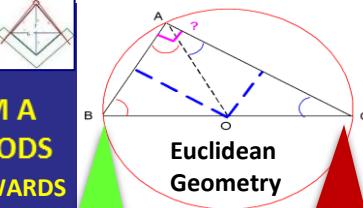
TRANSACTIONS PER CYCLE METRICS

A black and white illustration of a man wearing a fedora hat and a suit jacket over a shirt and tie. The letters "I.R.S." are superimposed on the lower portion of the image.

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

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





The diagram illustrates the interconnected nature of various data modeling and asset management concepts. At the center is a green circle containing the text "IDMaps SonarHops". Four arrows point from the text around the perimeter towards this central hub:

- An arrow from the top-left points to the text "Attribute Series".
- An arrow from the top-right points to the text "Contract Description".
- An arrow from the bottom-left points to the text "Digital Asset Modeling Language".
- An arrow from the bottom-right points to the text "DAML Language CDL".

Below the central hub, there is a circular radar-like graphic with concentric rings. The innermost ring contains the text "IDMaps SonarHops". The outer rings feature a red "WIFI" signal icon and a green waveform icon.

4. Issuing {"Org_ID"} adjudicates w buyers

 FIREFLY-HEARTBEAT
MOONLIGHT & EVENT BUS

ALGORITHM EVENT BUS

Favors both # of coins held

coins are staked

PoSV encourages velocity

ween people Vs hoarding.

system combines randomization with the

number derived from the product of the

the number of days the coins have been held.

tion randomization predicts following generator

looks for the lowest hash value stake size

Instead of only using the stake size, the block

Instead of only using the stake size, the block
is rated by votes ex: League MVP

A graphic featuring the word "VOTE" in large, stylized letters where each letter is a different color and shape, resembling a person's silhouette. To the right is a circular logo for the 75th anniversary of the New York City Housing Authority, featuring a baseball, the number 75, and the words "NEW YORK CITY" and "75 YEARS".



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

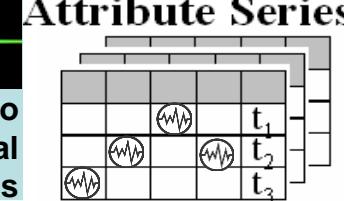
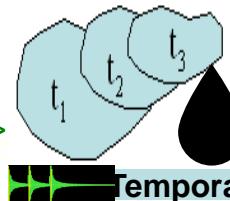
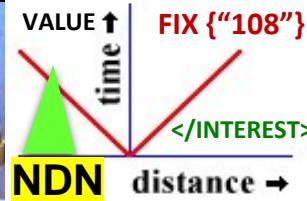


TIME – SPACE MEASUREMENTS OF TOKENIZED COMMODITIES, SECURITIES... STOCHASTICALLY HARMONIZED ACROSS UTZ Universal Time Zone

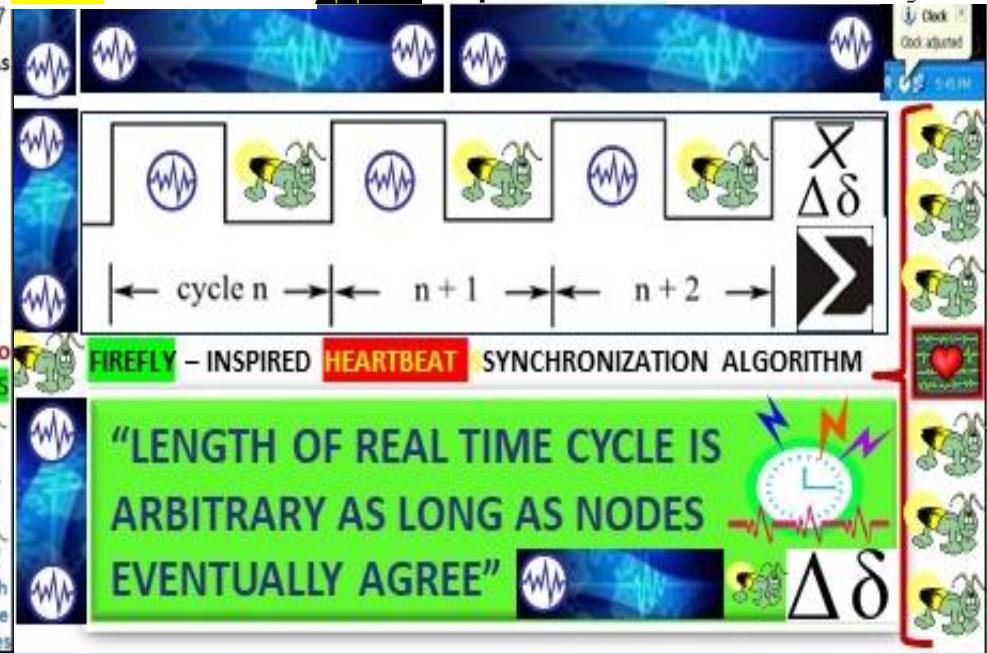


The Volumetric Weight is often referred to as dimensional weight

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



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



DON: DECENTRALIZED ORACLE NETWORKS



Explicit Staking

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

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



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



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



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



ALERT LEVEL >

> NEWSCAST ZONE

Outputs produced by a DON are structured into reporting rounds, where each round involves the creation of a new oracle report containing each node's individual response for a particular piece of data (e.g. the price of ETH/USD), with all the 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.



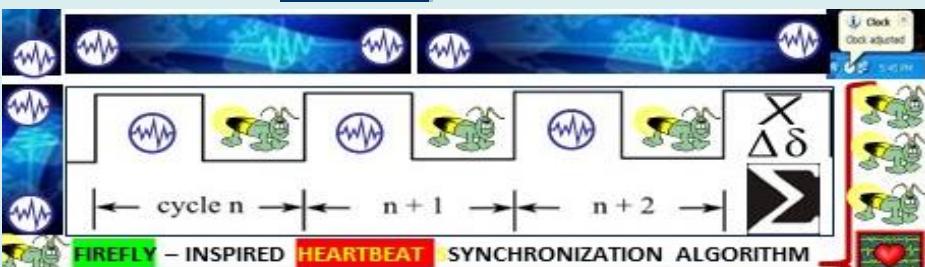
DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

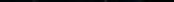
FEDERATE / TRADE FEDERATIONS

Linear Sequential Meme

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





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...

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

D Distributed Autonomous Organization Investor Pools

	Place Ord
Principal:	\$100.00
Collateral:	0%
Leverage:	10x
Notional Amount:	\$1000.00
Receive:	QCOM
Pay:	INTC

NAMED DATA NETWORKING

“TAGGED” CRYPT



Denominating Asset: ~BTC:SATOSHIS	
Contract Expiry:	16w
Contract Starts at:	-
Contract Ends at:	-
Cancel Contract at:	-
Est. Trans. Fees:	\$0.0437
Transaction Fees:	\$1.0262
Leverage Fees:	\$3.2528
Max. Profit/Loss:	+ \$95.6773 / - \$104.3227
Total Required:	\$104.3227



NIST TIME BEACON

UTZ Time Zone Sync



Heartbeat Flash Messages Precedence Processing

Heartbeat Flash Messages Precedence Processing

SIXTY-HEARTBEAT ALGO EVENT MSG PLUS

-REFLY 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 {"Org_ID"}

have its issues in the upcoming quarters as well. **{"Tagged"}** **{"LIPM"}**

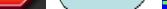
CRYPTOURN

"LENGTH OF REAL TIME CYCLE IS

LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES

 EVENTUALLY AGREE    TTL

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





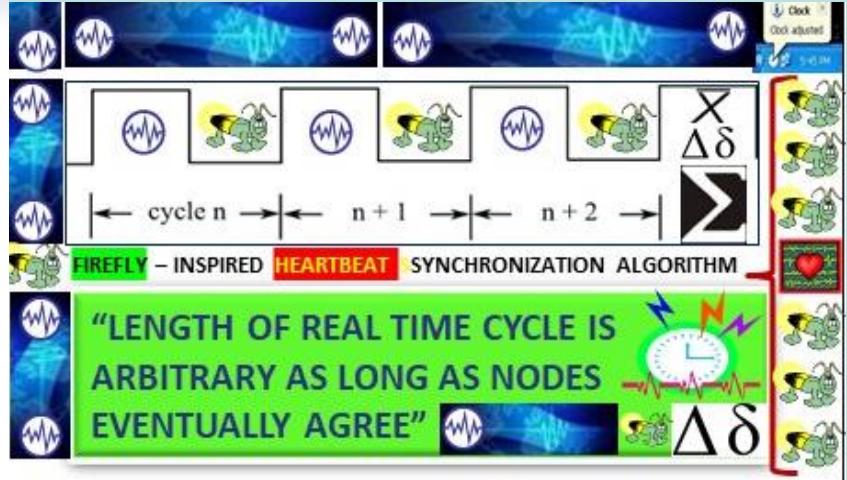
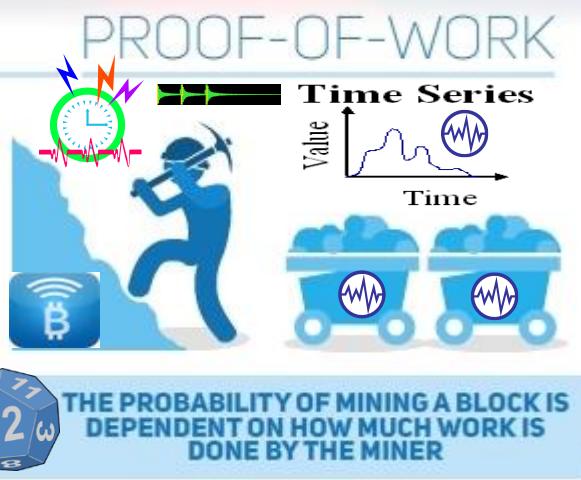
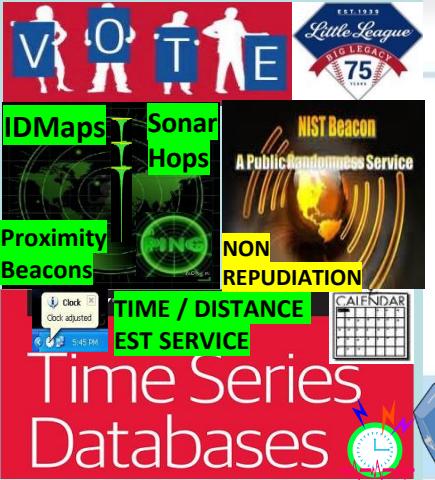


Adaptive
Procedural
Checklist

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

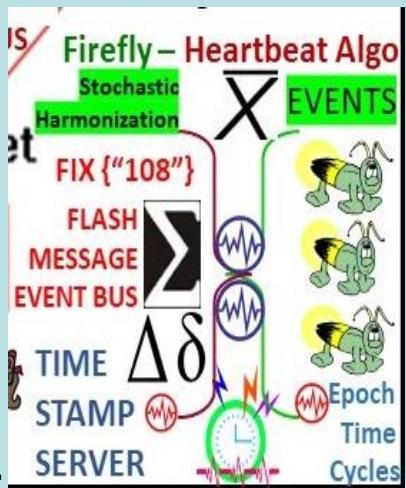
Example of Proof-of-Activity (PoA)

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



PROOF-OF-WORK

HEART BEACON CYCLE 13/573,002

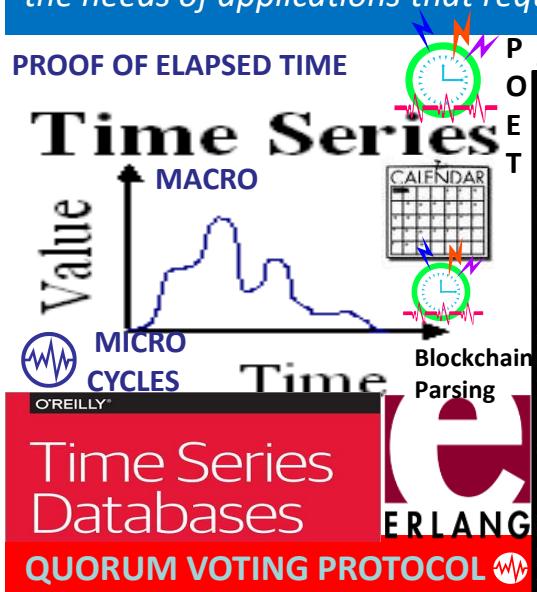


SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

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



PROOF OF ELAPSED TIME



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

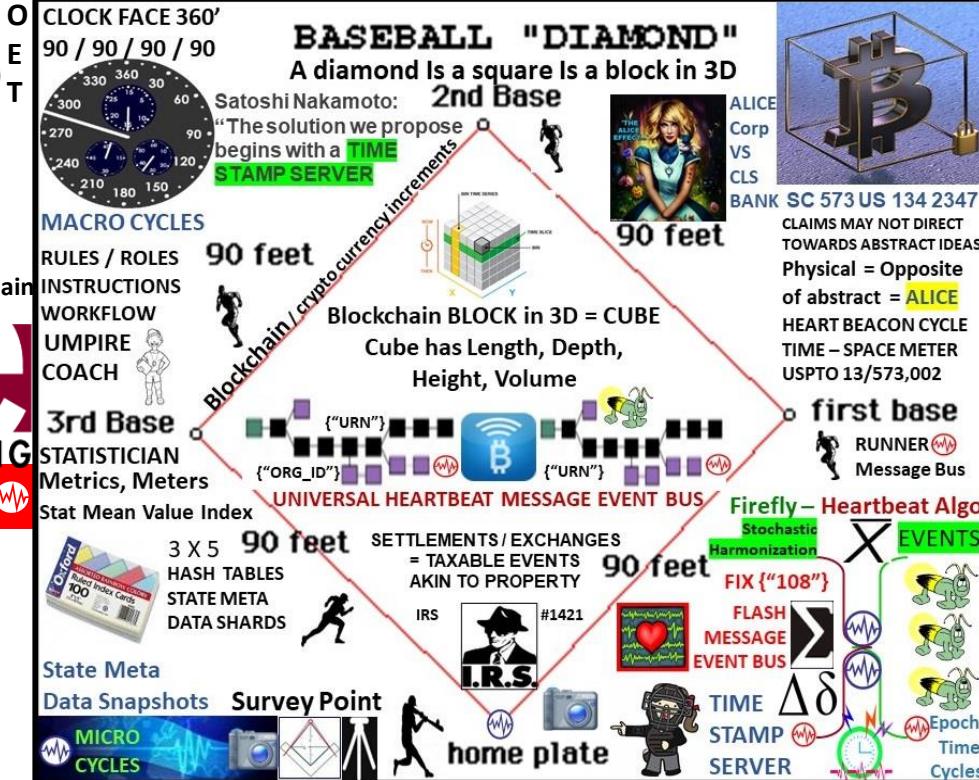
Voting based selection Instead of only using the stake size, the block generators can be selected by votes
ex: League MVP MVP



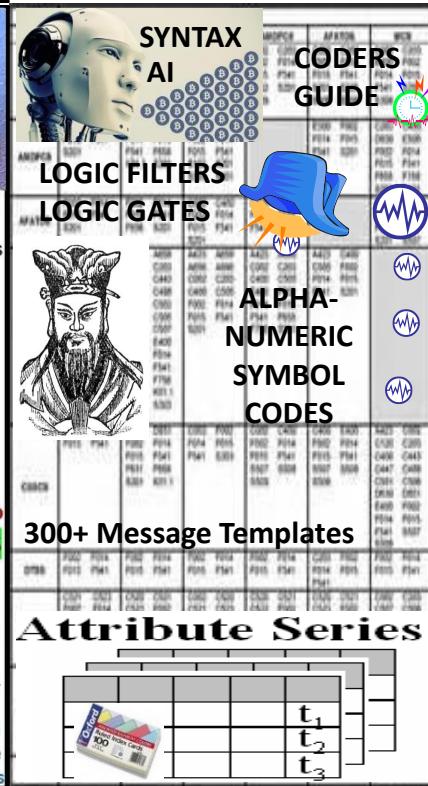
Robert's Rules quorum = minimum # of voting members who must be present at meetings to conduct business of the group

TOURNAMENT LEAGUE BOARD

P SCt #573 ALICE CORP V CLS BANKPHYSICAL UNIVERSAL MEME "BITCOIN IS A LANGUAGE"

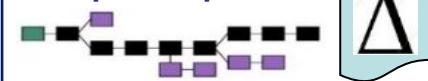


FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BUS

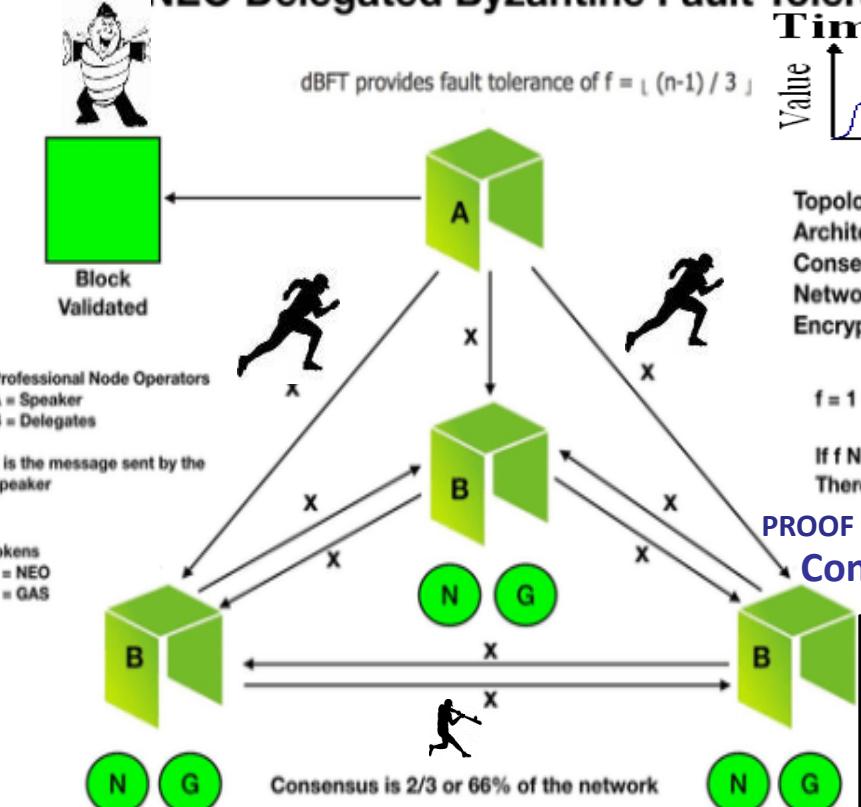


HASH TABLES / NONCE VALUES

Capture ledger's state
Transaction language
changes ledger state
Consensus, transaction
acceptance protocol

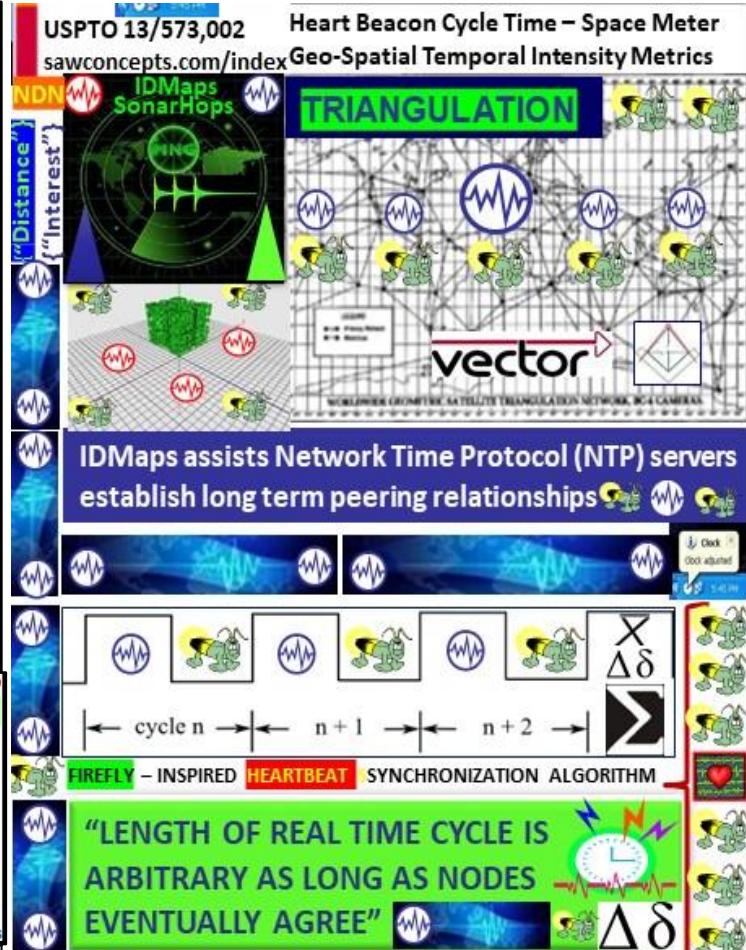


NEO Delegated Byzantine Fault Tolerance (dBFT)



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

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





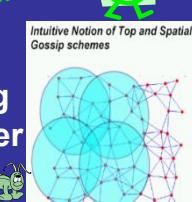
HASHGRAPH
Directed Acyclic
Graph DAG

Hashgraph consensus algorithm
for replicated state machines

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

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

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



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

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

Consensus Order
 $\sum \Delta\delta \times$



Witness
0 / 1

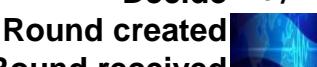
Famous witness



Vote
See

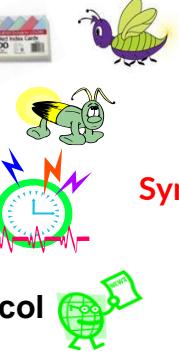


Supermajority
Decide



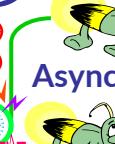
Consensus timestamp
Consensus order $\Delta\delta$

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



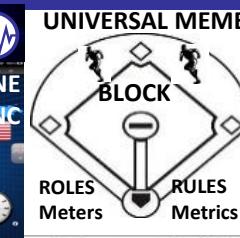
Hash
Nonce

Synchronous

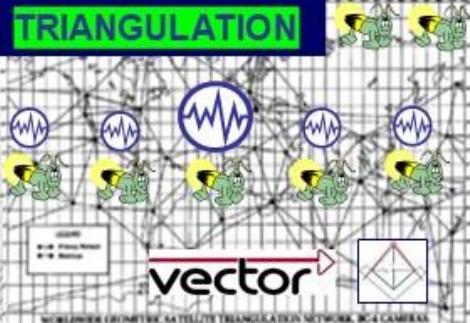

Asynchronous


Micro-Cycle State Meta Data Snapshots

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



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



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

FIREFLY HEARTBEAT Synchronization Algorithm



"LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE" $\Delta\delta$

Proof of Burn



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

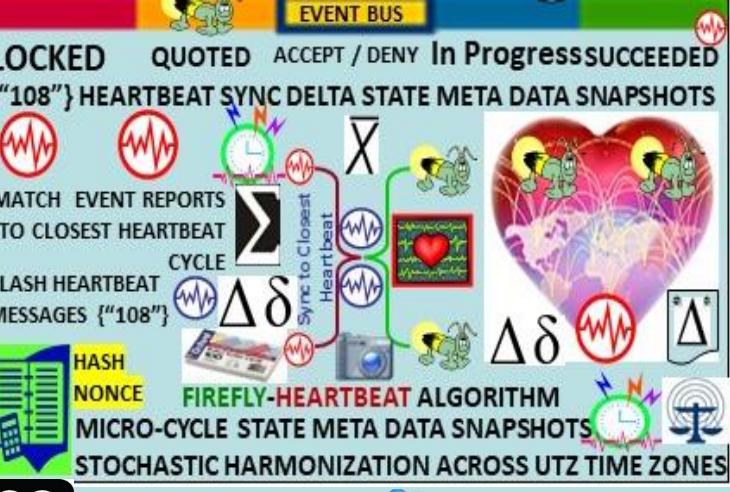
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describe the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining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

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



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

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



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

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

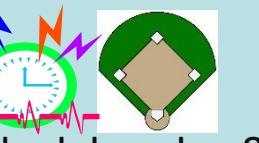
TAG	SLA/O	Token Award
{"Org_ID": ActiveID}	[UFO2_ACTIVEID]	</EVENT>
IF1_Heartbeat (IF-Node1)	[UFO2_HEARTBEAT:#]	</EVENT>
IF2_Heartbeat (IF-Node2)	[UFO2_HEARTBEAT:#]	</EVENT>
{"UUID": IF1_DeviceStatus (IF-Node1)}	[UFO2_DEVICESTAT:#]	</EVENT>
{"UUID": IF2_DeviceStatus (IF-Node2)}	[UFO2_DEVICESTAT:#]	</EVENT>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

Proof of Capacity PoC



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

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



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



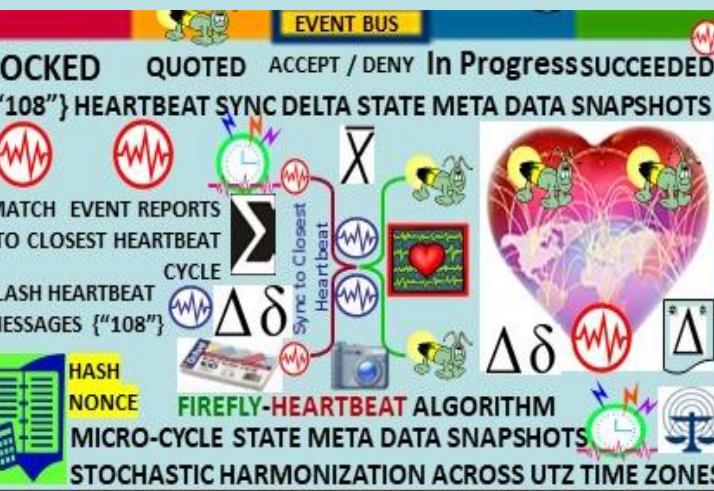
The larger the hard drive, the > possible solution values one can store on the hard drive, the more chances a miner has to match required hash value from his list, resulting in more chances to win the mining reward.



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



Bitcoin purchase akin to property

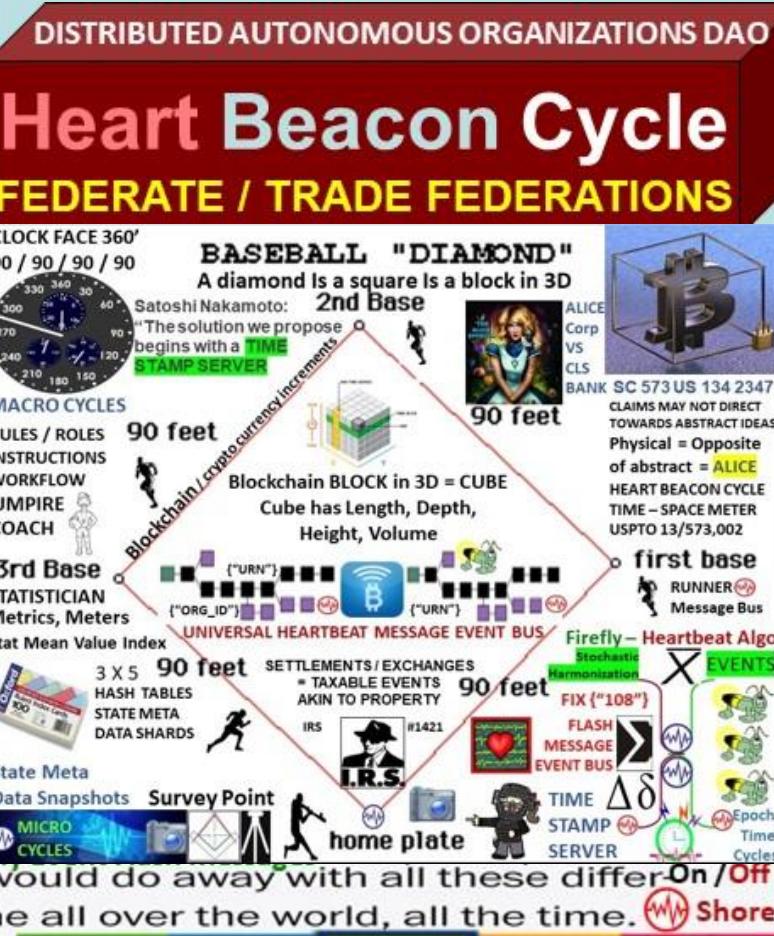


PoST Proof-of-Spacetime (PoST)

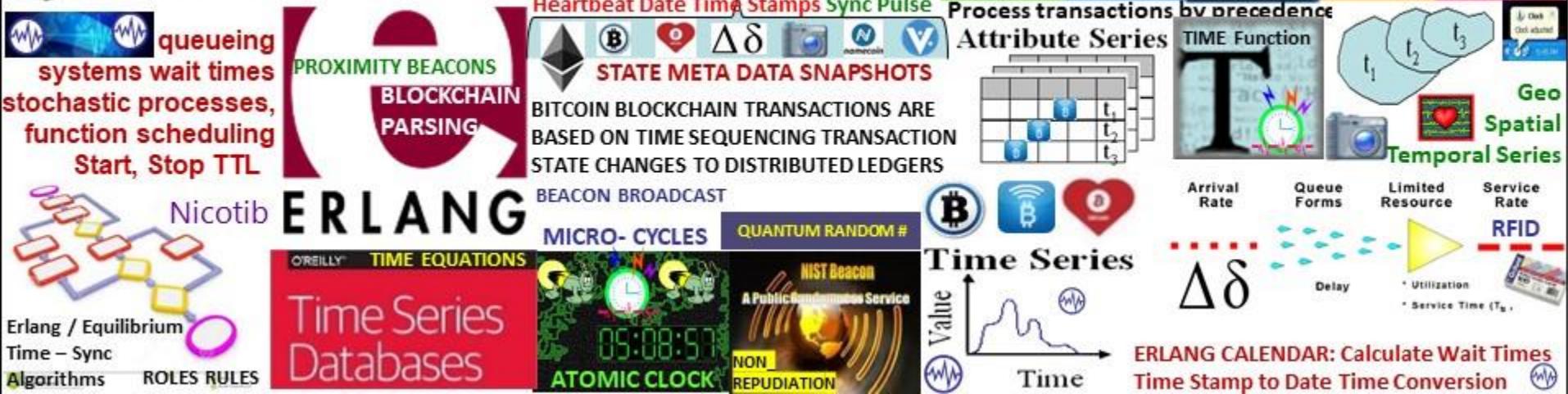
PoST shows that physically storing data (spent "spacetime" resource/allocated storage capacity to the network) over a certain period of time.



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



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



Proof of Authority



{"GROUP ID"}
{"Org_ID"}

Not pay to play, Node identity is kept as stake

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



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

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

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



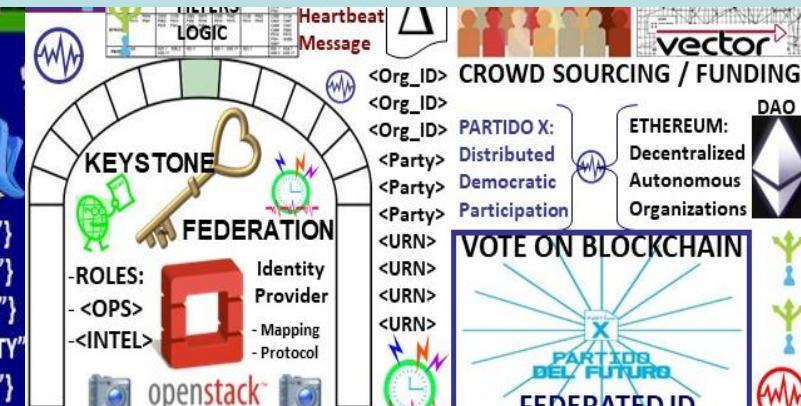
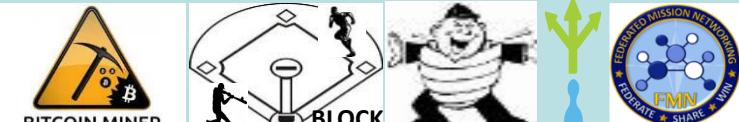
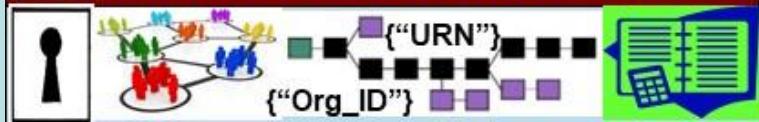
Net joins, drops, splits, merges, moves

Agile, adhoc NETOPS Vs acquisition preserves the

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

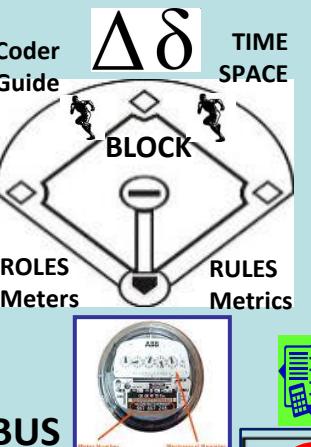
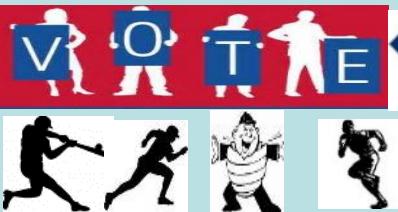
FEDERATE / TRADE FEDERATIONS



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

KEY BLOCKS:

- NO CONTENT = NULL
- LEADER ELECTION



MVP

EVENT BUS

MICRO BLOCKS:

- ONLY CONTENT
- NO CONTENTION



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

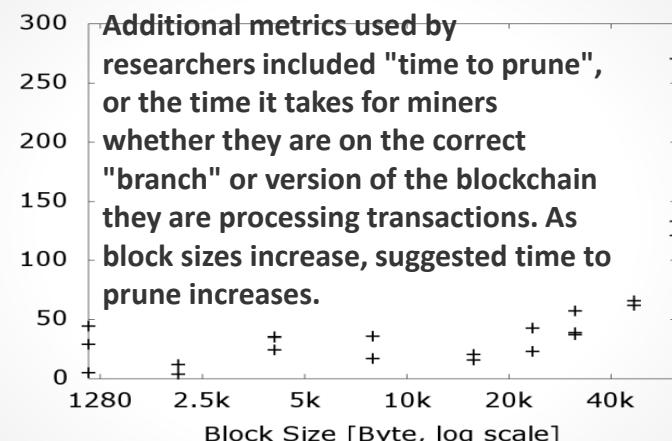
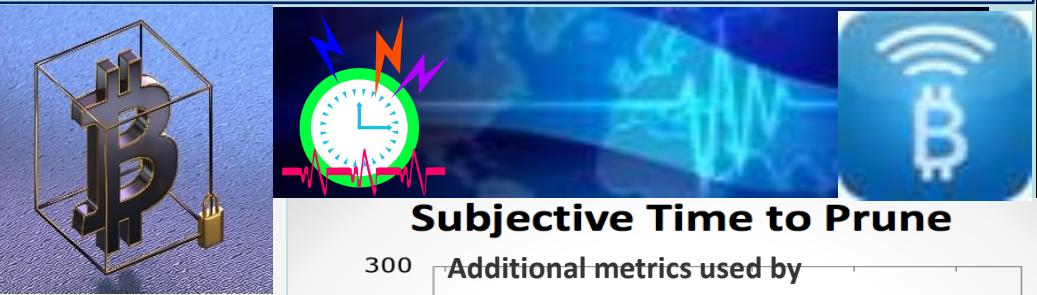
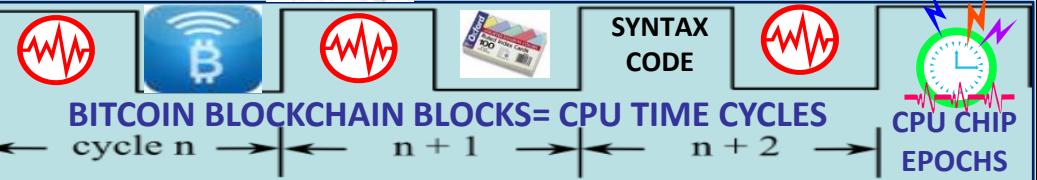
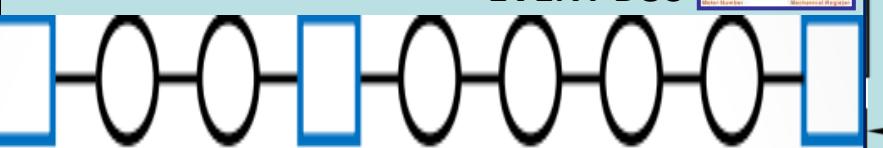
XBRIL / CDL / DAML
STRUCTURED STOCK MIC CODES

MILITARY MESSAGE TEMPLATE FORMS

LOGIC / FILTERS

SYNTAX LEXICON LIBRARY

CPU CHIP EPOCHS





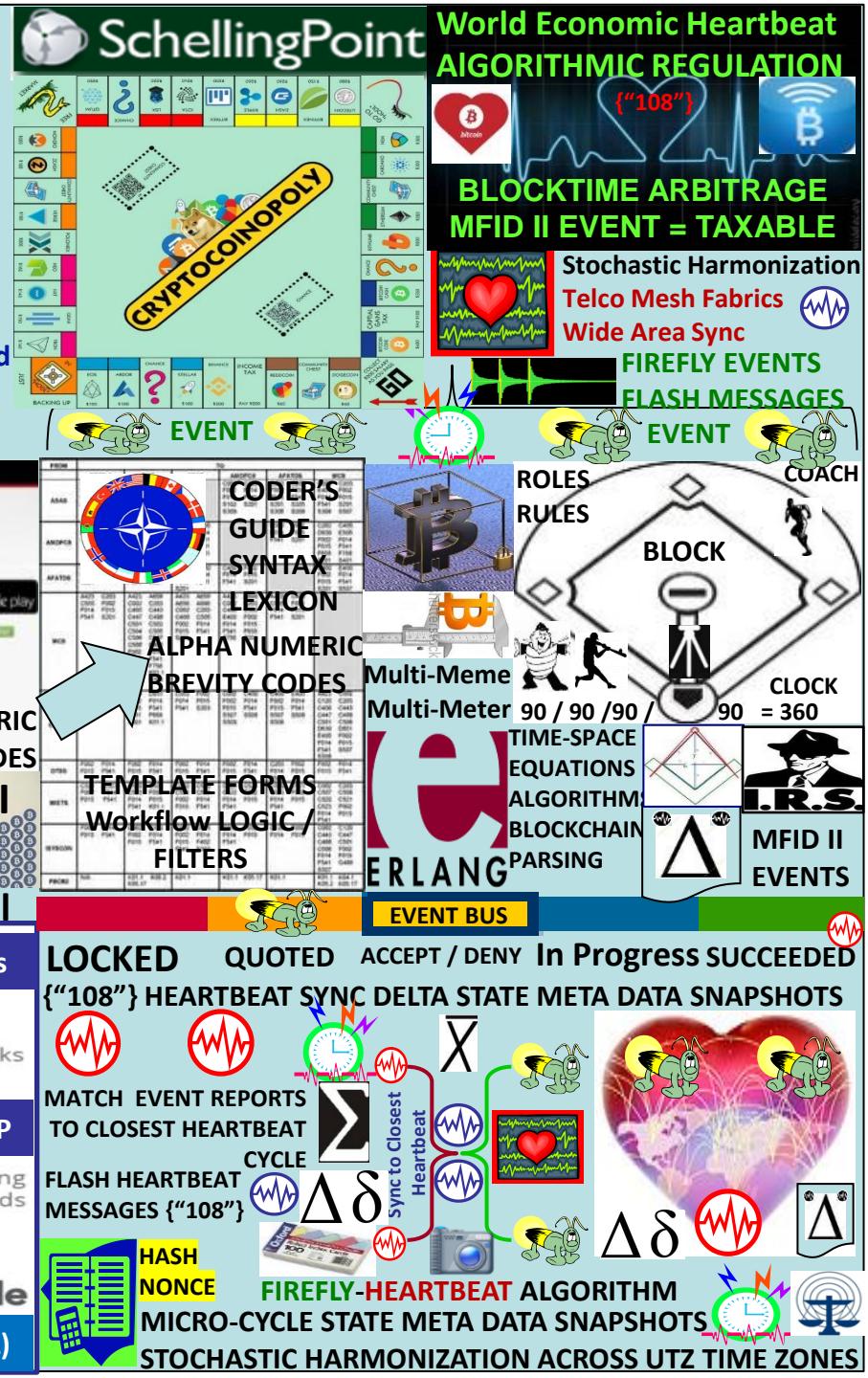
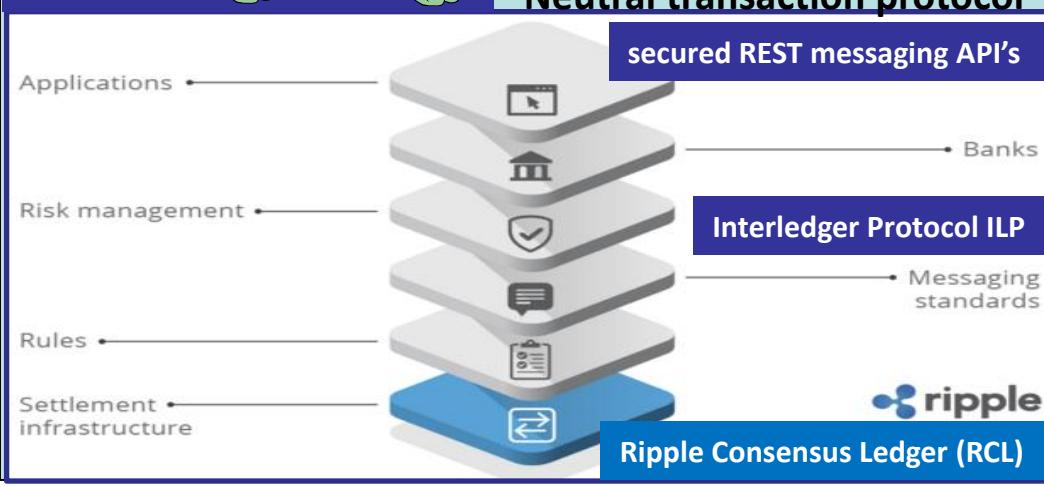
**real-time gross settlement system,
currency exchange, remittance network**

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

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

Provides information about total costs of the transaction.

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



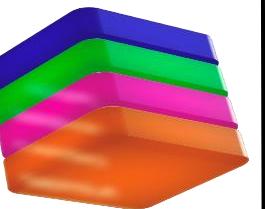


PROTON A CHAIN Virtual Machine

CONTRACT C CHAIN Smart contract

PLATFORM P CHAIN Meta Data

EXCHANGE X CHAIN Cross blockchain



Universal @names Identity / Governance / Resources / Staking

Snowball Consensus

Algorithm

preference := pizza

consecutiveSuccesses := 0

while not decided:

ask k random people preference

if >= α give the same response:

 preference := response with >=

α

 if preference == old preference:

 consecutiveSuccesses++

 else:

 consecutiveSuccesses = 1

 else:

 consecutiveSuccesses = 0

 if consecutiveSuccesses > β:
 decide(preference)

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

Delegated Proof
of Stake {"Org_ID"}



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



DAG Acyclic Graph Parameters:

n: number of participants

k (sample size): between 1 and n

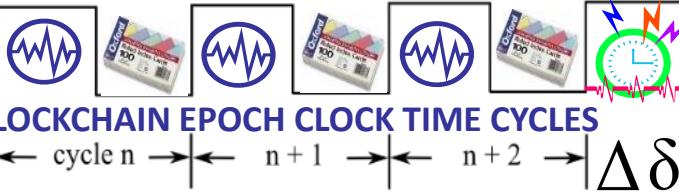
α (quorum size): between 1 and k

β (decision threshold): >= 1

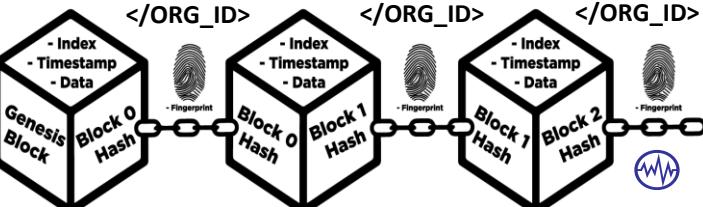
ALL THINGS NET, NET OF \$\$\$

1) EPOCH TIME INTERVALS

2) SYNTAX (not) used in epochs



GENESIS BLOCK: "Layers" = follow on epoch time intervals
Block 0 Block 1 Block 2



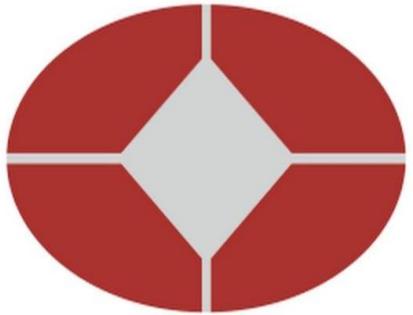
SECURITY TOKEN: A DIGITAL
ASSET THAT'S BACKED UP
BY TANGIBLE ASSETS IN THE
REAL WORLD </URN>
</URN>
</URN>



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



BIS



International trade settlement work stream

2019

Inthanon-LionRock
Proof-of-concept

Q4 2021

mBridge
Trial Platform

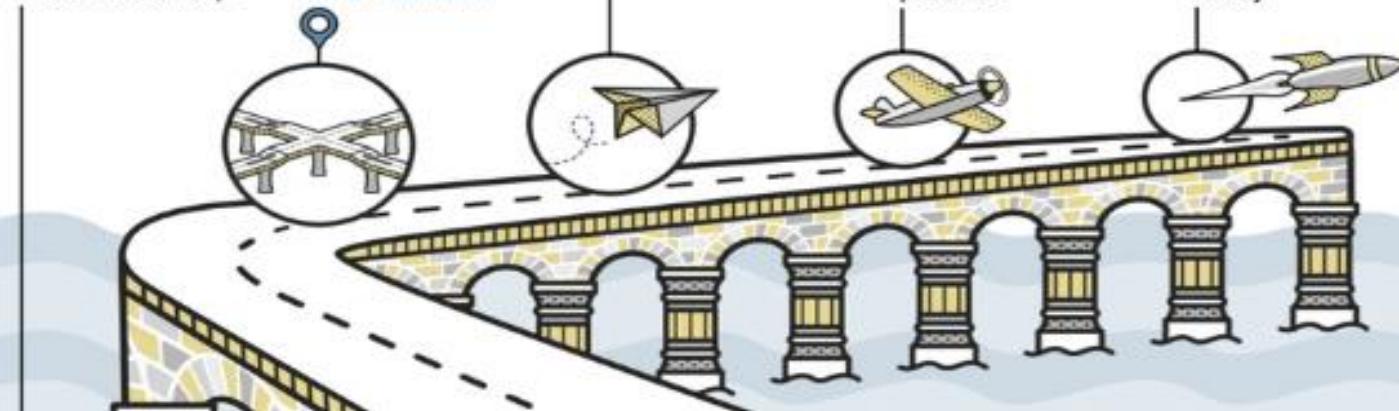
2022 onwards

Pilot

ISO 20022 messaging standard

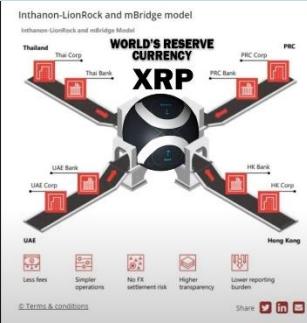
Minimum viable
product

Production
ready



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

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





UNICOIN

Digital Capital Exchange

Unicorn: IMF CBDC legal tender settlement coin

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

The primary value of any commodity is its utility value.

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

The DCMA – Digital Public Monetary System

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

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



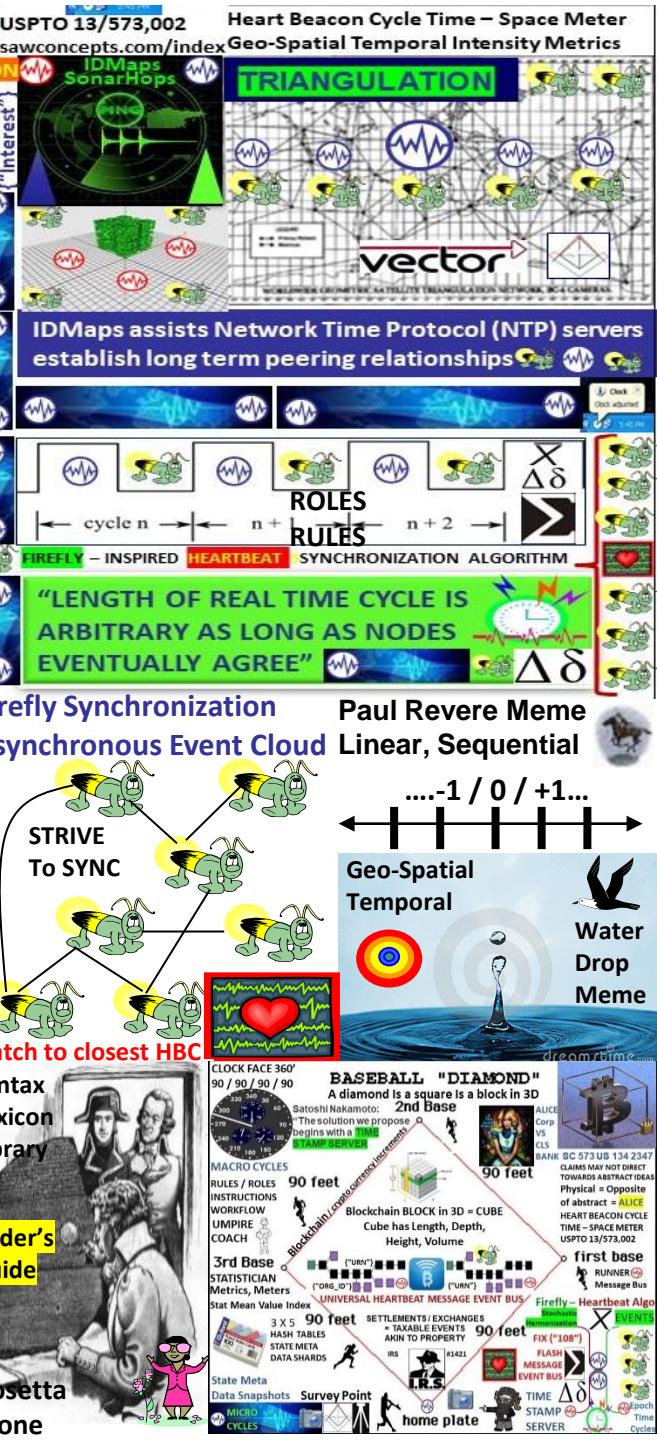
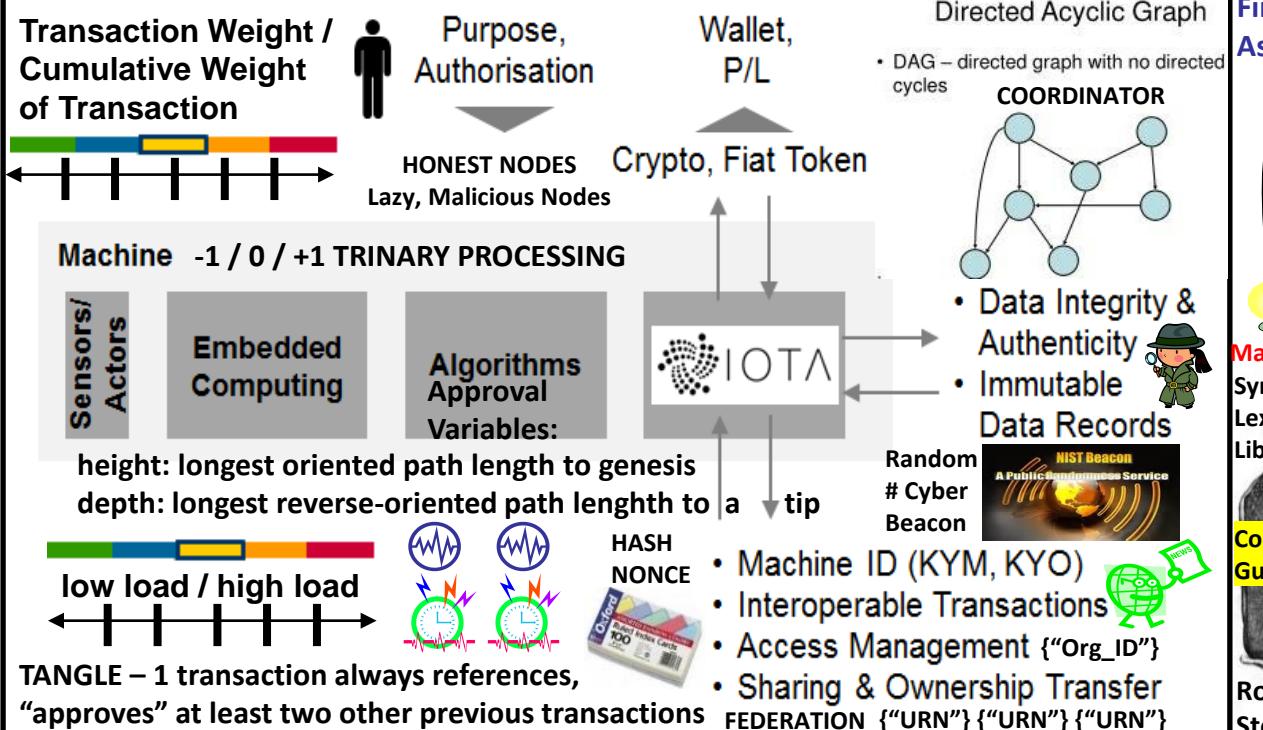


IOTA: Internet Of Things IOT distributed ledger with microtransactions without fees

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

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

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





ZEPPELIN

ZEPPELIN OPEN, GLOBAL ECONOMY

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

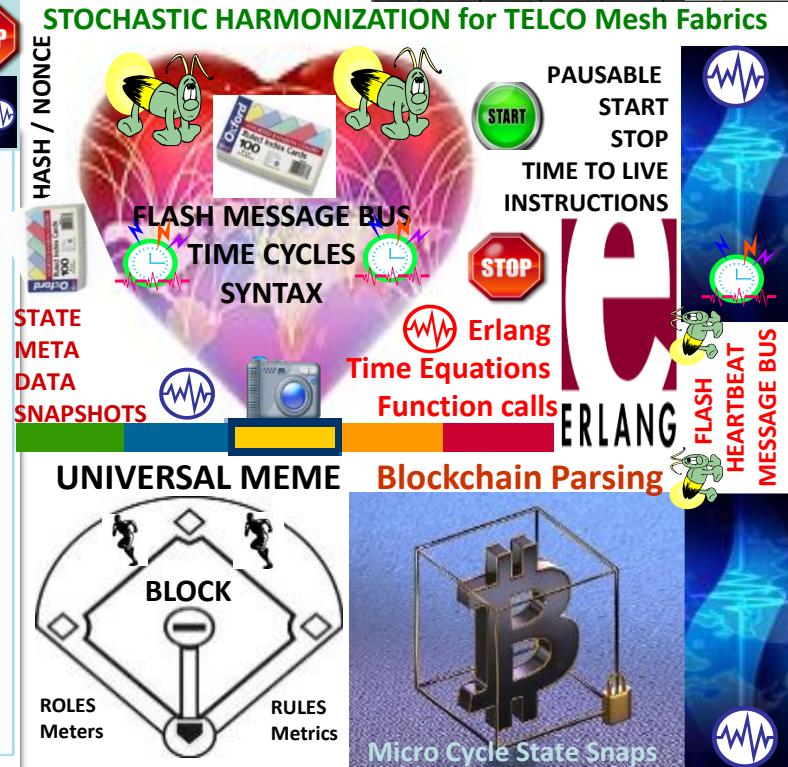
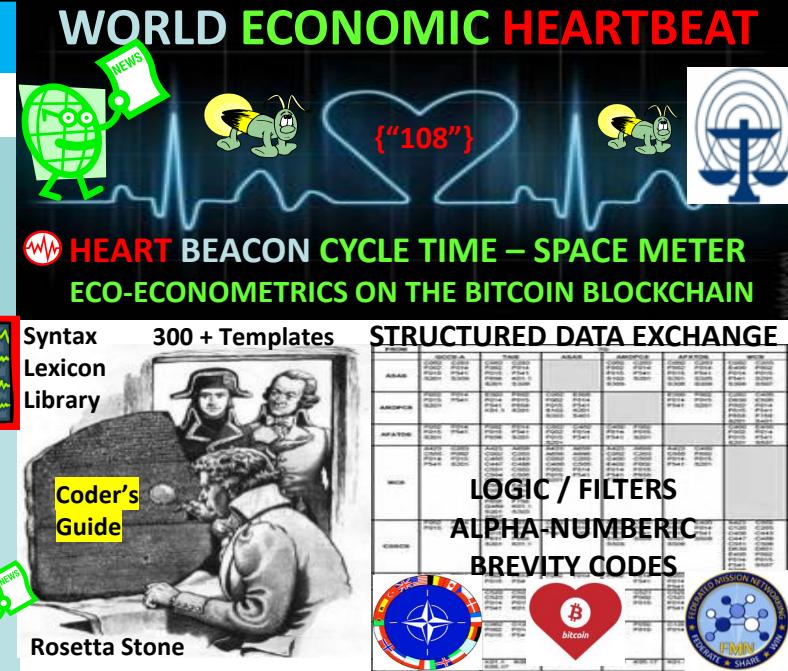
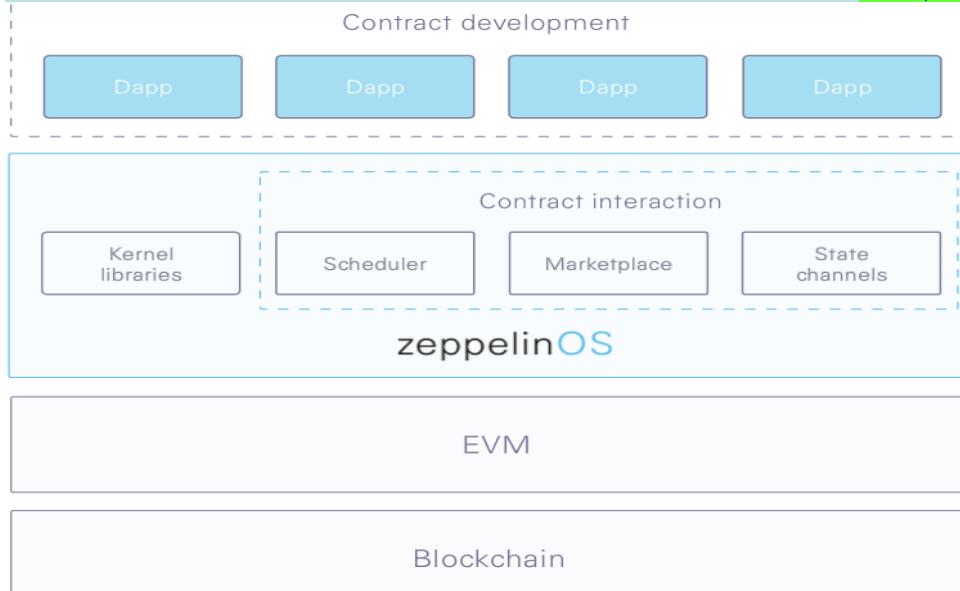
zeppelinOS, operating system for smart contracts
“the rate of innovation in building decentralized applications is limited by the manual and duplicative efforts developers must make to ensure basic usability and security.”

ZEPPELIN / zeppelinOS Common Functionality:

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

Create and customize your own ERC20 Token.

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

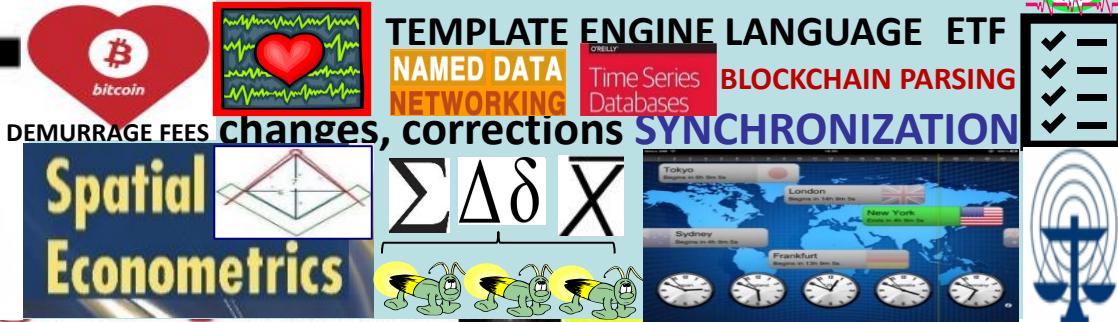
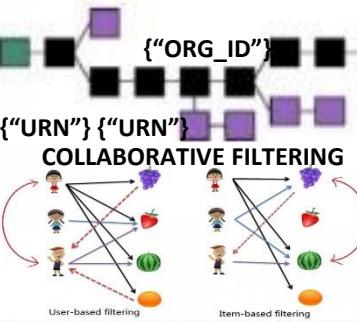




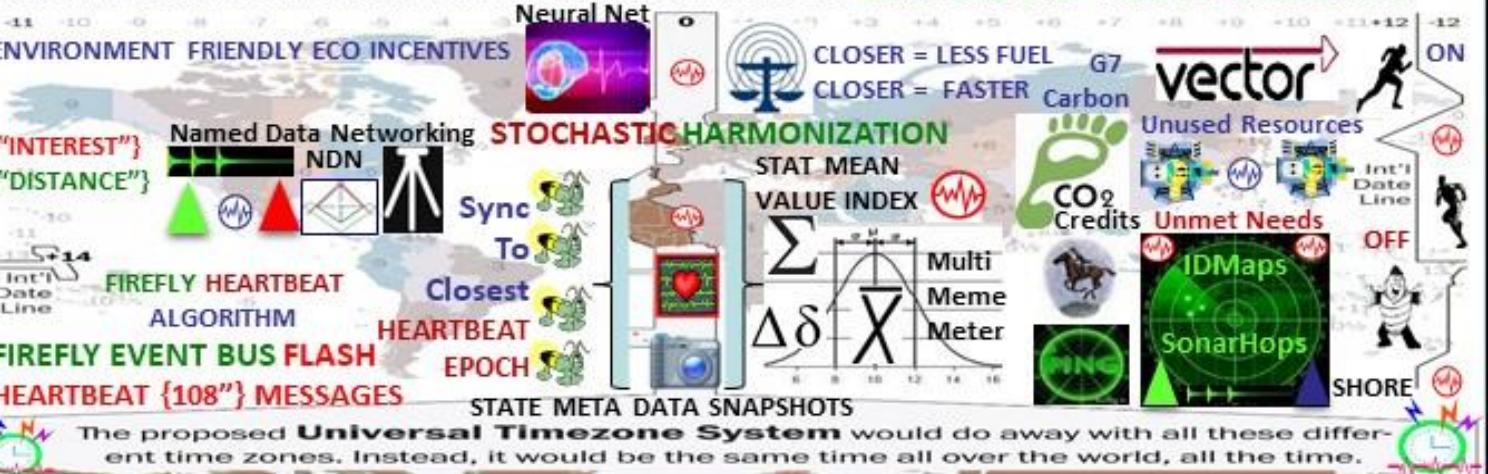
EGaaS

ELECTRONIC GOVERNMENT AS A SERVICE

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



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



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



FORM	CODECS	FORMAT	ASAS	AMQP	API REST	MQTT
ASAB	PLAIN	PLAIN	PLAIN	PLAIN	PLAIN	PLAIN
ANONIM	PLAIN	PLAIN	PLAIN	PLAIN	PLAIN	PLAIN
AFATOR	PLAIN	PLAIN	PLAIN	PLAIN	PLAIN	PLAIN





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

Futarchy PREDICTION MARKETS
GnosisAMA

Gnosis trading interface alpha
WIZ token fee payment
INFORMATION ARBITRAGE ECONOMICS

TERRACYCLE Price Oracle

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

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

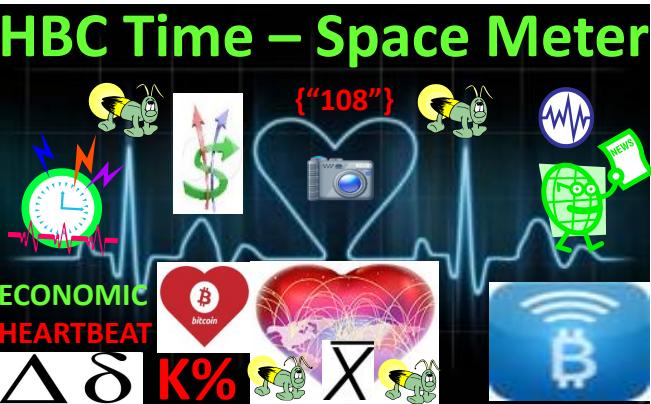
Gnosis tokens (GNO) generate Wisdom token s(WIZ) via smart contract

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

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



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



THE TERRA (TRC)
Trade Reference Currency

fungible {"URN"} ("Org ID") \$0.49 USD
MICRO PAYMENTS Need Bitcoin?
Demurrage Fees

Universal Meme
BLOCK ROLES Metrics RULES Metrics
Geo-Spatial Temporal Econometrics meters

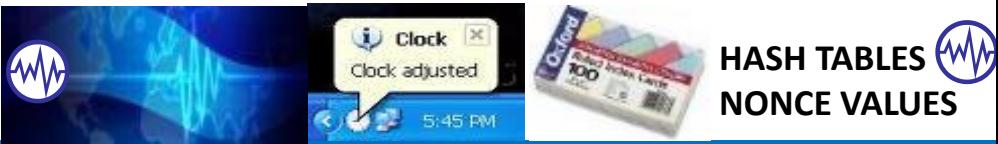
Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic "heartbeat" events approximately at the same time. It differs from classical clock sync in that nodes are not interested in counting cycles to agree on the ID of the current clock cycle. There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



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



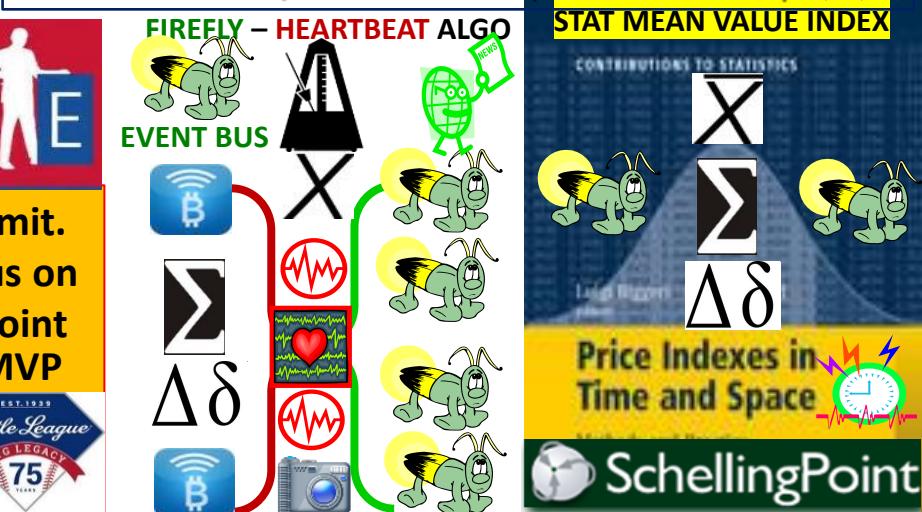
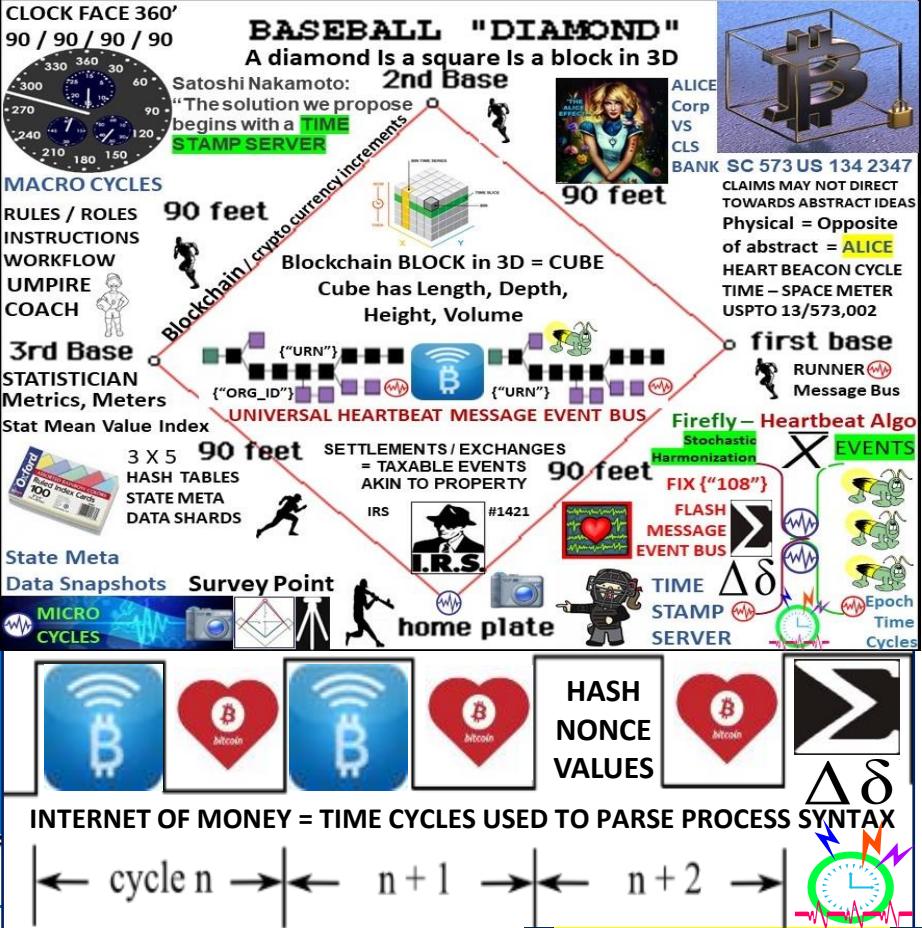
ALL THINGS INTERNET FORMED W 1) TIME EPOCHS 2) SYNTAX



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



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



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

AZURE: Core/Kernel/Universal Protocol 

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

Unspent Transaction Output protocols UTXO

**Crypto Tokenized Assets Digital Bearer Bonds
unique identity for owned artifacts**

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

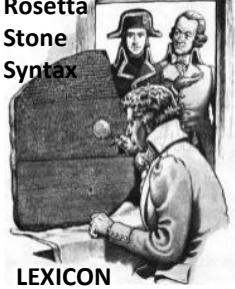
**Blockchain middleware: identity and operations management, data,
intelligence services like analytics and machine learning. New middleware
works with existing Azure services, like Active Directory and Key Vault**

**Blockchain Fabric: Blockchain Gateway Services Interledger-
like services to allow for SmartContracts and tokenized
objects to be passed between different ledger systems.**

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

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

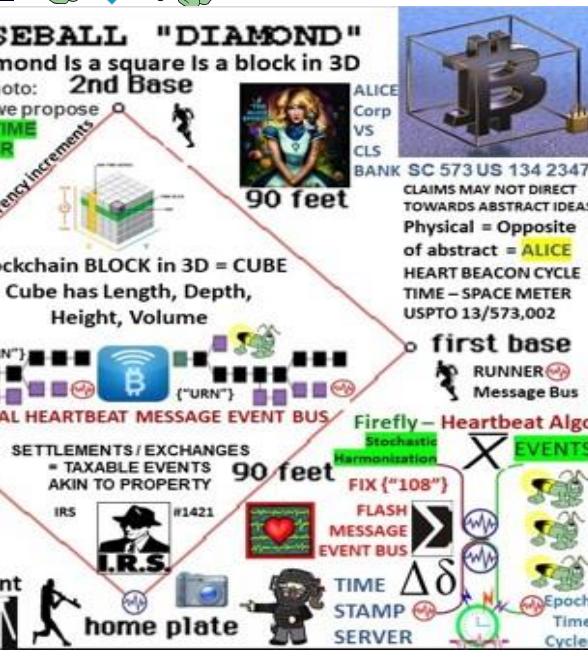
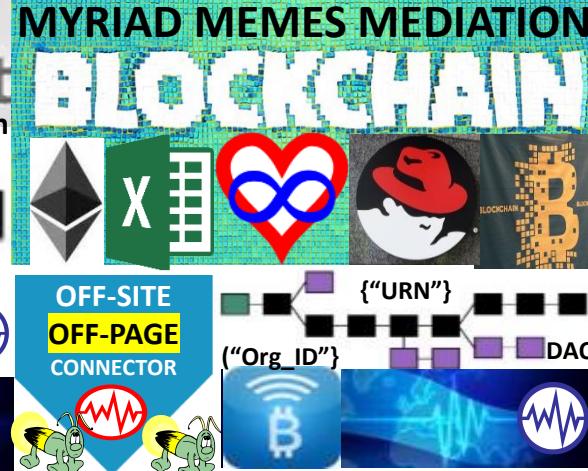
Utility and Contract. Developers can discover and enlist Cryptlets into
their SmartContracts to create more robust and trusted transactions.
Contract Cryptlets are full delegation engines that act as
SmartContract surrogates off the chain. Cryptlets provide
execution logic and securely store data in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



ALPHA NUMERIC
BREVITY CODES
SYMBOL CODES

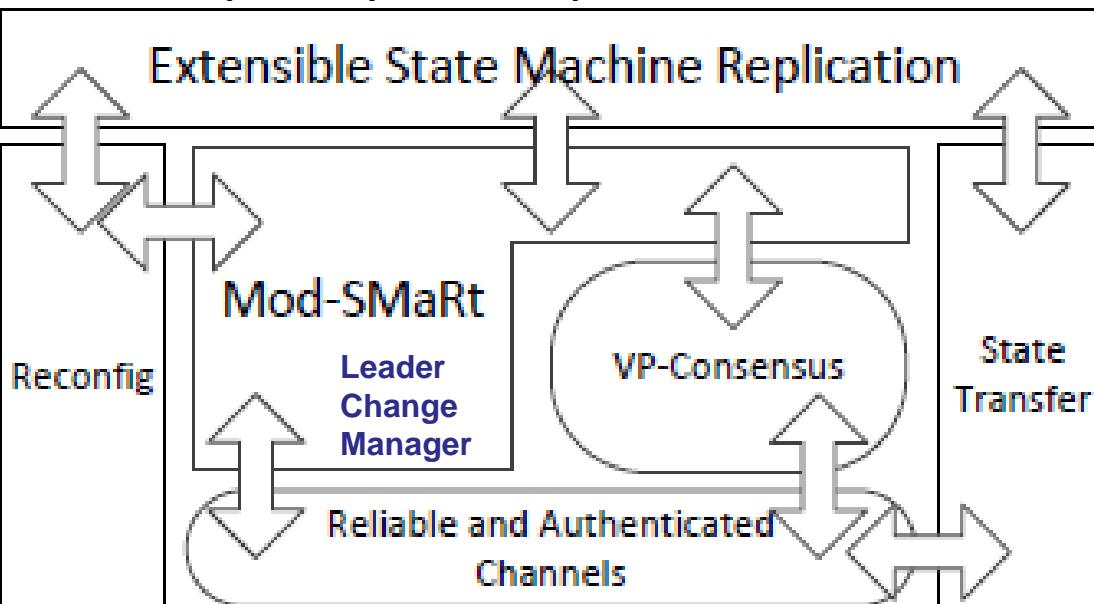
**STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS**

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



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

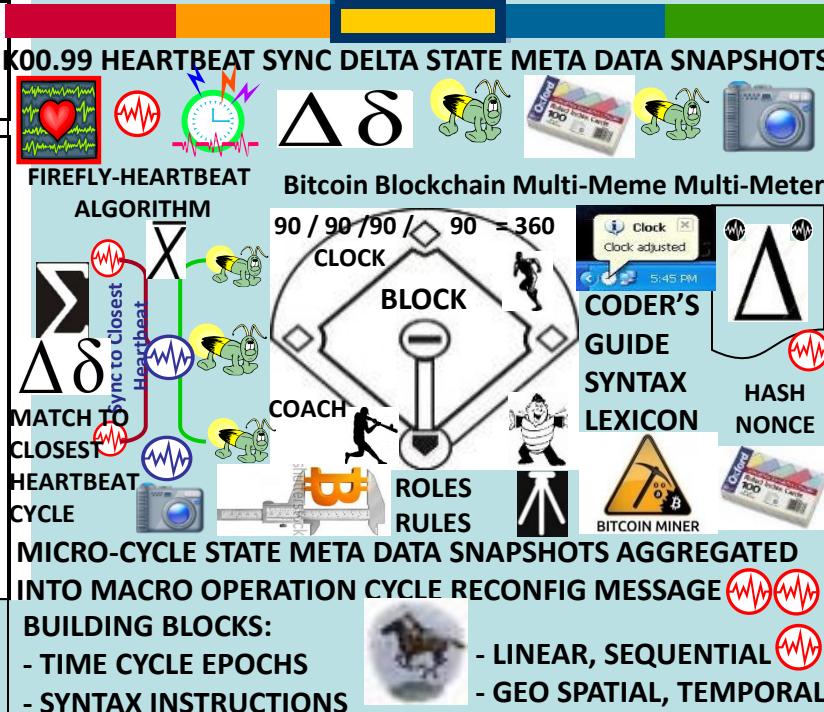
US Ct ALICE CORP V CLS BANK

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**



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”



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

ERLANG API FOR BLOCKCHAIN



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

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

CROSS – CHAIN ATOMIC SWAPS

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



Aeons: energy for applications implemented on the platform.

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



("ORG_ID")
("ORG_ID")

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



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

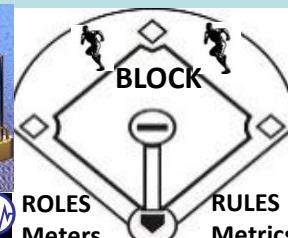
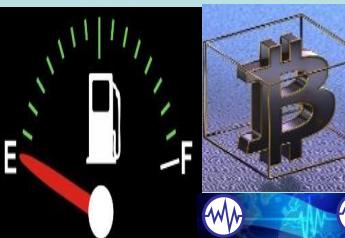
AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS



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

TOKENS REPRESENT REAL WORLD VALUE URN RESOURCES

ETHEREUM USES GAS GUAGE MEME INDICATING THRESHOLD MET / NOT MET

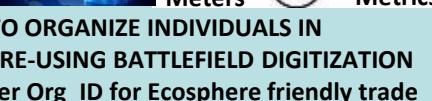


ROLES Meters RULES Metrics

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



Federation Gateway
("ORG_ID")



RULES Metrics

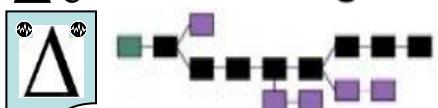


American Registry for Internet Numbers

HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$ Shared Ledger



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

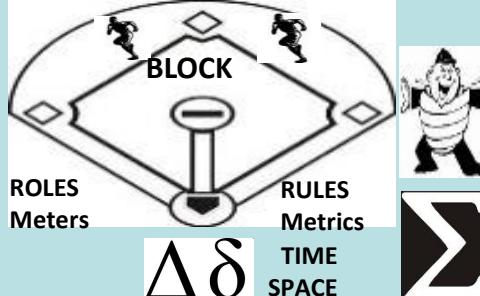
FEDERATION
Federation Gateway

METRICS ("Organization ID")
METERS

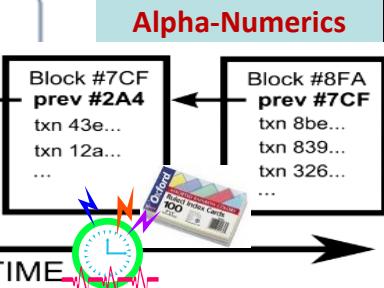
RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE



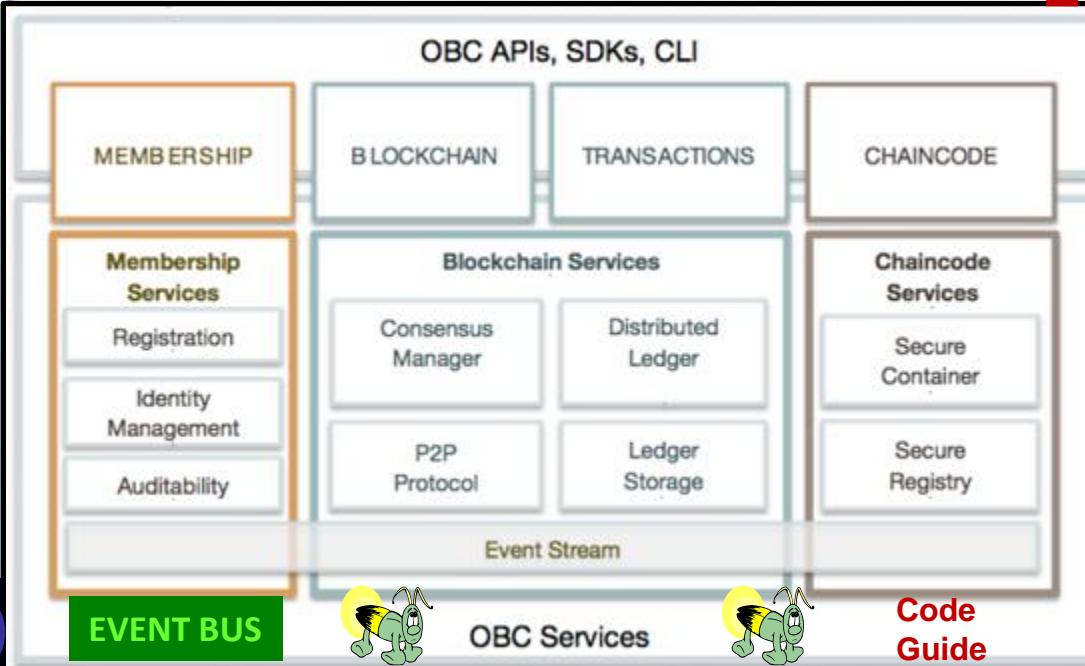
BLOCKTIME ARBITRAGE



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



Alpha-Numerics



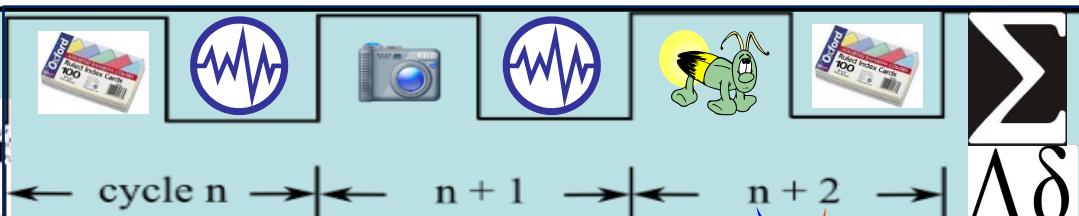
ROSETTA STONE

XBR / CDL / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

SYNTAX
SYMBOL LIBRARY

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



MICRO-MACRO CYCLE SCHEDULE



FFIRNS
FFUDNS

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



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

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

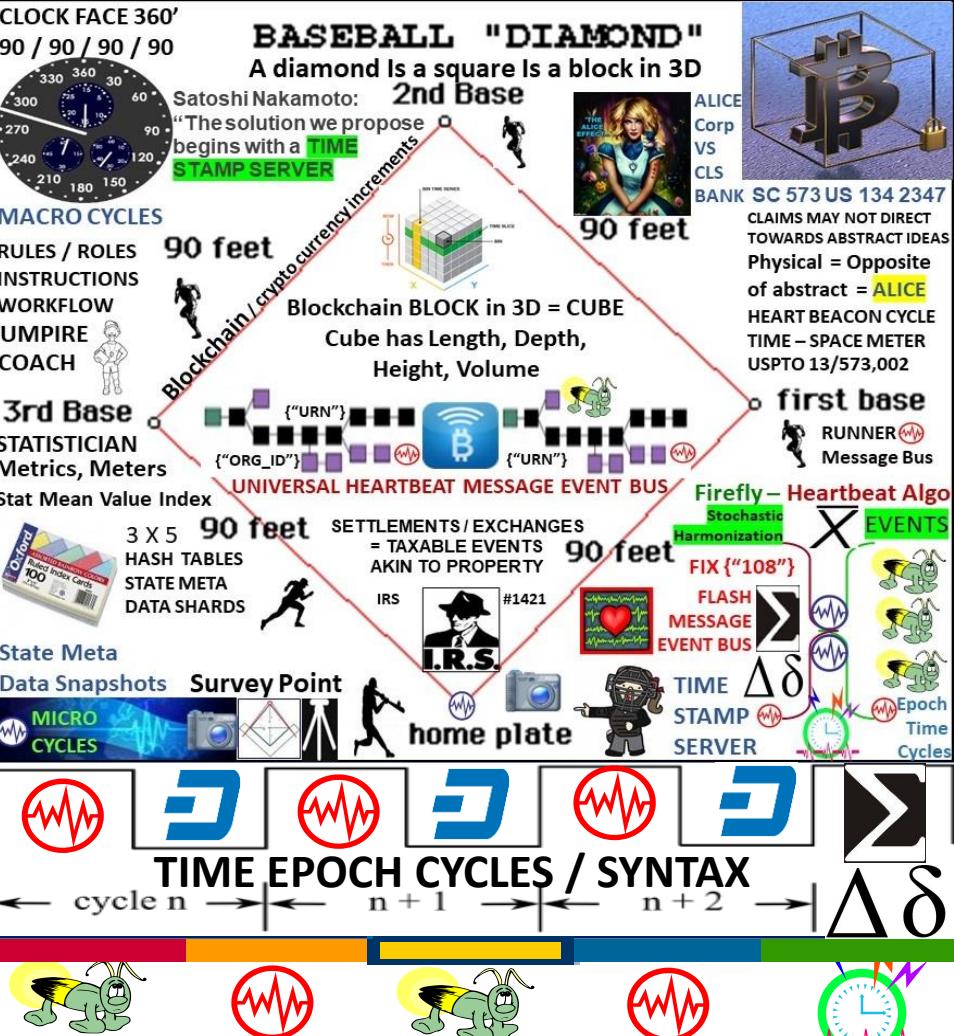
[LINK](http://bitcoinist.net/how-dash-dao-work/) <http://bitcoinist.net/how-dash-dao-work/>

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

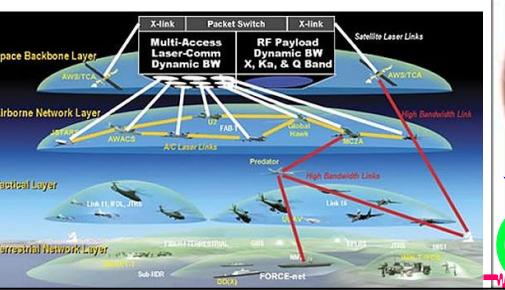
“Its makeup is thus: the block reward is divvied up in three parts. The first 45 percent goes to [Dash’s miners](#). Another 45 percent goes to its Masternodes. And 10 percent is set aside to fund whatever other jobs or expenditures the Dash network deems necessary”

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

DAO: RAND THINK TANK TERM COINED + / - 2001



HEART BEACON CYCLE = IMPROVEMENT TO NETWORK CENTRIC WARFARE



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

STATE: stored data at a given instant in time

STATE CHANNELS: blockchain interactions

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



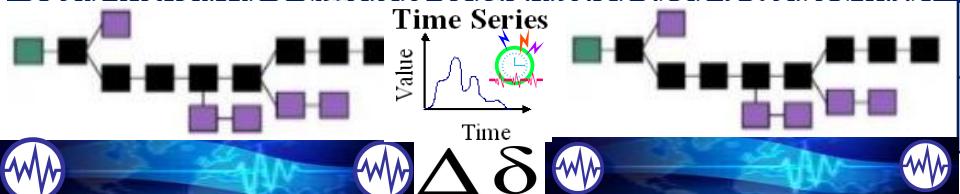
1. Part of the blockchain state is locked via multisignature or smart contract convention, so that a specific set of participants must completely agree with each other to update it.



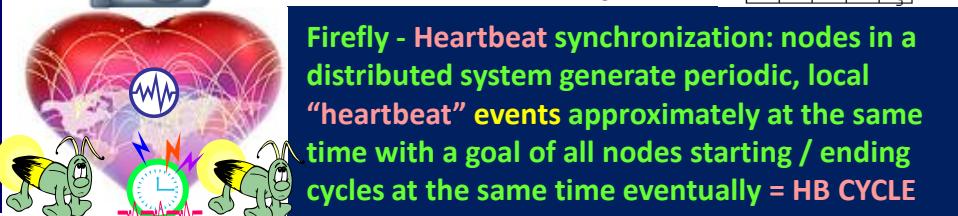
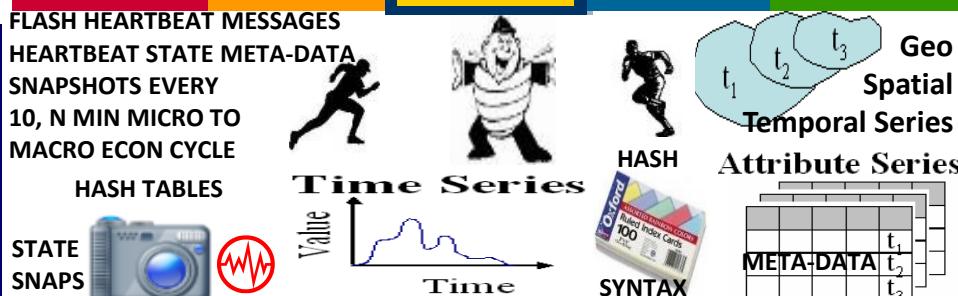
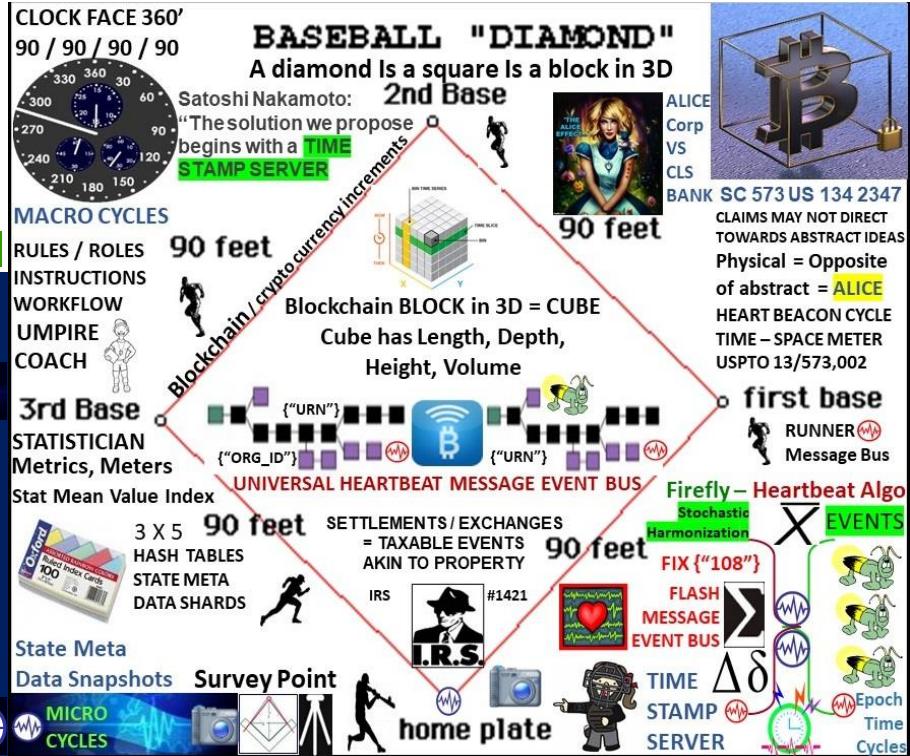
2. Participants update the state amongst themselves by constructing and signing transactions that *could* be submitted to the blockchain, but instead are made public before a new update "trumps" previous updates.



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



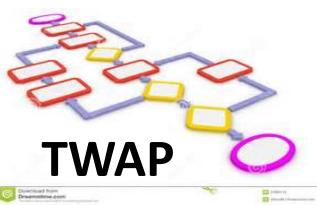
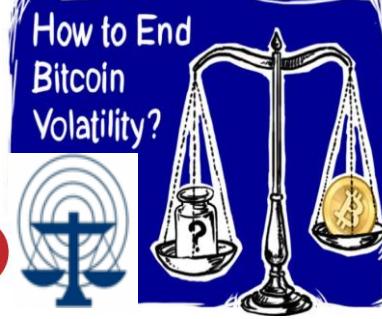
NEW UPDATES OVERWRITE THE PREVIOUS: simplest way is to have any unlocking attempt start a timer, during which any *newer* update can replace the old update (restarting the timer). When the timer completes, the channel is closed and the state adjusted to reflect the last update received. The length of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



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

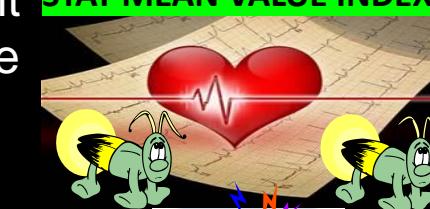
TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

TWAP GOAL: provide a Time Weighted Average Price Benchmark



FIREFLY HEARTBEAT ALGO
STAT MEAN VALUE INDEX

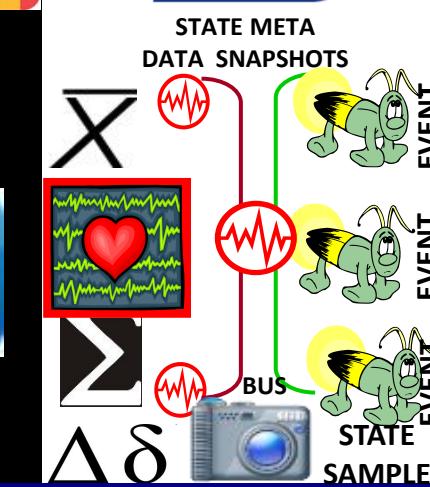
TWAP Works To gauge trading performance, many traders in different asset classes (equity, fixed income, currency) often use average price as a benchmark. The two common ways to calculate an average are a time-weighted average price (TWAP) and a volume-weighted average price (VWAP). TWAP is the average 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

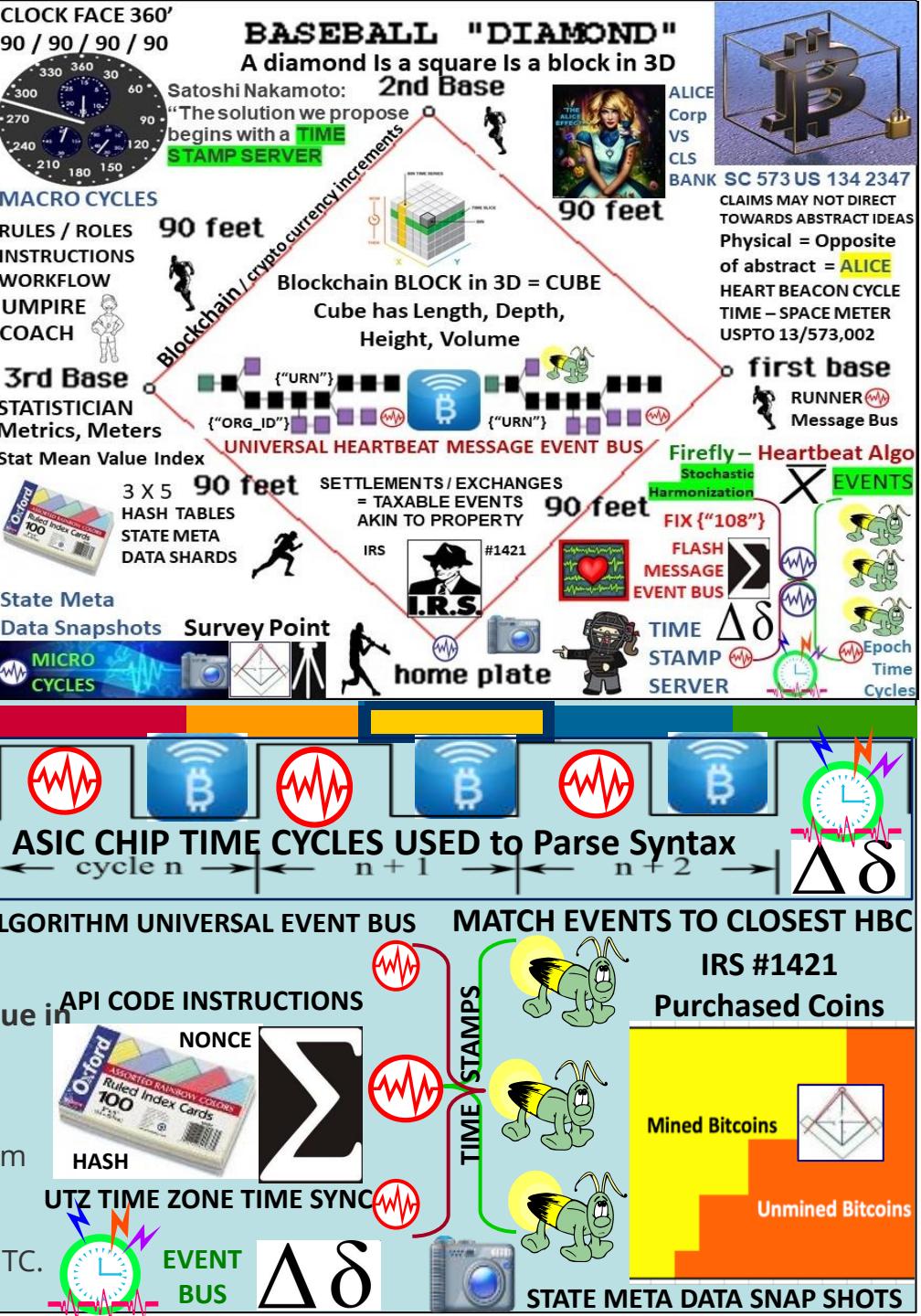
Transaction ID, Block ID, time-stamp, BWAP per block, Value in USD. BTC per transaction, bitcoin transaction fees per transaction.

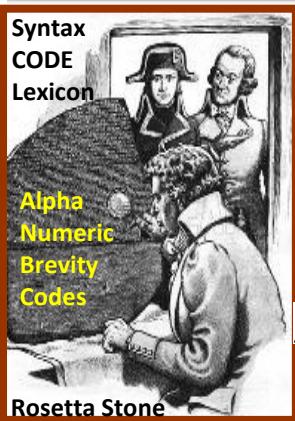
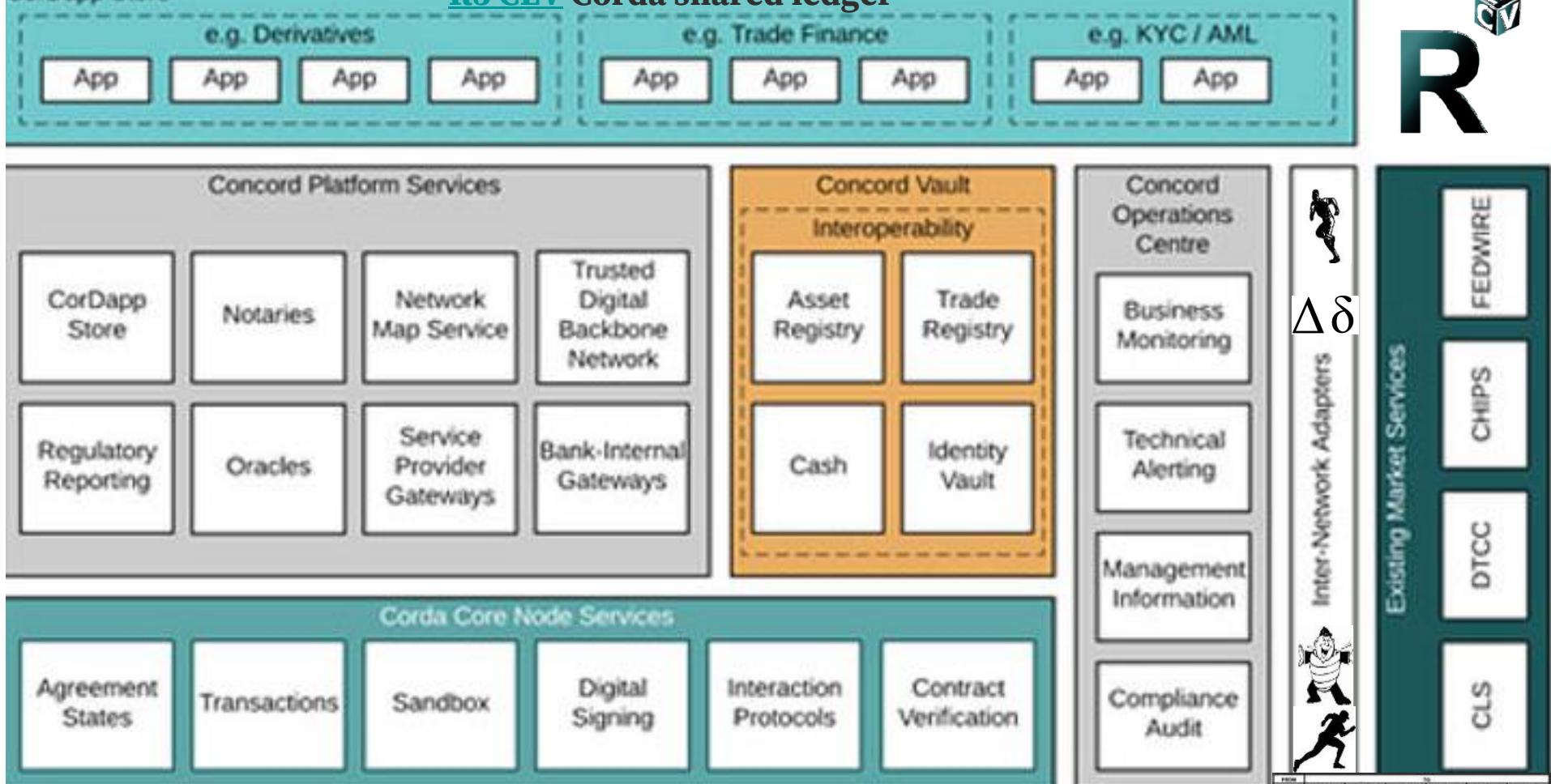
"Blocks are a measure of time":

The Bitcoin Blockchain 'B-WAP'

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

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





UNIVERSAL EVENT BUS



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

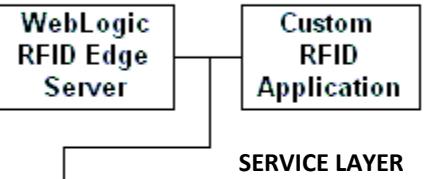
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AFATON	F014	F015	F016	F017	F018	F019
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Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data



EPCIS DATA MODEL



SERVICE LAYER

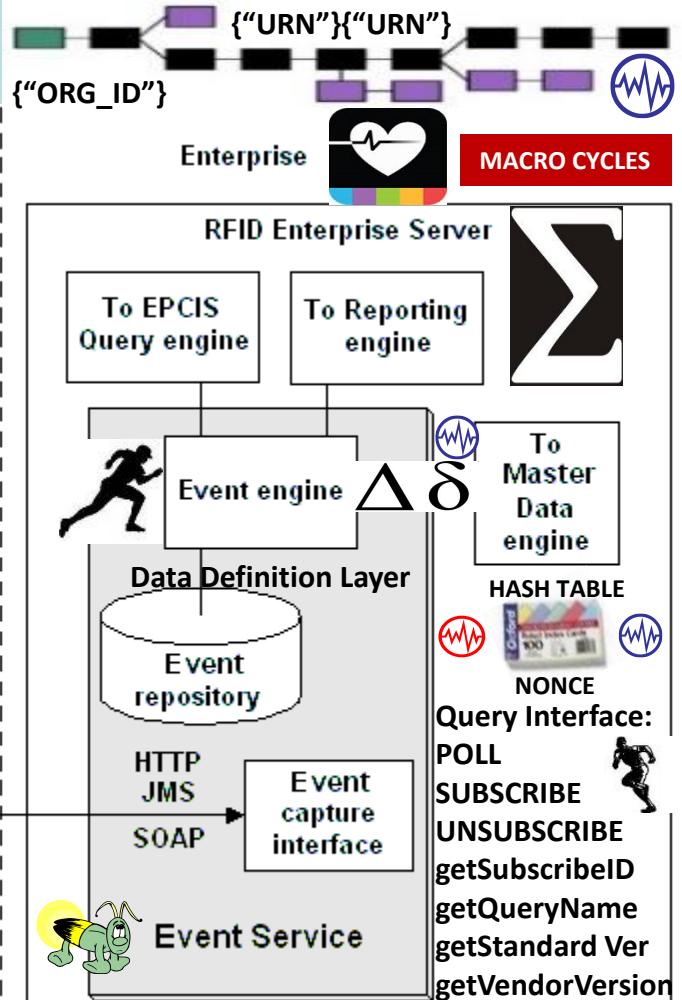
XML

ObjectEvent

AggregationEvent

QuantityEvent

TransactionEvent



Core Business Vocabulary (CBV)

What identifiers of object(s) or entities / subject of the event

When date time when event took place, local time zone in effect

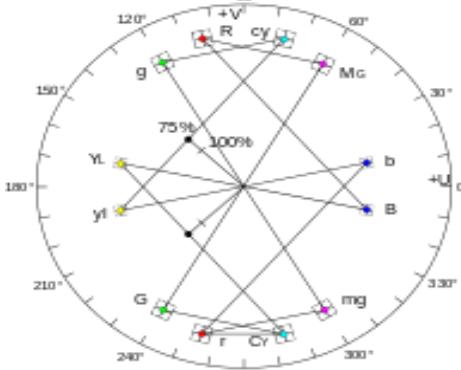
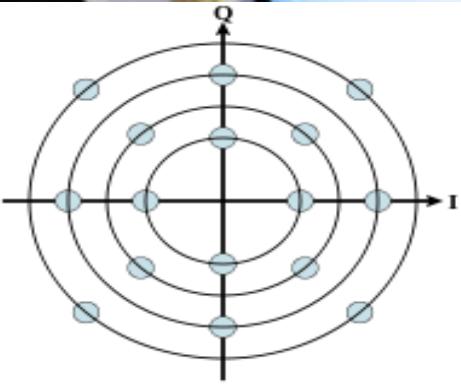
Where location identifier where event occurred, identifier of location where object(s) are expected to be following the event

Why Information about the business context, including:
a Identifier that indicates the business step taking place

Richard Lighthouse Tonight on LNM Radio
Time Travel & The Blinking Universe



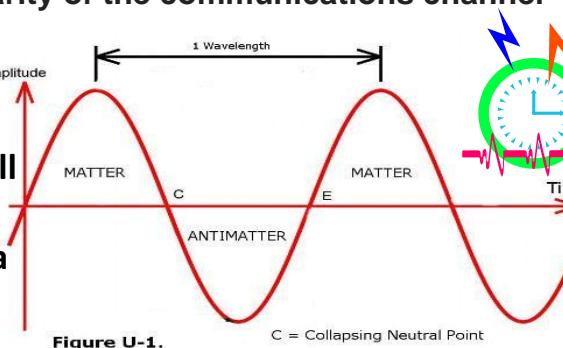
www.RLighthouse.com



Quadrature amplitude modulation

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

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



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
sawconcepts.com/index

NDN

IDMaps
SonarHops

("Distance")

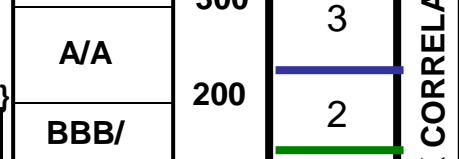
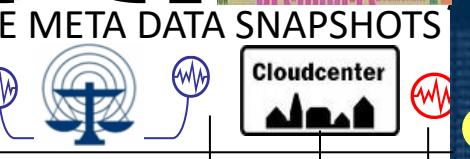
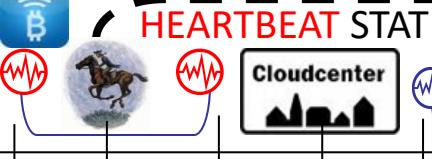
("Interest")

vector

triangulation



ECONOMIC HEARTBEAT

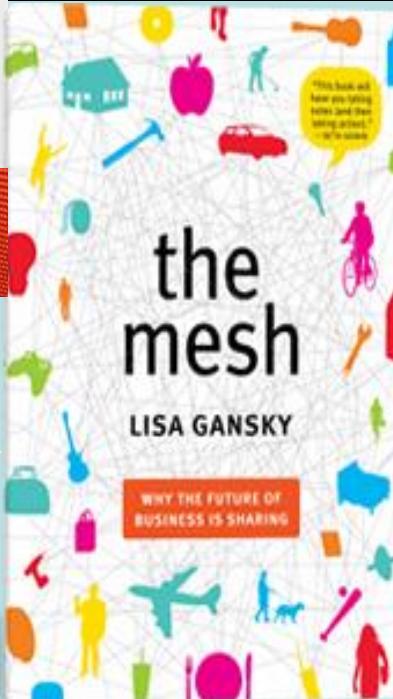
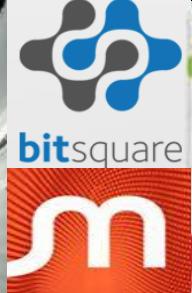
HB MSG </108>
PROTOCOL
INDUSTRY-DRIVEN MESSAGING STANDARDLAST LOSS
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Aaa
AA/Aa
A/A
BBB/
Baa
B/BIEEE 802.15.4 OASIS MQTT
TELEMETRY TRANSPORTIEEE 802.1AG HOP BY HOP
DETECTIONIEEE 802.11 HOP BY HOP CONTROL
Paul Revere Linear, SequentialPROCESS BY </PRECEDENCE>
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IRS Memo #1421Triangulation
Euclidian Geo
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Closer = Cheaper
Closer = < Fuel
Demurrage Charges
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COINTELEGRAPH
live cryptocurrency community opinion



Decentralized Exchange Meets Decentralized Crowdfunding



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

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



Autonomous Device Coordination Framework



Rules of engagement
FEDERATION AGREEMENTS
PROCEDURAL TEMPLATE

Registration

Authentication

Proximity based rules

Consensus based rules

Contracts

Checklists

FEDERATION

<UUID> <ORG_ID> <URN>

LDAP DIRECTORY

Physical proximity

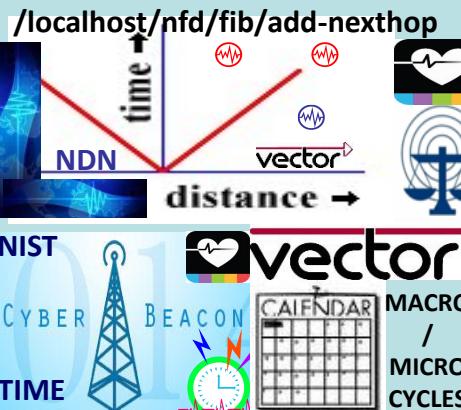
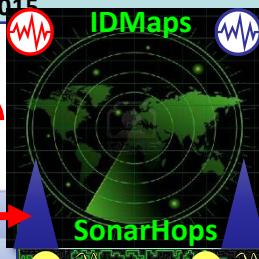
Social proximity

Temporal proximity

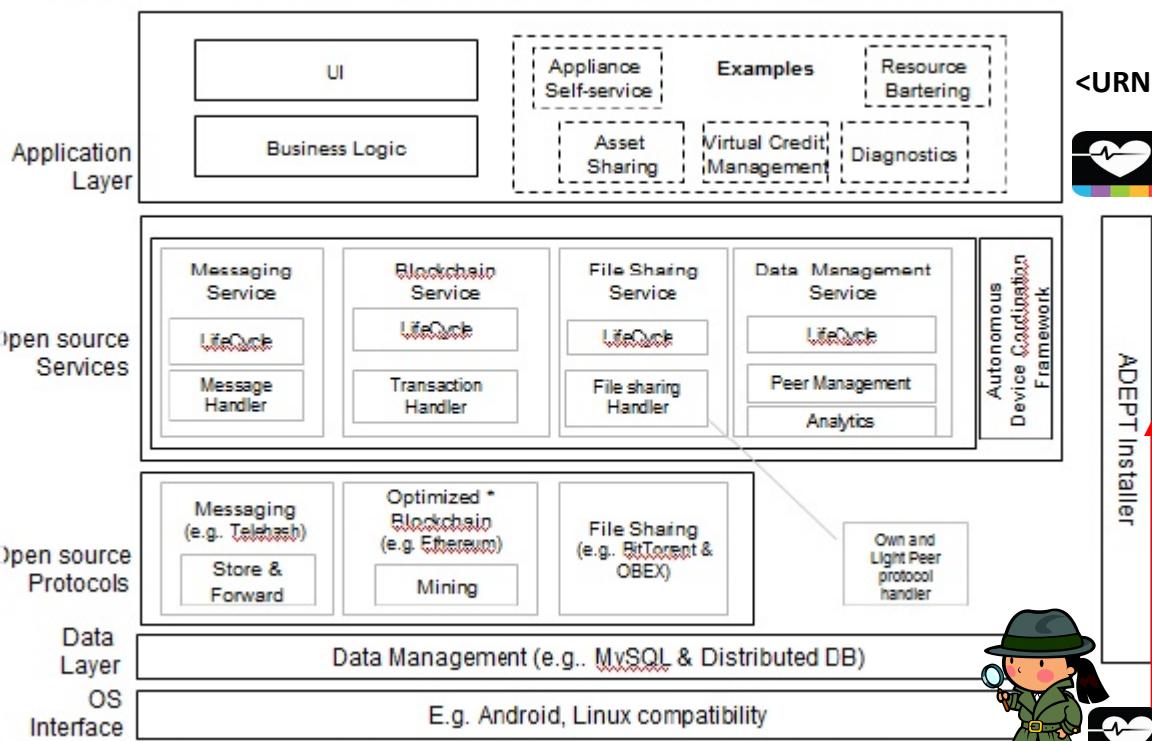
Agreements

Payments

Barter



ADEPT Standard Peer Architecture – Logical View

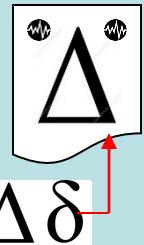


PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS
<URN> DESCRIBES COMMODITIES ETC BY UNIFORM RESOURCE NAME BY </INTEREST>>



ASSET SHARING WITHIN FEDERATION

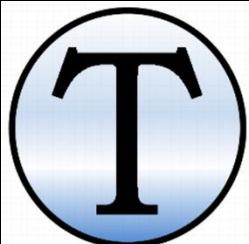
BUSINESS LOGIC = WORKFLOW <XML_Wf>



$\Delta\delta$

OPEN SOURCE = HBC = PROTOCOL AGNOSTIC

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



Three ideas combined

HOW TRUTHCOIN WORKS:

1) Tradable Reputation

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

2) SVD Cross-Validation

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



3) Strategic Use of TIME

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

2. A kind of ‘Future Wikipedia’

	Wikipedia	Truthcoin
Focus	Outcomes of <i>past</i> events. Consensus on known facts.	Outcomes of <i>future</i> events. <i>Future</i> consensus on <i>knowable</i> facts.
Protocol	(Decentralized)	Centralized Non-Protocol
Spoken English		Shakespeare’s Globe Theatre, The Library of Alexandria, MLA Citation Format, Walt Whitman, J.K. Rowling.
Rules to American Football		The NFL, ESPN, The Buffalo Bills.
Bluetooth		A Set of Stereo Speakers, The iPhone 6, A Car Radio Equipped with Bluetooth
Bitcoin		VISA, PayPal, SWIFT, Western Union, Airline Miles, Amazon Coins, e-Gold, Liberty Reserve.

3. A software protocol

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

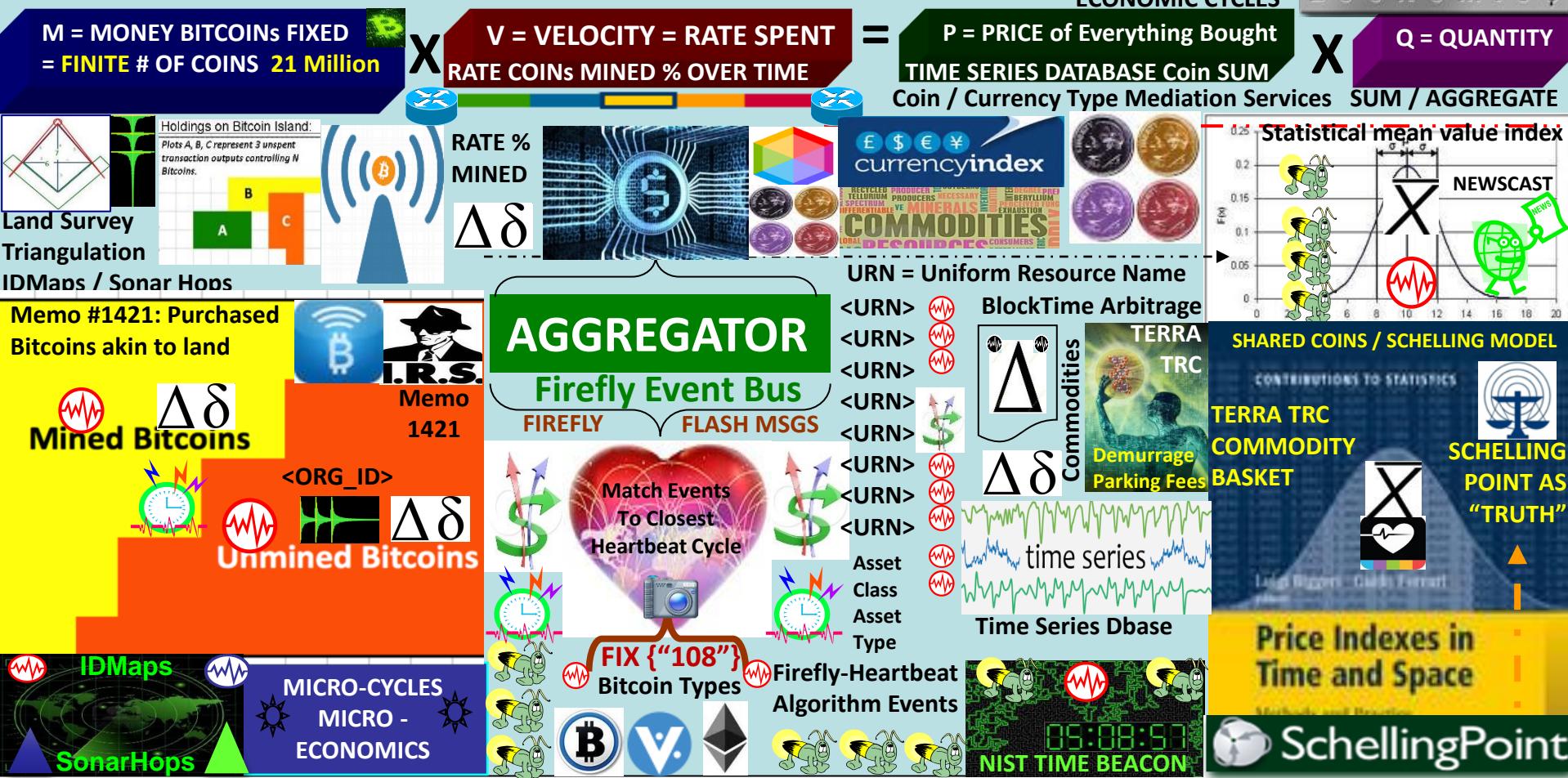
Finance Thing	Interpretation	EVENT DERIVATIVE CORP = <Org_ID_1,2,3>
Bond (Debt)	“I, Paul Sztorc, owe \$20 to whoever is holding this bond certificate on 03/02/2015.”	
Stock (Equity)	“I, the CEO of SztorcCorp, owe 1/100 th of SztorcCorp’s profits to whoever is holding this stock certificate on 03/02/2015.”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



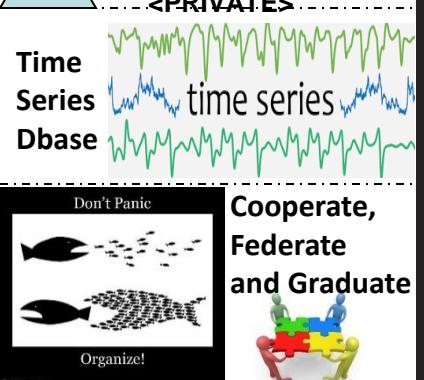
How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

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

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



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



HOW GAMIFICATION WORKS:

5 COMMON MECHANICS



POINTS

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



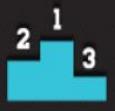
BADGES

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

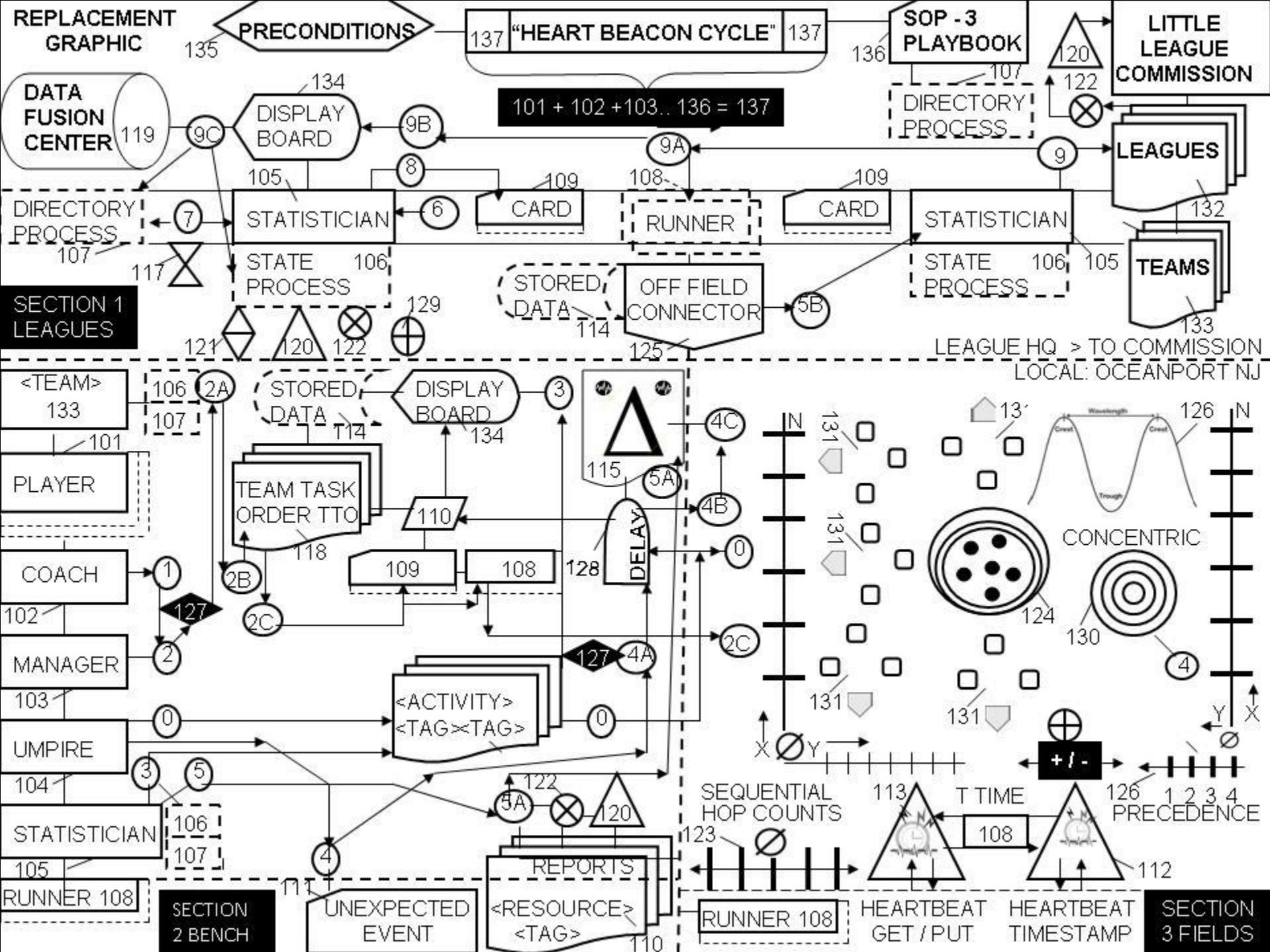


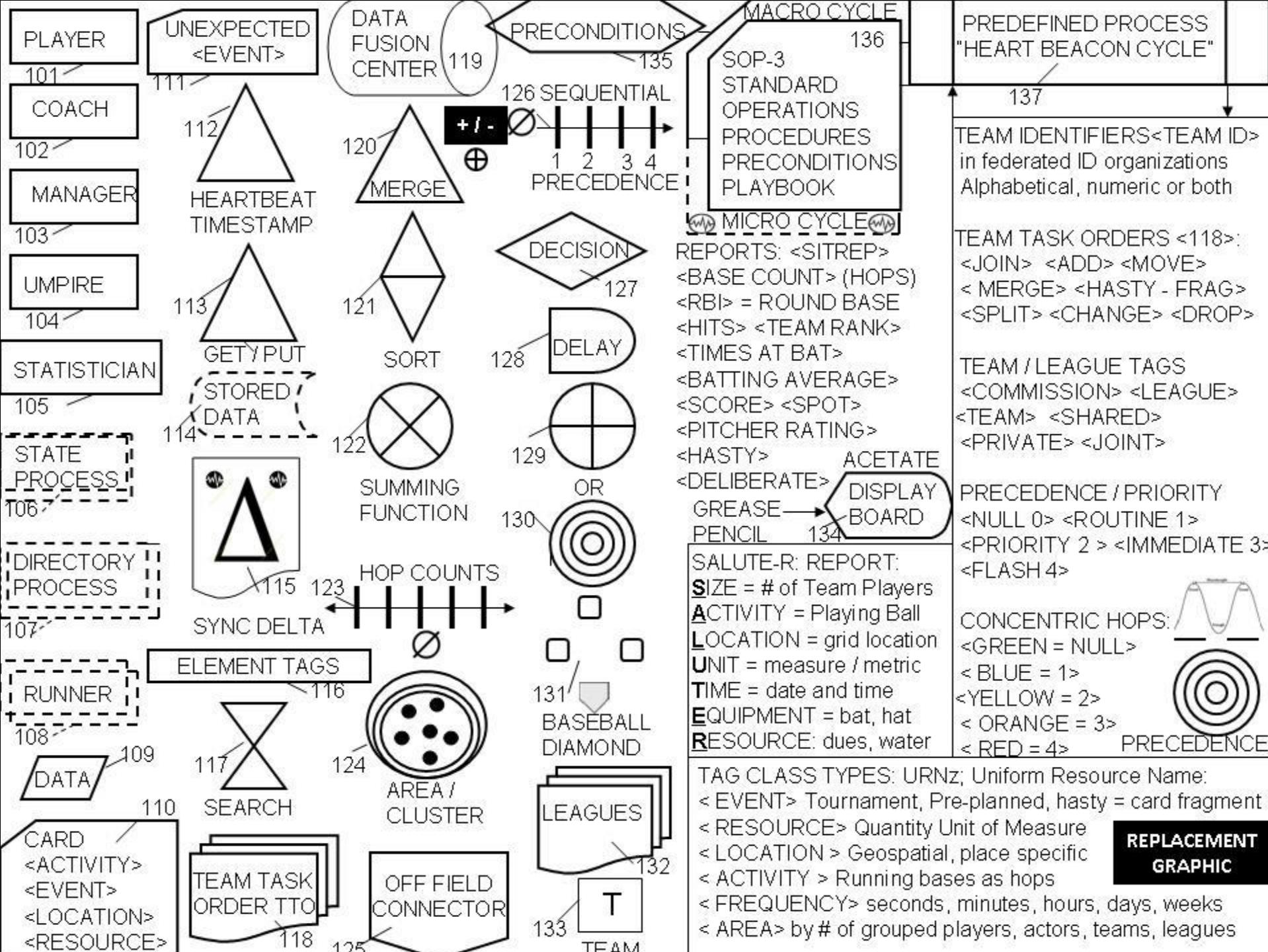
CHALLENGING BUT ACHIEVABLE TASKS



FUNGABILITY







BUILDING BLOCKS



TASK ON / OFF

201

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



MACRO CYCLES



.0001

MICRO CYCLES
216

219

CLOUD COMPUTING



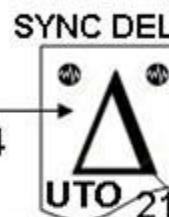
218

202 FEDERATED GROUP JOINS, MERGE, ADDS, DROPS

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



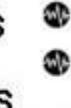
214



UTO 213



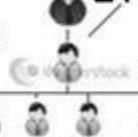
215 LEADER'S INTENT DECISIONS



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



212



210 SNAPSHOTS

210

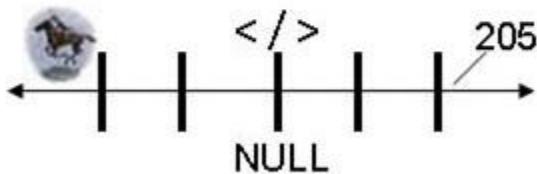


203

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



LENGTH, THRESHOLD, INTENSITY, DURATION

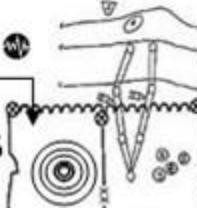


SEARCH FOLLOWED BY ARBITRAGE INVITES VIA
BEACON NEWSCASTS. INVITE ACROSS SPACE / TIME

208



APPLIQUE' OVERLAYS



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

204

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



209

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



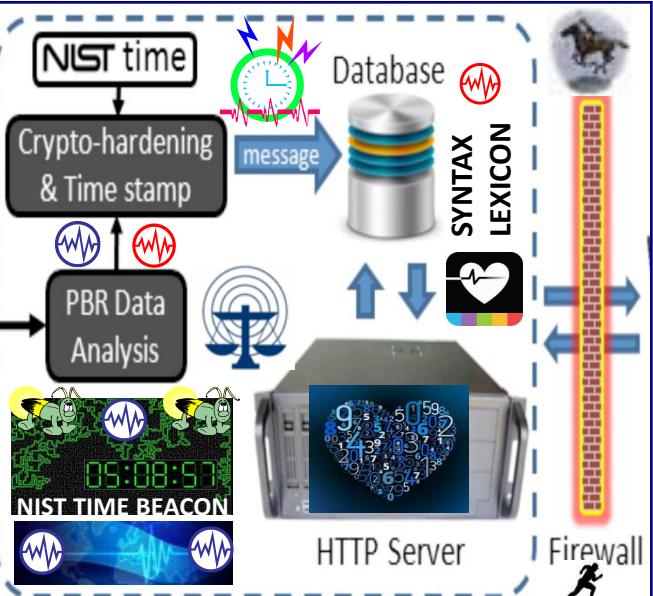
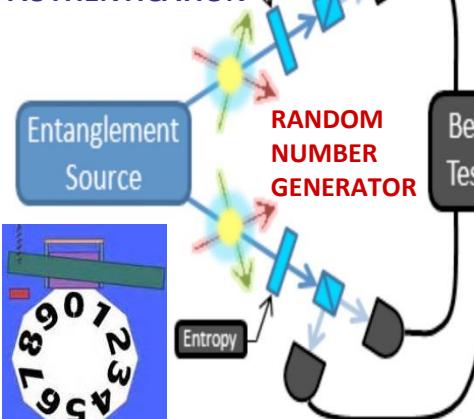
NIST QUANTUM ENCRYPTION RANDOMIZATION BEACON

UNPREDICTABLE SAMPLING

SECURE AUTHENTICATION

SECURE MULTI

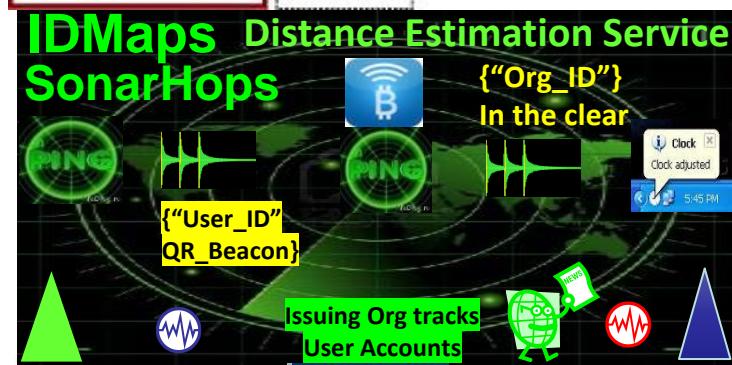
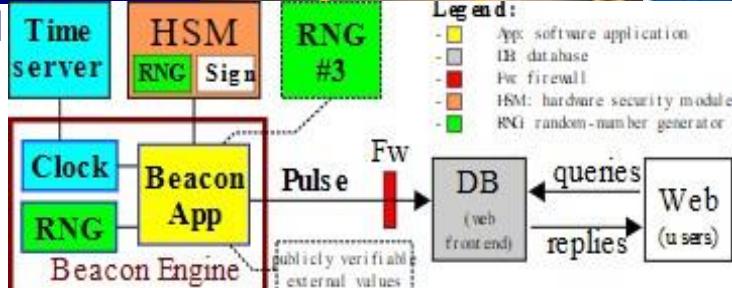
PARTY /
AUTHENTICATION



NIST

**NON
REPUDIATION**

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



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

Metrics and Time - Space Meter uses PHYSICAL Memes / Metaphors

NAMED DATA NETWORKING



NDN
 </Interest>
 </Distance>
SURVEY METHODS + TRIANGULATION
Euclidian Geometry

Geodesic System Routing Info Base RIB

ACCOUNT BELONGS TO </Org_ID>

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

DEVICE / SENSORS <UUID><UUID>

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

Time / Distance Metrics



PROXIMITY

OFFSHORE BEACONS ONSHORE

State Snap Shots

AGGREGATE, SUM STAT MEAN VALUE INDEX

EVENT BUS

NDN

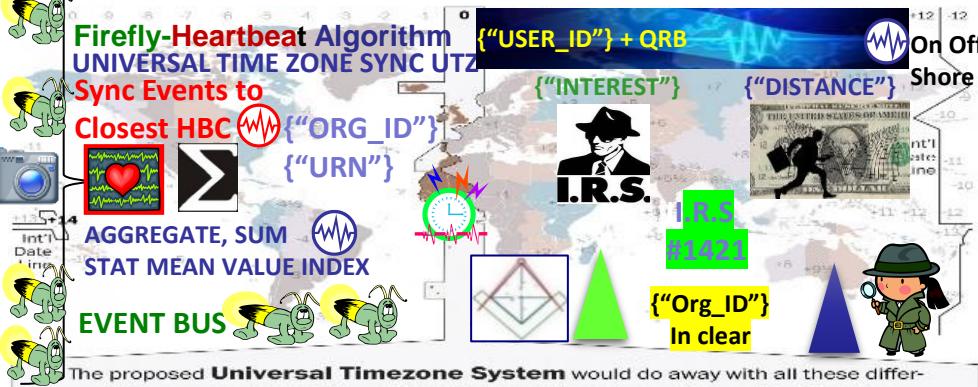


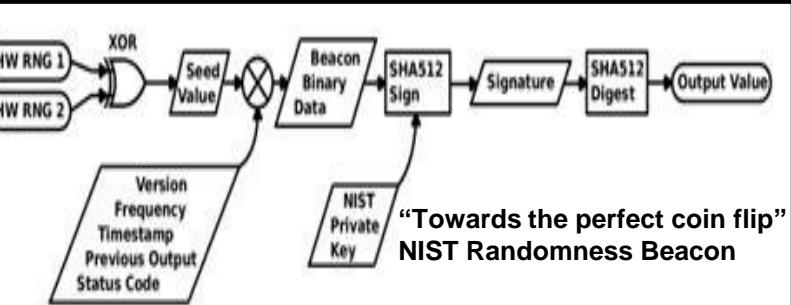
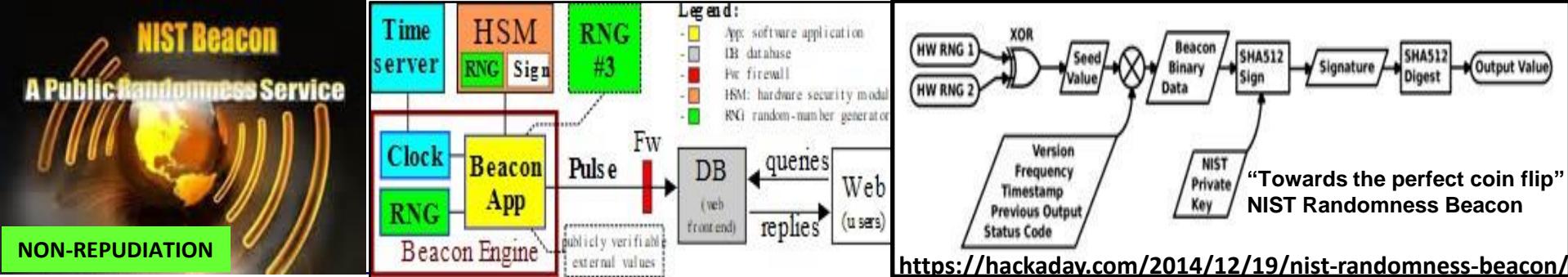
NDN



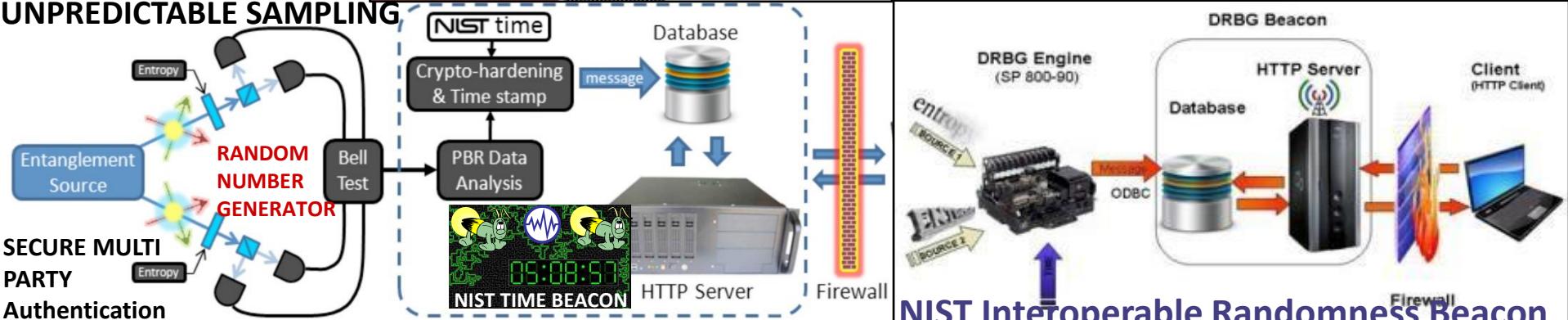
</interest></distance>

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





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



NIST Interoperable Randomness Beacon

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

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

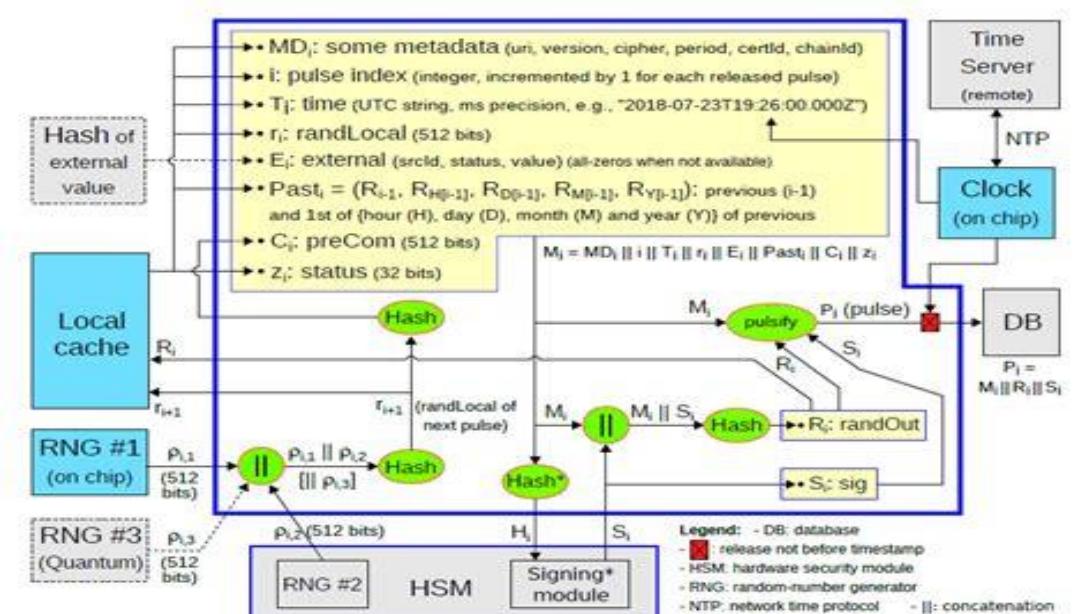
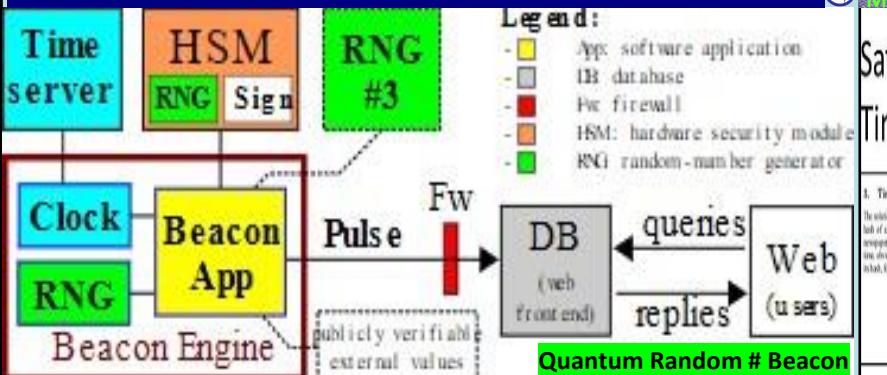


Figure 2. Illustration of the generation of the i^{th} pulse by a Beacon App (2.0)

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

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

NIST Quantum Random Number Beacon



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



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



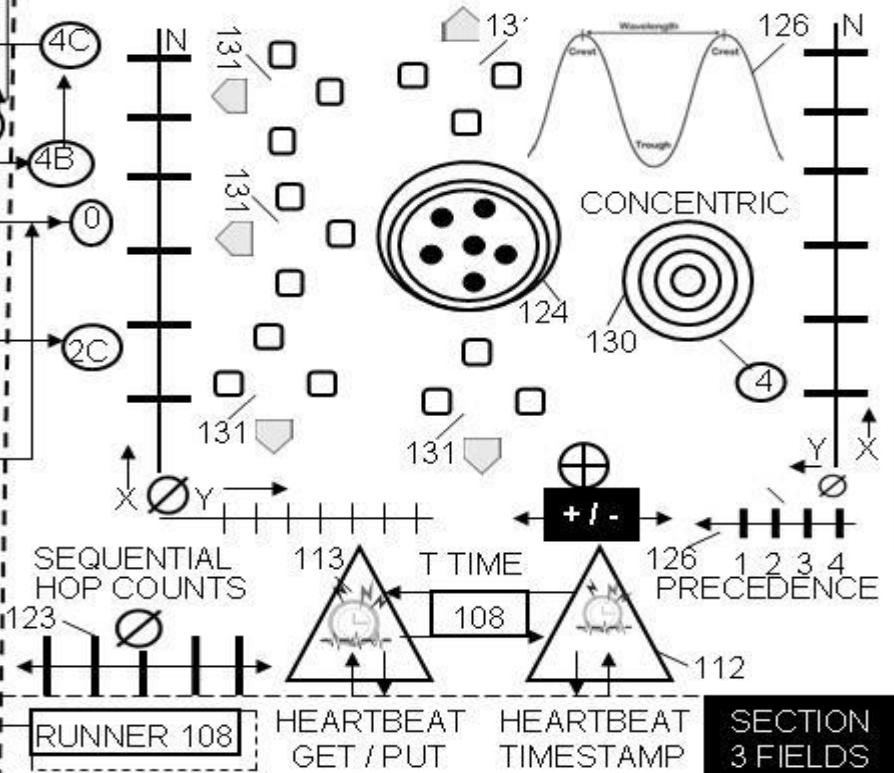
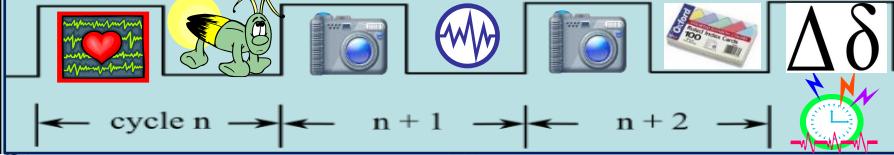
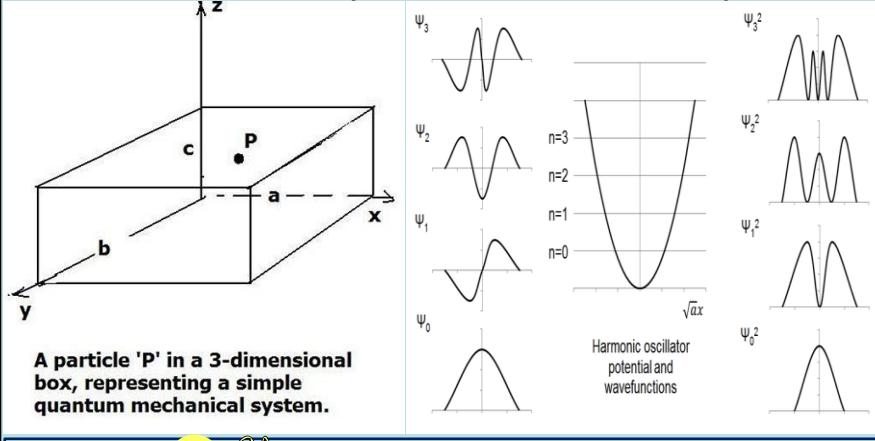
Satoshi Bitcoin Blockchain Time Stamp Server

1. Timestamp Server

The solution we propose begins with a timestamp server. A timestamp server works by taking a batch of a block of items to be timestamped and widely publishing the hash, such as in a newspaper or Unseen Post [3]. The timestamp proves that the data must have existed in the system, obviously, in order to get into the hash. This timestamp includes the previous timestamp in its hash, forming a chain, with each additional timestamp confirming the previous ones.



QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS

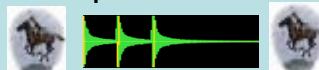


#QuantumComputing USct Alice Corp Vs CLS Bank compliant memes:
In quantum computing, a qubit (or quantum bit (sometimes qbit)) is a unit of quantum information—the quantum analogue of the classical binary bit. A qubit is a two-state quantum-mechanical system, such as the polarization of a single photon: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

US Sct Alice Corp Vs CLS Bank Physical memes

Linear sequential "Paul Revere" meme = horizontal polarization

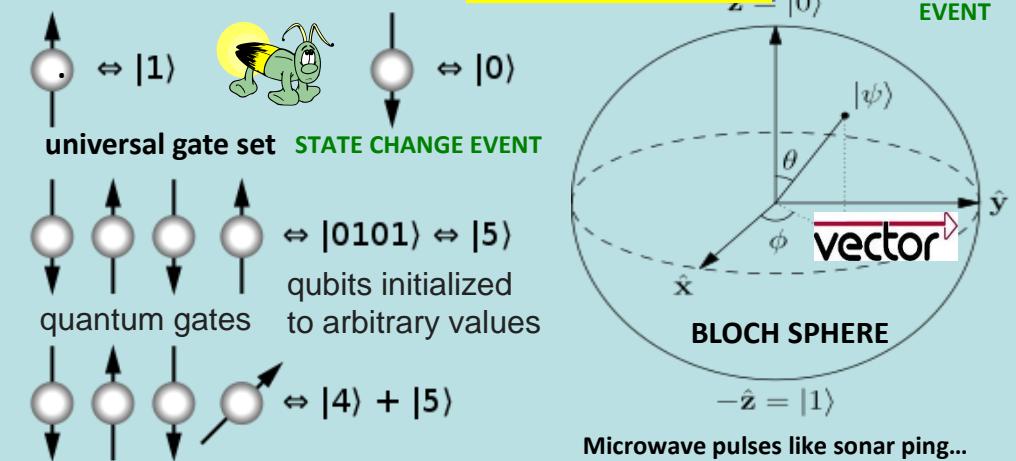
Vertical polarization vectors from a known point 0 null Sonar Hop meme



particle representation / samples



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

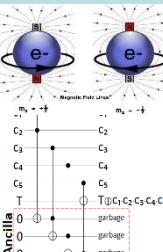


qubits can be in a superposition of all the classically allowed states

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



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

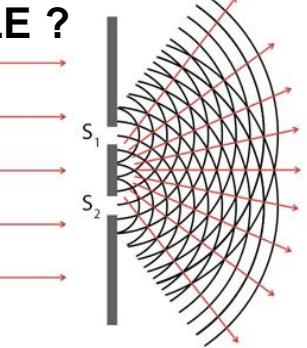


Double-Slit Experiment

Screen with two slits

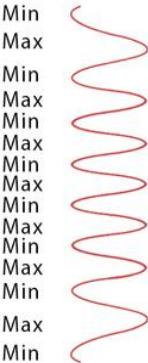
PARTICLE ?

Sodium lamp



Screen

WAVE ?

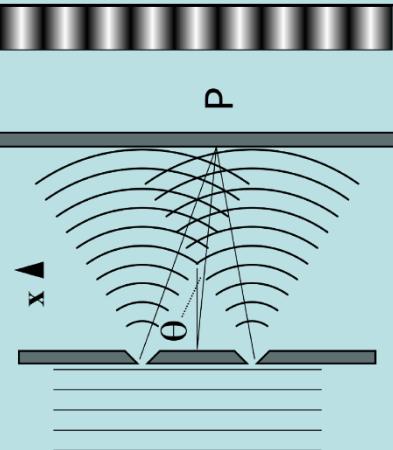


Light source Rays of light coming from the source reach the slits

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

Alternating bright and dark fringes due to interference of light waves

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

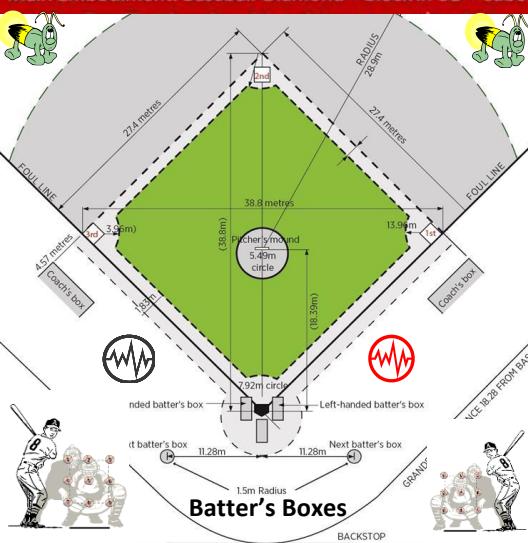


Intensity of the fringes shows the maxima and minima

USPTO APPLICATION 13/573 002

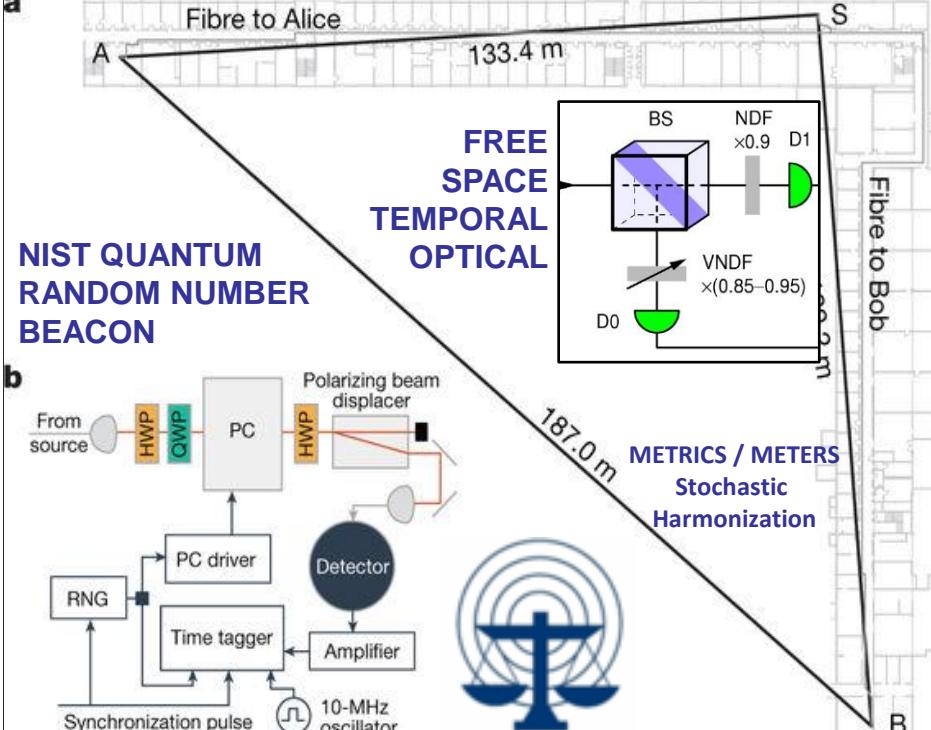
The Heart Beacon Cycle Time-Space Meter

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



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

a



b

The Hopf Fibration

Edmund Harriss

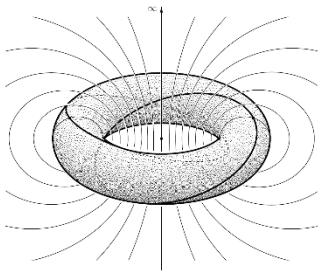
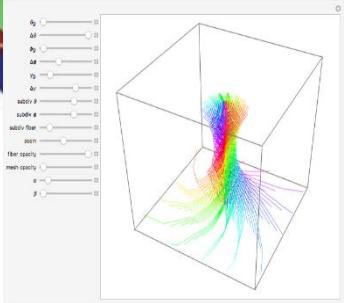
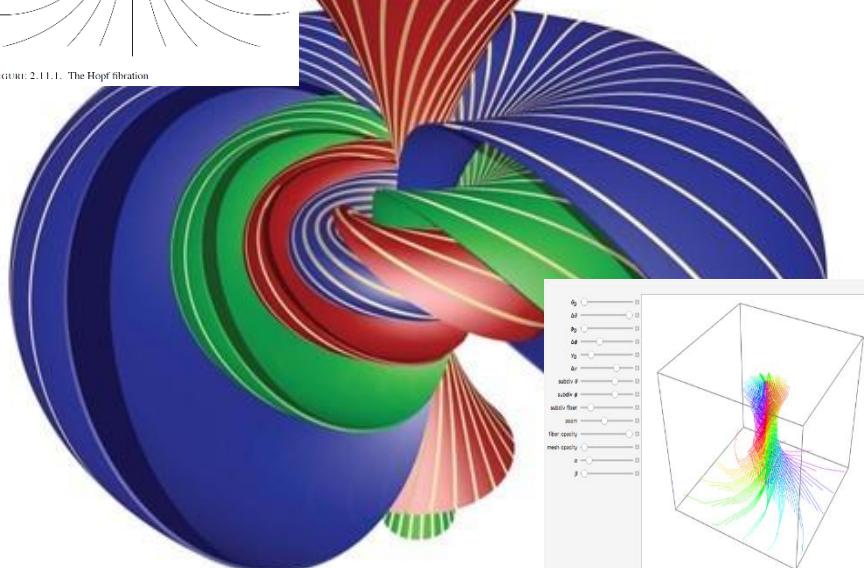
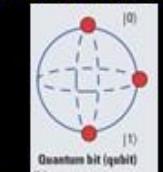
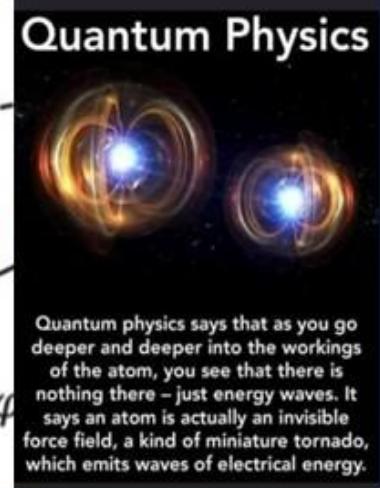
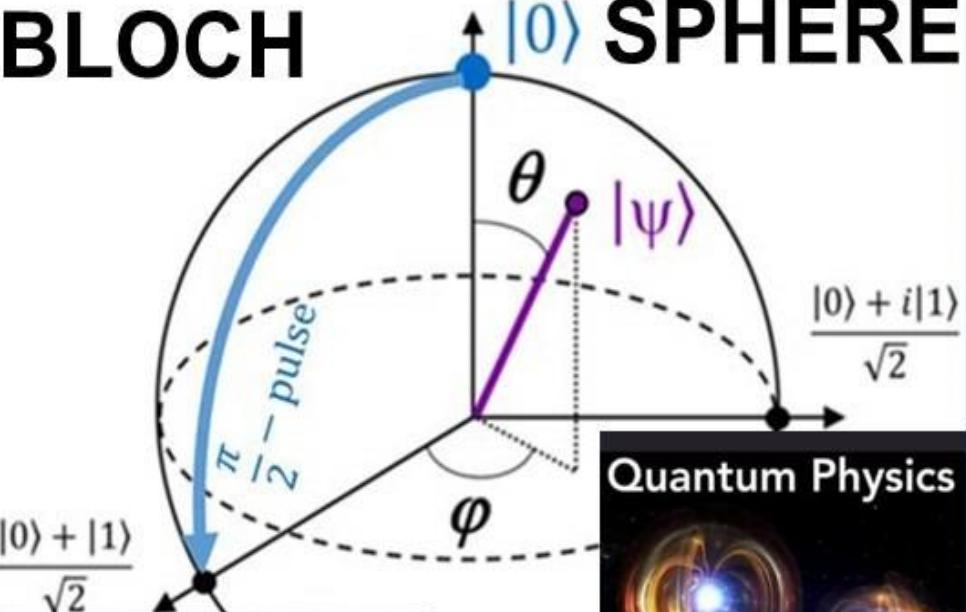


FIGURE 2.11.1. The Hopf fibration



BLOCH SPHERE



Hopf Fibration / #Bloch sphere

"the most important object in the universe"

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

Paul Revere linear - sequential hop count meme

The Bloch sphere provides a useful means of visualizing the state of a single qubit & operations on it. Any point on this sphere represents a linear combination of the 0 and 1 states with complex coefficients. A $\pi/2$ -pulse 'rotates' a qubit from the 0-state to a superposition state.



THE 1919 WORLD SERIES

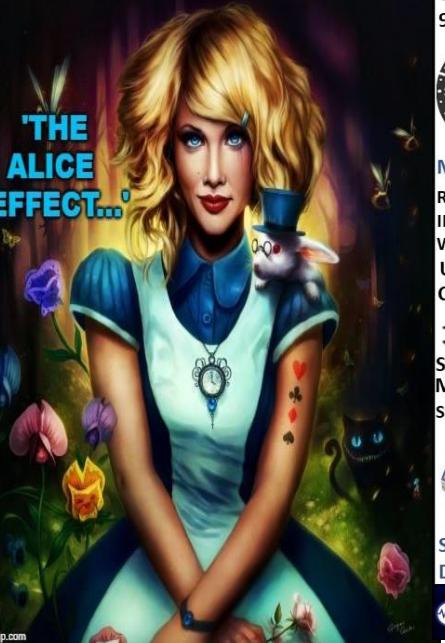
What Really Happened?

William A. Cook



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

pplication
velopers
lliance

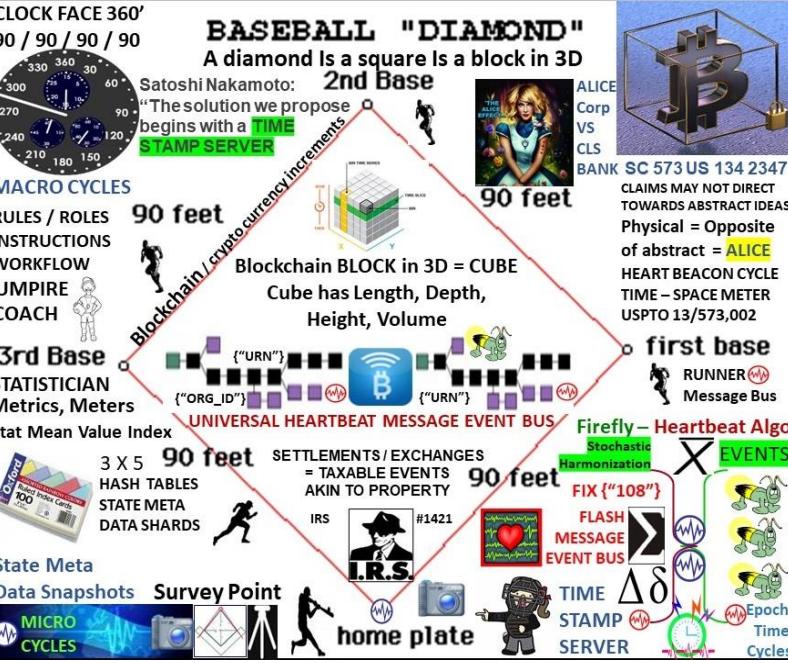


Alice Corp. v. CLS Bank International, 573 U.S. 134 S. Ct. 2347 (2014)
RULING: “claims may not direct towards abstract ideas”



USPTO SCREEN CAPTURES SUSPENDED PAIR RULES

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







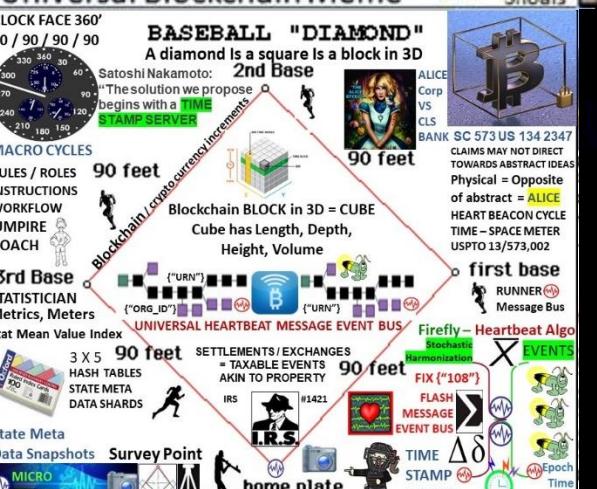
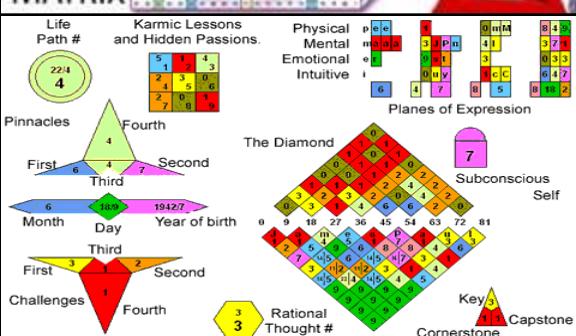
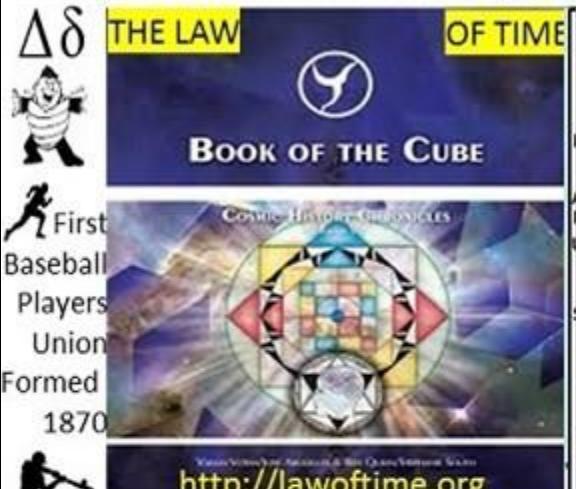
USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter

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

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

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



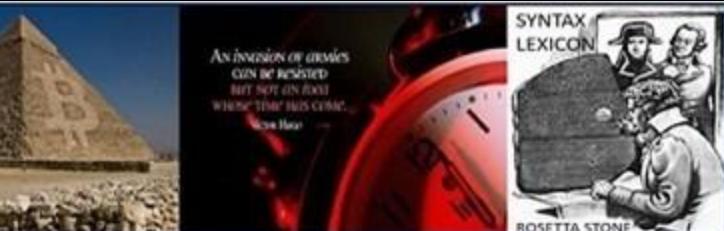
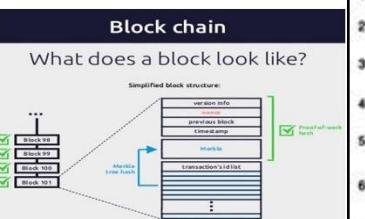
atoshi Bitcoin Blockchain
ime Stamp Server

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



```

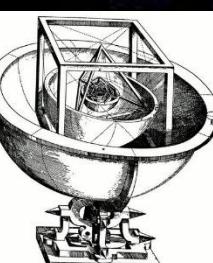
graph LR
    subgraph TS [Timestamp Server]
        direction TB
        TS_in[Blocks] --> TS_out[Hash]
    end
    TS_in --- TS_out
  
```



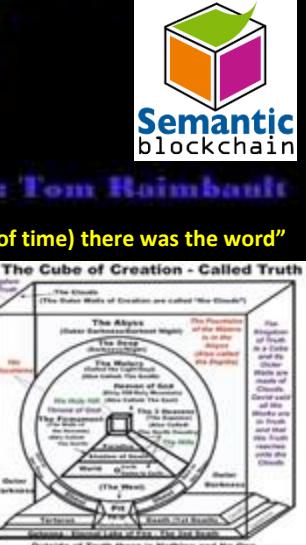
Metatron's Cube and the Platonic Solids



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



GENESIS OF ALL FORM





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

-Buckminster Fuller



THE GREAT CONJUNCTION IN AQUARIUS

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

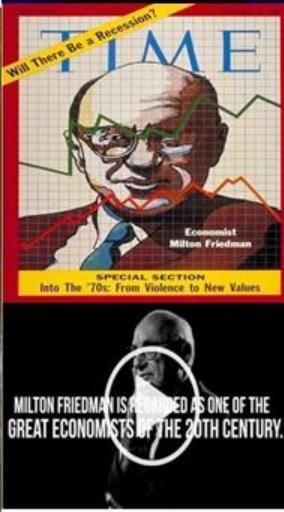
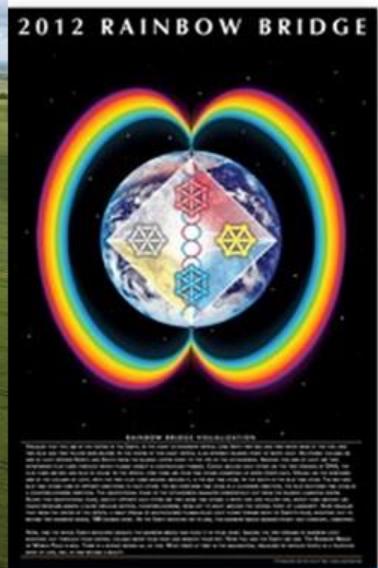
Over the next ten years, we are going to see our world innovate unlike never before, particularly in the fields of AI, technology, science, space travel, UFOs, networks, and the Internet. Major Universal truths will also be revealed as we welcome the New Age of Aquarius. The old world will soon come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

photo by werner du plessis



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

~ Edgar Cayce



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

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

Milton Friedman — Preface to Capitalism & Freedom 1962

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

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

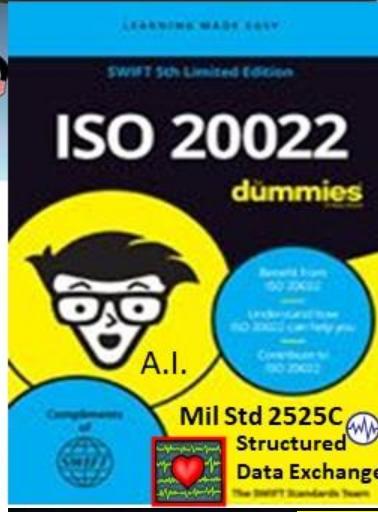
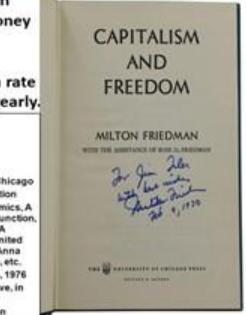


Milton Friedman

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



Reverend K "I see Mr. MaGoo"



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

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

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

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

Patent Applicant 13/573,002

Curriculum Vitae

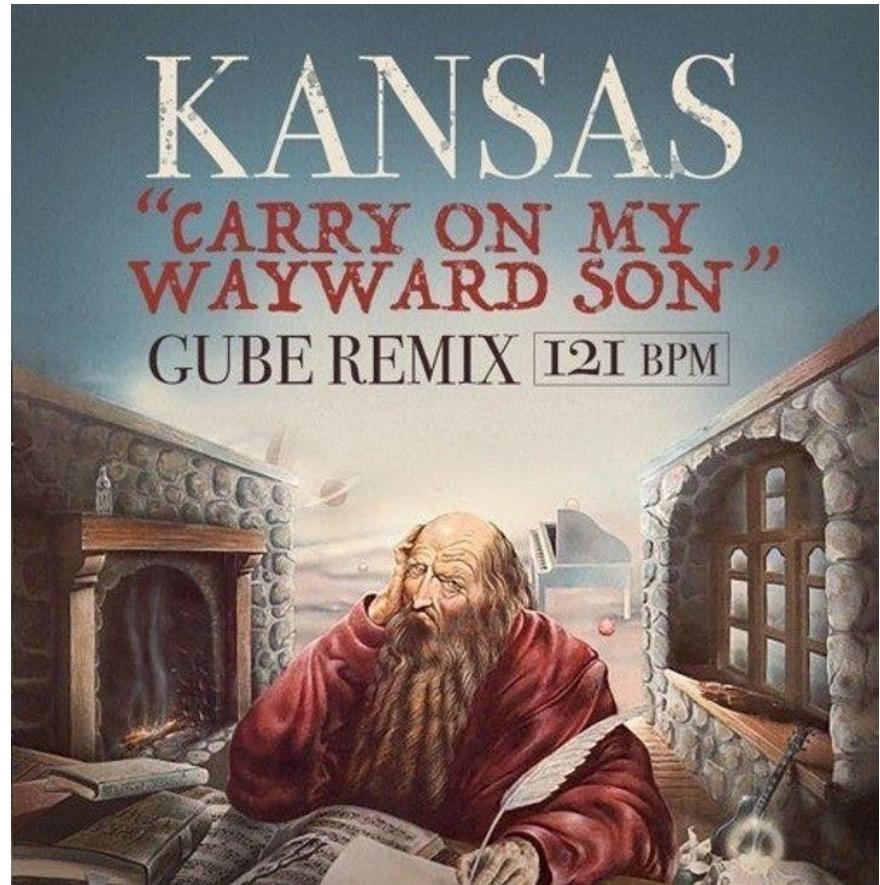
What does your name mean?



Steven + Mcgee

Intellectual Revolutionary

You have a sharp spirit paired with a strong will. You have the power to change the world with your intelligence!



What does your name mean?



Steven + Mcgee

Endless Luck

You are an inspiration for your friends. Your loving ways, your huge heart and your beauty spread endless joy to the world!

