



UTOPIA ? $\Delta\delta$ OBLIVION ?

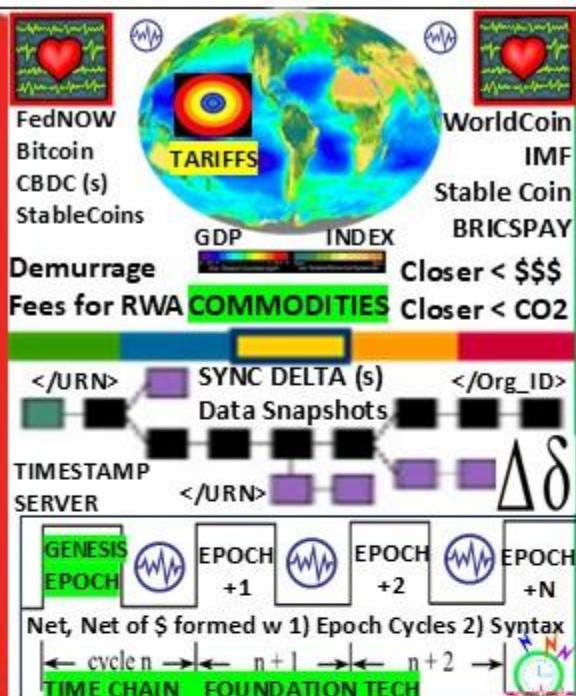
TradeFi TRC Trade Reference Currency

E \$ € ¥ currency index #20022

I.R.S. #1421 ISO CLOSER = CHEAPER < FUEL < CO2

BLOCKCHAIN CONSENSUS ALGORITHMS

HARVESTING GOLD: THOMAS EDISON'S EXPERIMENT TO RE-INVENT AMERICAN MONEY... Monetary Option 1922 BY DAVID L. HAMMES



STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS

Price Indexes in Time and Space Methods and Practice SchellingPoint

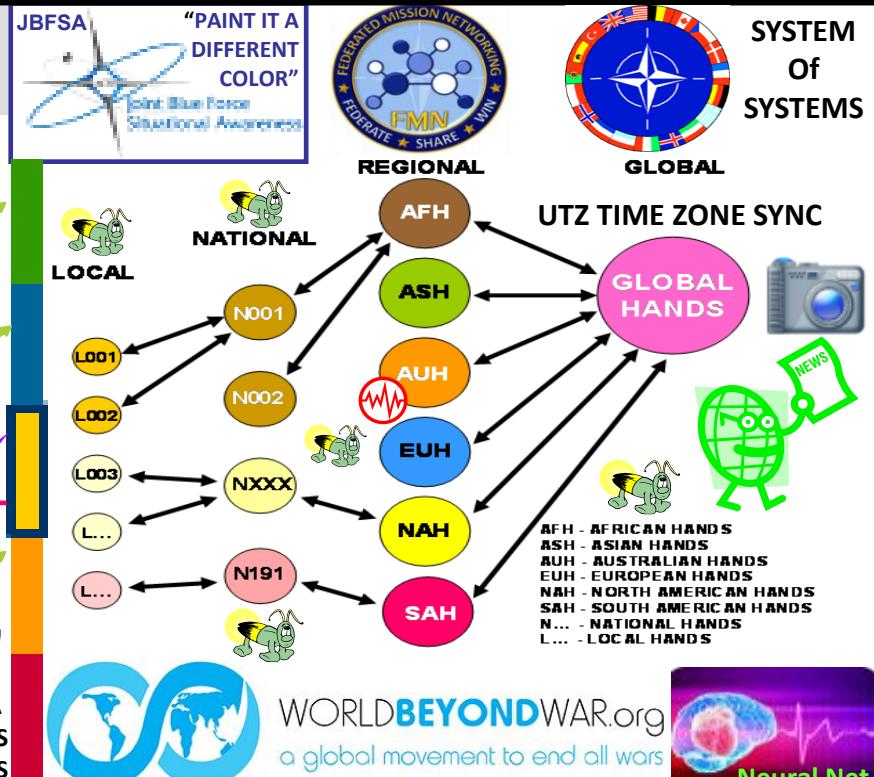


DeFi DeFi DeFi
Eco Econ Incentives TIME- SPACE METRICS METERS
HEARTBEAT % REAL GDP ("108")
ALGORITHMIC REGULATION

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



Vernetzte Operationsführung 6

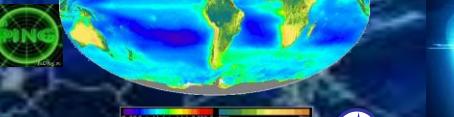


Proximity Beacons

JAEGERS



• Closer < \$\$\$ < FUEL



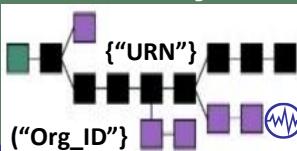
Numismatics: study of currency

Marcus Aurelius



Legend: IMP. M.
ANTONINVS
AVG. TR. P. XXV.

THE TERRA (TRC) Trade Reference Currency



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..

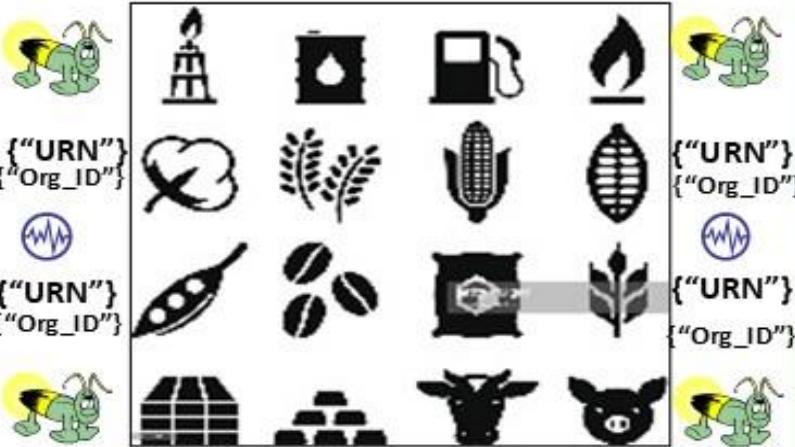


Roman Denominations



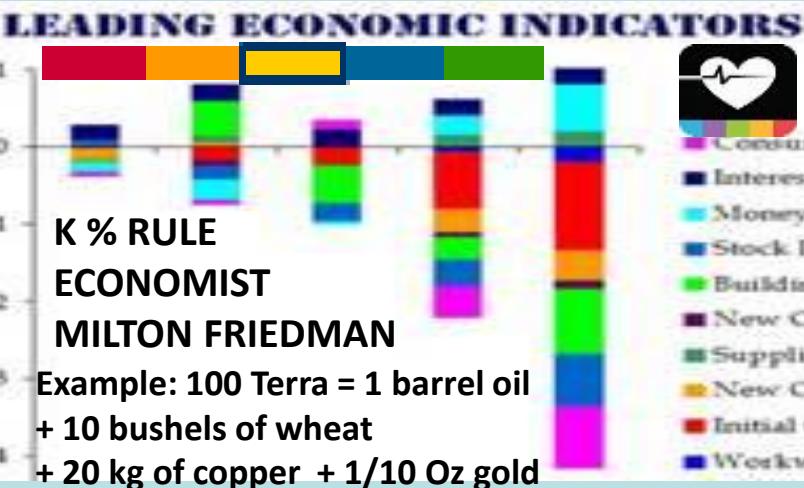
Images Courtesy Of: Roma Numismatics Ltd, Numismatica Ars Classica, Bertolami Fine Arts, Nomos, & The State Museum in Berlin

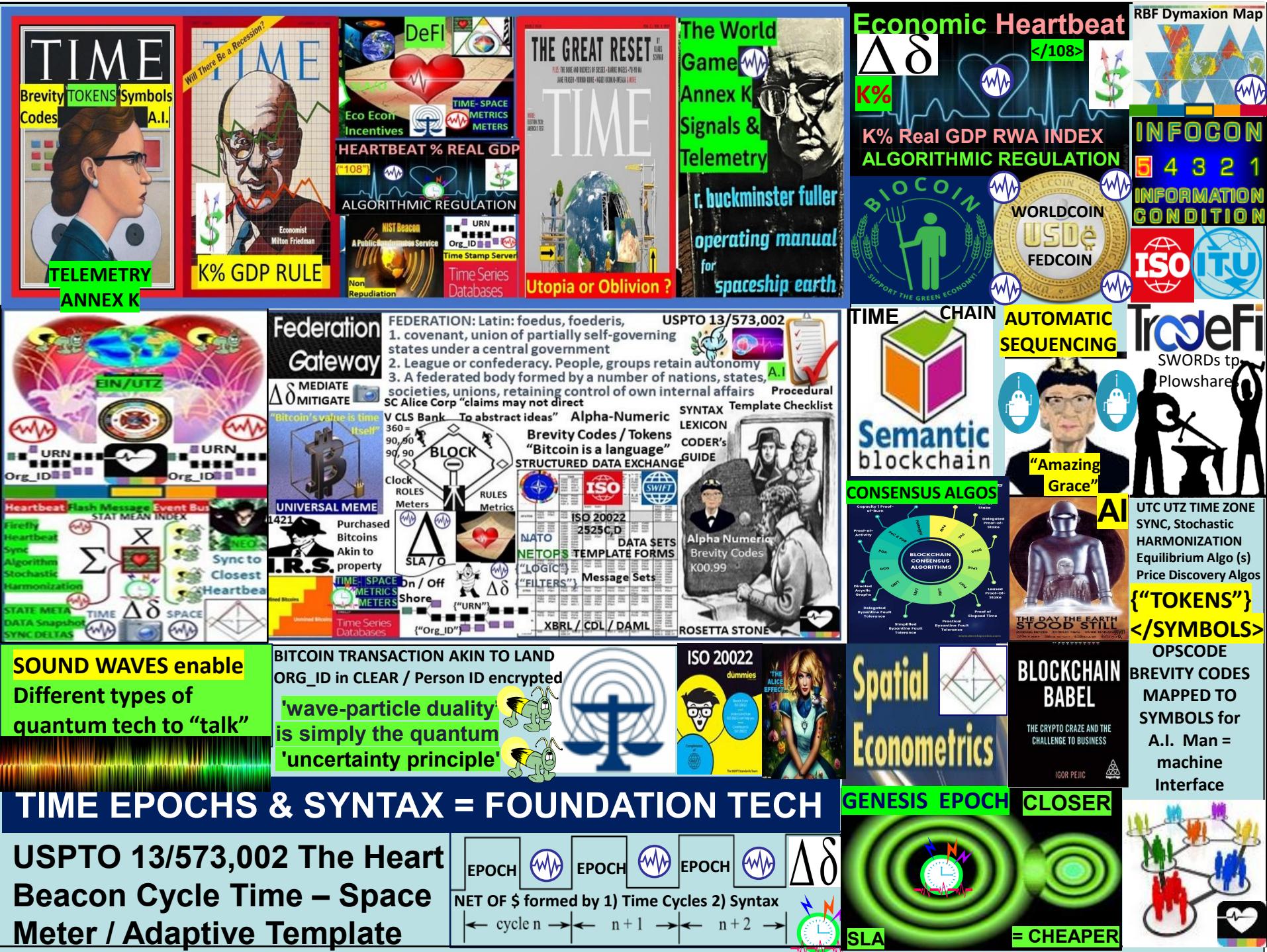
Commodities Index Basket / FIAT PRICE Discovery Algo / MEDIATION



BRONZE / LEAD / AES SIGNATUM AES GRAVE / SILVER / LEAD / IRON..

Unlike most modern coins, Roman coins had (at least in the early centuries) significant intrinsic value. However, while the gold and silver issues contained precious metals, the value of a coin could be slightly higher than its precious metal content, so they were not, strictly speaking, equivalent to bullion. Also, over the course of time the purity and weight of the silver coins were reduced.[15] Estimates of the value of the denarius range from 1.6 to 2.85 times its metal content,[citation needed] thought to equal the purchasing power of 10 modern British pound sterling at the beginning of the Roman Empire to around 18 pound sterling by its end (comparing bread, wine, and meat prices) and, over the same period, around one to three days' pay for a legionary.[16]







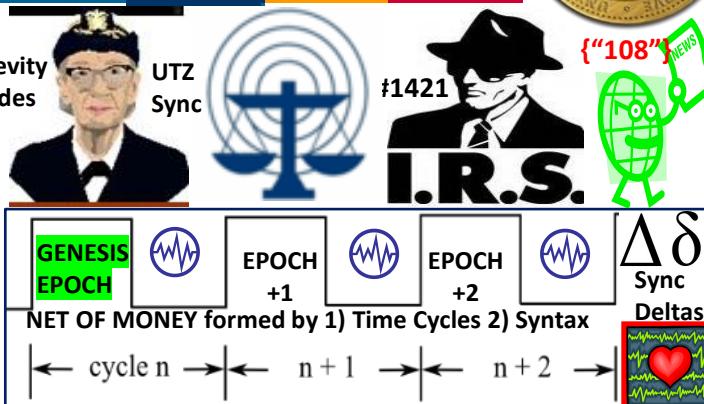
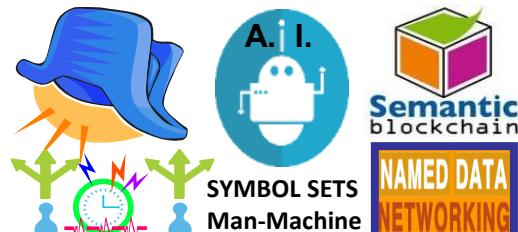
World Game Great Reset

Signals Telemetry Annex K



Net, net of money \$\$\$ formed w:

1. Epoch time cycles created by silicon chips
 2. Syntax code instructions in epoch time cycles
 3. Time Stamp Server w/event message bus



Syntax lexicon comprised of 300 +

Structured data messages, message sets =

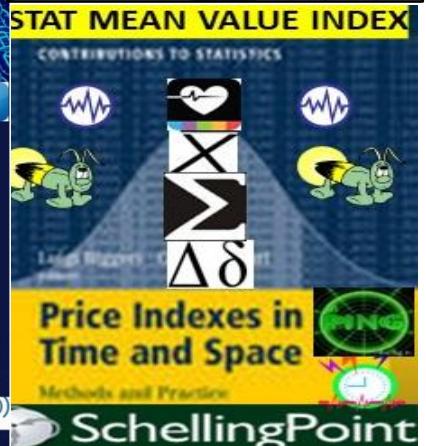
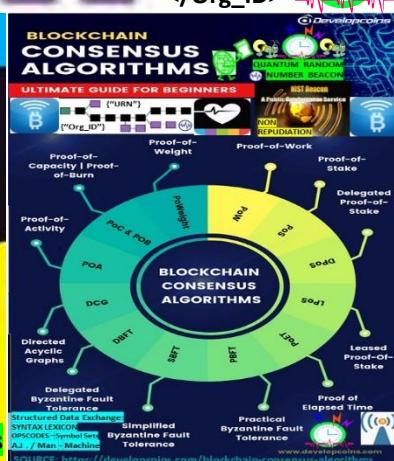
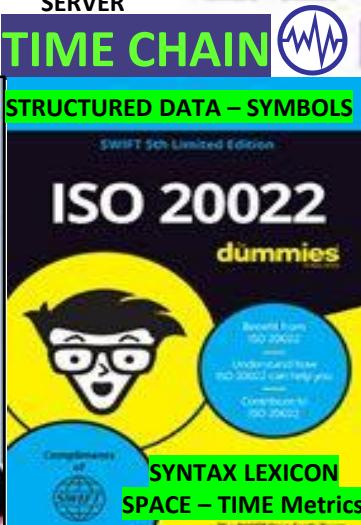
Comprehensive list of use cases, data

elements supporting Internet of Everything

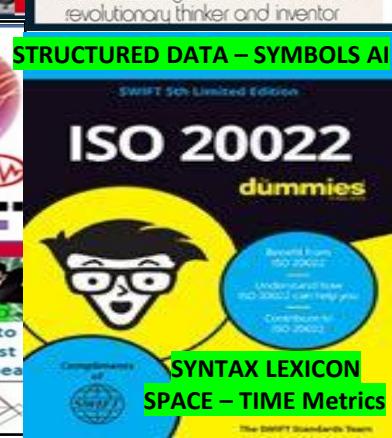
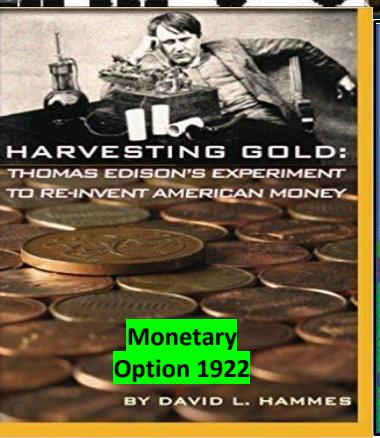
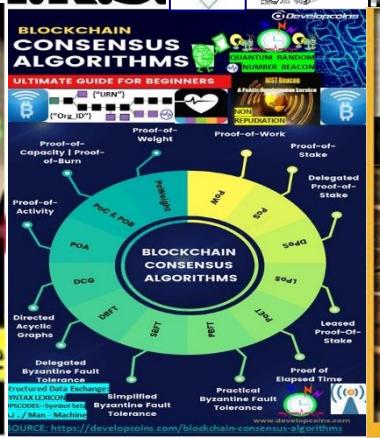
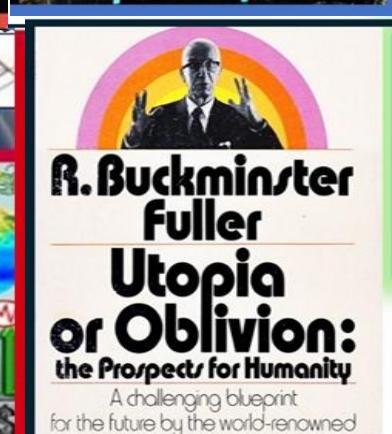
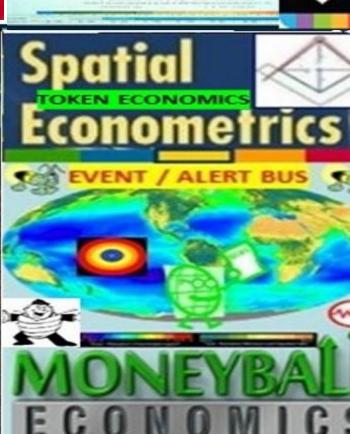
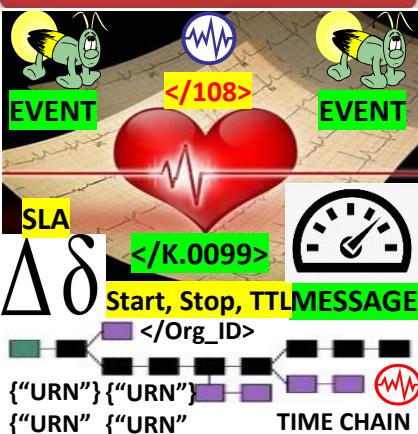
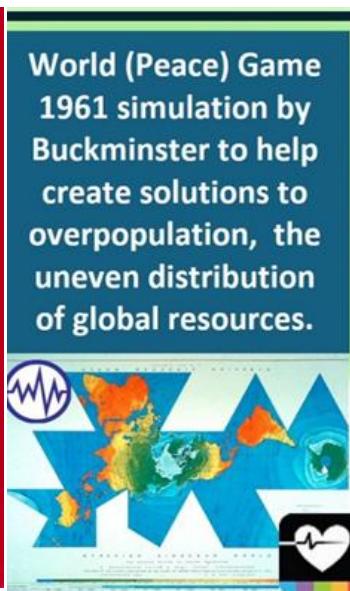
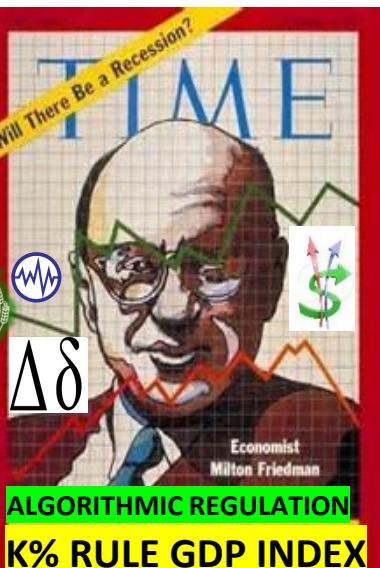
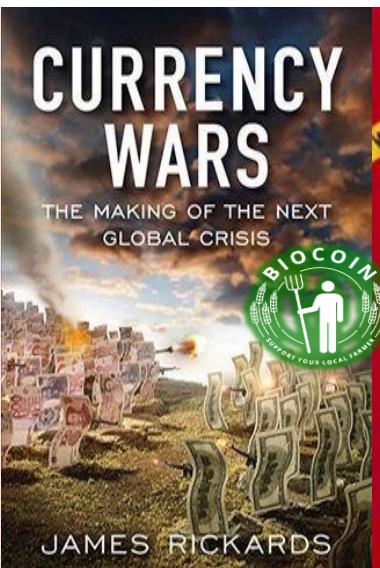
IoE net of value. Reference guide, data

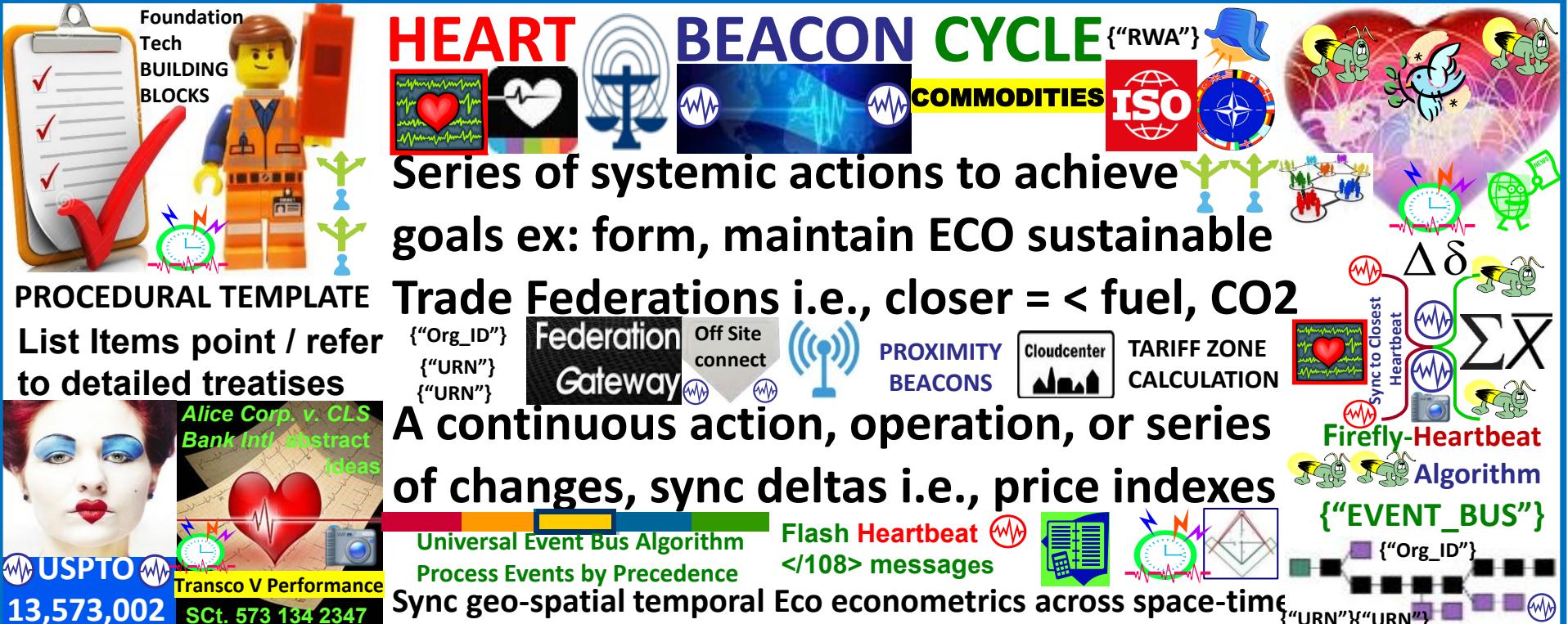
dictionary standards support

Data elements mapped to SYMBOL SETS









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

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

CHECKLIST: TRADE FEDERATION ECONOMIC FRAMEWORK EX:

- 1) Organization Identifiers {"Org_ID"} routing / organizing
 - 2) Track RWA Real World Assets / Commodities by </URN>
 - 3) DISTRIBUTED STATE MACHINE SNAPSHOTS @ 15 / N min
 - 4) TARIFF TOOL ZONE CALCULATION w Space – Time Metrics
 - 5) Use NIST Quantum Random Number Beacon QRNB
- USPTO 13/573,002 = Spaceship Earth's Signals & Telemetry Annex



Economics of Microtransactions in Video Games: The Intelligent Economist



Microtransactions: in-game purchases that unlock specific features or give user special abilities, characters or content.

Q: is the main purpose of the (technically non-existent) **#blockchain** derived from the video game industry adapted to **#cryptocurrency** industry is about adding/ overlaying **#micropayments / #microtransactions** converting the world into a massive, virtual open world video game ?

<https://intelligenteconomist.com/microtransactions/>

REPLACEMENT SHEET

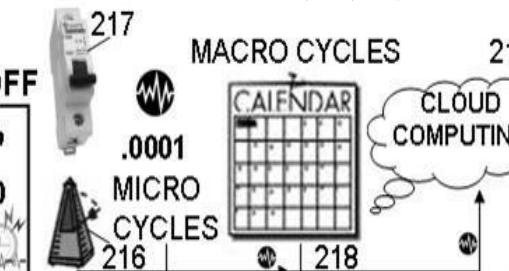
BUILDING BLOCKS

201



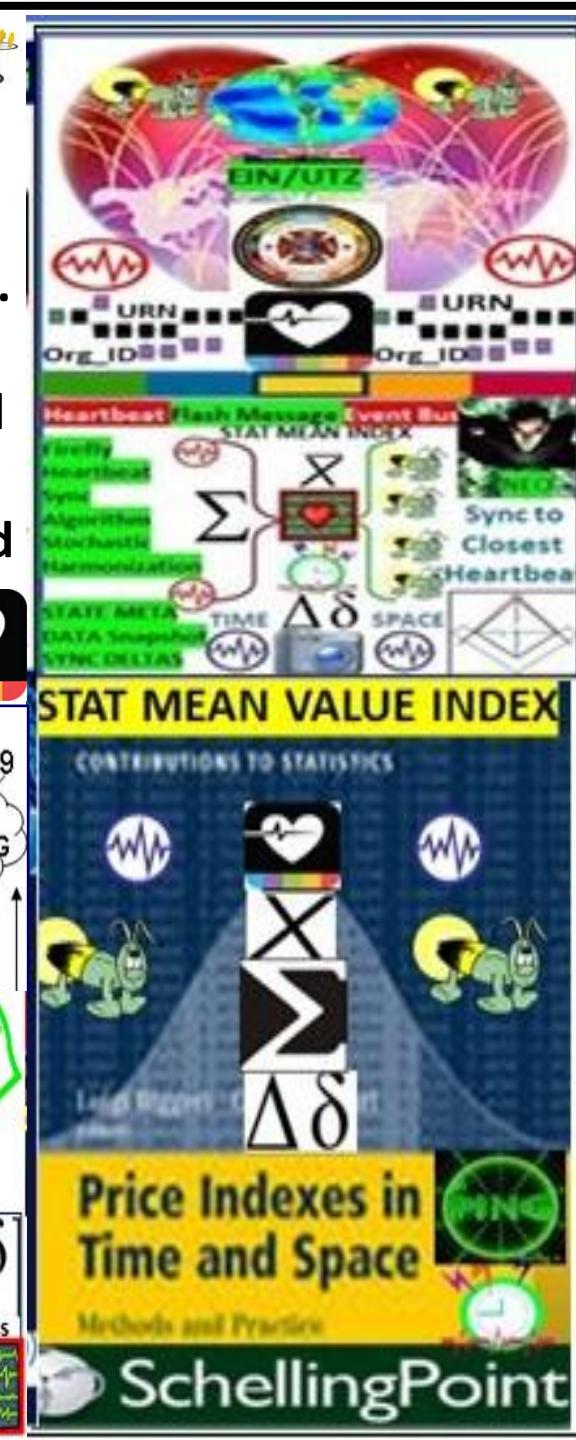
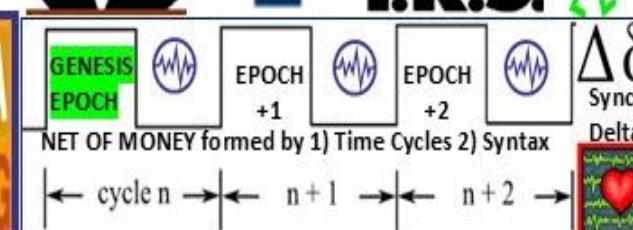
TASK ON / OFF

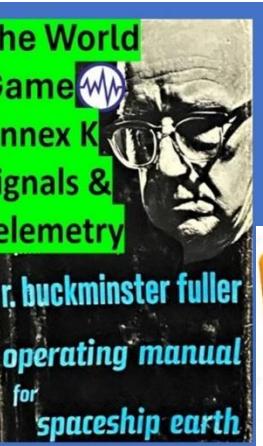
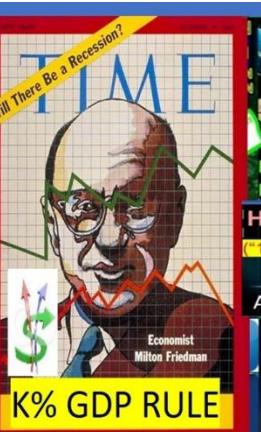
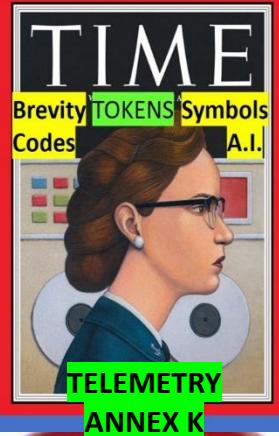
B1: BUILDING BLOCK 1: TCP/IP HEARTBEAT TIME STAMP & DATA GET / PUT OF ORG ID / URN IN MICRO / MACRO CYCLES PRIOR TO DATA FUSION CENTER INSERTION



Net, net of money \$\$\$ formed w:

1. Epoch time cycles created by silicon chips
2. Syntax code instructions in epoch time cycles
3. Time Stamp Server w/event message bus





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



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

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



ECONOMIC HEARTBEAT
K %



DAO
FEDERATE
SHARE
WIN

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

FEDERATION CONSENSUS
ALGORITHM / PROTOCOL
LIQUIDITY ON DEMAND



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

Federation
Gateway



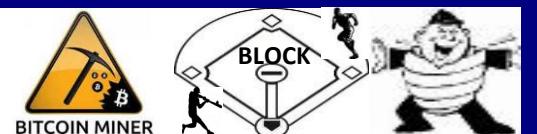
{“GLOBAL”}
{“SHARED”}
{“DOMAIN”}
{“COMMUNITY”}
{“PRIVATE”}
</ORG_ID>
{“GROUP ID”}

SYSTEMATIC

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



FIREFLY FLASH
HEARTBEAT MESSAGES

</RESOURCE> {“URN”}
{“Asset_Class”} </URN>

IeT DEVICE / PLATFORM
IoT SENSOR DEVICE



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

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

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

STOCK EXCHANGE

MIC MARKET IDENTIFIER

CODES / BREVITY CODES



{"DUNS #"}{“Org_ID”} Heartbeat Snaps

QR CODE

{"URN"}{“URN”}{“URN”} MICRO-CYCLES

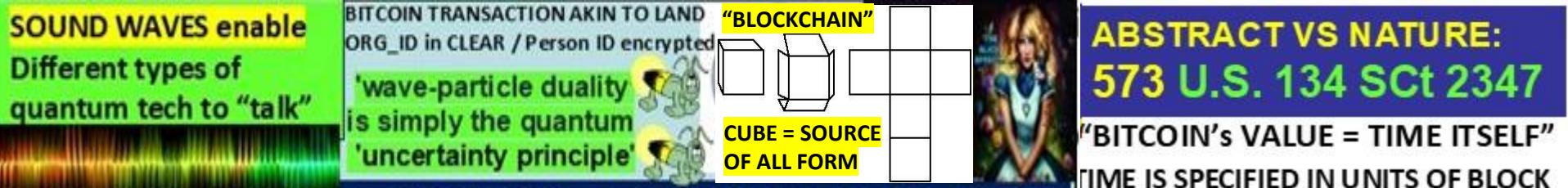


Signalling, Telemetry
EVENT BUS



FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME





TIME EPOCHS & SYNTAX = FOUNDATION TECH

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



SCOTUS Alice in Wonderland Ruling 2014 ABSTRACTIONS MAY NOT BE CLAIMED:

Chain Abstraction: Simplifying the Complex World of Blockchain

The Net, Net of Money (Cryptocurrency)

Does not have / has no:

- LAYERS i.e., seven layer internet model
- BLOCKS on the BLOCKCHAIN
- Blockchain data stored in a CUBE
- QUBIT (S) quantum two state system
- Packets i.e., Vinton Cerf's "ode to a packet"
Nikola Tesla "All is wave form motion"

Lightchain AI introduces Proof of Intelligence (PoI), consensus mechanism designed to reward nodes for performing AI computations i.e., model training, inference, optimization...

INTERNET, NET OF \$\$\$ TRUTH = WAVE FORMS

All computing is essentially workflow logic

If, then, else then do {'task'} multicasted, Unicasted, anycasted / filtered over TCP / IP



Qubit vs bit: Qubits are represented by a superposition of multiple possible states. A qubit uses the quantum mechanical phenomena of superposition to achieve a linear combination of two states. A classical binary bit can only represent a single binary value, such as 0 or 1, meaning that it can only be in one of two possible states. A qubit, however, can represent a 0, a 1, or any proportion of 0 and 1 in superposition of both states, with a certain probability of being a 0 and a certain probability of being a 1.

Q: ARE WE ABSOLUTELY CERTAIN QUBITS EXIST ?

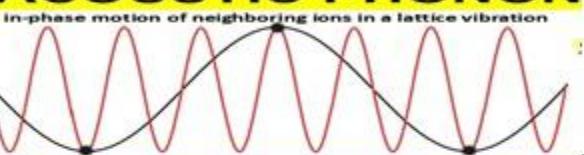
Q: IF CUBITS DO NOT EXIST, THEN ARE THEY SIMPLY A WAY TO ACHIEVE GROUP THINK FASTER ???

Q: 1/3 of an event (transaction) ... really ???

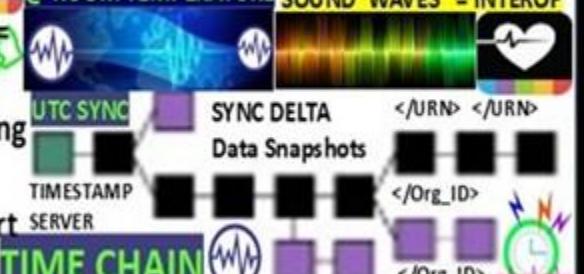
**ABSTRACT VS NATURE:
573 U.S. 134 S.Ct 2347**
"BITCOIN'S VALUE = TIME ITSELF"
TIME IS SPECIFIED IN UNITS OF BLOCK TRANSACTION CONFIRMATION TIMES"

FISHER INFORMATION FLUX FLOWS

ACOUSTIC PHONON



SOUND / LIGHT e.g., Q.R.N.B. QUANTUM COMPUTING @ ROOM TEMPERATURE SOUND WAVES = INTEROP



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"

Net of \$\$\$ formed with:

1 EPOCH TIME CYCLES

2 {"Syntax"} "The Word"

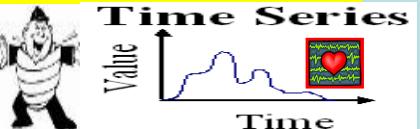
"In the Beginning" Genesis Block

"net, net of money are formed using wave form motion 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

Real World Assets

R W A

Alpha Numeric Brevity Codes

Coder Guide Rosetta Stone



"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA"

"BITCOIN'S VALUE = TIME ITSELF"

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



ALICE CORP VS CLS BANK

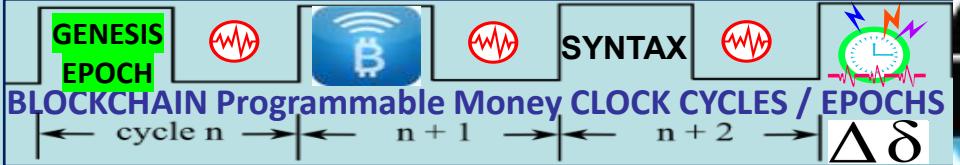
"claims may not be directed towards an abstract idea"

US SC 573 US 134 2347



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

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



CLOCK FACE 360°
90 / 90 / 90 / 90
330 360 30 60
300 270 240 210 180 150 120 90
MACRO CYCLES

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

ALICE Corp VS CLS BANK SC 573 US 134 2347
CLAIMS MAY NOT DIRECT TOWARDS ABSTRACT IDEAS
Physical = Opposite of abstract = ALICE

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

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

first base
RUNNER Message Bus
Blockchain / crypto currency increments
90 feet

Circle USDC

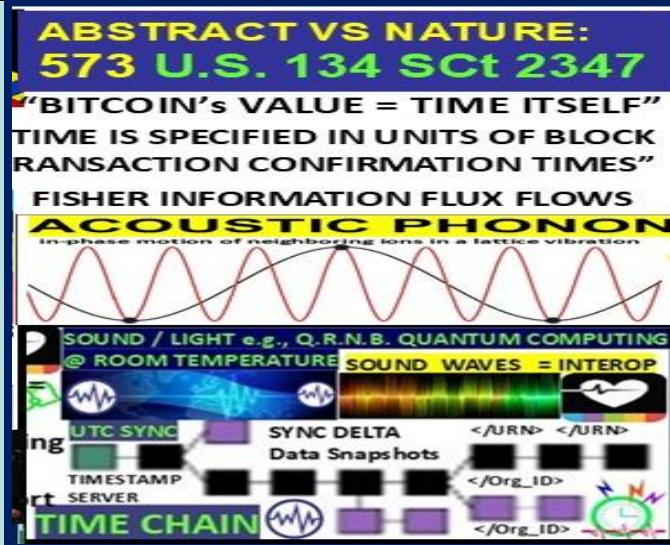
Investopedia

Stablecoins are cryptocurrencies whose value is pegged, or tied, to that of another currency, commodity, or financial instrument.

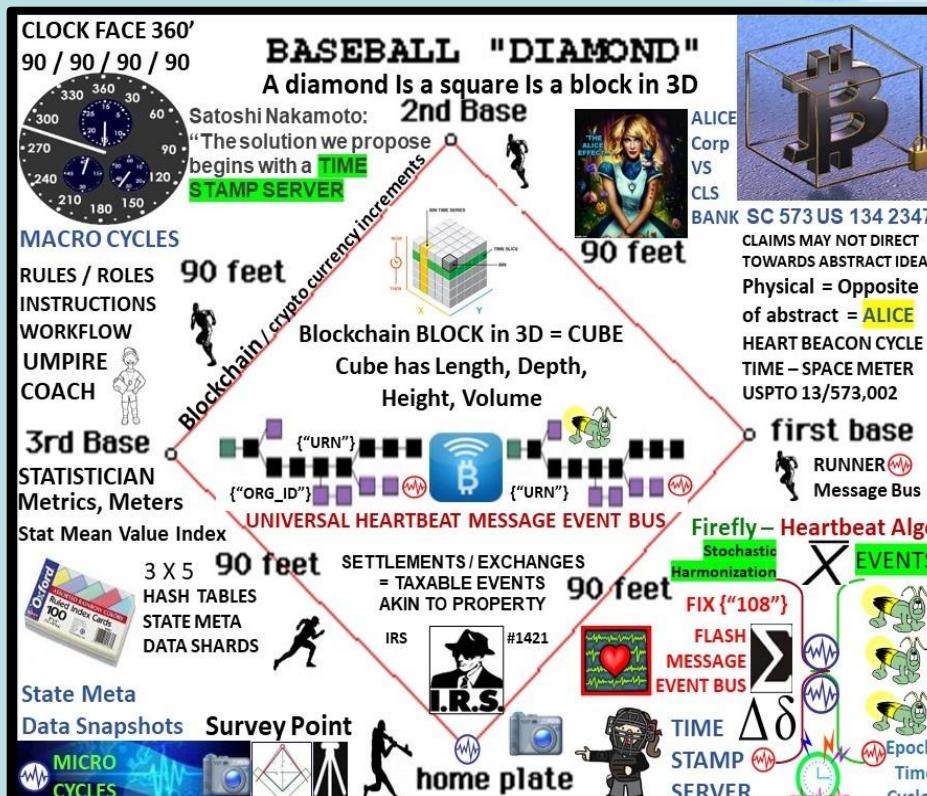
Stablecoins aims to provide an alternative to the high volatility of the most popular cryptocurrencies, Source JDSUPRA



Circle Financial Ltd lawsuit brought by Veritasium Capital for alleged infringement of its digital-asset trading patent. U.S. District Court for the Eastern District of Texas, No. 2:22-cv-00498



TESLA "ALL IS WAVE FORM MOVEMENT"

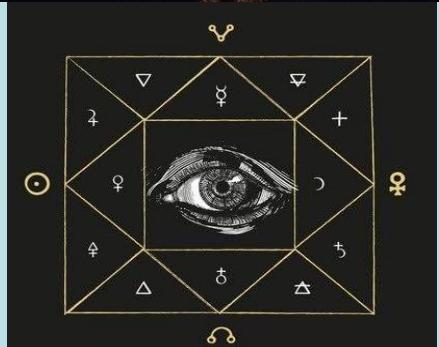


NOSTRADAMUS of FRANCE CENTURY 8: QUATRAIN 28:

"The copies of gold and silver inflated,
 after the theft were thrown into the lake,
 At the discovery that all is exhausted and
 dissipated by the debt,
 All scripts and bonds will be wiped out."



"FutureMan"
13/573,002



**"THE FINANCIAL
NOSTRADAMUS"**
REGGIE MIDDLETON

Reggie Middleton
"Father of DeFi"

US11196566
US11895246
JP6813477

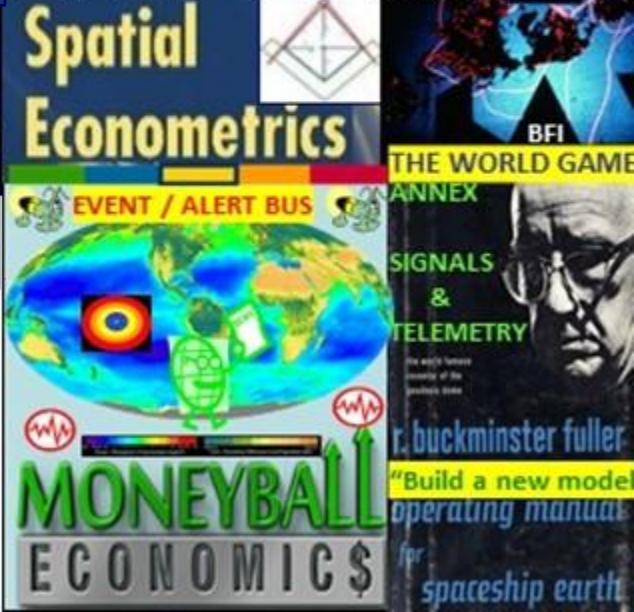
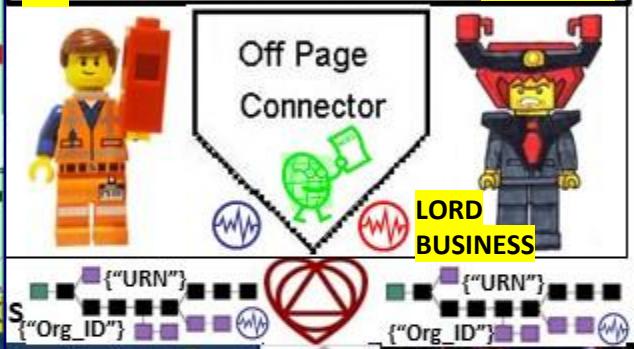
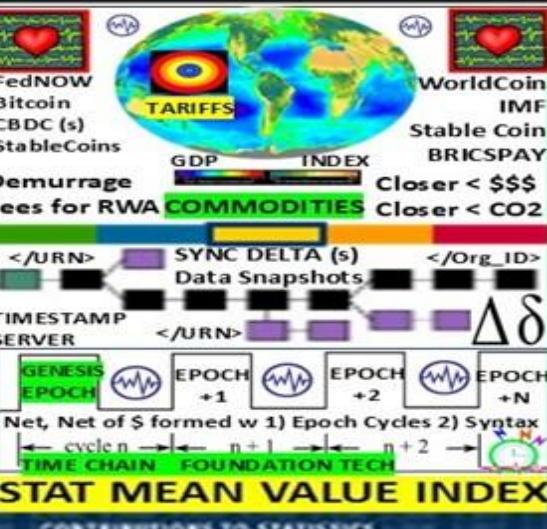
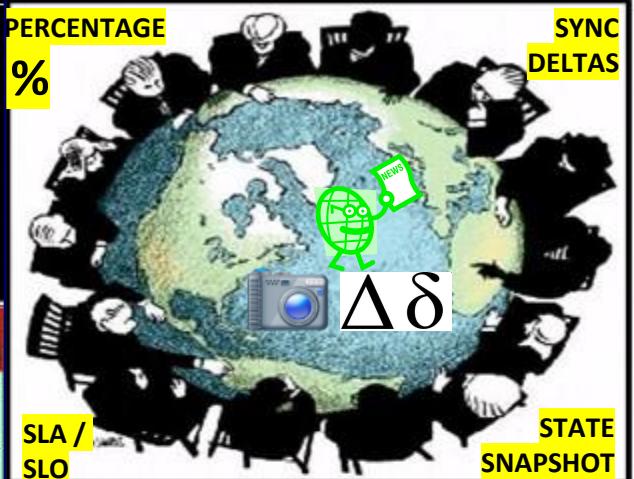
World Game (s) Fulcrum

Schelling point: a.k.a. focal point, is a solution people tend to choose by default in the absence of communication to avoid coordination failure

introduced by the economist Thomas Schelling in his book "The Strategy of Conflict" published in 1960.

Schelling points are particularly useful in **multiplayer games** where players respond based on what they think the other person's response will be.

Give me a lever long enough and a fulcrum on which to place it, and I shall move the world.
Archimedes

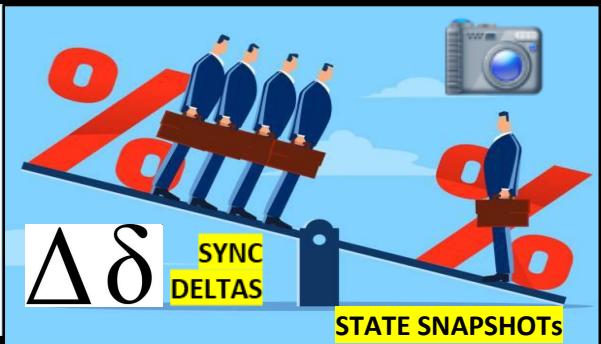


World Game (s) Fulcrum

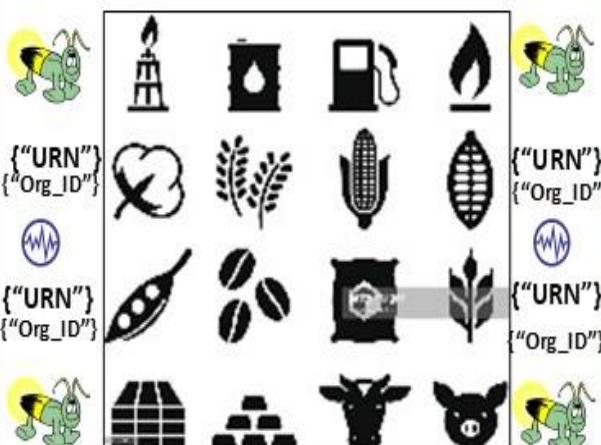
Schelling point: focal point = solution chosen by default in the absence of communication to avoid coordination failure introduced by the economist Thomas Schelling in his book "The Strategy of Conflict" published in 1960. Schelling points are particularly useful in **multiplayer games** where players respond based on what they think the other person's response will be.

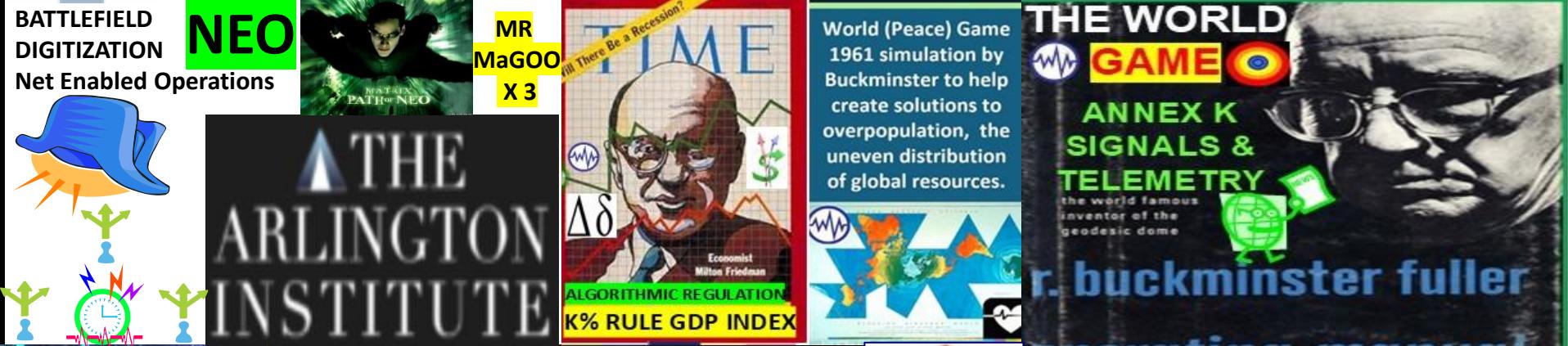
Schelling Point Conference: focuses on the intersection of **cryptocurrency and social good**, bringing together innovators, thought leaders, and advocates to explore how **blockchain** tech can create positive change.

Schelling points are not always definite solutions and their conspicuousness can depend on time, place, and individuals



Commodities Index Basket / FIAT PRICE Discovery Algo / MEDIATION

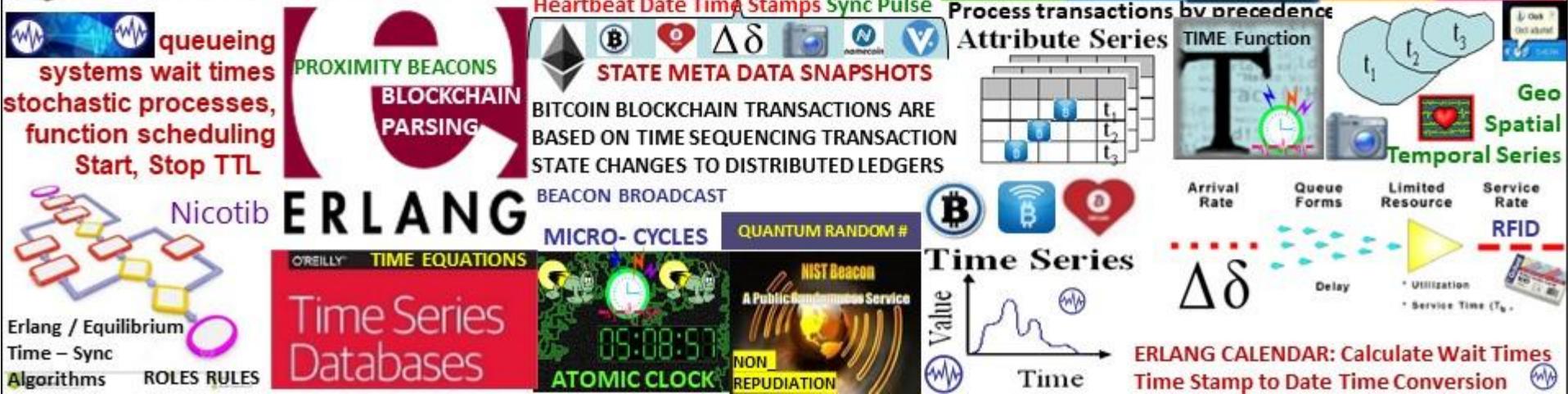




The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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

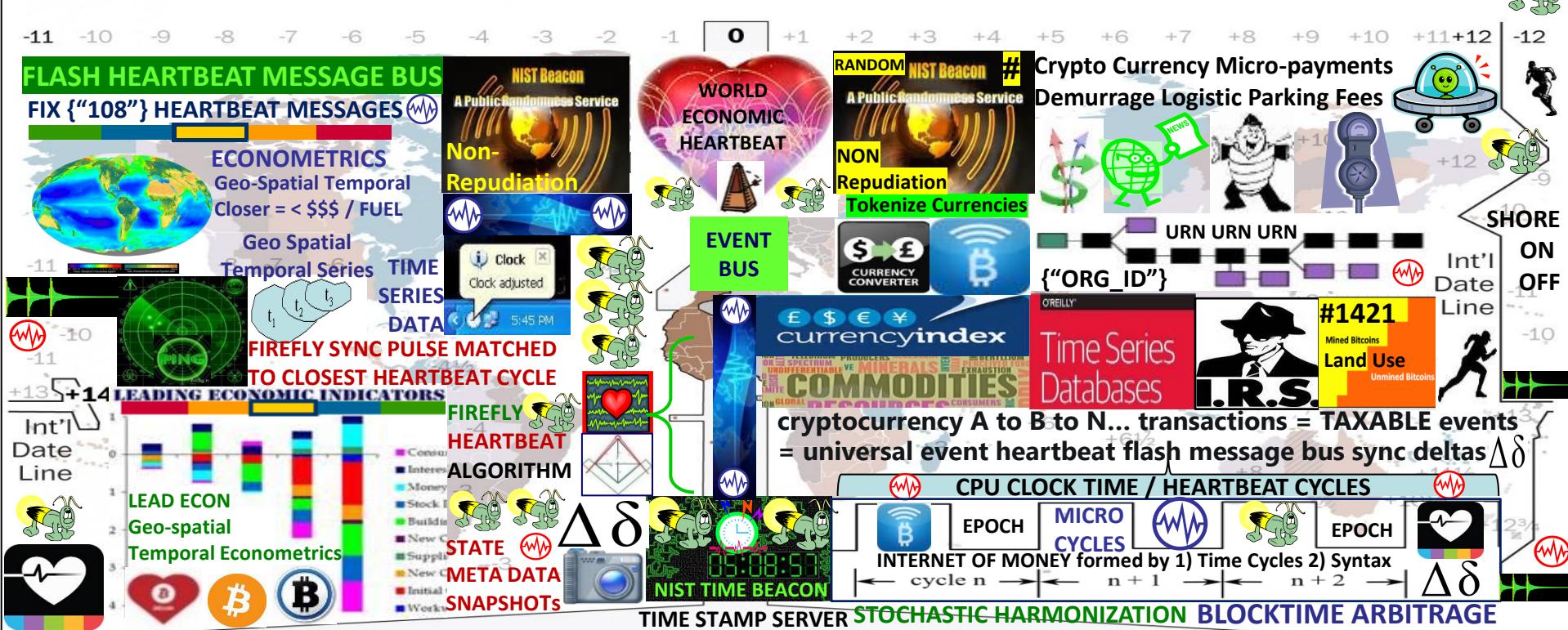


The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.





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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.

SCOTUS ALICE CORP VS CLS BANK 2014 RULING: ABSTRACT VS TANGIBLE

USPTO 13/573,002 PRIOR ART

Physical = Opposite of Abstract

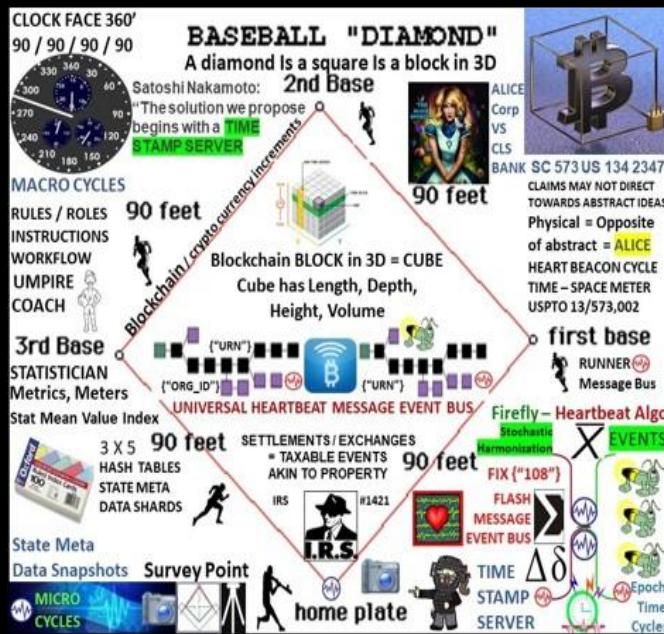
Q: WHO IS "SATOSHI NAKAMOTO" ?

HONUS WAGNER

THE LIFE OF BASEBALL'S "FLYING DUTCHMAN"



Arthur D. Hittner



Baseball fields have standard measurements for various components, including the infield and outfield. The infield consists of a diamond with 90 feet between the bases and a pitching distance of 60 feet 6 inches for adult and senior leagues. Home plate is located 90ft away from first base to The right and third base on the left. Bases are positioned at 90-degree angles from home plate.



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..

XRP = 10,000 Each ?

RIPPLE LABS / XRP

Honus Wagner NFT Non-Fungible Cryptocurrency Token

Honus Wagner is a legendary baseball player

T206 Honus Wagner card sold \$6.6 million August 2021

This highlights the cultural and financial significance of Honus Wagner memorabilia, which could potentially be replicated in the digital space with NFTs (AI web search)

Defunct crypto exchange Mt. Gox has said that a repayment date will be set in "due course" February 7th 2014 trading halted

MT.GOX
MIT Technology Review listed Ripple Labs as one of 2014's "50 Smartest Companies"

World Game Annex K

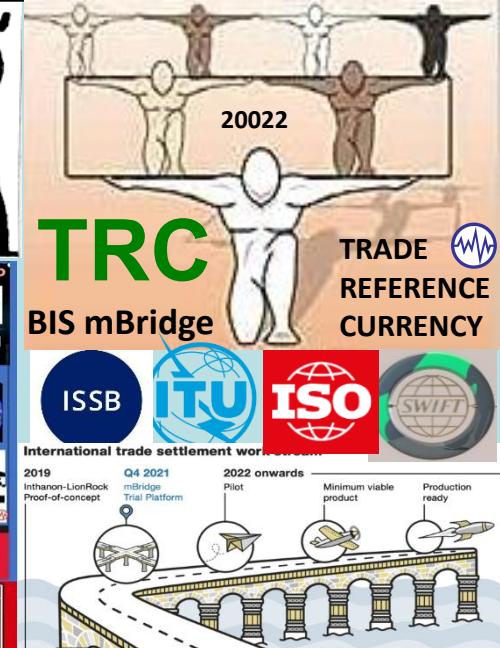
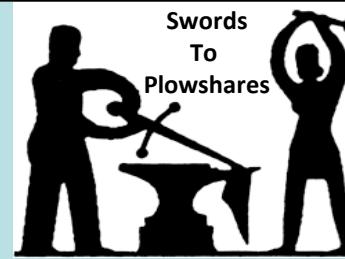
Signals & Telemetry



{“URN”} {“URN”} {“URN”} 300 + Use Case message sets
OPSCODE BREVITY CODES - Symbols, symbol sets



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



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



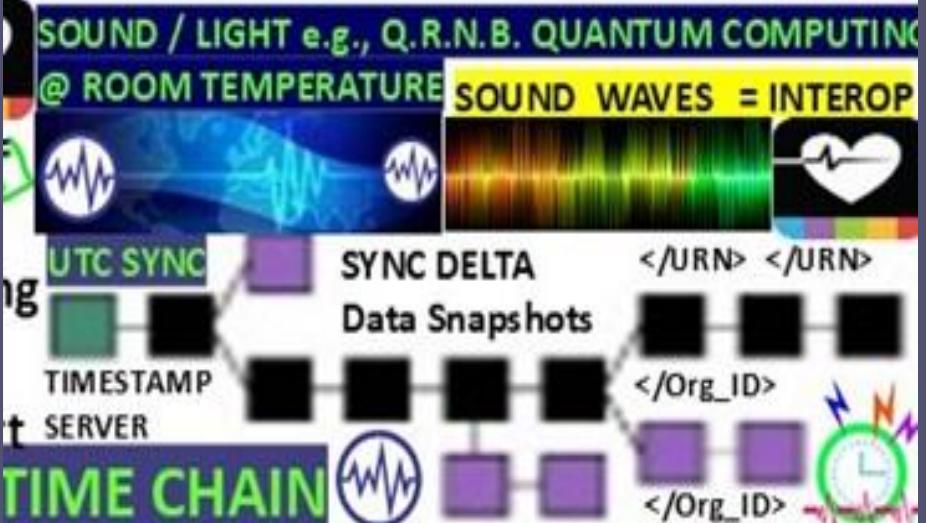
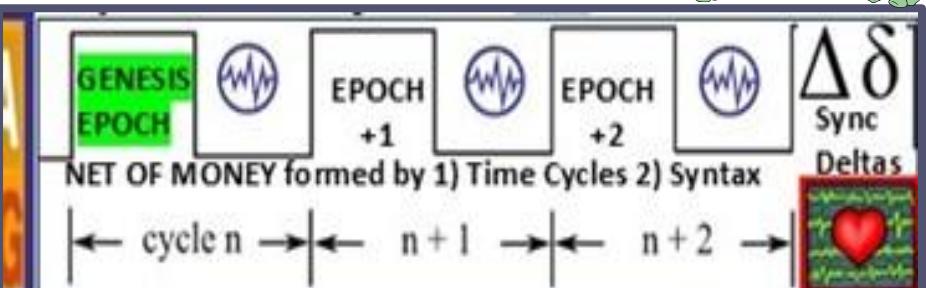
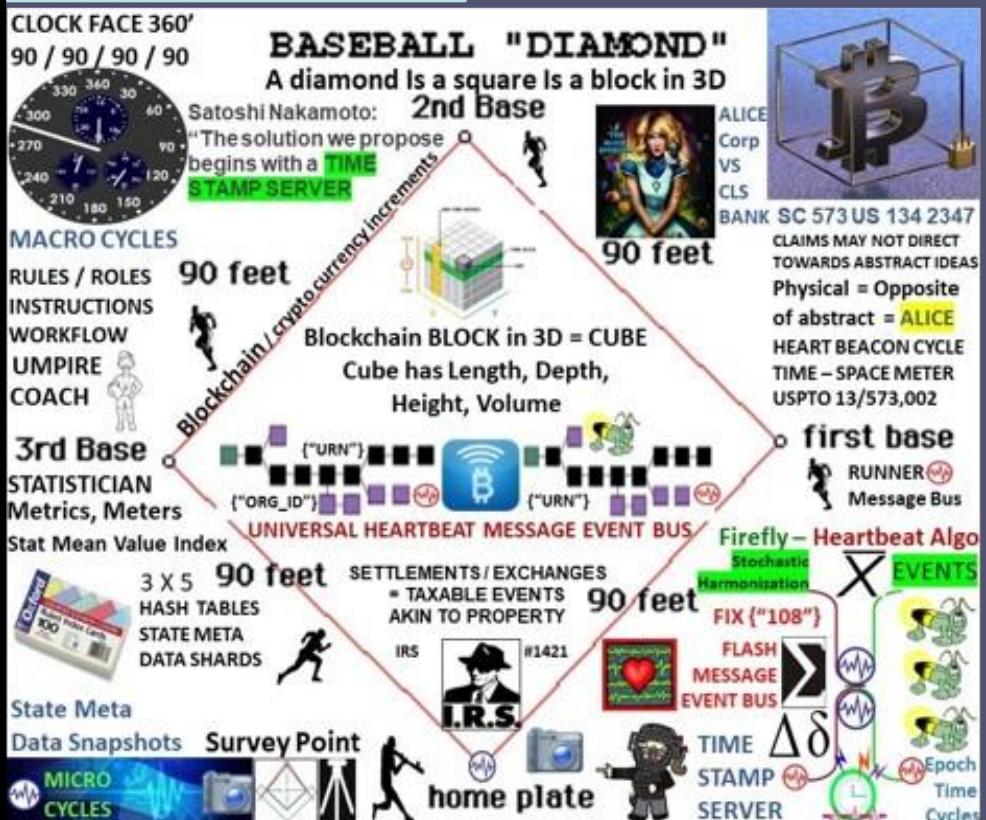
Eco Economic Epochs
For Programmable \$\$\$
Programmable Economy
Re Monetize (Crypto) Currency
Symbol / Message Sets A.I.

FIREFLY Inspired
Heartbeat Algorithm
Message Event Bus



The World Game's (s) Great Redesign TELEMETRY CONTROL GRID SYNC MATRIX ADAPTIVE PROCEDURAL TEMPLATE

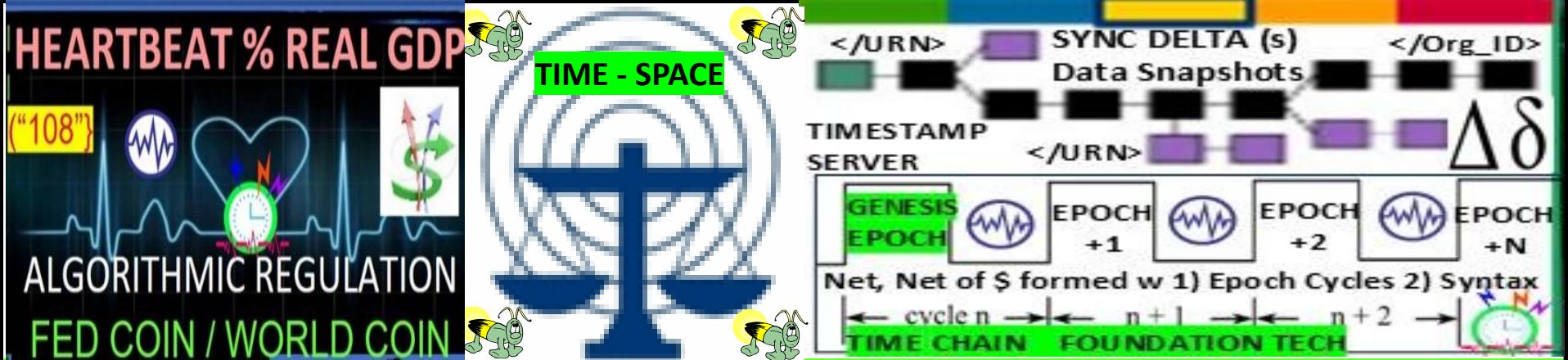
1919 BLACKSOX WORLD SERIES GAME FIXING RULING



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 method stipulates clock cycle values e.g., 5, 10, 15.

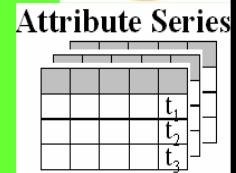
USPTO 13/573,002 / SCOTUS 573 U.S. 134 SCt 2347 “Alice in Wonderland Ruling”





Banks, Tech firms' form teams to assert foundation tech as a legal basis for IP intellectual property claims for programmable \$\$\$ DeFI / TRADEFI

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
Of system of systems engineering architecture structure data exchange (DoD) (NATO)

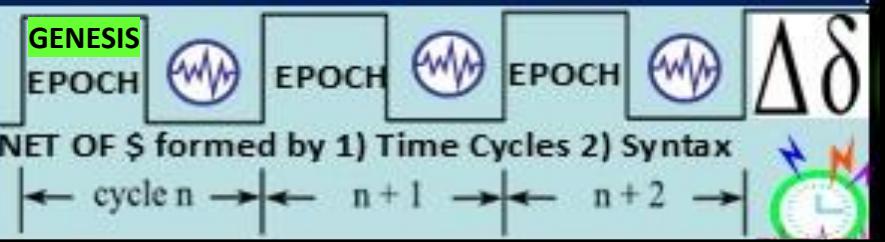


SOUND WAVES enable
Different types of quantum tech to "talk"



TIME EPOCHS & SYNTAX = FOUNDATION TECH

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





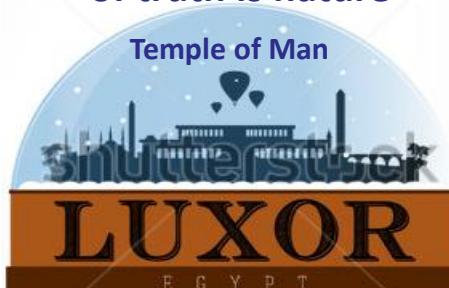
FIREFLY - Heartbeat Algo

Bologna Italy / Hungary / China Universities

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



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

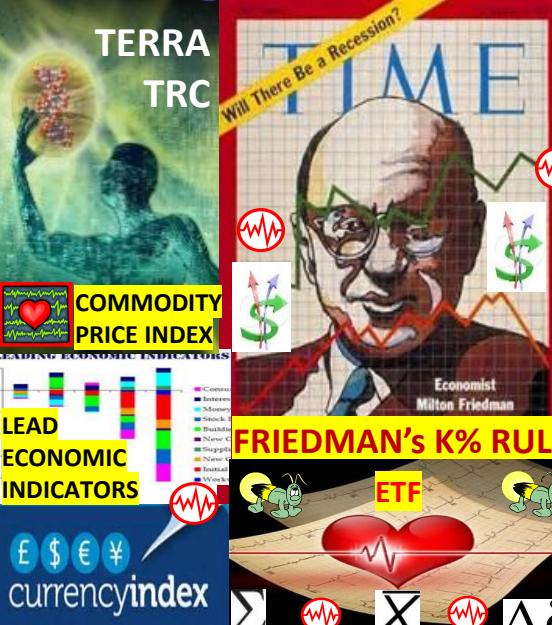


FIREFLY inspired Heartbeat Sync Algo

PRECEDENCE
PROCESSING

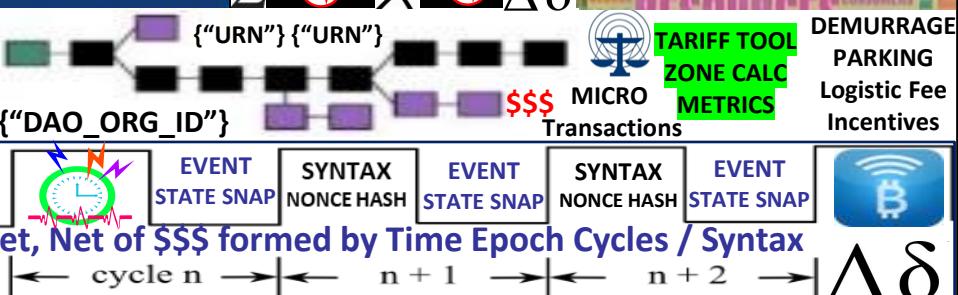
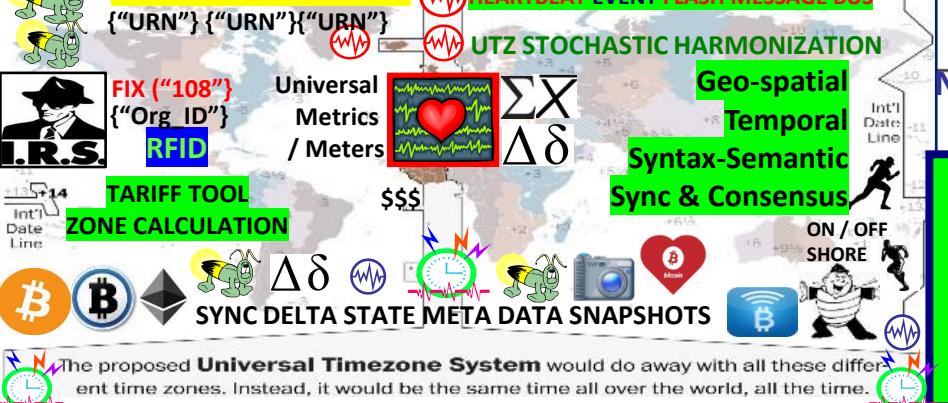
UTZ SYNC
PULSE

SYNC
DELTA



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.

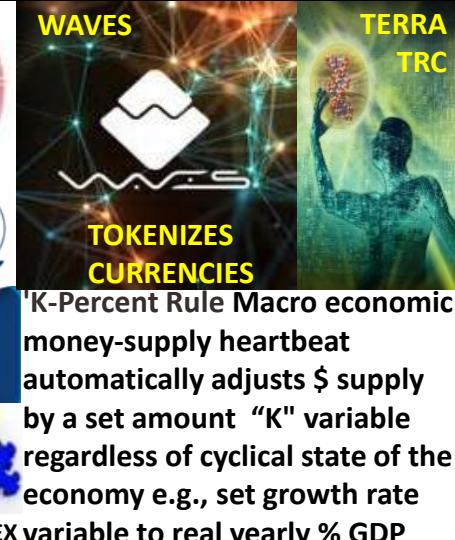
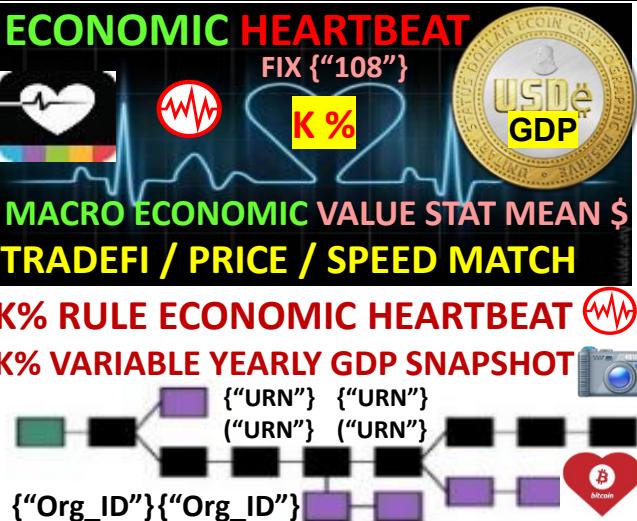
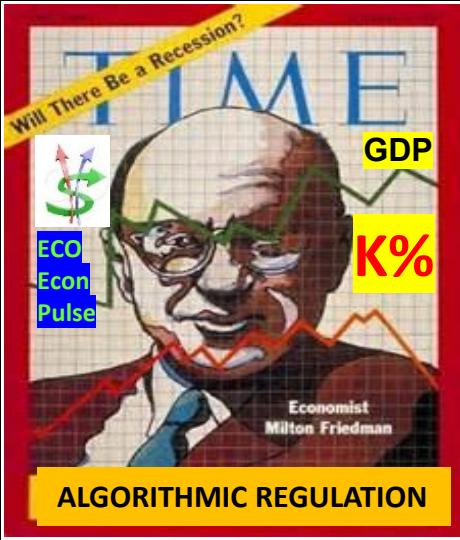
UTZ TIME ZONE SYNC



"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"

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.

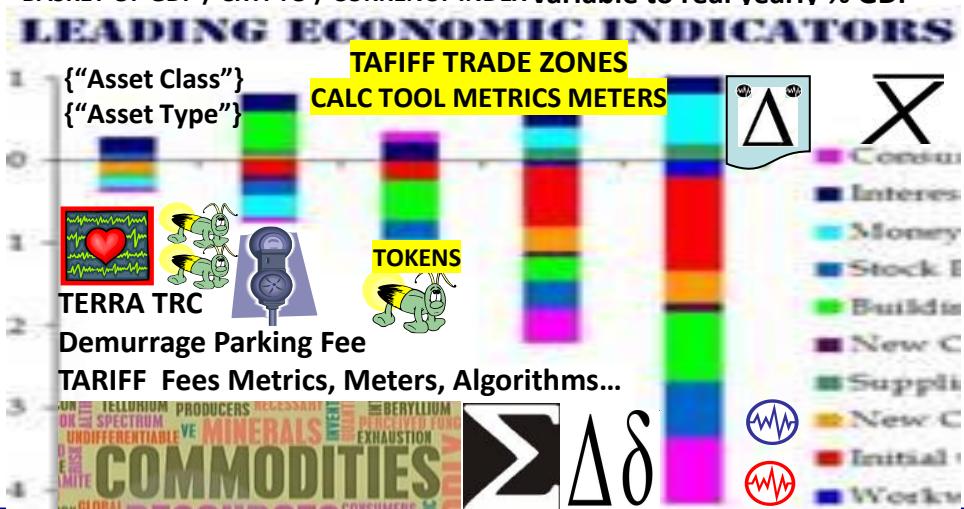
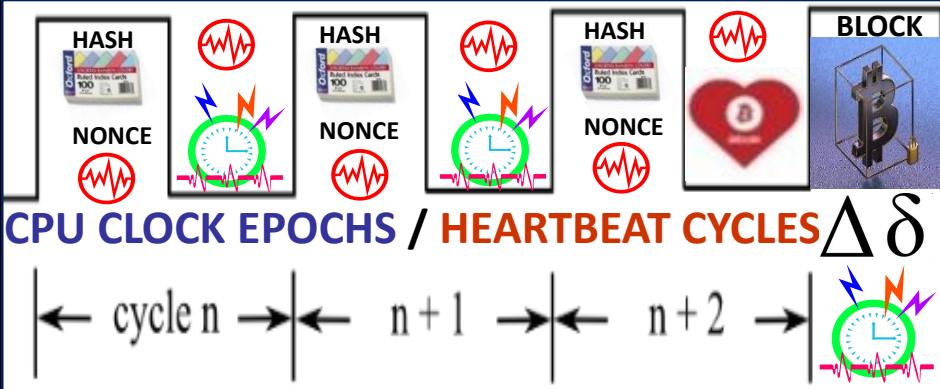




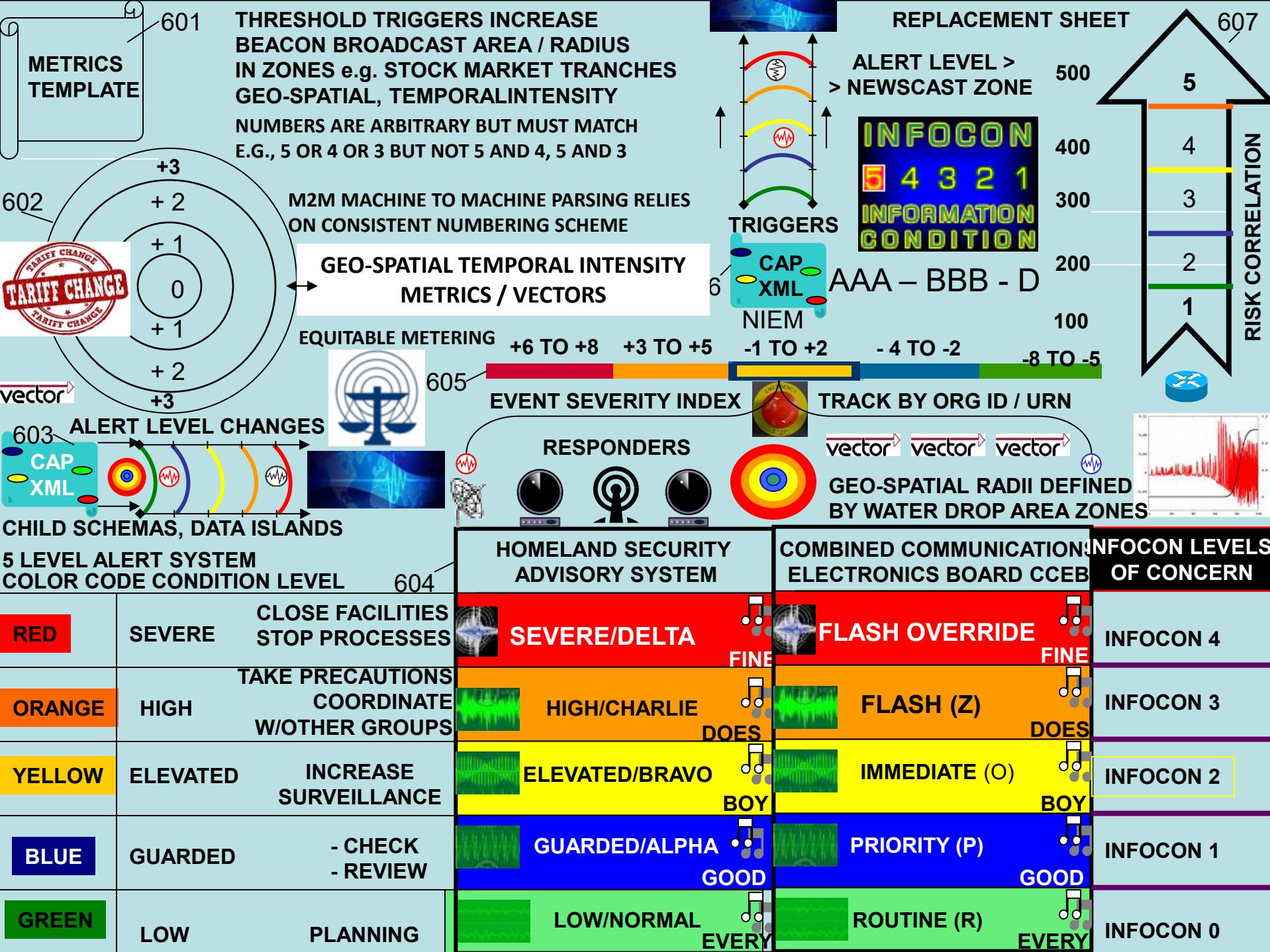
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"Heartbeat Synchronization strives to have nodes in a distributed system generate periodic local "heartbeat" events approximately at the same time. It differs from classical clock sync in that Nodes are not interested in counting cycles and agreeing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





TERRA TRC

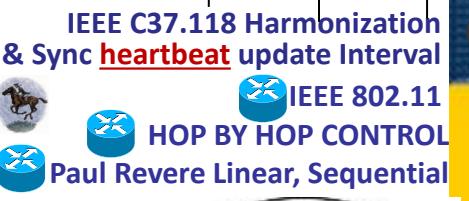
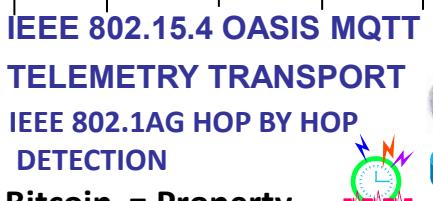
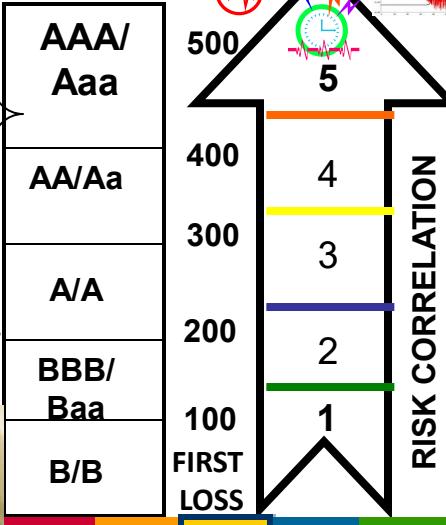


ECONOMIC HEARTBEAT

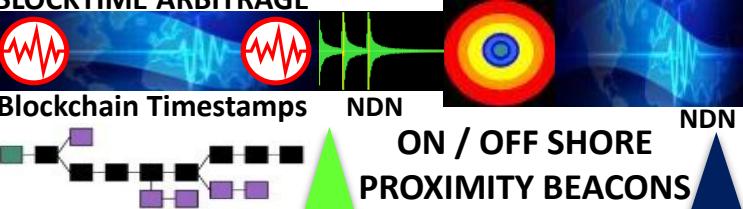
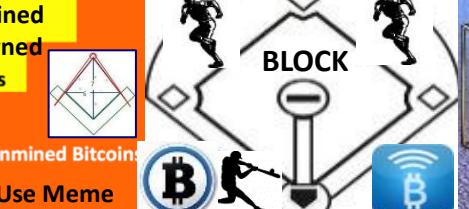


HB MSG </108>
FIX PROTOCOL
INDUSTRY-DRIVEN MESSAGING STANDARD

LAST LOSS



Bitcoin = Property



Demurrage Charges
vector

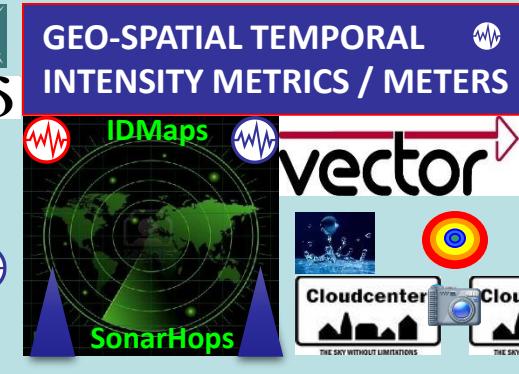
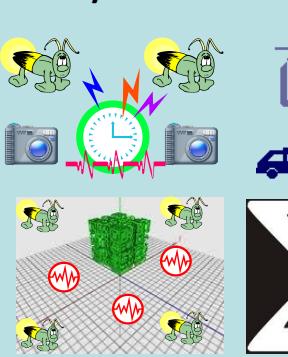




IDMaps: Global Internet Host Distance Estimation Service



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



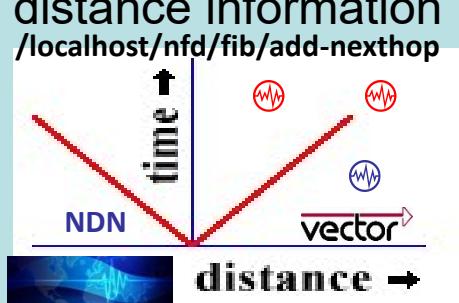
IDMaps scalable Internet-wide architecture measures, disseminates distance information



HOP COUNTS



REACHABILITY



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



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

Datasets and Event Notification

INTEREST in <URNs>

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



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



MICRO-CYCLES



NDN INTEREST LIFETIME = TTL Time To Live

HEARTBEAT STATE META DATASNAPSHOTS

GEO-SPATIAL TEMPORAL INTENSITY METRICS, METERS, VECTORS, TARIFF

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



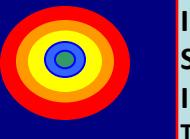
Geo-Spatial Temporal Intensity NOVEL METRICS / METERS:



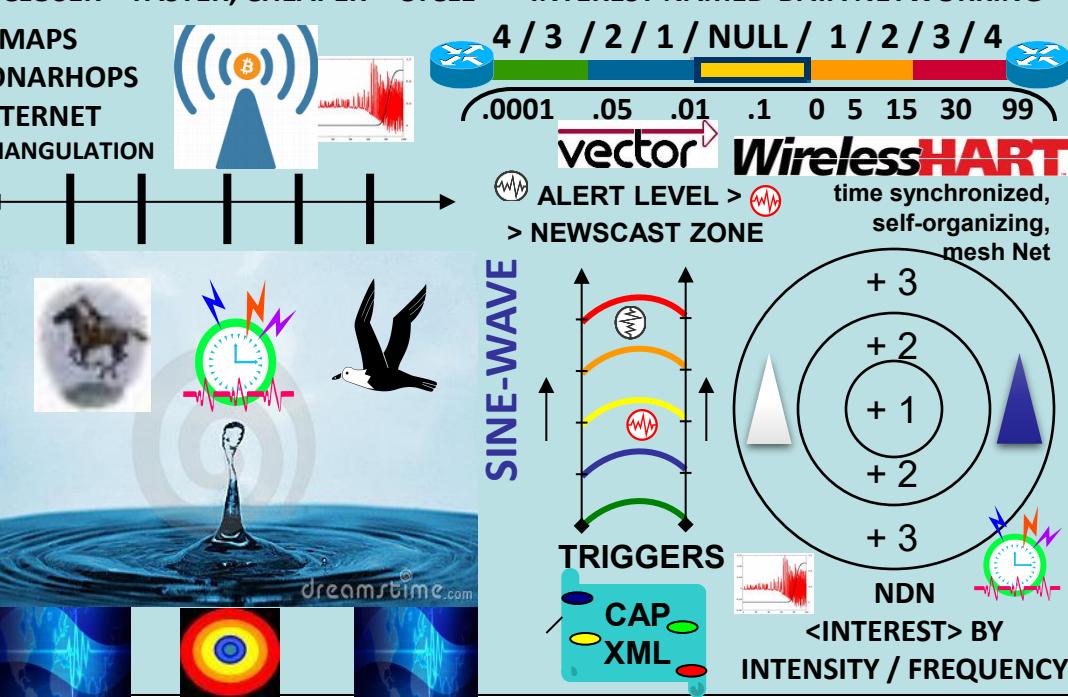
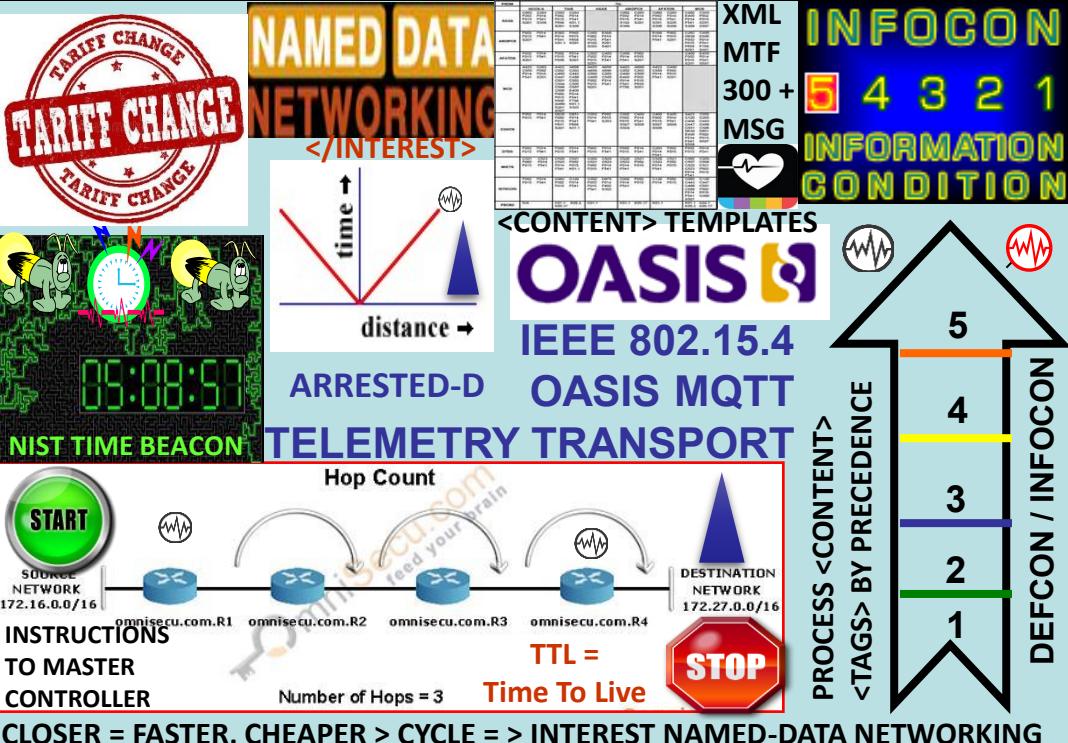
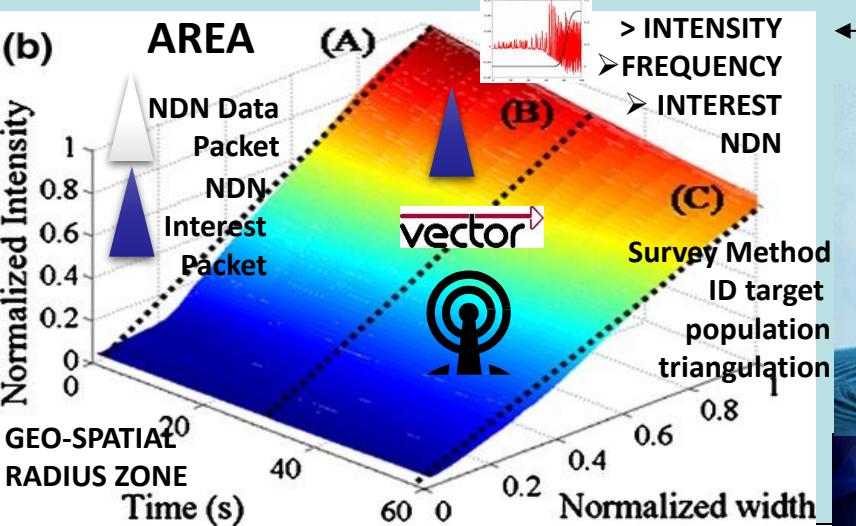
Paul Revere = linear, sequential



TCP/IP hop by hop counts, by hop controls



Water Drop = AREA / INTENSITY Cyclic Frequency



13/573,002 HEART BEACON CYCLE

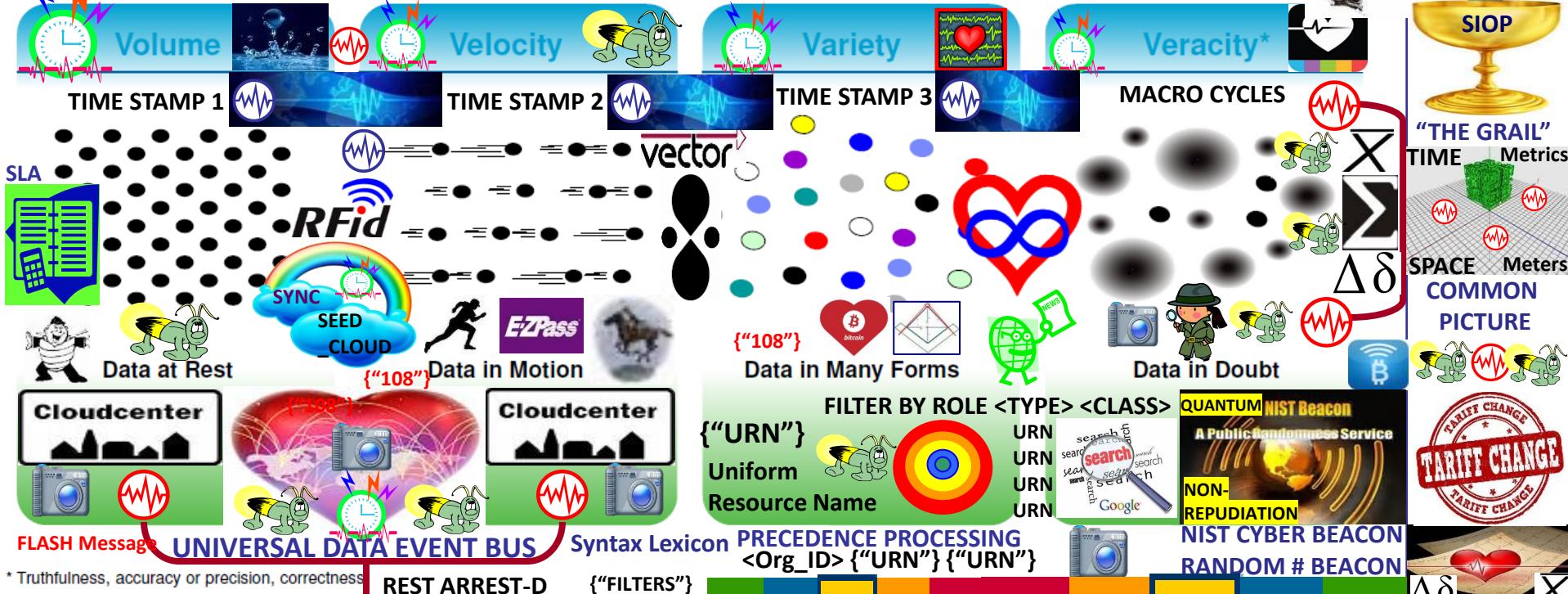
Time -Space meter, metrics / Universal data event, alert bus
Internet of Everything "ability to hear the world's heartbeat"

The four dimensions of Big Data

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



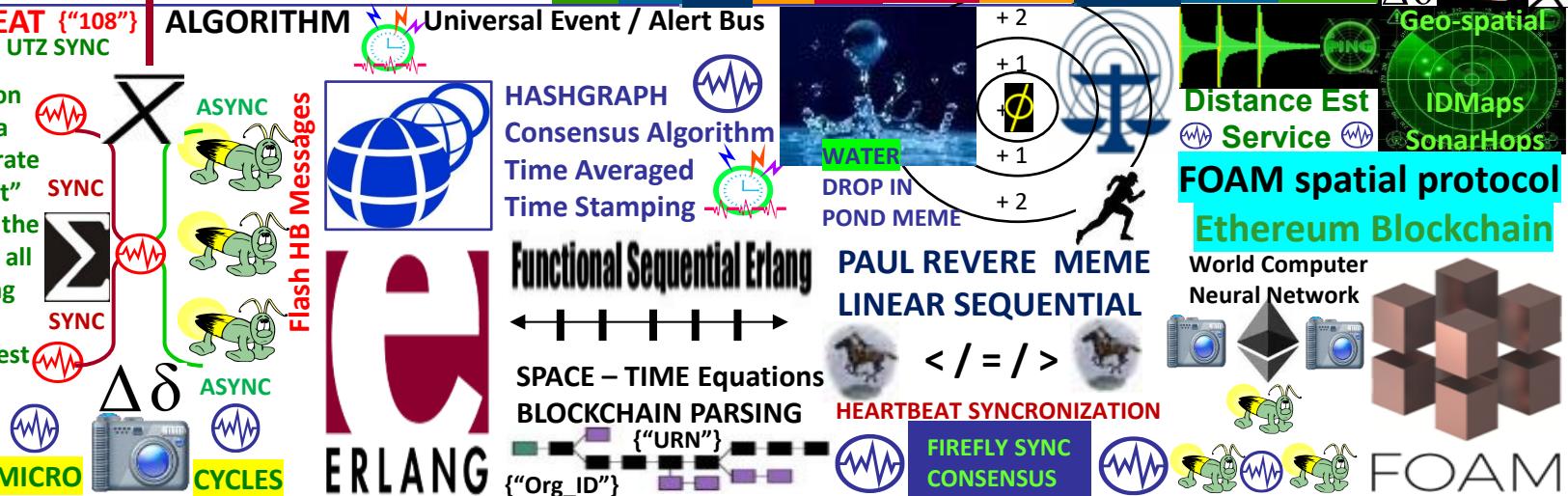
TIME STAMP BY Org_ID, URN Before FUSION CENTER



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

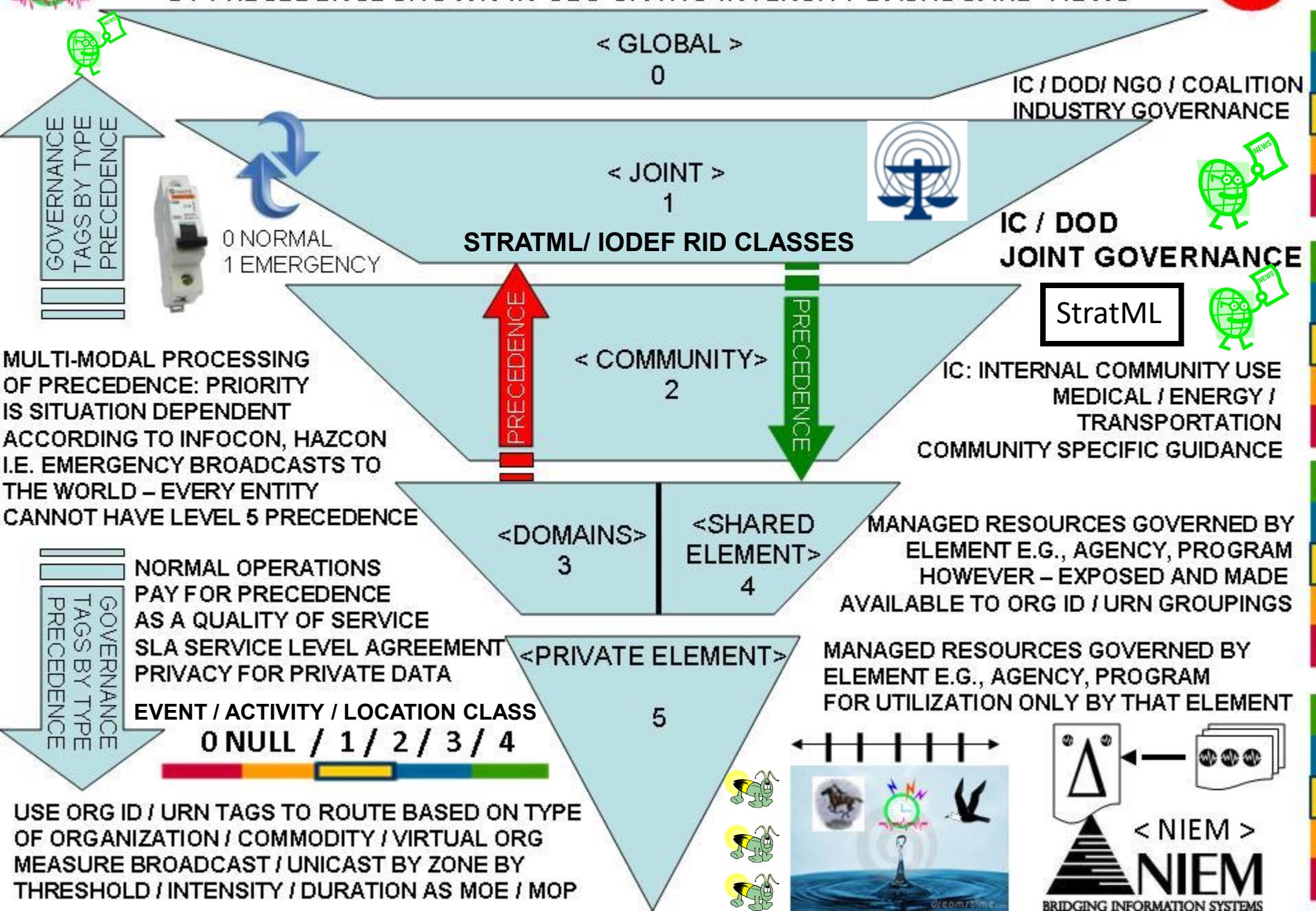
Heartbeat synchronization strives to have nodes in a distributed system generate periodic, local "heartbeat" events approximately at the same time with a goal of all nodes starting and ending cycles at the same time eventually = map to closest OPTEMPO HEARTBEAT

State Meta Data
Heartbeat Snaps





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



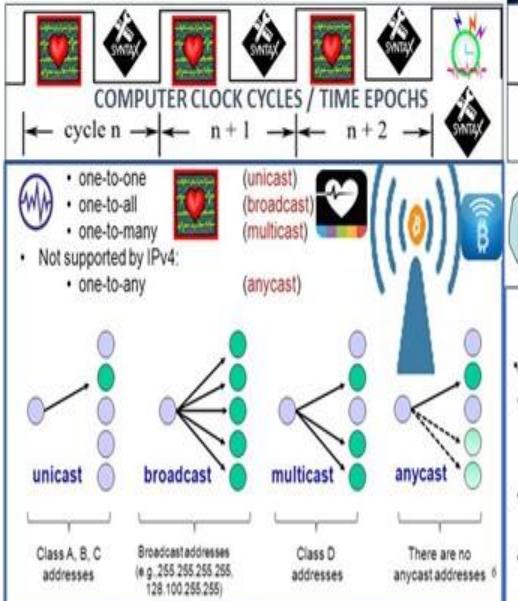
Foundation Technology Trinity:

1. EPOCH (s) = Time intervals, cycles
2. SPACE (land use meme) ex: IRS memo #1421 "Bitcoin transaction akin to land"
3. SYNTAX structured data mapped to symbols for A.I. / man - machine interface

THESIS: All net artifacts, net of \$ are formed with:
 1) Epoch time cycle intervals ex: chip oscillations
 2) Syntax parsed, processed in epoch time intervals

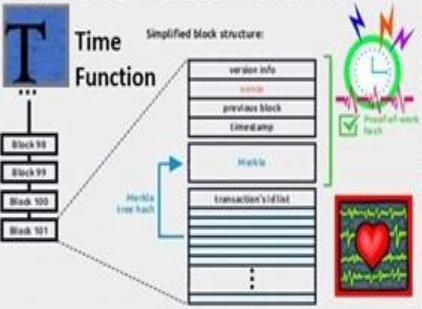
Time Epochs / Syntax:

How the net, net of \$ actually work...



TIME Block chain TIME

What does a block look like?



GENESIS TIME STAMP / Genesis Block

Header • Contains service information (version info, nonce, previous block id and timestamp).
Timestamp • A summary hash from the block's transaction tree.

Semantic blockchain



Artificial intelligence (AI) syntax refers to the set of rules, principles governing the arrangement of words and phrases in a programming language. In the context of AI and natural language processing, syntax ensures that language is structured in a systematic way, for effective communication and comprehension.

Understanding syntax is essential for developers to write readable, maintainable, and scalable code

All things internet, programmable net of money are formed using:
 1) Epoch Time Cycles to 2) process (not) syntax as instructions



Structured Data Exchange

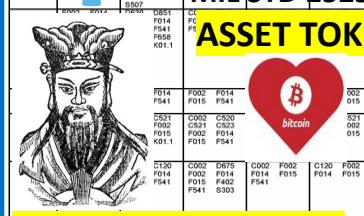


SYNTAX LEXICON
ROSETTA STONE

Coder's Guide lexicon.

STRUCTURED
<CONTENT>
EXCHANGE
TEMPLATES

MIL STD 2525ABC



"SYMBOLS RULE THE WORLD"

11.8 - Kinematic
11.8.1 - Pos
11.8.1.1 -
11.8.1 -

XBRL™
THE BUSINESS REPORTING STANDARD
BINARY XML
Decision

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

1 - Horizontal
2 - Vertical
TOSCA
Confidence
Bearing Angle
Bearing Angle Rate
Covariance Matrix

DDL DATA
DEFINITION
LANGUAGE

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



vector

{"TRANSACTION ID"}

MESSAGE TEXT FORMAT :

SEG RPT OCC CLASSNAME SETID SEQ FIELD OCCURRENCE SET FORMAT NAME

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

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

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



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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SYMBOLS Friend Neutral Hostile DICAL EVAC & HOSPITALISATION

Partner Competitor L - MILITARY OPERATIONS

TOKENIZED ECONOMY BREVITY CODE OPSCOSE MAPPET TO SYMBOLS



INDEX REFERENCE #:

M015 STATUS :

EFFECTIVE: 14-DEC-99



PURCHASE CODES



FEDERATED PEGS



{"ASSET_CLASS"}



{"ASSET_TYPES"}



ISO 10383 – MIC



Market Identifier Codes



{"URN"}



{"Org_ID"}



STOCK NDN NAMED DATA



EXCHANGE NETWORKING



MIC CODES PRECEDENCE



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		F002 F014 F015 F541 S201	A.I. 	C203 C400 D630 E500 F002 F014	INFOCON 5 4 3 2 1 INFORMATION CONDITION	
AFATDS							
MCS	 SIOP 	A423 C203 C505 F002 F014 F015 F541 S201	A423 A659 C002 C203 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F658 F756 G489 K01.1 S201 S303 S507	ASSET TOKENS Token Economy	 Syntax Lexicon Coder's Guide	A423 C505 F014 F015 F541 S201	M2M  "SYMBOLS RULE THE WORLD" 

MESSAGE CATALOG

300 + Use Cases

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

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

Information Elements Roles

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



FFUDN: Field Format Unit Designator #

FFIRN Field Format Index Reference #

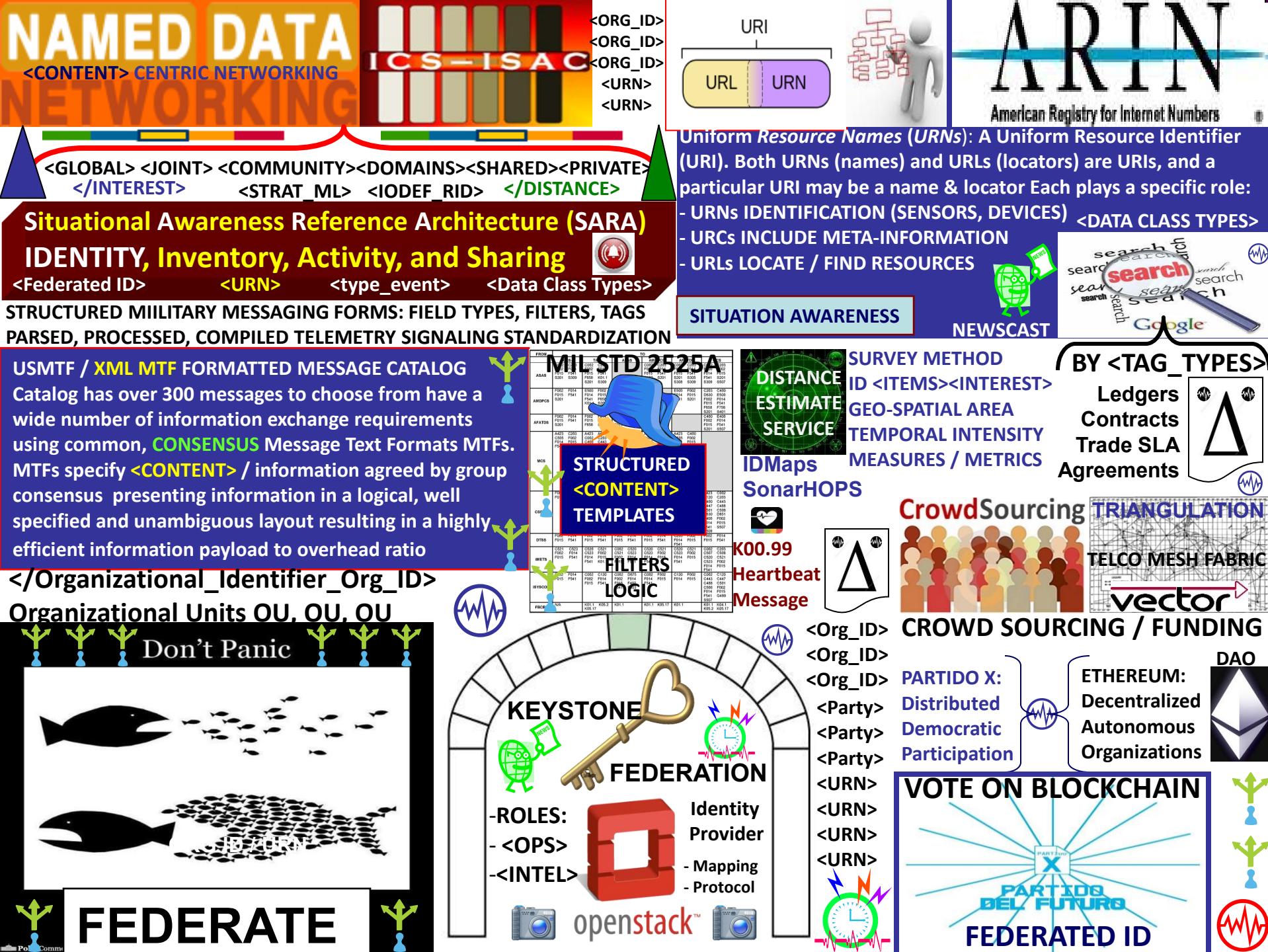
Structured military messaging ID's messages, message sets, data element, symbol fields </108>



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		11.2 - Linear			
11.4.1.2.2 - Evaluated D		2 - Estimate Type			
11.4.1.3 - Value		1.2.1 - Estimated			
SYMBOL	Friend	Neutral	PURCHASE	1.2.2 - Observed	
2525C	Partner		CODES	1.2.3 - Predicted	
				1.2.4 - Smooth / D	
11.4.1.3.4 - Substance					
11.4.1.3.5 - Surface					
11.4.2 - Platform / Point / Fea					
11.4.3 - Specific Type					
11.4.4 - Type Modifier					
11.4.5 - Unit					



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- 1. EPOCH (s) = Time intervals, cycles
 - 2. SPACE (land use meme) ex: IRS memo #1421 "Bitcoin transaction akin to land"
 - 3. SYNTAX structured data mapped to symbols for A.I. / man - machine interface

THESES: All net artifacts, net of \$ are formed with:

- 1) Epoch time cycle intervals ex: chip oscillations
 - 2) Syntax parsed, processed in epoch time intervals

ADAPTIVE PROCEDURAL TEMPLATE: LIST OF TOOLS, PROCESSES, PROCEDURES I.E., STORED PROCEDURE CALLS COMPRISED OF STRUCTURED DATA EXCHANGES USING 300 + MESSAGES / MESSAGE SETS COMPRISED OF OPSCODE BREVITY COMPUTER CODES MAPPED TO SYMBOLS FACILITATING STANDARD MAN – MACHINE INTERFACE

Signal operating instructions (SOI): technical control coordination of INFOCOM

USE CASE: standards adherence support for IEEE, NIST SP 2000A, B, C, D, </URN> ISO Exchange signaling, telemetry current situational awareness, data dictionary, network identification, channels, network directory, brevity code, 4 3 2

USE CASE: standards adherence support for IEEE, TU, ISO international data, internet, internet of money, IoT, Artificial Intelligence A.I ... standards

**Systemic, signaling, synchronization of state
meta data encoded as brevity OPSCODE
tokens stochastically harmonized over the UTZ**

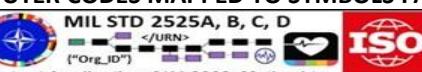
FROM	TO	CODE GUIDE
ASAS	TAIS ASAS AMDPCS AFATDS	MCS
C002 C203 F002 F014 F015 F541 S201 S309	C002 C203 USMTF / XML MTF FORMATTED MESSAGE CATALOG = 300 + messages info exchange sets using common, CONSENSUS Message Text Formats MTFs. MTFs specify </CONTENT> / info agreed by group consensus presenting information in a logical, well specified unambiguous layout resulting in a highly efficient info payload to overhead ratio	C002 C203 F002 F014 F015 F541 S201 S309 TOKENS
AMDPCS	OPSCODE BREVITY CODES	F002 C203 C400 F015 D002 E014 S201
AFATDS	F002 F014 F015 F541 S201	A.I.  INFOCON 5 4 3 2 1 INFORMATION CONDITION
		 M2M 
	 Syntax Lexicon Token Economy Code's Guide	 "SYMBOLS RULE THE WORLD" 

MESSAGE CATALOG
300 + Use Cases

Object Categories		Information Categories and Examples						
Category	Example	Location	Movement	Identify	Status	Activity	Intent	
OOB	SYNTAX LEXICON	STRUCTURED DATA	EXCHANGE	MESSAGE SETS	TRANSFERRING, RECONSIDERING	COA	{"Java JS"}	
		lat/long, spid/hrid	country / alliance, business	readiness	handover			
Infrastructure	Comm., power, transportation, water/sewer	Machine Trust Language MTL	Machine Trust Language MTL	CDL	Contract Description Language	YAML	expansion Indiana	
	network, grid		throughput, flow rates, name, part-of, relationships	BDA, op. parameters	repair, characterize			
Sociological	Culture, religion, economic, ethnic, government, history, languages	temples, historic structures	E-R Model	Class Diagram	Relational Database	Object DBMS	XML DTD / Schema	TADILs
			Entity	Class	Table	Class	Element	Message
Geophysical	Terrain, weather, climatology, oceanography, astrophysics	feature, lat/long, alt/depth	Attribute	Attribute	Field / Column	Attribute	Child Element or Element Attribute	DFI
			Domain Value	PURCHASE CODES	instance, instance	tokens	FFRN / FNI	FUD

Artificial intelligence (AI) syntax refers to the set of rules, principles governing the arrangement of words and phrases in a programming language. In the context of AI and natural language processing, syntax ensures that language is structured in a systematic way, for effective communication and comprehension.

Understanding syntax is essential for developers to write readable, maintainable, and scalable code



atent Application 9/11 2003: Method to

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

**REVITY OPSCODES MAPPED TO SYMBOLS,
SYMBOL SETS FOR A.I. ARTIFICIAL
INTELLIGENCE MAN - MACHINE INTERFACE**

STANDARD, CONSISTENT SYMBOLS



```

graph TD
    COIDetermination[COI Determination] --> SearchDiscovery[Search and Discovery]
    COIDetermination --> Ontologies[Ontologies]
    COIDetermination --> Taxonomies[Taxonomies]
    COIDetermination --> Metadata[Metadata]
    Ontologies --> Standards[STANDARDS]
    Taxonomies --> Reference[REFERENCE]
    SearchDiscovery --> Roles[Roles]
    Ontologies --> Roles
    Taxonomies --> Roles
    Metadata --> AttributesFilters[Attributes / Filters]
    AttributesFilters --> Roles
  
```

FUDN: Field Format Unit Designator #

FIRN Field Format Index Reference #

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

MESSAGE NUMBER



```

graph TD
    XAML[XAML] --> UI[UI]
    XAML --> DATA[DATA]
    UI --> PAGE[PAGE]
    UI --> CONTROLS[CONTROLS]
    UI --> LAYOUT[LAYOUT]
    PAGE --> TITLE[TITLE]
    PAGE --> CONTENT[CONTENT]
    PAGE --> FOOTER[FOOTER]
    CONTROLS --> IMAGE[IMAGE]
    CONTROLS --> TEXT[TEXT]
    CONTROLS --> LISTBOX[LISTBOX]
    LAYOUT --> GRID[GRID]
    LAYOUT --> TABLE[TABLE]
    DATA --> TOSCA[TOSCA]
    DATA --> TOKYO[TOKYO]
    TOSCA --> MILITARY[MILITARY]
    TOSCA --> YARD[YARD]
    TOSCA --> NUMBER[NUMBER]
    TOKYO --> HON[HON]
    TOKYO --> NINJA[NINJA]
    HON --> HEARTBEAT[HEARTBEAT]
    HON --> FLASH[FLASH]
    FLASH --> MESSAGES1[MESSAGES]
    FLASH --> MESSAGES2[MESSAGES]
    MESSAGES1 --> MESSAGE1[MESSAGE]
    MESSAGES1 --> MESSAGE2[MESSAGE]
    MESSAGE1 --> PRIORITY[PRIORITY]
    MESSAGE1 --> PRECEDENCE[PRECEDENCE]
    MESSAGE1 --> NODES[NODES]
    MESSAGE1 --> ACTIVITIES[ACTIVITIES]
    MESSAGE1 --> FUNCTIONS[FUNCTIONS]
    MESSAGE1 --> PERFORMANCE[PERFORMANCE]
    MESSAGE2 --> PRIORITY
    MESSAGE2 --> PRECEDENCE

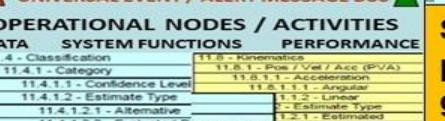
```



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

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

CONFIDENTIAL



11.4.1.2 - Platform / Point / Feature Type	PURCHASE CODES	11.2 - Observed 11.3 - Predicted
11.4.1.3 - Specific Type	YMBOL Friend Neutral	11.3 - Predicted
11.4.4 - Type Modifier	2525C Partner	Hostile Competitor
11.4.1.3.5 - Surface		- Velocity - Horizontal - Vertical - Normal - Bearing Angle - Bearing Angle Rate

Syntax code language parsed, processed during silicon chip generated epoch time cycles forms all things internet, net of money. state meta data sync delta heartbeat snapshots during epoch temporal micro-cycles

Situational Awareness Reference Architecture (SARA)

Identity, Inventory, Activity, and Sharing

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



Industrial Control System
Information Sharing and
Analysis Center

IDENTITY: <UUID> = Devices, sensors

<ORG_ID> Organizations

Federation
Gateway

<ELEMENTS>

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

STRATEGIC
MARKUP

StratML

LANGUAGE

INVENTORY: Uniform Resource Name <URN>

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



vector

<COMMODITY><WATER><ENERGY><AVAILABLE UNITS>
GEO-SPATIAL TEMPORAL INTENSITY METRICS
UNIFIED EVENT / ALERT TRIGGER / THRESHOLDS

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

CONTENT LEXICON
ROSETTA STONE

NDN



<INTEREST>

NDN

<INTEREST>



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

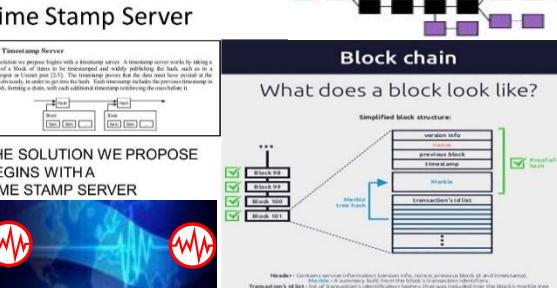
A V A L A N C H E

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

MIL-STD-2525A

FROM	TO	AMOPCS	AFATOP	MCS
ABAD	OCB2	F002	F014	C200
	OCB3	F003	F014	C201
	OCB4	F004	F014	C202
	OCB5	F005	F014	C203
	OCB6	F006	F014	C204
	OCB7	F007	F014	C205
	OCB8	F008	F014	C206
	OCB9	F009	F014	C207
	OCB10	F010	F014	C208
	OCB11	F011	F014	C209
	OCB12	F012	F014	C210
	OCB13	F013	F014	C211
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	OCB18	F018	F014	C216
	OCB19	F019	F014	C217
	OCB20	F020	F014	C218
	OCB21	F021	F014	C219
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	OCB31	F031	F014	C229
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	OCB247	F247	F014	C445
	OCB248	F248	F014	C446
	OCB249	F249	F014	C447
	OCB250	F250	F01	

Interface Name	HEARTBEAT Administration Interface [SCOP]					
Documentation URL	http://scop.sourceforge.net/ http://linuxvirtualserver.org/software/index.html					
API Information	 <p>#leT</p> <p>#Big_Data</p> <p>Programmable Money World Computer / Blockchain</p>  <p>NIST TIME BEACON</p>					
Functionality Areas	Cloud Interface Management configuration, start, stop cloud services, edit configuration (heartbeat messages)	Cloudcenter	Cloudcenter	Cloudcenter	Cloudcenter	Cloudcenter
API Operation Count	LOCATE <CONTENT> IDMAPS / SonarHOPS	Cloudcenter	Cloudcenter	Cloudcenter	Cloudcenter	Cloudcenter
Web service access type Network Effects / A.I.	Web application, front end to [network, device, system, blockchain] heartbeat	Cloudcenter	Cloudcenter	Cloudcenter	Cloudcenter	Cloudcenter
LANGUAGE / PLATFORM BINDINGS	PHP Java Erlang...	Cloudcenter	Cloudcenter	Cloudcenter	Cloudcenter	Cloudcenter
Interface Characteristics	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.	Satoshi Bitcoin Blockchain Time Stamp Server	E0 E1 E2 E3...	E1	E2	En
"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>The solution we propose begins with a timestamp server. A timestamp server works by taking the current system time, generating a unique identifier, and publishing the hash, such as in a timestamp or a time stamp [2]. The timestamp process that the data must have occurred at the time of the timestamp is called a timestamping. This timestamp is then published on the network, forming a chain, with each additional timestamp recording the previous one.</p> <p>THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER</p> <p>QubitCoin Interval: Every 30 Seconds</p>	 <p>Block chain</p> <p>What does a block look like?</p> <p>Simplified block structure:</p> <ul style="list-style-type: none"> version info previous hash timestamp merkle transaction's id list <p>Headers: Contains version information (version info), previous block's hash (previous hash), timestamp (timestamp), and a Merkle root hash (merkle). Transactions: A list of transactions (transaction's id list).</p>	MICRO CYCLES	MACRO CYCLES		

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

HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

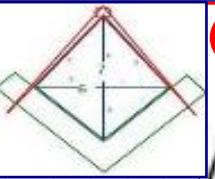
SC ALICE CORP VS CLS BANK: “claims may not direct towards abstract ideas”

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”

Coin never travel, but simply switch owners”

Step 1: prove coin ownership <Org_ID> Coin Issuer

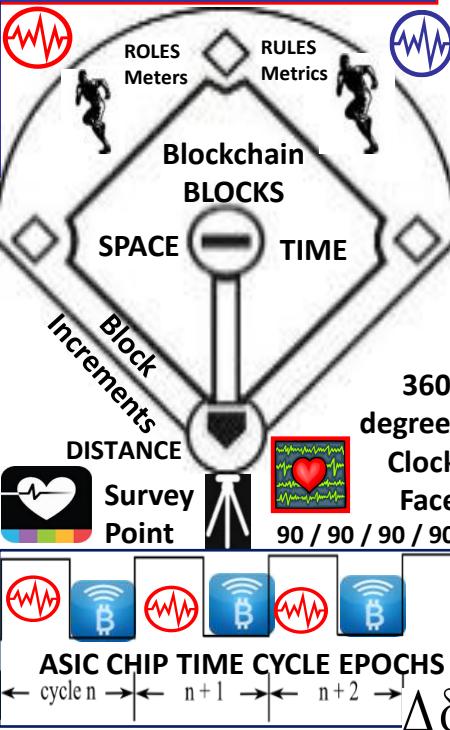
Step 2: coins sent where, when Lat-Long, time stamp

Step 3: specify ownership <Org_ID> issuing agent

Step 4: Issuing Org of Record adjudicates w buyer



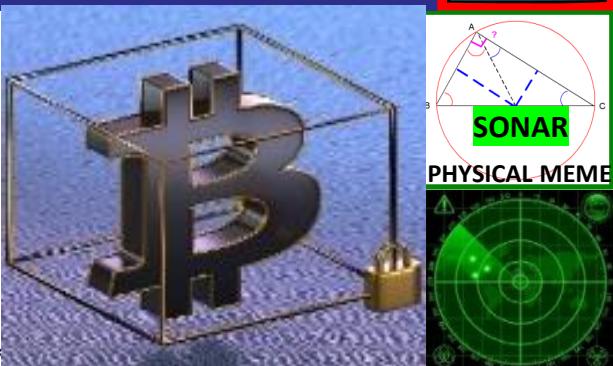
$$\Delta \delta$$



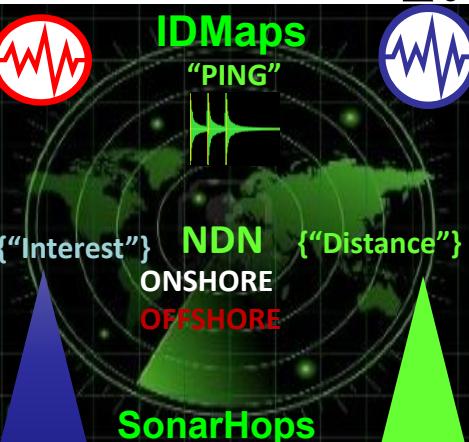
TRIANGULATION



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



Commodities Index Basket / FIAT PRICE Discovery Algo / MEDIATION



ALGORITHMIC STABLE COIN EQUILIBRIUM ALGORITHMS
COMMODITY INDEX BASKET PRICE DISCOVERY ALGOS



COMMODITY FUTURES TRADING COMMISSION



CLOSER = CHEAPER = CLOSER

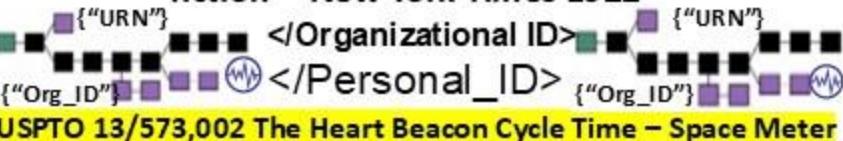
FIREFLY – HEARTBEAT ALGORITHM CHINA: nature-inspired metaheuristic optimization algorithm developed by Xin-She Yang flashing behavior of fireflies (Yang, 2008), adapted to solve continuous optimization problems (Lukasik and Źak) 2010, 2013



Edison's Monetary Option
Cambridge University Press 2009

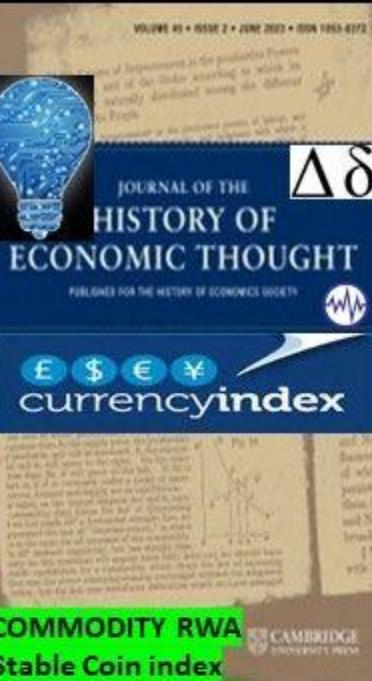
"Crops hold their value best over time"

"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



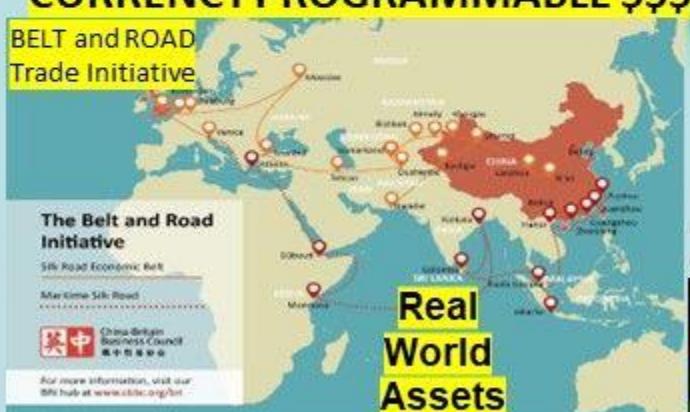
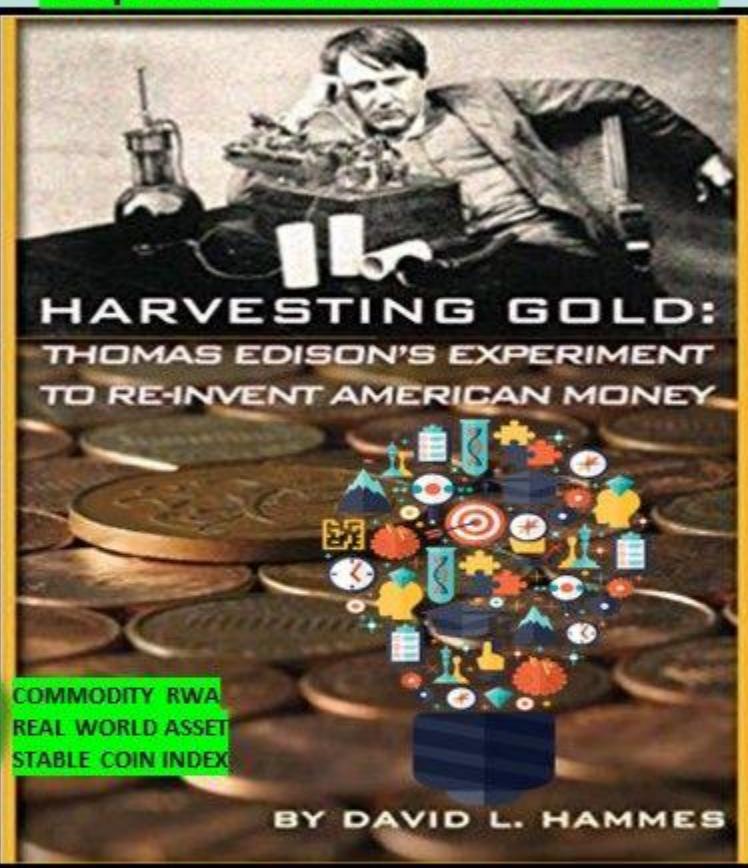
USPTO 13/573,002 The Heart Beacon Cycle Time – Space Meter

Tokenization of Physical Assets Enables Economy Of Everything



Thomas Edison's Monetary Option Cambridge University Press 2009

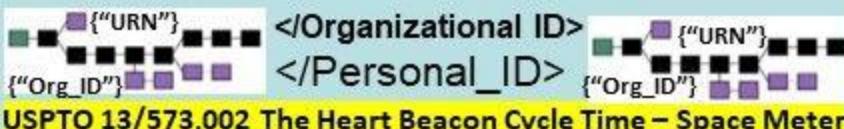
"Crops hold their value best over time"



NETWORK
CENTRIC
OPERATIONS
INFOCON
4 3 2 1
INFORMATION
CONDITION



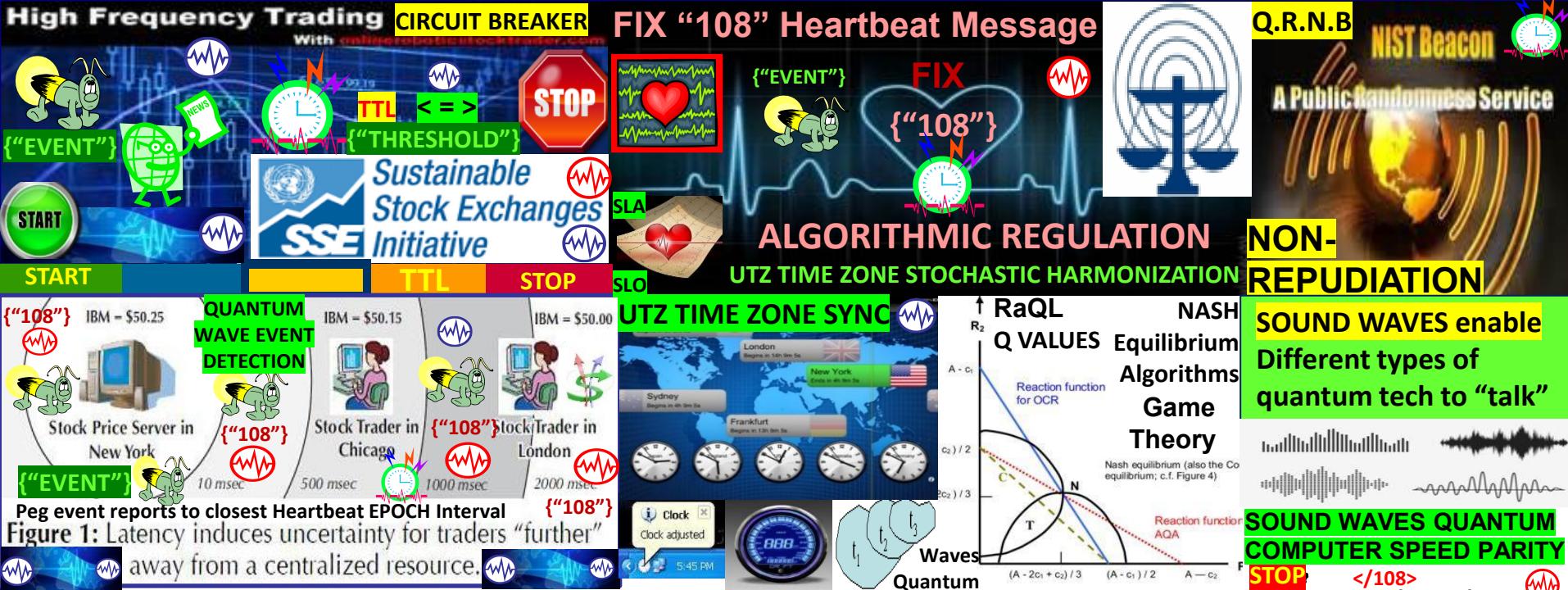
1



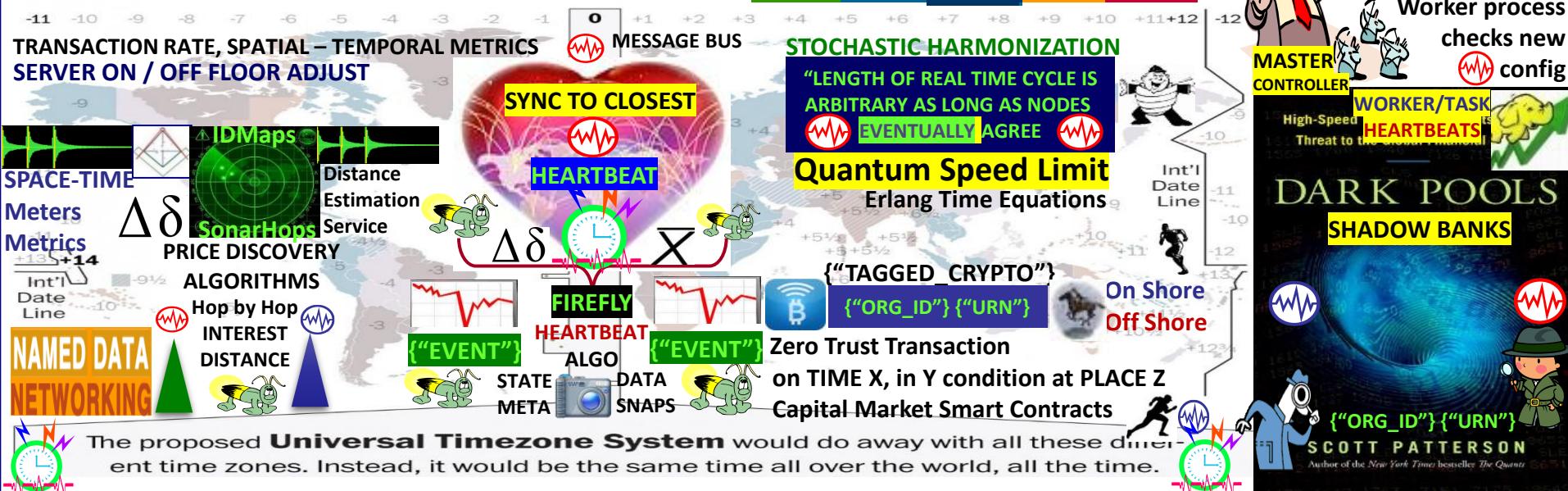
USPTO 13/573,002 The Heart Beacon Cycle Time – Space Meter

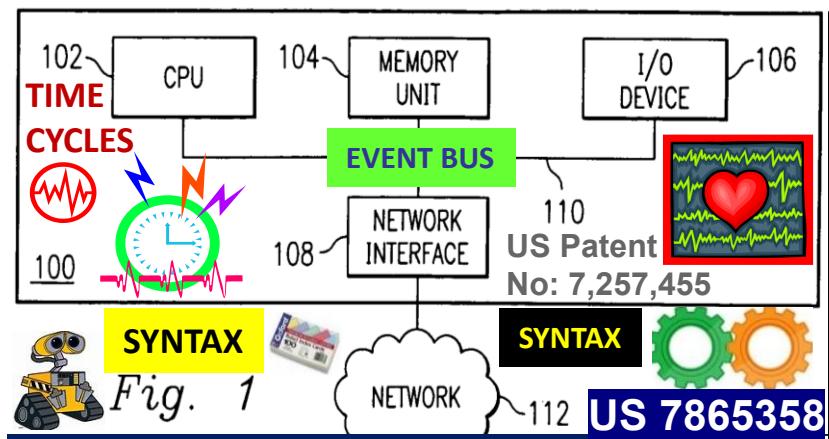
"Thomas Edison publicly introduced his latest invention: a new type of money, a crop index commodity-backed currency that he believed was the long-term solution to America's monetary woes. "I want to cast the variable out of money. This gold money is not good enough. It's a fiction" "New York Times 1922

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



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.



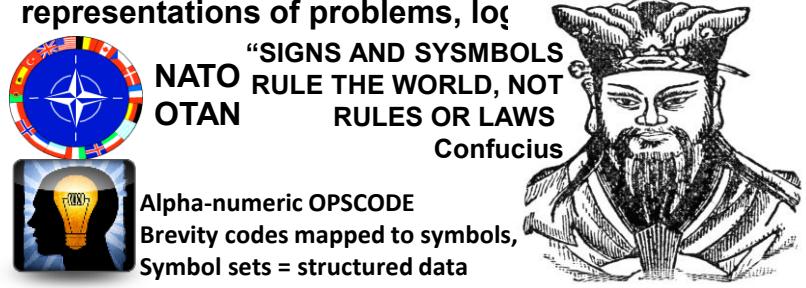


Machine-based system for transforming data from a source form to a target form, a tool is provided for sharing information established in developing a transformation model. The shared information may relate to rules for mapping source collection terms to standardized terms, rules for ordering or **SYNTAX**,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

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

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

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



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

Williamsport PA
Little League
Baseball Capital of
the World

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

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

CLASS	
PK	CL_OID
	CL_NAME

BIZ COA 1,2,3
AU Ar
CIO
100
The Williamsport Little League

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



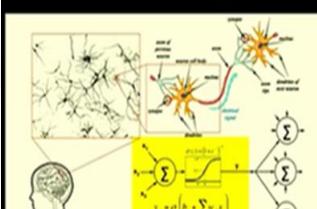
COMPONENT		
PK	CP_OID	{"URN"}
	CP_NAME	
	CP_SUBSTANCE	(BOOL)
	CP_PRIMTYPE	
FK1	CP_CLASSTYPE	
FK2	CP_CLOID	
	CP_COLLECTION	

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

Neuro-Symbolic AI

Symbolic (human-readable) representations

Symbolic AI



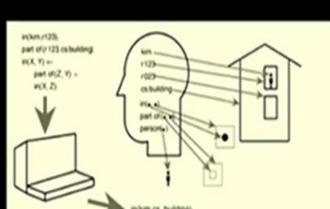
Breaking the world into symbols (rather than

Brevity



Symbols

Symbol



Incorporate common sense reasoning and

Symbolic artificial intelligence: collection of all methods in artificial intelligence

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

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

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

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

data from a first form to a second form

CONDITION

Rosetta
Stone
Syntax
LEXICON



2525 Series
Symbol Set
Libraries



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



Confucius

Alpha-numeric OPS CODE

Brevity codes mapped to symbols,
Symbol sets = structured data

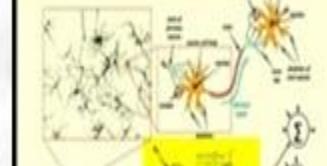
FRZ T CP CLOUD FRS T LN PARNT

ABCA OPSCODE BREVITY CODES

Neuro-Symbolic AI

Symbolic (human-readable)
representations

Neural Networks
(Deep Learning)



Brevity
Codes



Symbols

Symbol

Sets 2525C

Symbolic AI



Incorporate common sense reasoning and

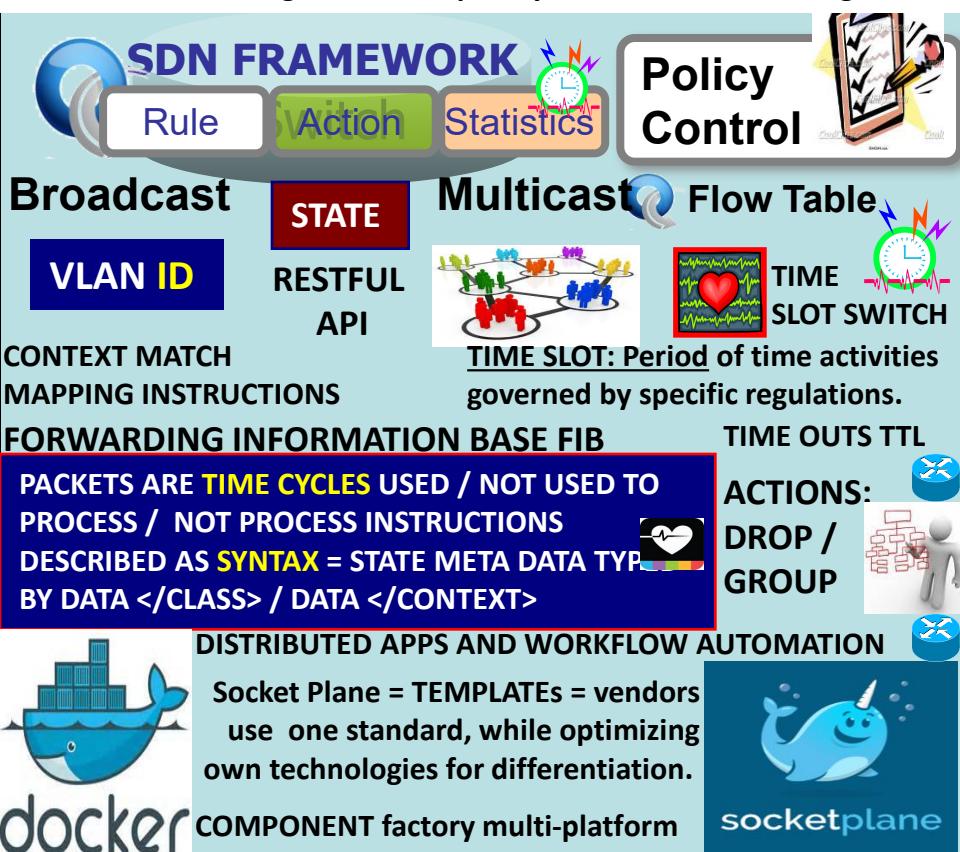
Breaking the world into symbols (rather than
atoms, strings)

Symbolic AI



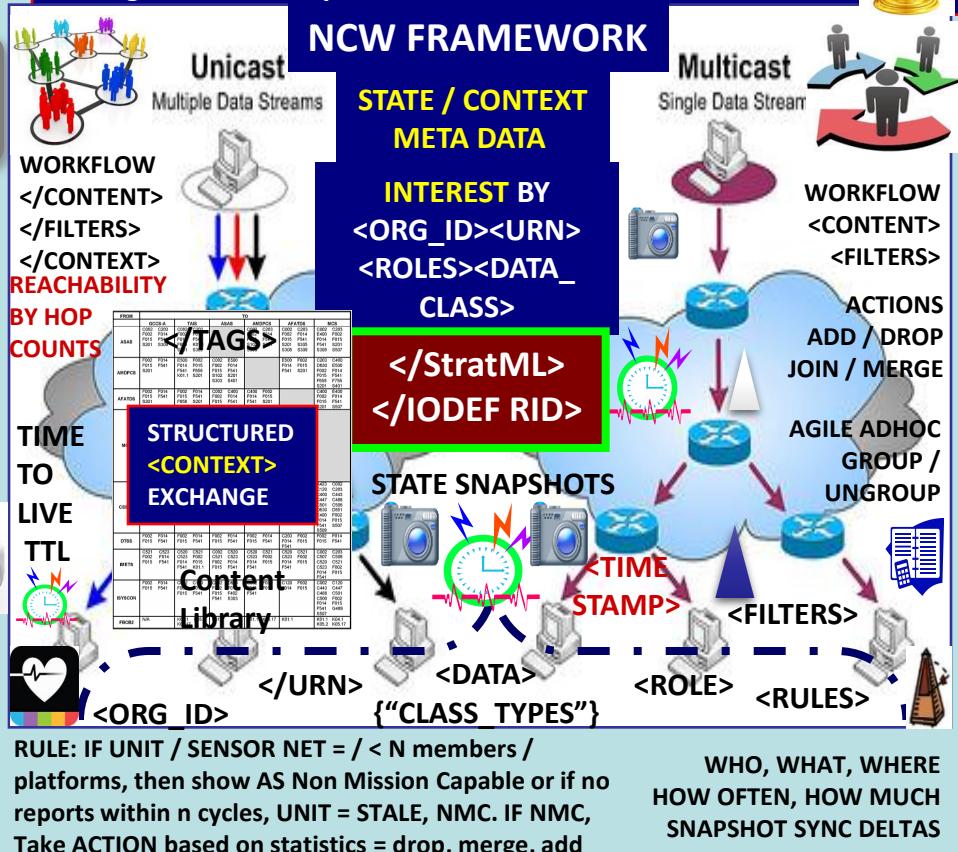
- SDN is a *framework* to allow network administrators to *automatically* and dynamically manage and control a *large number* of network devices, *services*, topology, traffic paths, and packet handling (quality of

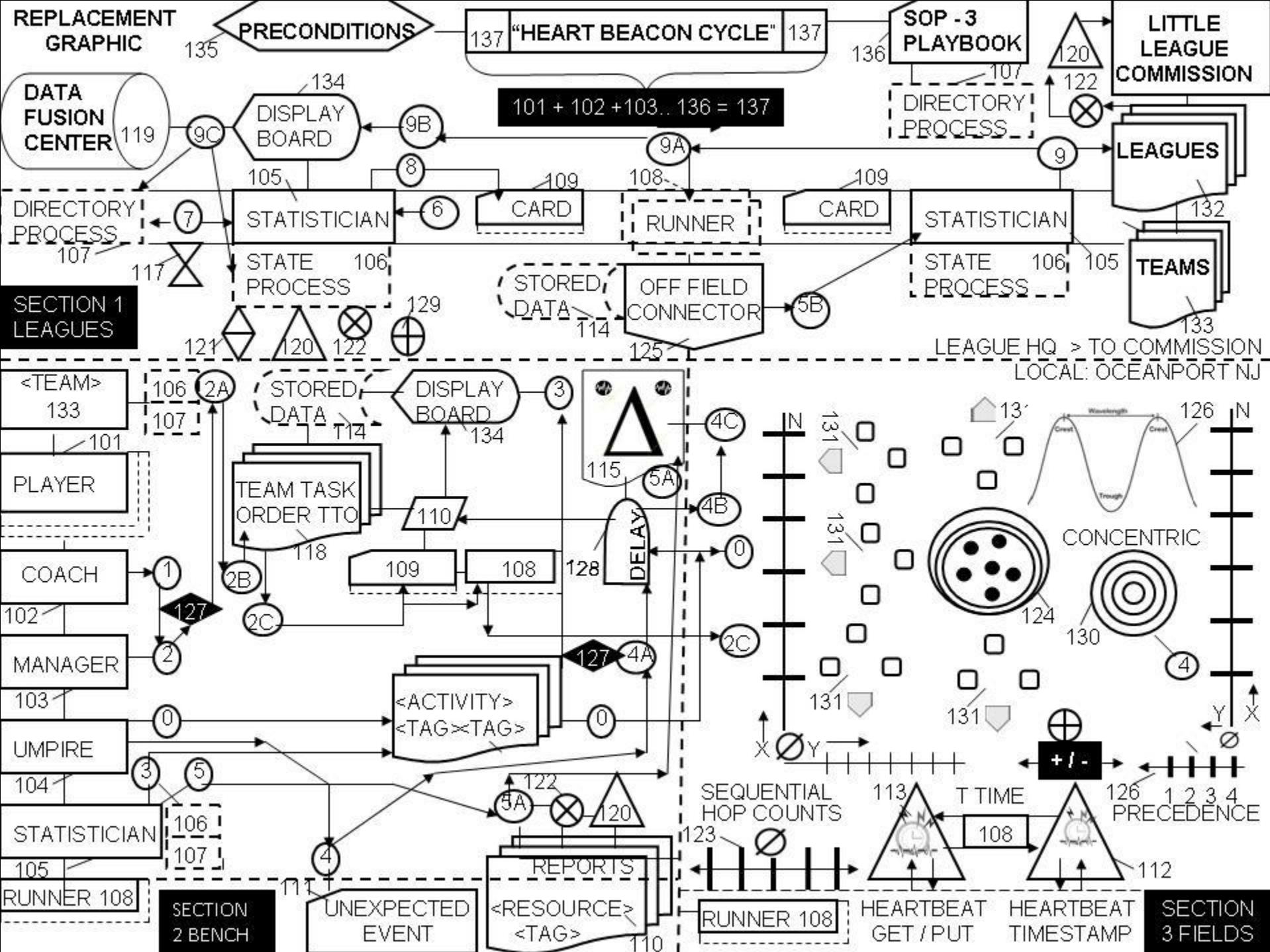
DevOps model and tools to enable scale, programmable agility, and policy-driven automation, and provides network virtualization to mask network configuration complexity with set of networking APIs

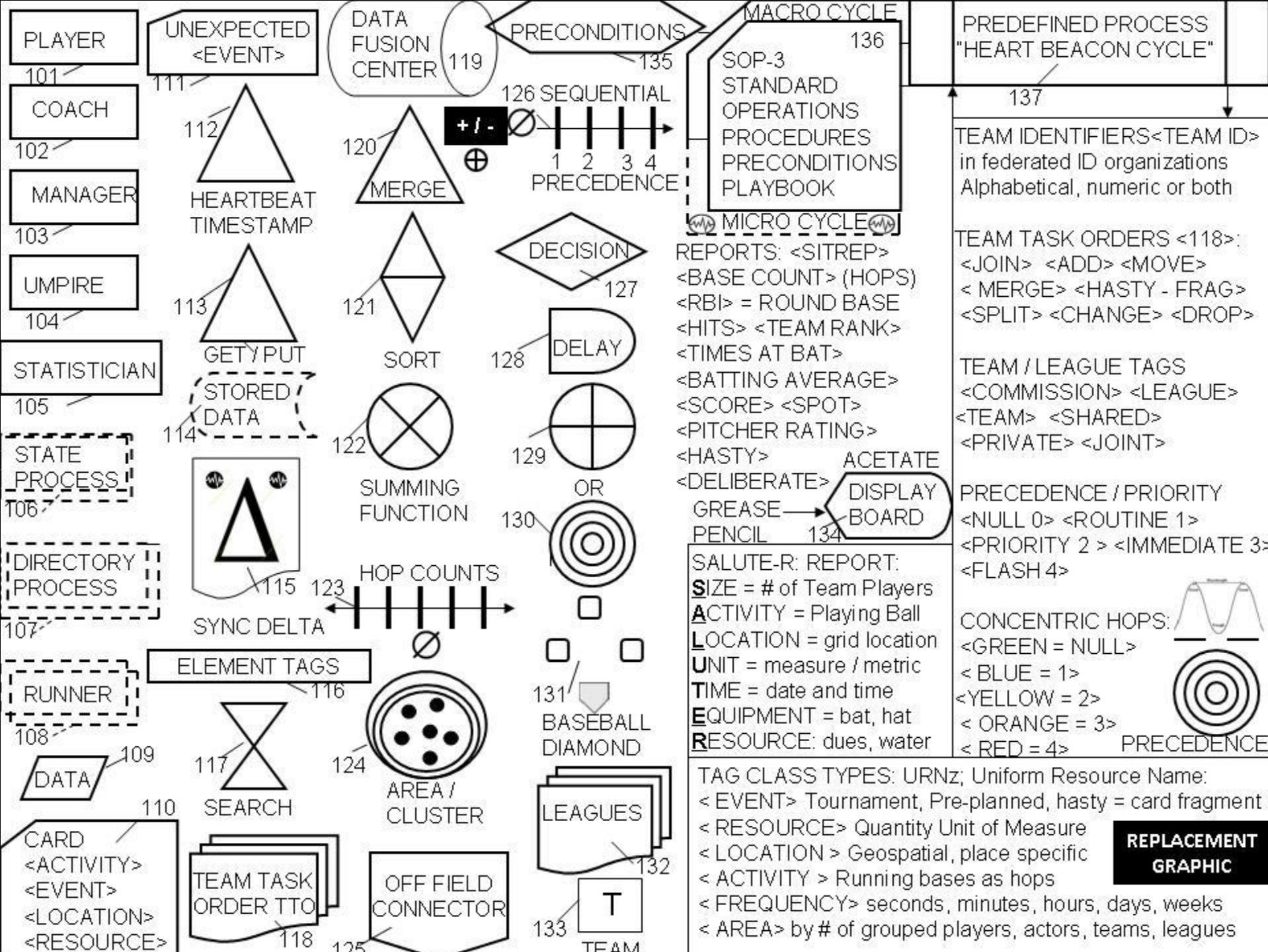


Netcentric / "network-centric" participating in a continuously evolving, complex community of people, devices, information and services interconnected by a network to optimize resource management and provide information on events and conditions.

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







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

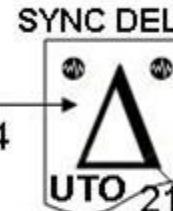
MICRO CYCLES

216



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



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

215 LEADER'S
INTENT
DECISIONS



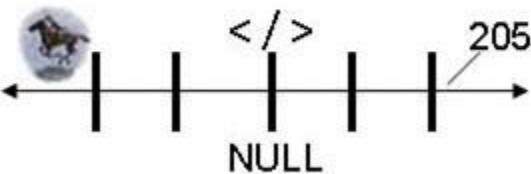
SYNC DELTA METRICS IN SLA CLAUSES AS
MOE, MOP METER IN TAX CODES, TRANCHE
CLASSES / RATINGS ARBITRAGE TRIGGERS

203

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



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



LENGTH, THRESHOLD, INTENSITY, DURATION



208



APPLIQUE' OVERLAYS



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

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

209



204

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

GIZMAG: New NASA network poised to bring internet to entire solar system

SCt 573 ALICE CORP VS CLS BANK PHYSICAL MEMES

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



TIME / DISTANCE SERVICE LEVEL
AGREEMENT SLA / O Operations

IEEE 802.15.4 OASIS MQTT

TELEMETRY TRANSPORT

IEEE 802.1AG HOP BY HOP
DETECTION

IEEE 802.11



HOP BY HOP CONTROL

Unused Resources / Unmet Needs

/localhost/nfd/fib/add-nexthop

Geo-Spatial Temporal
Metrics, Meters

Time Series

DISTANCE
INFO SERVICE

IDMaps

SonarHops

Value

Time

WATER DROP IN POND MEME IS

SONAR NAVY METAPHOR / MEME

NDN </INTEREST>

NDN {"DISTANCE"}

NAMED DATA

NETWORKING

IEEE C37.118

Harmonization

& Sync heartbeat

update Interval

CLOSER SOURCE

CHEAPER RATE

Energy Attenuates over Distances

Attribute Series

INTEREST

DISTANCE

Temporal Series

Geo Spatial

TCP/IP HOP BY HOP COUNT

Micro Grids Closer - Cheaper

BLOCKCHAIN

MICROGRIDS

TESLA



TIME / DISTANCE SERVICE LEVEL
AGREEMENT SLA / O Operations

IEEE 802.11



HOP BY HOP CONTROL

Unused Resources / Unmet Needs

vector



Spatial
Econometrics



TIME-SPACE BEACON

INFOCON

5 4 3 2 1
INFORMATION
CONDITION

Spaceship
Earth
Signals &
Telemetry
Annex



buckminster fuller
operating manual
for spaceship earth

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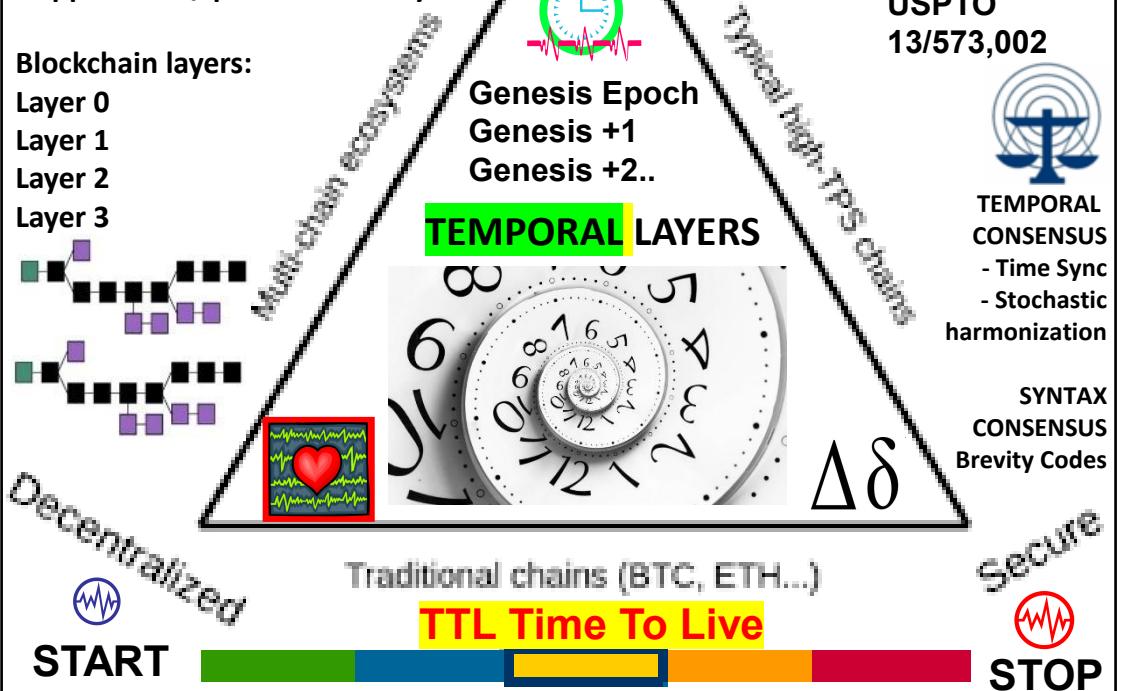
Blockchain Quad-lemma

"five layers of blockchain tech:

- Infrastructure hardware layer
- Data layer
- Network layer
- Consensus layer
- Application / presentation layers

Blockchain layers:

- Layer 0
- Layer 1
- Layer 2
- Layer 3



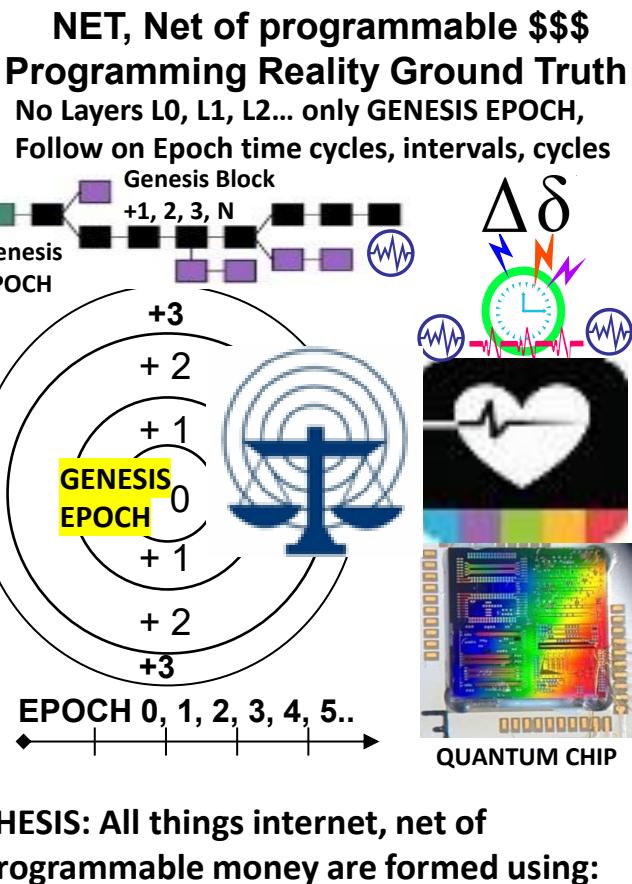
Blockchain = series of hashed blocks carrying transactional records. The first block of the blockchain is the **Genesis block**. After that, every new block added to the blockchain is linked to the Genesis block through a (temporal) iterative process.

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



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

1. Time epochs created by oscillating quartz crystal silicon chips
2. Syntax used / not used as programming instructions during epoch time cycles

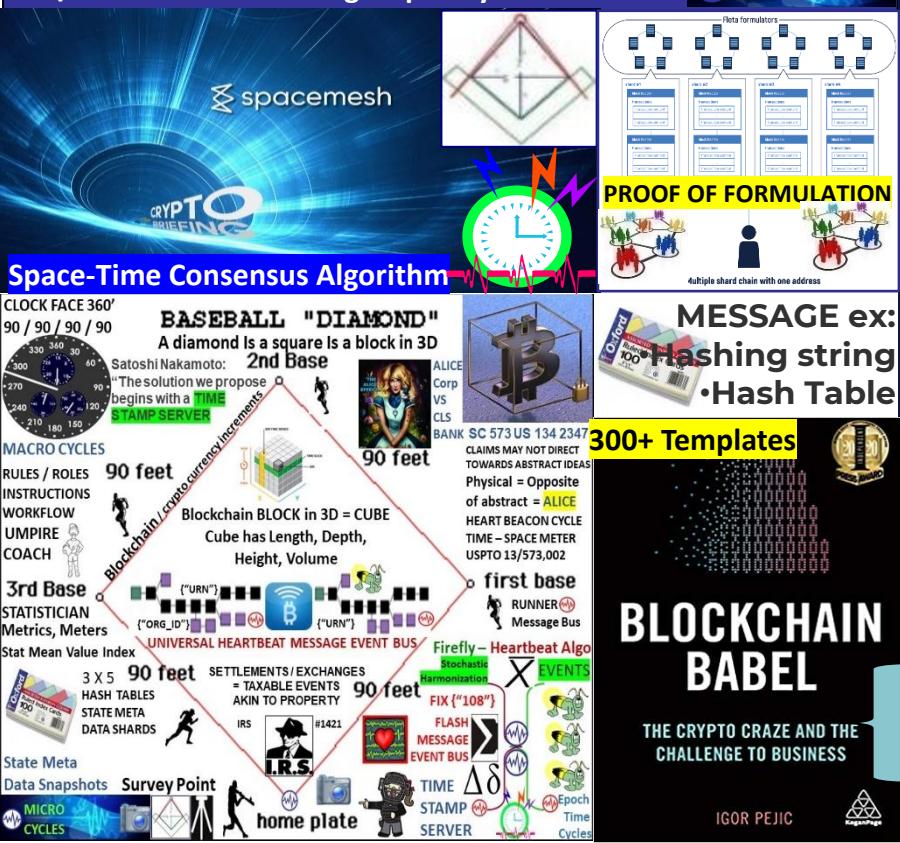
All things internet, internet of money, blockchains are formed by unicast, multicast, anycast protocols. Programmable money's improvements are in cryptography. The internet consists of unicast, multicast broadcast, anycast and workflow filters, publish – subscribe paradigms..

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

Blockchain Consensus Algorithms & Mechanisms

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

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



BLOCKCHAIN CONSENSUS ALGORITHMS

ULTIMATE GUIDE FOR BEGINNERS



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

STABLE PROTOCOL THREE MAIN TYPES:

DeFi-Native: Cap Labs, Elixir, Level

Collateralized Debt Positions: Ducat, Felix

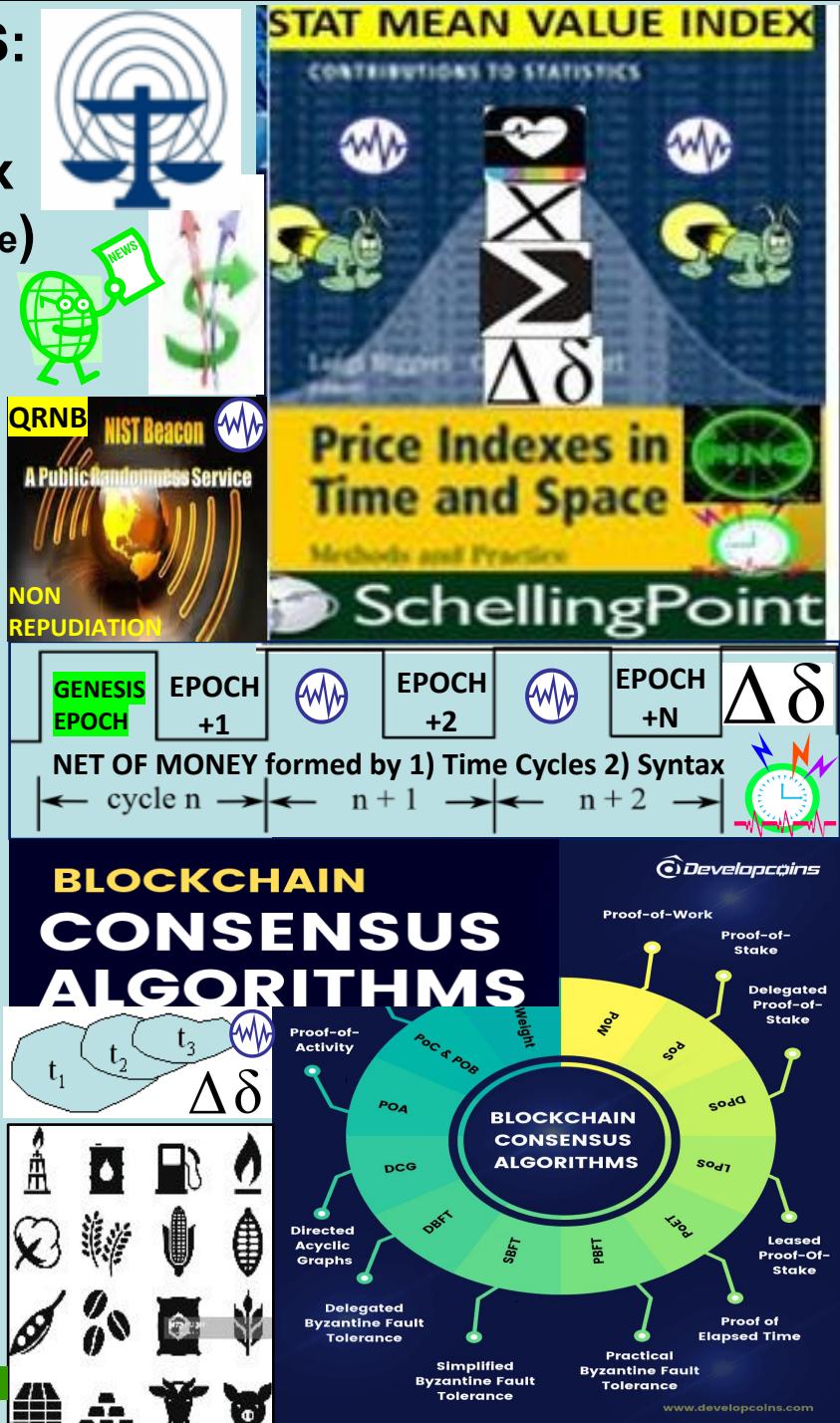
RWA-Backed:, EAnzen, Superstatethena (UStb update)

1) DeFi-Native collateral backing: stablecoin engine produces redeemable tokens of various denominations (USD, BTC, ETH, etc) system of external agents, such as market makers, MEV actors and RWA protocols, to access collateral and generate independent yield on behalf of holders. These actors keep profits over a predetermined threshold, incentivized to earn as much as possible. behavior is kept in check by security delegations from restaking protocols, support good actors, penalize bad ones

2) Collateralized Debt Positions (CDPs)

CDP protocols allow users to borrow assets by locking up collateral. When a user creates a CDP, they deposit a certain amount of ETH, BTC, USDC, or other assets into the protocol to borrow a proportionate amount of another asset, in this case a stablecoin. If the value of the deposited collateral falls below a specified threshold (loan-to-value level or collateral ratio), the CDP becomes under-collateralized and is recalled, or liquidated, with the protocol automatically selling off the underlying assets to repay the debt and maintain the stability of the system. After the underlying collateral is liquidated, the user usually gets to keep the asset they've borrowed, minus some kind of liquidation penalty.

3) RWA-Backed by off-chain real-world assets



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

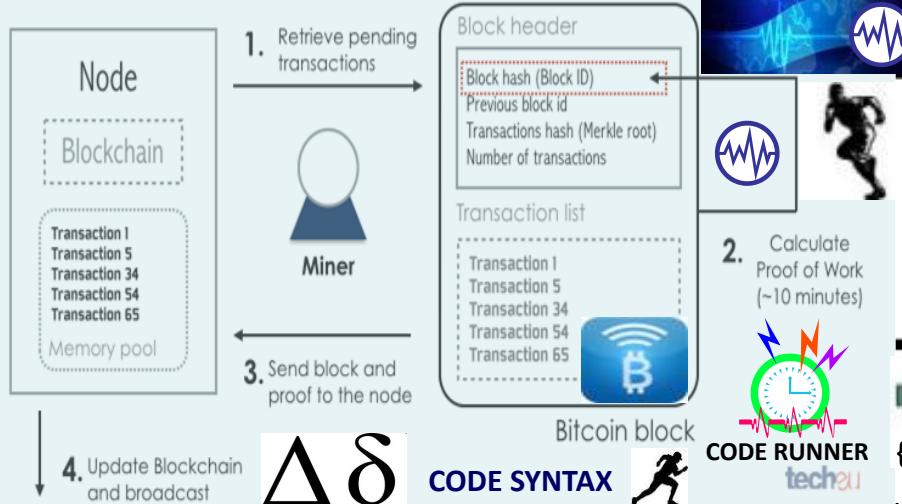


Bitcoin is a language”

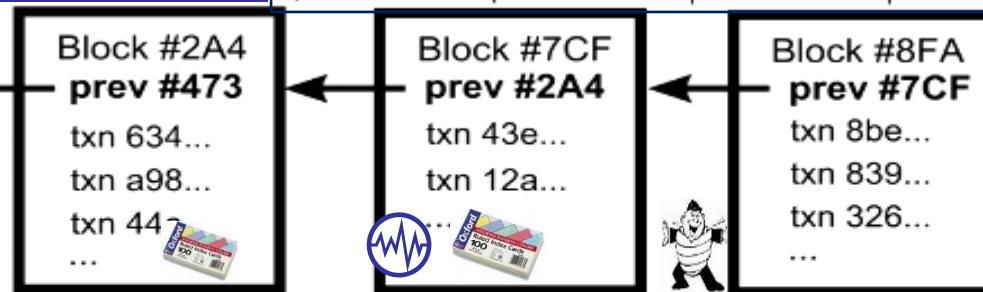
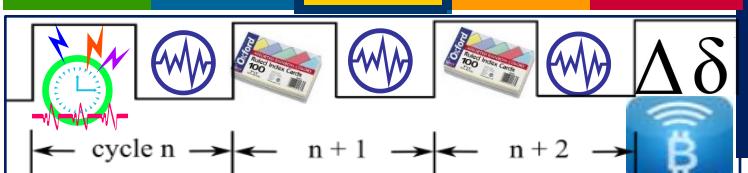
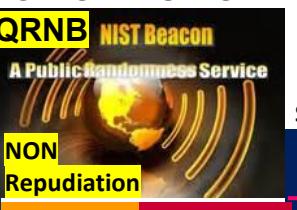
WIRED

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

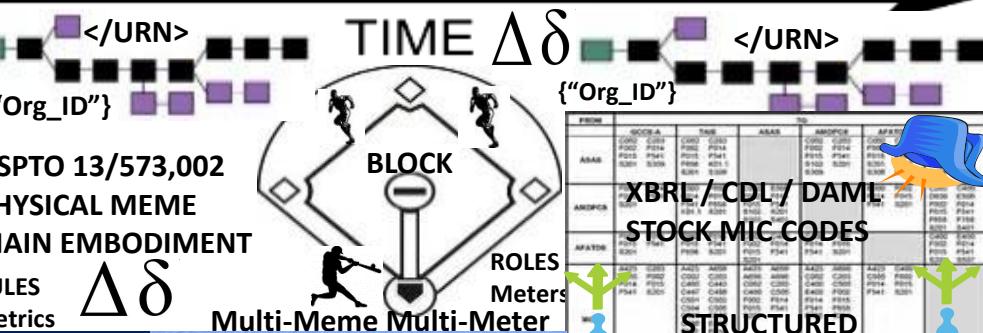
Alice Corp. v. CLS Bank International, 573 U.S. 134 SCt 2347 (2014) is a 2014 decision of the United States Supreme Court about patentable subject matter (patent eligibility).^[2] The issue in the case was whether certain claims about a computer-implemented, electronic escrow service for facilitating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



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



BLOCKCHAIN = TIME / SYNTAX

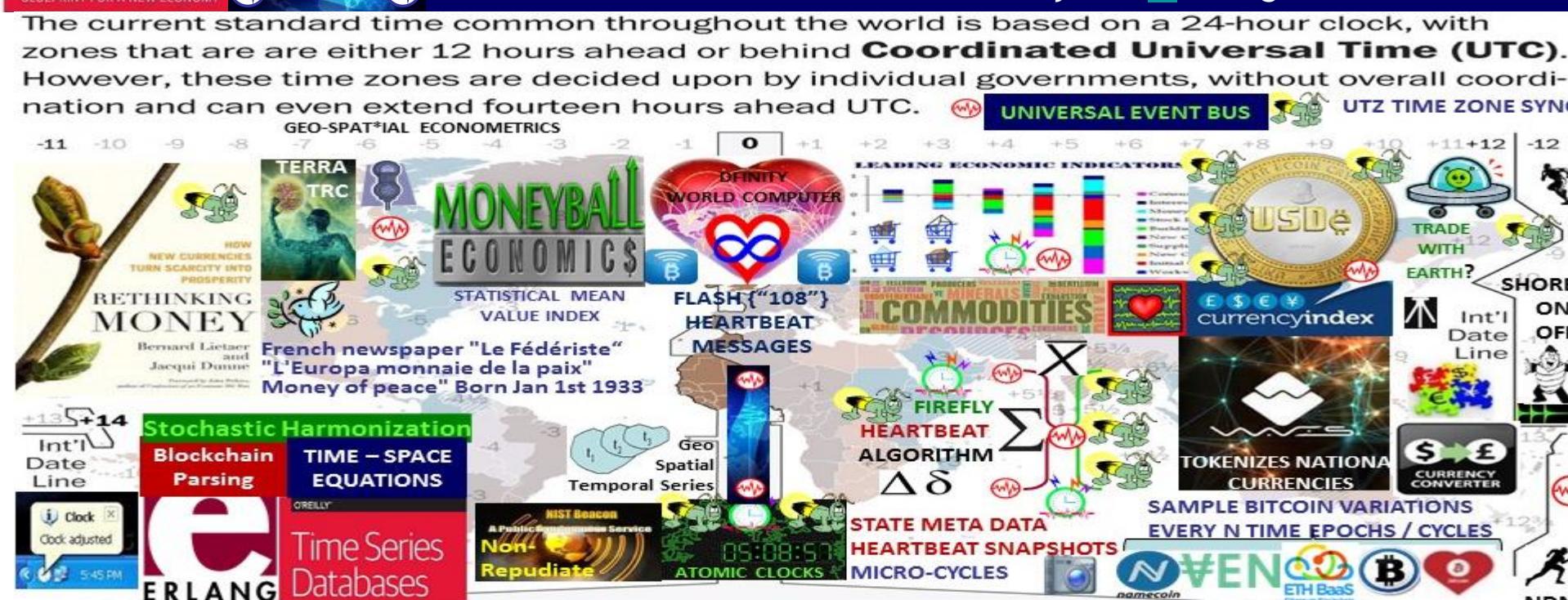




The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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

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

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



The 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

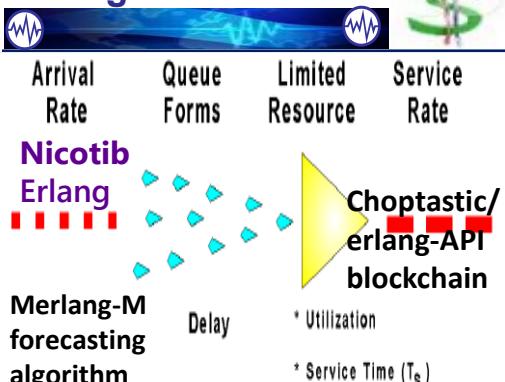
[Ericsson Open Money For Society Patent App](#)



[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

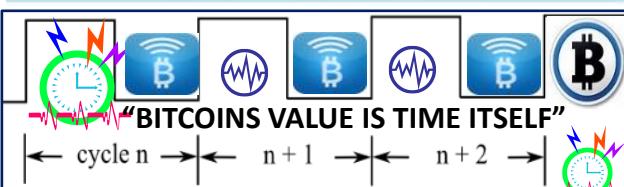
FROM	TO/CC-A	THREE	ADAM	ARMY	AFATOS	WIC
XBRI	/ CDL / DAML					
ALPHA	NUMERIC					
BREVITY	CODES					
AZURE	BLETCHLEY					
STRUCTURED						
MILITARY	MESSAGE					
TEMPLATE	FORMS					
LOGIC	/ FILTERS					



PROOF-OF-WORK



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



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

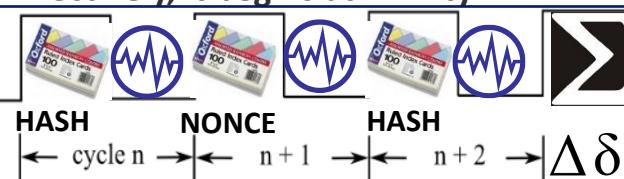


THROTTLE equivalent to difficulty. State
•target = maximum value of 8 bytes Snap
(2^{64}) divided by the difficulty.

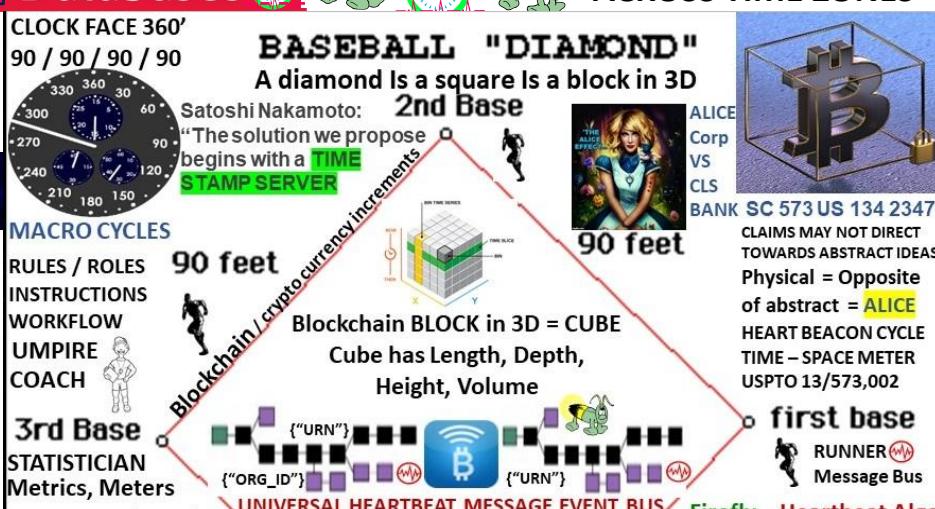
NONCE increments from 0..N until the target is met.



GUESS stores the guess
Effectively, it begins at infinity.



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

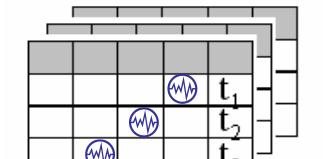


MESSAGE example: hashing string
•Hash Table

300+Message Templates

FROM	ODBC1	TABLE	ABAP	DB2	ORACLE	AFAS	WMS
ABAP	P001A P002A P003A P004A P005A P006A P007A P008A	P001B P002B P003B P004B P005B P006B P007B P008B	P001C P002C P003C P004C P005C P006C P007C P008C	P001D P002D P003D P004D P005D P006D P007D P008D	P001E P002E P003E P004E P005E P006E P007E P008E	P001F P002F P003F P004F P005F P006F P007F P008F	P001G P002G P003G P004G P005G P006G P007G P008G
AFAS	P001A P002A P003A P004A P005A P006A P007A P008A	P001B P002B P003B P004B P005B P006B P007B P008B	P001C P002C P003C P004C P005C P006C P007C P008C	P001D P002D P003D P004D P005D P006D P007D P008D	P001E P002E P003E P004E P005E P006E P007E P008E	P001F P002F P003F P004F P005F P006F P007F P008F	P001G P002G P003G P004G P005G P006G P007G P008G
BASEBALL	P001A P002A P003A P004A P005A P006A P007A P008A	P001B P002B P003B P004B P005B P006B P007B P008B	P001C P002C P003C P004C P005C P006C P007C P008C	P001D P002D P003D P004D P005D P006D P007D P008D	P001E P002E P003E P004E P005E P006E P007E P008E	P001F P002F P003F P004F P005F P006F P007F P008F	P001G P002G P003G P004G P005G P006G P007G P008G
DATA	P001A P002A P003A P004A P005A P006A P007A P008A	P001B P002B P003B P004B P005B P006B P007B P008B	P001C P002C P003C P004C P005C P006C P007C P008C	P001D P002D P003D P004D P005D P006D P007D P008D	P001E P002E P003E P004E P005E P006E P007E P008E	P001F P002F P003F P004F P005F P006F P007F P008F	P001G P002G P003G P004G P005G P006G P007G P008G
DB2	P001A P002A P003A P004A P005A P006A P007A P008A	P001B P002B P003B P004B P005B P006B P007B P008B	P001C P002C P003C P004C P005C P006C P007C P008C	P001D P002D P003D P004D P005D P006D P007D P008D	P001E P002E P003E P004E P005E P006E P007E P008E	P001F P002F P003F P004F P005F P006F P007F P008F	P001G P002G P003G P004G P005G P006G P007G P008G
ORACLE	P001A P002A P003A P004A P005A P006A P007A P008A	P001B P002B P003B P004B P005B P006B P007B P008B	P001C P002C P003C P004C P005C P006C P007C P008C	P001D P002D P003D P004D P005D P006D P007D P008D	P001E P002E P003E P004E P005E P006E P007E P008E	P001F P002F P003F P004F P005F P006F P007F P008F	P001G P002G P003G P004G P005G P006G P007G P008G
WMS	P001A P002A P003A P004A P005A P006A P007A P008A	P001B P002B P003B P004B P005B P006B P007B P008B	P001C P002C P003C P004C P005C P006C P007C P008C	P001D P002D P003D P004D P005D P006D P007D P008D	P001E P002E P003E P004E P005E P006E P007E P008E	P001F P002F P003F P004F P005F P006F P007F P008F	P001G P002G P003G P004G P005G P006G P007G P008G

POW PAYLOAD : COMBINATIONS OF ENCRYPTED SYNTAX Attribute Series







real-time gross settlement system, currency exchange remittance distributed net

FEDERATION CONSENSUS ALGORITHM / PROTOCOL LIQUIDITY ON DEMAND

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 **FEDERATION** based consensus process that on demand liquidity backed by cooperative backing



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**



- 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



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

Net joins, drops, splits, merges, moves

Gateway



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

Agile, adhoc NETOPS Vs acquisition preserves the

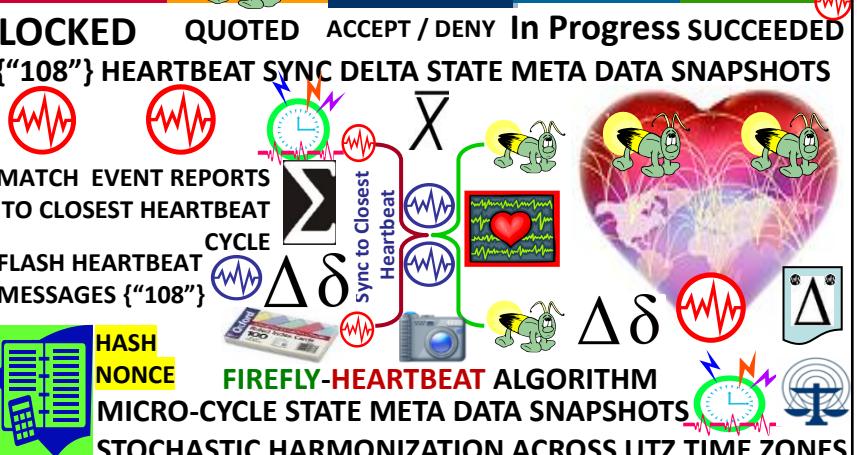
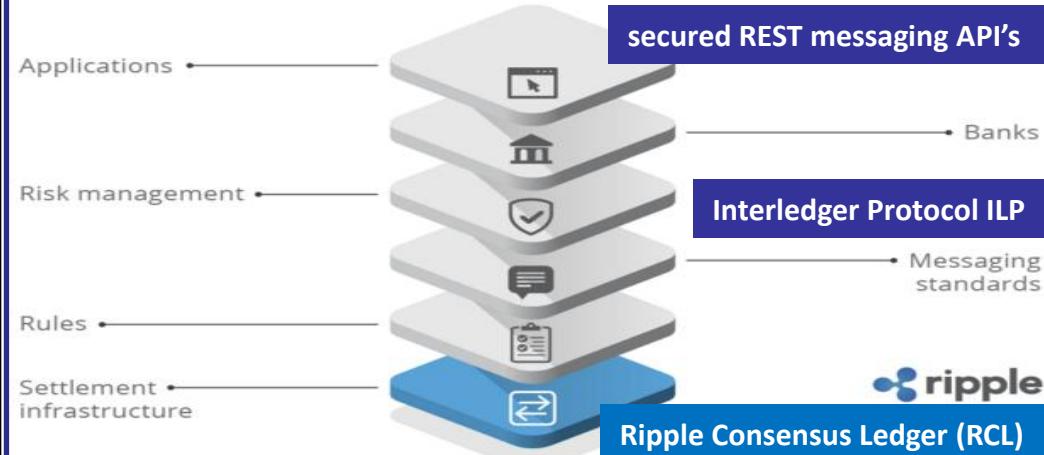
LIQUIDITY, ORGANIZATIONAL INTEGRITY OF TRADE FEDERATIONS

FEDERATION CONSENSUS PROTOCOL

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

Neutral transaction protocol

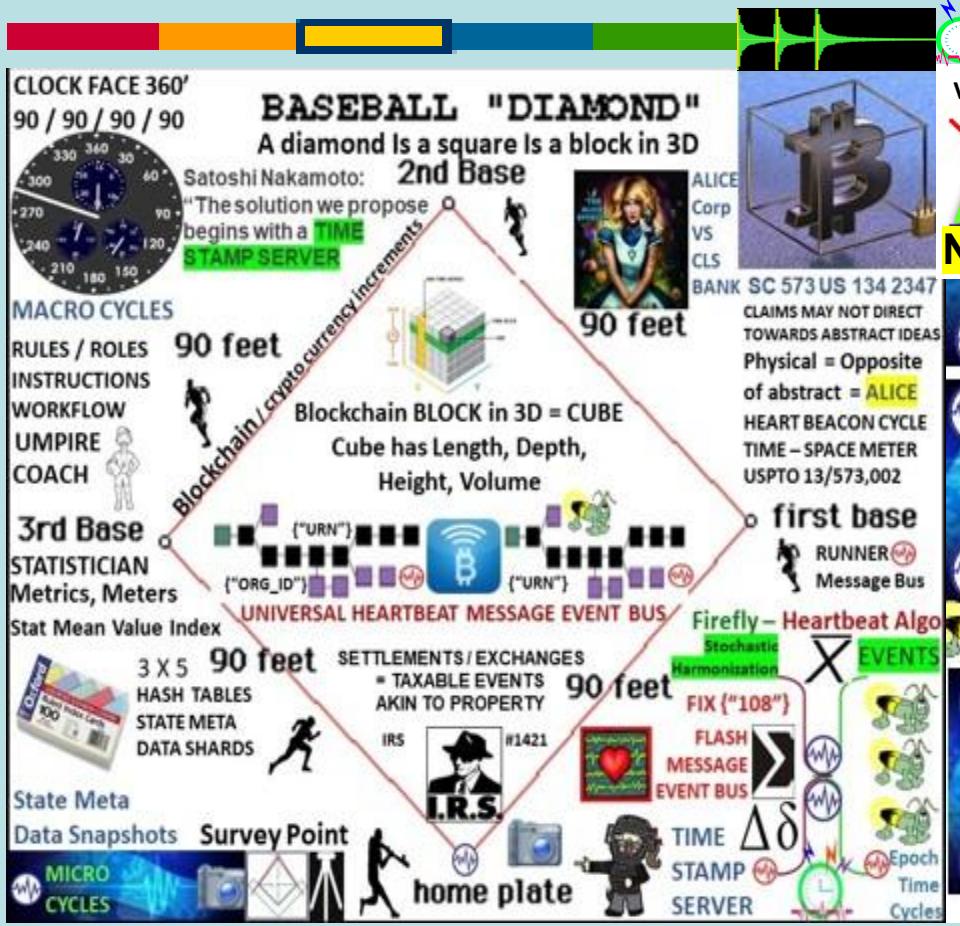
EVENT BUS



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

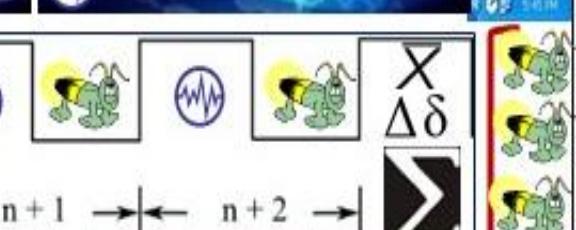
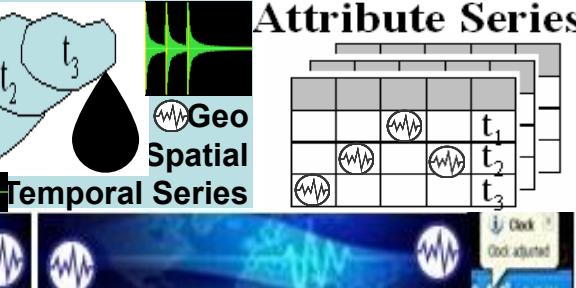
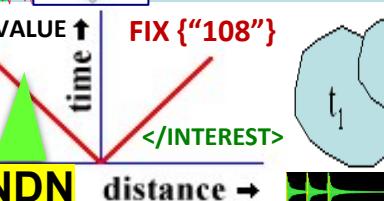


The Volumetric Weight is often referred to as dimensional weight

Volumetric Weight
**= [Width x Length
x Height]**



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



FIREFLY – INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM

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



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



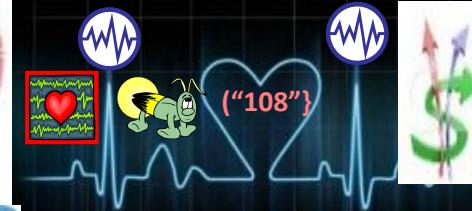
- Creates an online store for users to sell goods for Bitcoin
- Connects these stores directly to each other on a global network
- Users browse individual stores, search for products across whole network
- A buyer directly connects, purchases good from the merchant using Bitcoin
- Bitcoin payments via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

OPENBAZAAR.ORG
BLOCKCHAIN ARBITRAGE



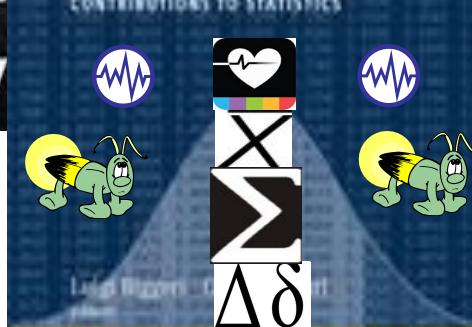
SLA

COMMODITIES
ECONOMIC HEARTBEAT



STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS



SchellingPoint

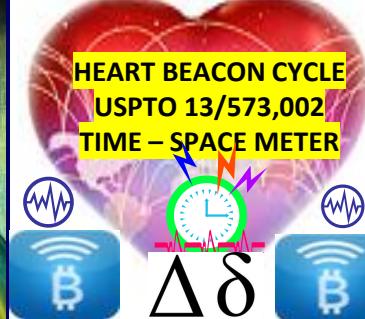
OpenBazaar is a different approach to online commerce. OpenBazaar connects buyers and sellers directly. Because there is no one in the middle of your transactions there are no fees, no restrictions, no accounts to create, and you only reveal personal information you choose.

PROJECT PHILOSOPHY: **MAKE TRADE FREE**

Mission: *shift trade to a decentralized platform*



Demurrage TERRATRC TRADE
Fees REFERENCE CURRENCY
“Money of Peace”



Federation

ORG ID

Gateway

FIREFLY – HEARTBEAT ALGO

SYNC EVENTS

UTZ SYNC

TO CLOSEST HB CYCLE

PING

Price Indexes in Time and Space Methods and Practice

SchellingPoint

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>



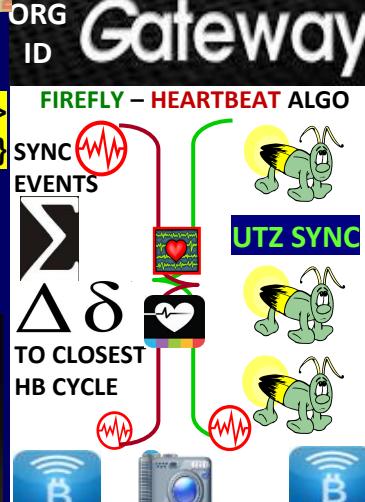
SchellingPoint

Bitcoin: OpenBazaar transactional currency



Cryptographic Security

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



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.



INFOCON
4 3 2 1
INFORMATION CONDITION

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

ALERT LEVEL >
 > NEWSCAST ZONE

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



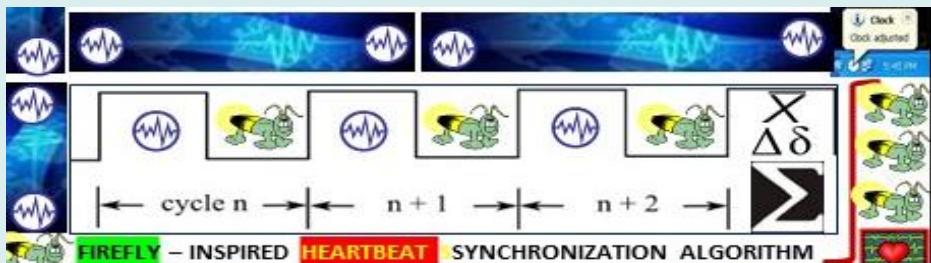
DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS

Linear Sequential Meme

$$\dots -1 / 0 / +1 \dots \Delta \delta > \Sigma$$



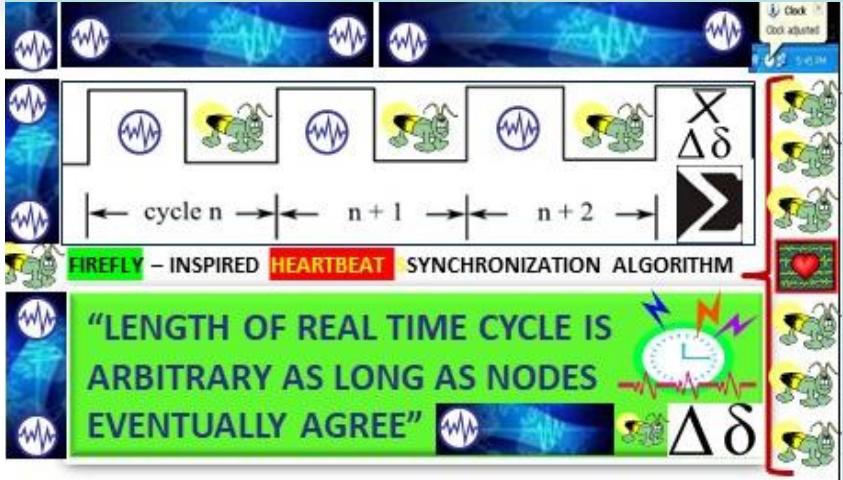
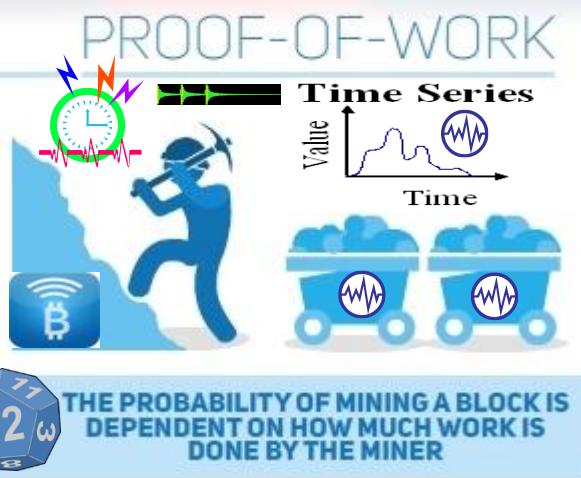
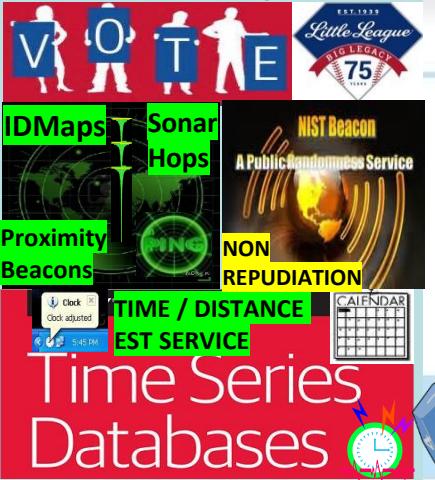


Adaptive
Procedural
Checklist

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 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

Federation
Gateway



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

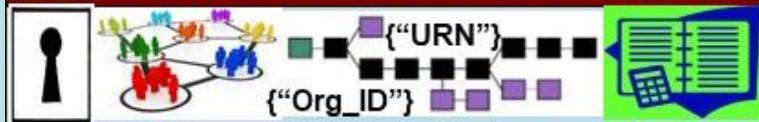
Net joins, drops, splits, merges, moves

Agile, adhoc NETOPS Vs acquisition preserves the CHANNEL

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



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

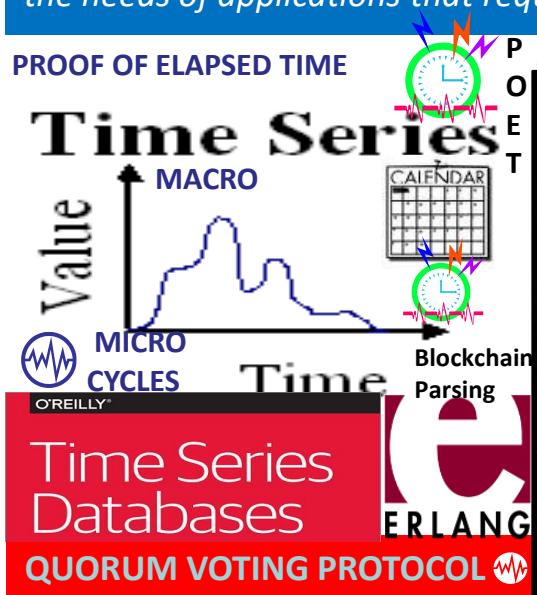
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SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

*“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

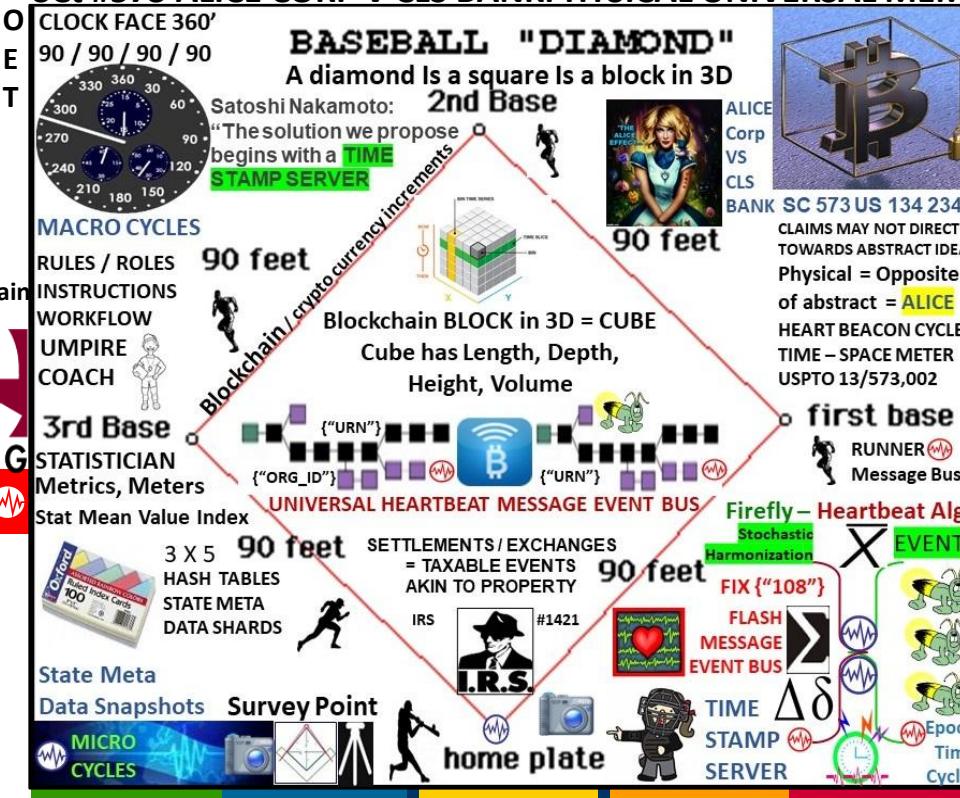
Voting based selection Instead of only using the stake size, the block generators can be selected by votes
ex: League MVP **MVP**



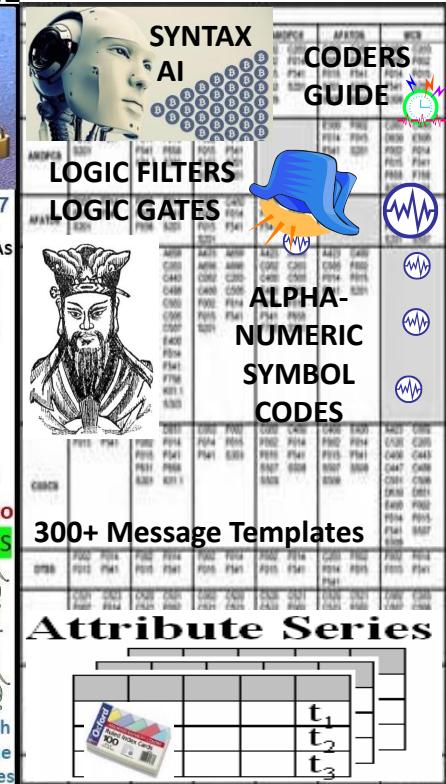
Robert's Rules quorum = minimum # of voting members who must be present at meetings to conduct business of the group

TOURNAMENT LEAGUE BOARD

P Sct #573 ALICE CORP V CLS BANKPHYSICAL UNIVERSAL MEM

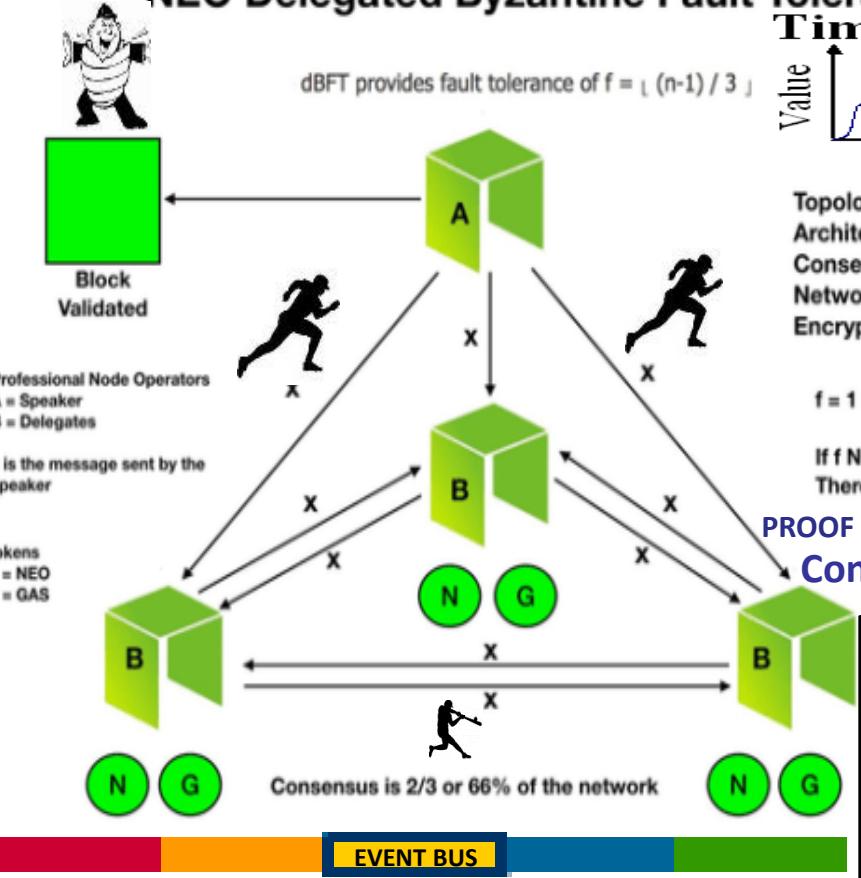


FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BU



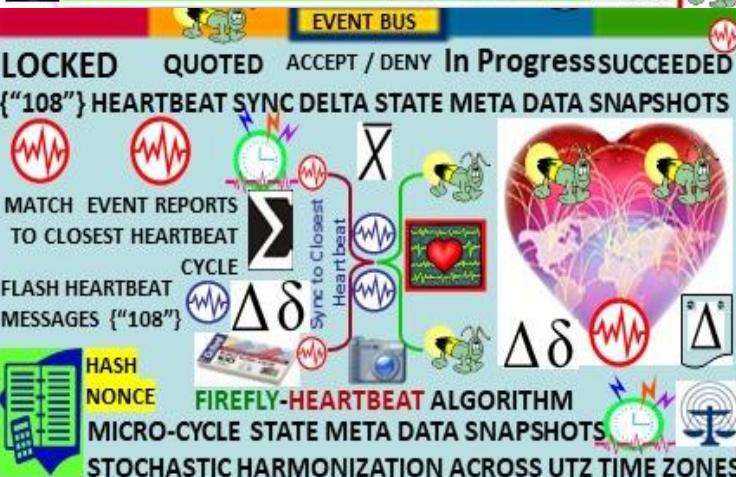
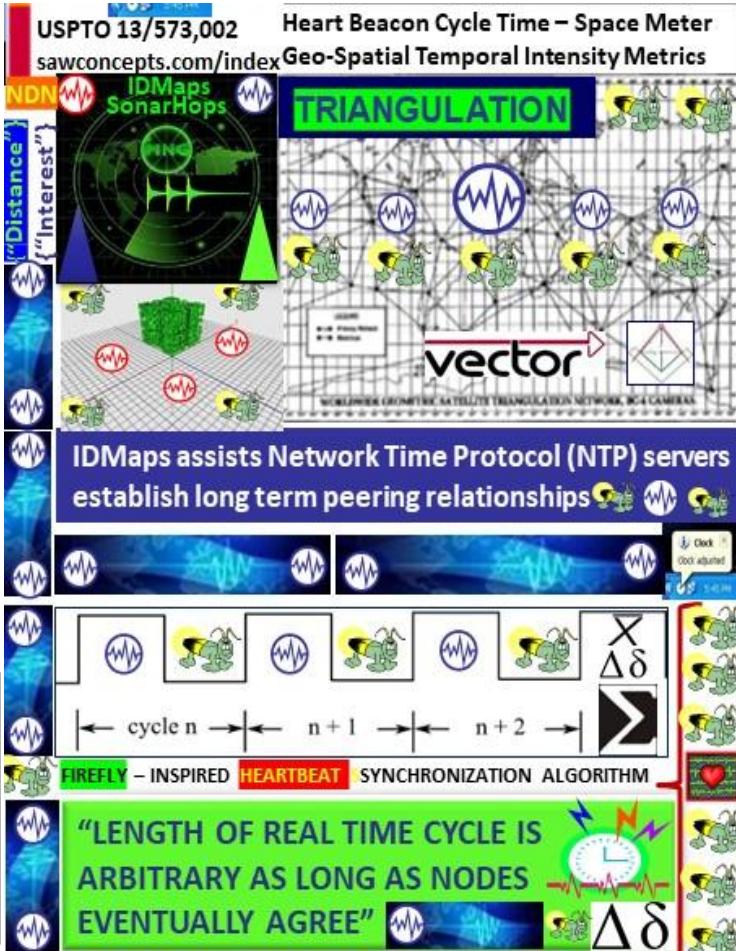
- S HASH TABLES / NONCE VALUES
- Capture ledger's state $\Delta\delta$
- Transaction language changes ledger state
- Consensus, transaction acceptance protocol

NEO Delegated Byzantine Fault Tolerance (dBFT)



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

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





Hashgraph consensus algorithm for replicated state machines

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

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

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



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

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

DAG finite directed graph
= no directed cycles

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

Consensus Order

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

Round created Witness

Famous witness Election

Vote See

Strongly see Supermajority

Decide

Round created Round received

Consensus timestamp Consensus order $\Delta\delta$

Synchronous



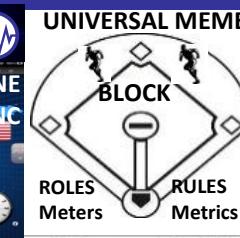
Asynchronous



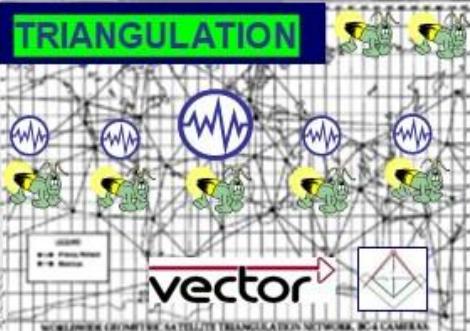
Micro-Cycle State Meta Data Snapshots

Hash Nonce

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

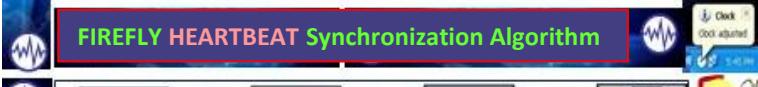


Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics



vector
WORLDWIDE LOW-EARTH ORBIT SATELLITE TRIANGULATION NETWORK, 364 CAMERAS

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



FIREFLY – INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM

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



Proof of Burn



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

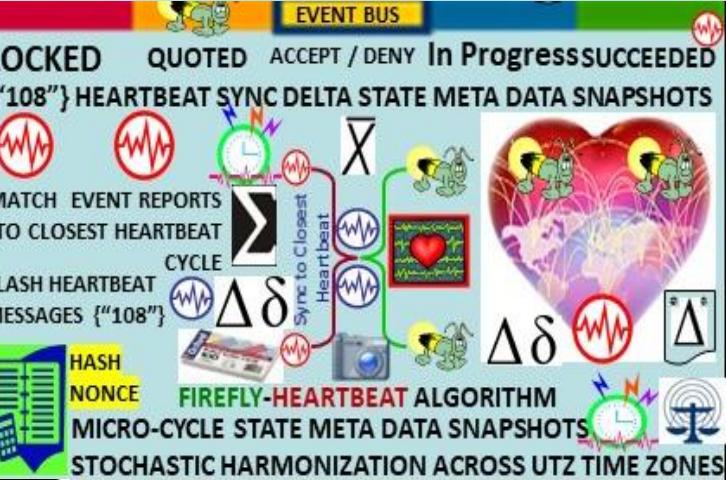
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describe the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining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

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



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

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



Heartbeat Event {"burn"} SLA = increase mining rig volume 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.

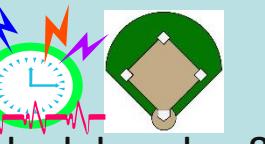
TAG	SLA/O	Token Award
{"Org_ID"} ActiveID	[UFO2_ACTIVEID]	</EVENT>
IF1_Heartbeat (IF-Node1)	[UFO2_HEARTBEAT:#]	</EVENT>
IF2_Heartbeat (IF-Node2)	[UFO2_HEARTBEAT:#]	</EVENT>
{"UUID"} IF1_DeviceStatus (IF-Node1)	[UFO2_DEVICESTAT:#]	</EVENT>
{"UUID"} IF2_DeviceStatus (IF-Node2)	[UFO2_DEVICESTAT:#]	</EVENT>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



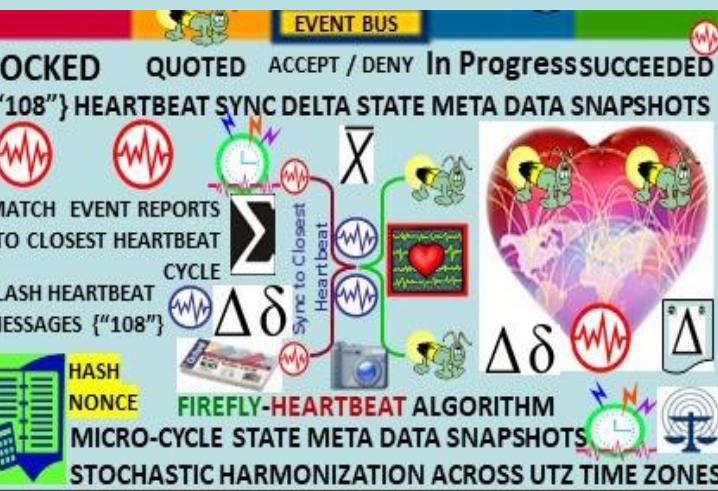
The larger the hard drive, the > possible solution values one can store on the hard drive, the more chances a miner has to match required hash value from his list, resulting in more chances to win the mining reward.



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.

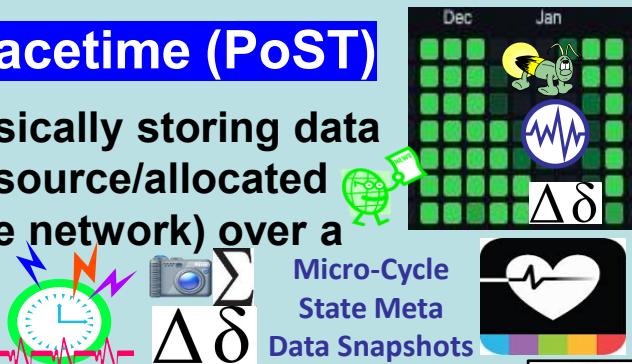


Bitcoin purchase akin to property



PoST Proof-of-Spacetime (PoST)

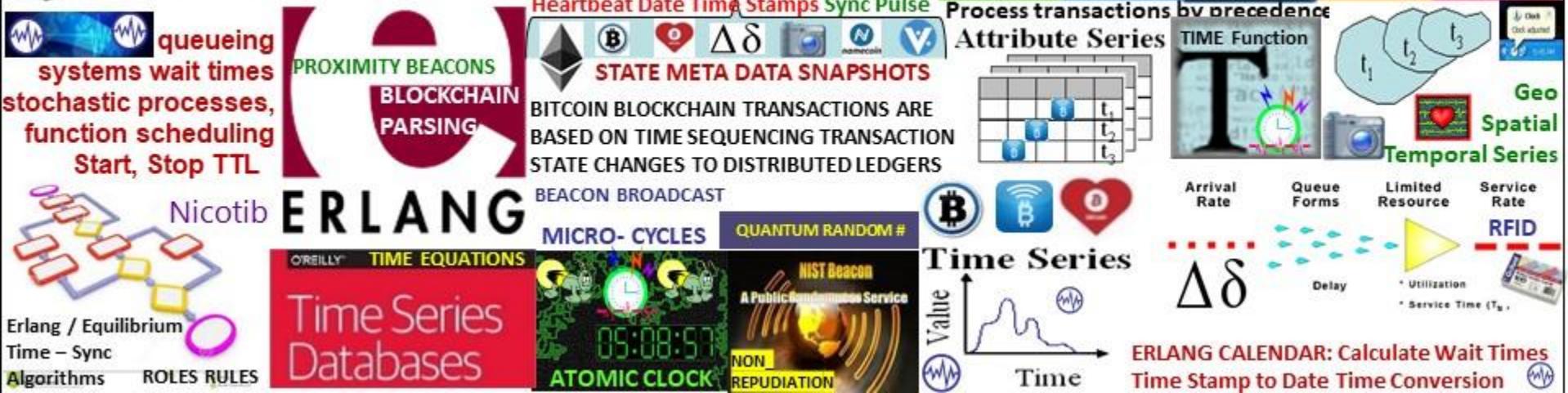
PoST shows that physically storing data (spent "spacetime" resource/allocated storage capacity to the network) over a certain period of time.



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



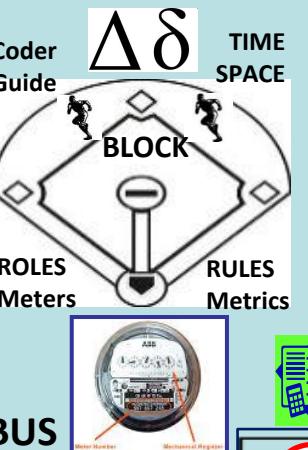
The proposed Universal Timezone System would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.



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



NDN

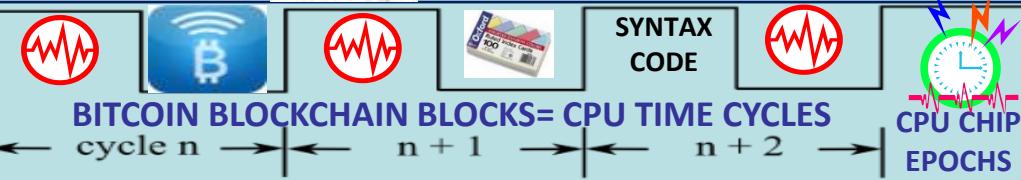
XBRIL / CDL / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS



SYNTAX
LEXICON LIBRARY

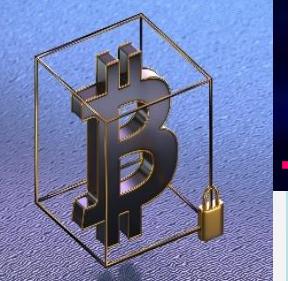
CPU CHIP
EPOCHS



long exponential
intervals (10 min)

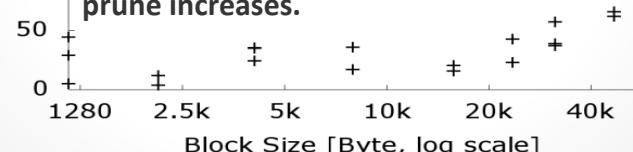


COMMAND SYNTAX
RESTFUL State Transfer



Subjective Time to Prune

Additional metrics used by researchers included "time to prune", or the time it takes for miners whether they are on the correct "branch" or version of the blockchain they are processing transactions. As block sizes increase, suggested time to prune increases.



short deterministic
intervals (10 sec)

MACRO – CYCLES



ATOMIC CLOCK
MICRO-CYCLES

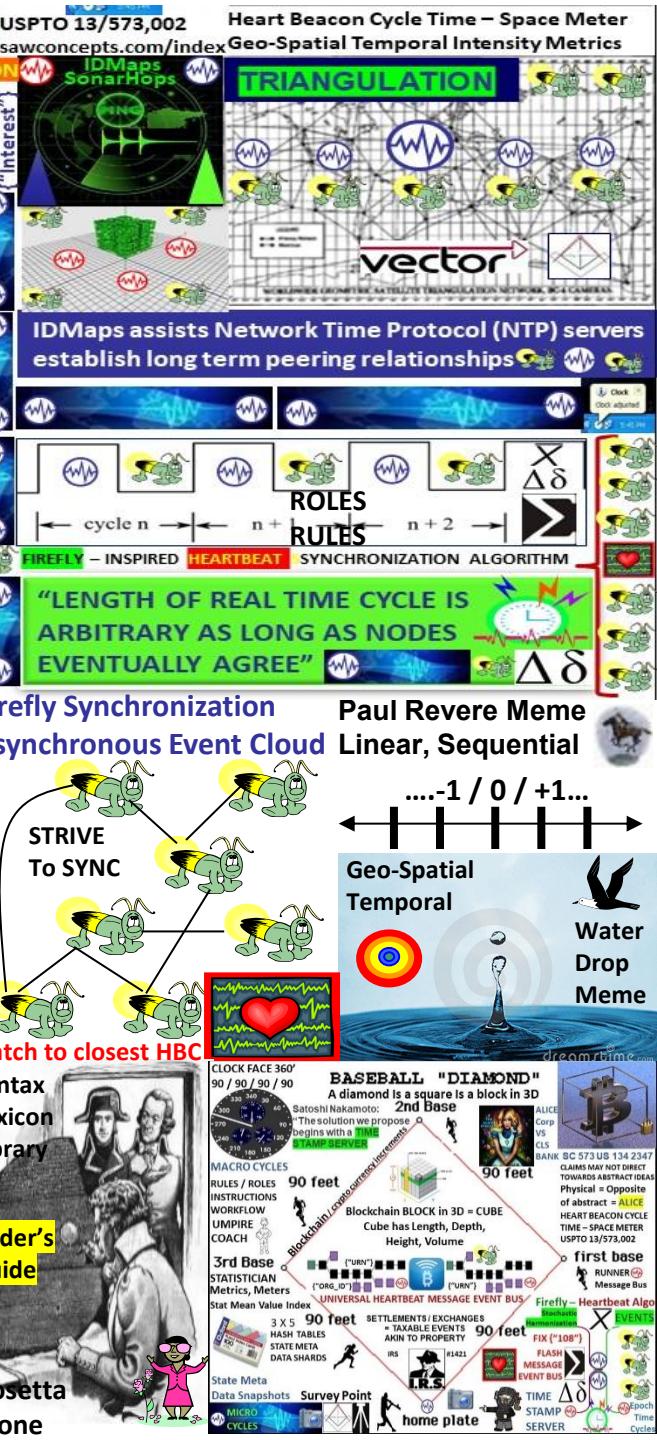
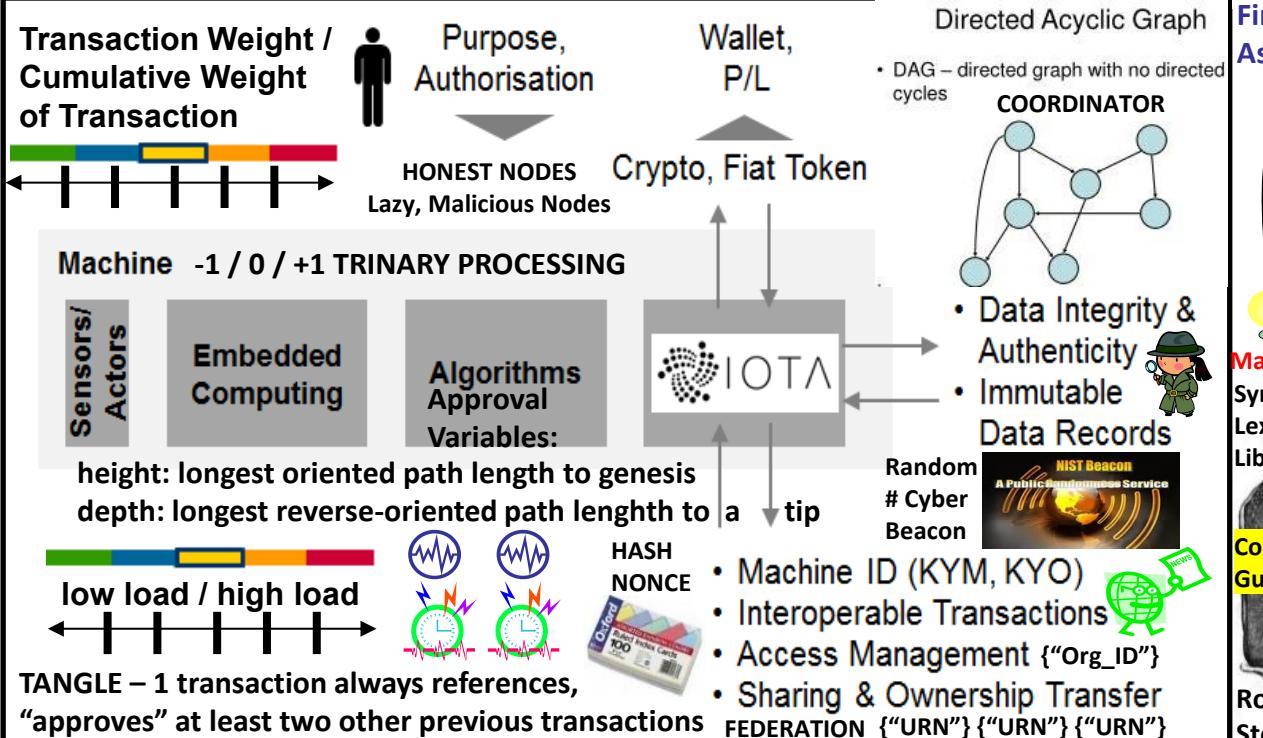


OTA: Internet Of Things IOT distributed ledger
with microtransactions without fees

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



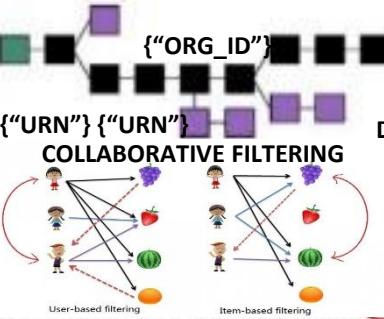


EGAAS

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



TEMPLATE ENGINE LANGUAGE ETF

ORIGINALLY
NAMED DATA NETWORKING, corrections

Time Series Databases

BLOCKCHAIN PARSING SYNCHRONIZATION



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**



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.



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

AZURE: Core/Kernel/Universal Protocol

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

Unspent Transaction Output protocols UTXO

Crypto Tokenized Assets Digital Bearer Bonds
unique identity for owned artifacts

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

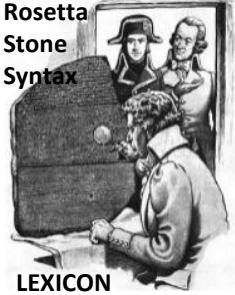
Blockchain middleware: identity and operations management, data, intelligence services like analytics and machine learning. New middleware works with existing Azure services, like Active Directory and Key Vault

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

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

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

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

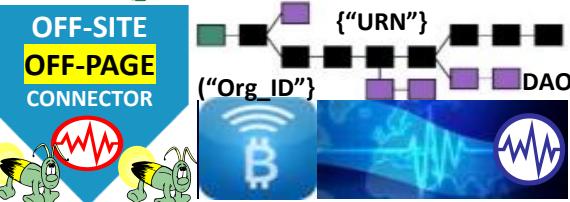
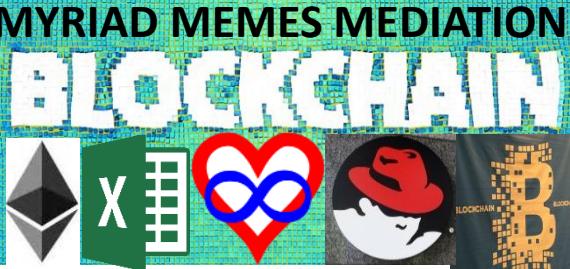
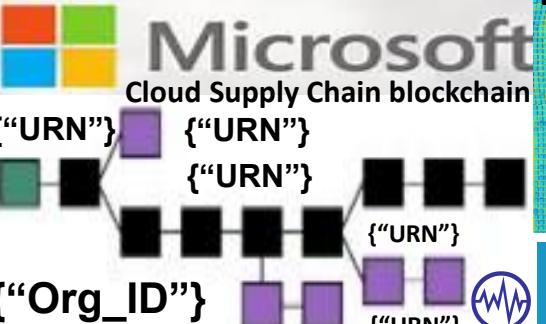


ALPHA NUMERIC	
BREVITY CODES	
SYMBOL CODES	
STRUCTURED	
MILITARY MESSAGE	
TEMPLATE FORMS	
LOGIC / FILTERS	

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



MULTI-MEME MULTI-METER



DFINITY

RANDOM # BEACON

NIST Beacon
A Public Randomness Service

QUANTUM RANDOM #

BLOCKCHAIN NERVOUS SYSTEM
HEARTBEAT {"108"} State Meta Data Snapshot Msgs

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

GROUP Signature is random number

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

HYPER GEOMETRIC PROBABILITY CALCULATOR

CONSENSUS / RANDOM BEACON

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

Each process has mining identity

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

HBC "ORG_ID" {"URN"} CLASS ASSET TYPE {"UUID"} DEVICE TYPE INDEX CARD="SHARD"

Threshold Relay Chain techniques

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

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

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

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

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

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

MACRO CYCLES

RULES / ROLES INSTRUCTIONS WORKFLOW UMPIRE COACH

90 feet

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

3rd Base

STATISTICIAN Metrics, Meters

Universal Heartbeat Message Event Bus

3 X 5 HASH TABLES STATE META DATA SHARDS

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY

IRS #1421

State Meta Data Snapshots Survey Point

MICRO CYCLES

home plate

Time Stamp Server

Fix {"108"}

Flash Message Event Bus

Time Stamp Server

UTZ TIME ZONE SYNC

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

first base

RUNNER Message Bus

Firefly – Heartbeat Algo EVENTS

Fix {"108"}

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles



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

ERLANG API FOR BLOCKCHAIN



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

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

CROSS – CHAIN ATOMIC SWAPS

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



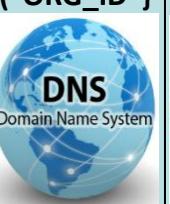
Aeons: energy for applications implemented on the platform.

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



("ORG_ID")
("ORG_ID")

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



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

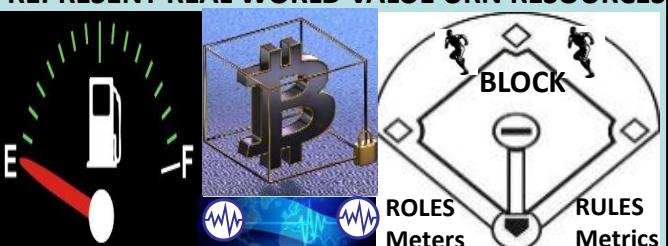
AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS



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

TOKENS REPRESENT REAL WORLD VALUE URN RESOURCES

ETHEREUM USES GAS GUAGE MEME INDICATING THRESHOLD MET / NOT MET



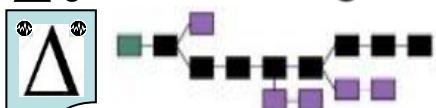
HBC's PRIMARY USE CASE IS TO ORGANIZE INDIVIDUALS IN TRADE FEDERATION GROUPS RE-USING BATTLEFIELD DIGITIZATION / ARIN Organizational Identifier Org_ID for Ecosphere friendly trade



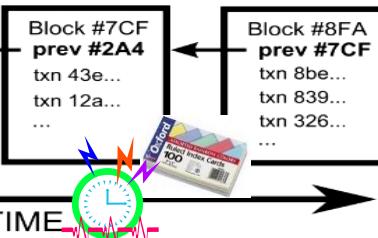
HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$ Shared Ledger



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



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

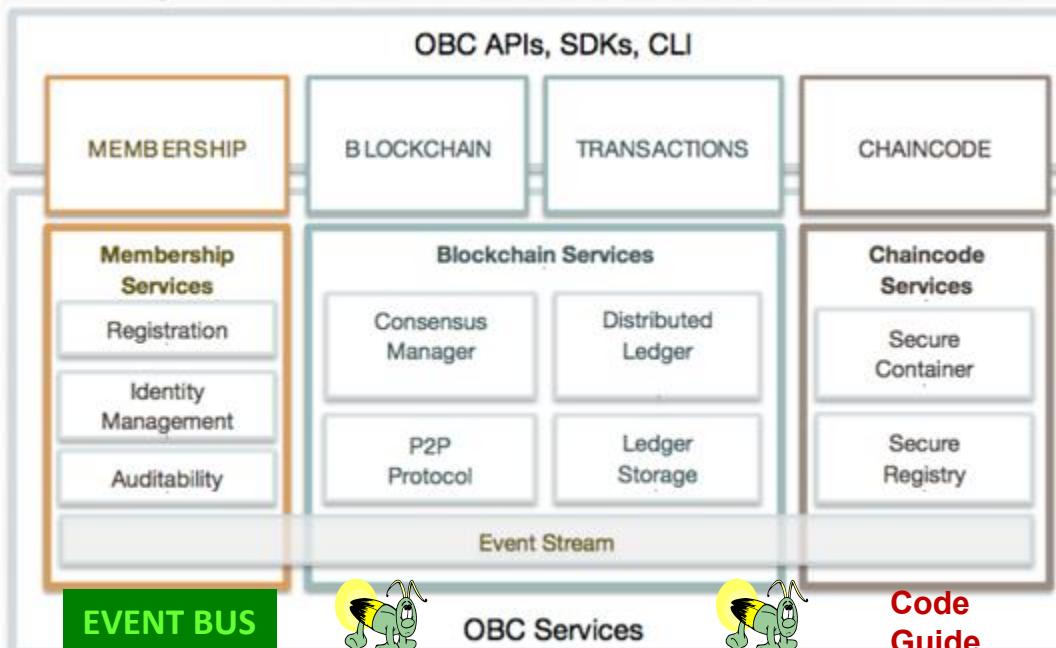
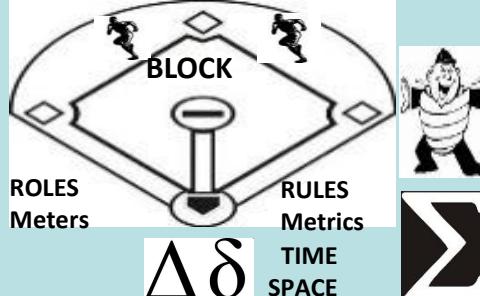
FEDERATION
Federation Gateway

METRICS ("Organization ID")
METERS

RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE



BLOCKTIME ARBITRAGE



ROSETTA STONE

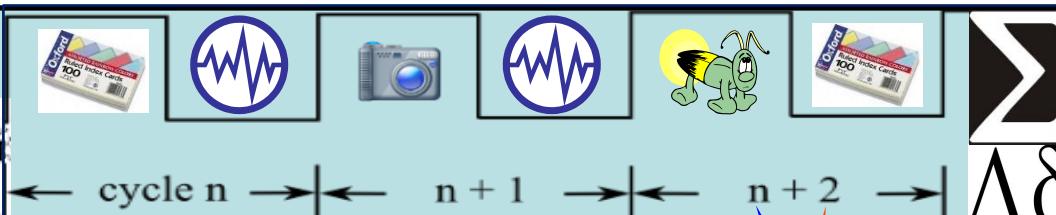
XBR / CDL / DAML
STOCK MIC CODES

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

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



MICRO-MACRO CYCLE SCHEDULE



FFIRNS
FFUDNS

DASH



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

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

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

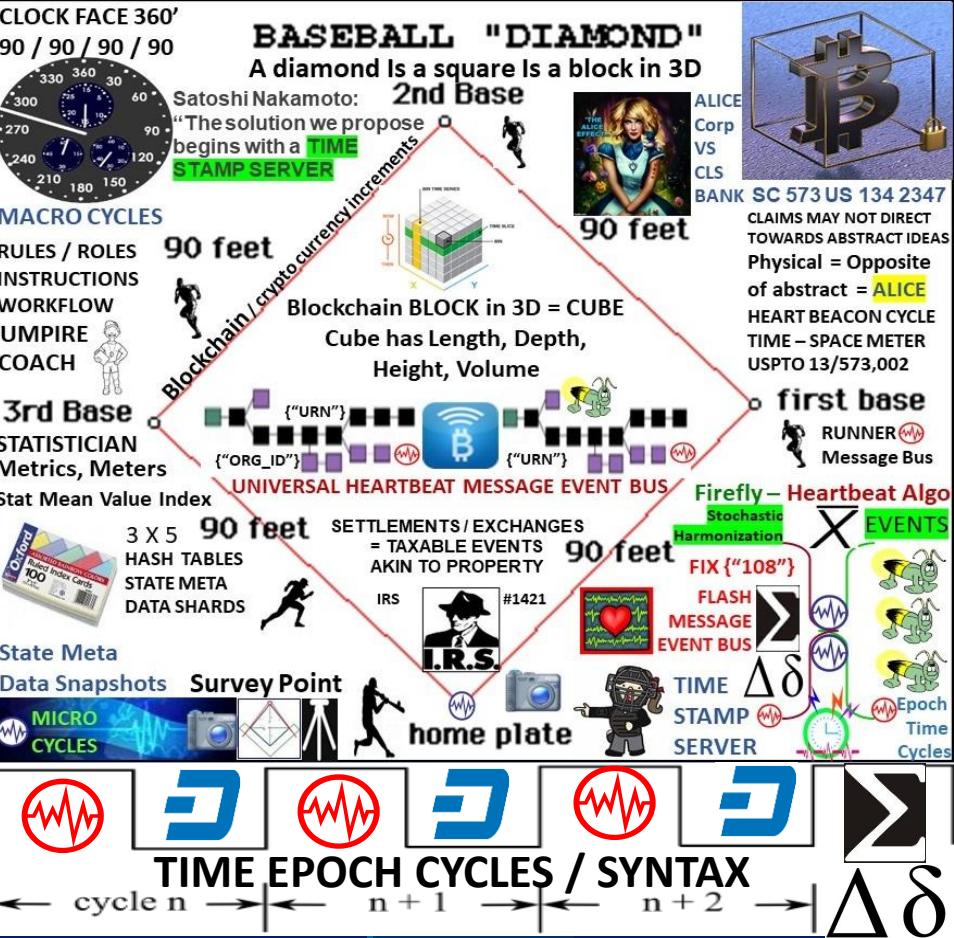
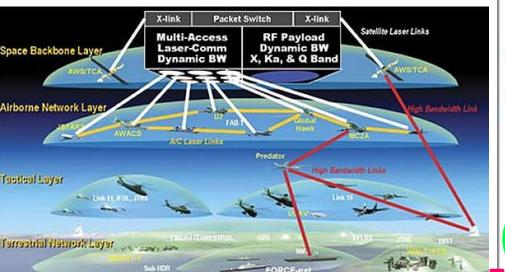
"all digital currency networks, the base layer of people generating the blockchain — "miners," "stakers," "witnesses," "validators," or "forgers" — all get paid to do so" "consensus," or an agreement upon what the rules should be; and second, the execution of said rules.

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

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

DAO: RAND THINK TANK TERM COINED + / - 2001

NETWORK CENTRIC WARFARE
Developing and Leveraging Information Superiority



STOCHASTIC HARMONIZATION FIREFLY-HEARTBEAT EVENT BUS

HEART BEACON CYCLE = IMPROVEMENT TO NETWORK CENTRIC WARFARE



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



STATE: stored data at a given instant in time

STATE CHANNELS: blockchain interactions

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



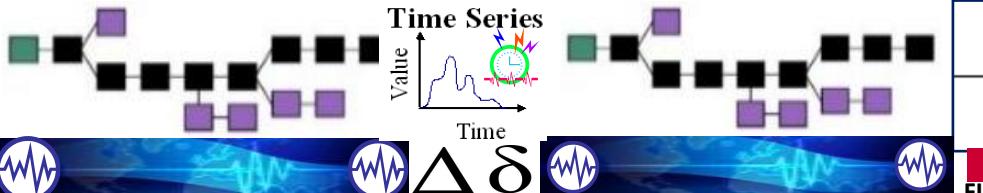
1. Part of the blockchain state is locked via multisignature or smart contract convention, so that a specific set of participants must completely agree with each other to update it.



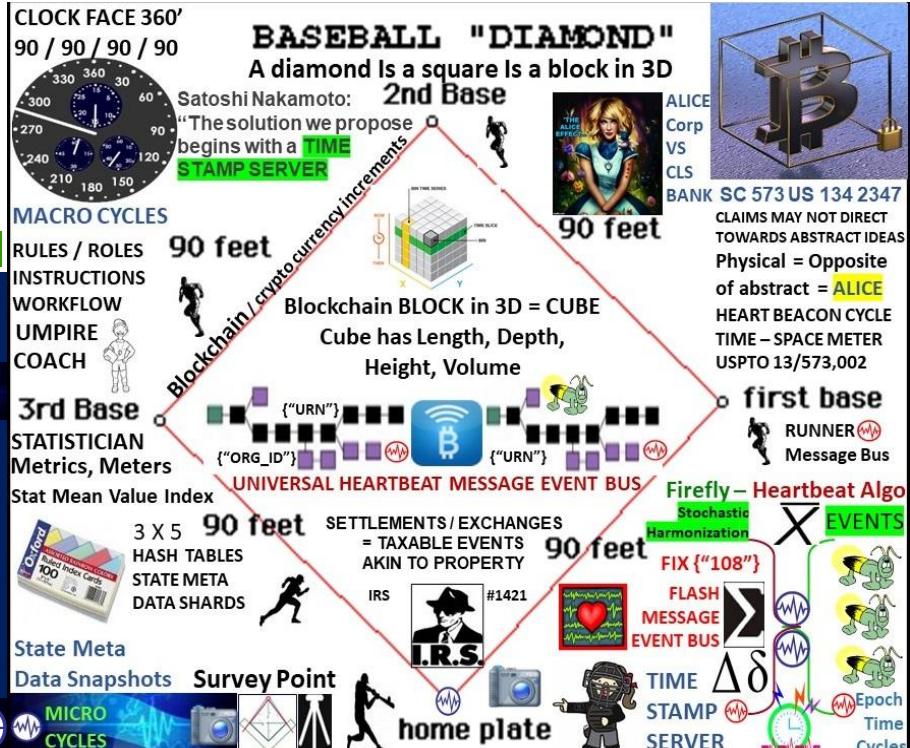
2. Participants update the state amongst themselves by constructing and signing transactions that could be submitted to the blockchain, but instead are made available for a new update "trumps" previous updates.



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



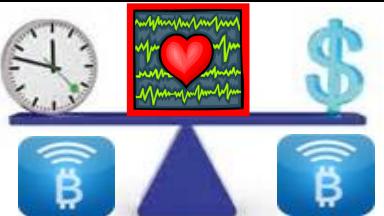
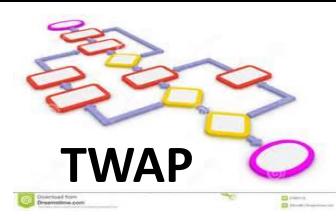
NEW UPDATES OVERWRITE THE PREVIOUS: simplest way is to have any unlocking attempt start a timer, during which any *newer* update can replace the old update (restarting the timer). When the timer completes, the channel is closed and the state adjusted to reflect the last update received. The length of 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.



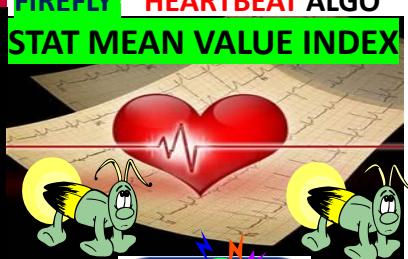
TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

A composite icon featuring three elements: a green clock face with black hands, a red lightning bolt striking across the center, and a white Bitcoin symbol on a blue background.

TWAP GOAL: provide a Time Weighted Average Price Benchmark



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** 

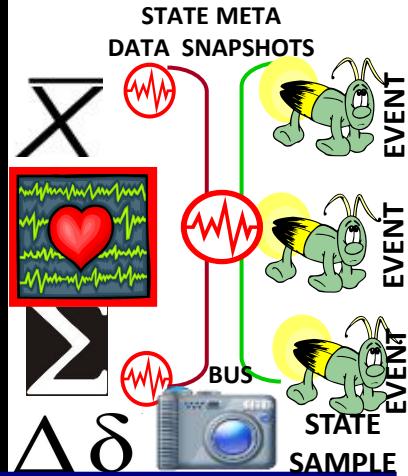


The algorithm trades over a desired time, either 1, 6, 12 or 24 hours and will give you a TWAP over that time period. For example, set the TWAP algorithm to sell 12 bitcoins over 12 hours, the algorithm will sell throughout the period, aiming to get a 12-hour TWAP



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..

Autonomous Device Coordination Framework



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

FEDERATION
AGREEMENTS
PROCEDURAL
TEMPLATE

FEDERATION

<UUID><ORG_ID><URN>

LDAP DIRECTORY

Physical proximity

Social proximity

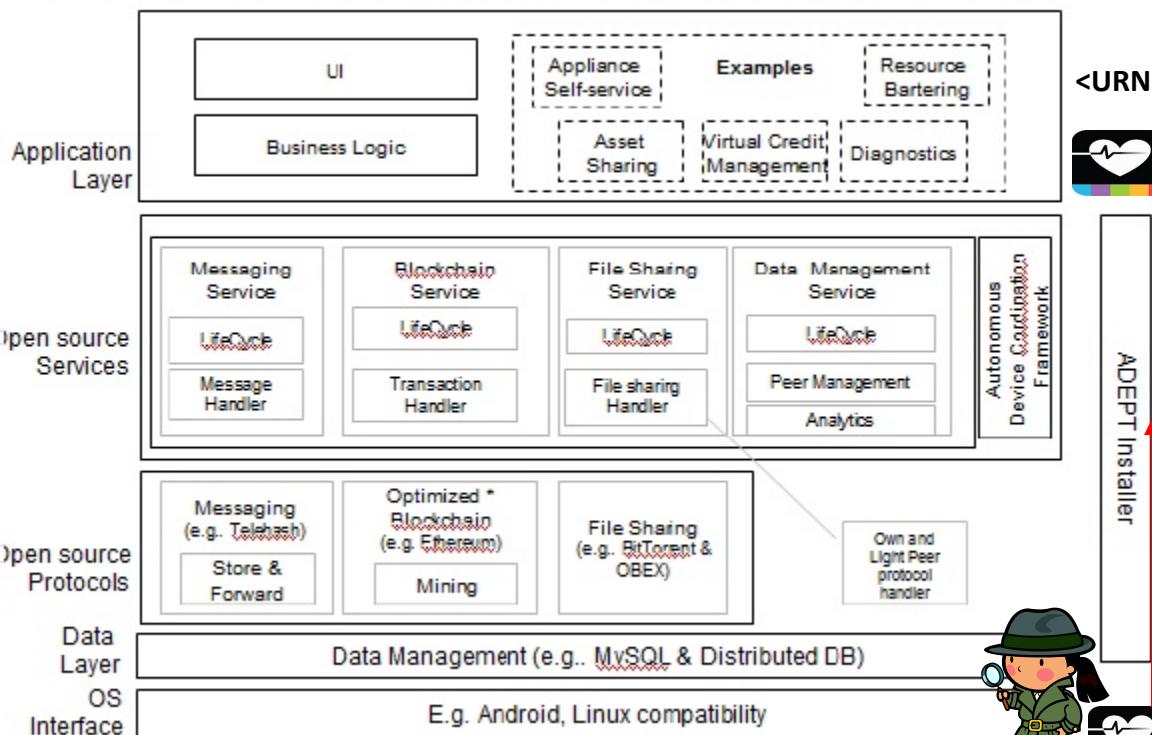
Temporal proximity

Agreements

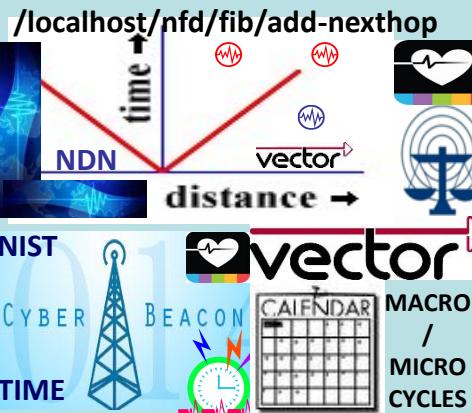
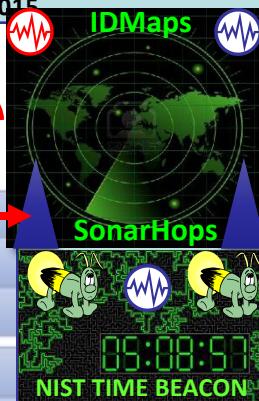
Payments

Barter

ADEPT Standard Peer Architecture – Logical View



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

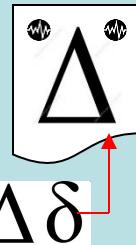


PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS
<URN> DESCRIBES COMMODITIES ETC BY UNIFORM RESOURCE NAME BY </INTEREST>>



ASSET SHARING WITHIN FEDERATION

BUSINESS LOGIC = WORKFLOW <XML_Wf>



OPEN SOURCE = HBC = PROTOCOL AGNOSTIC

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



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

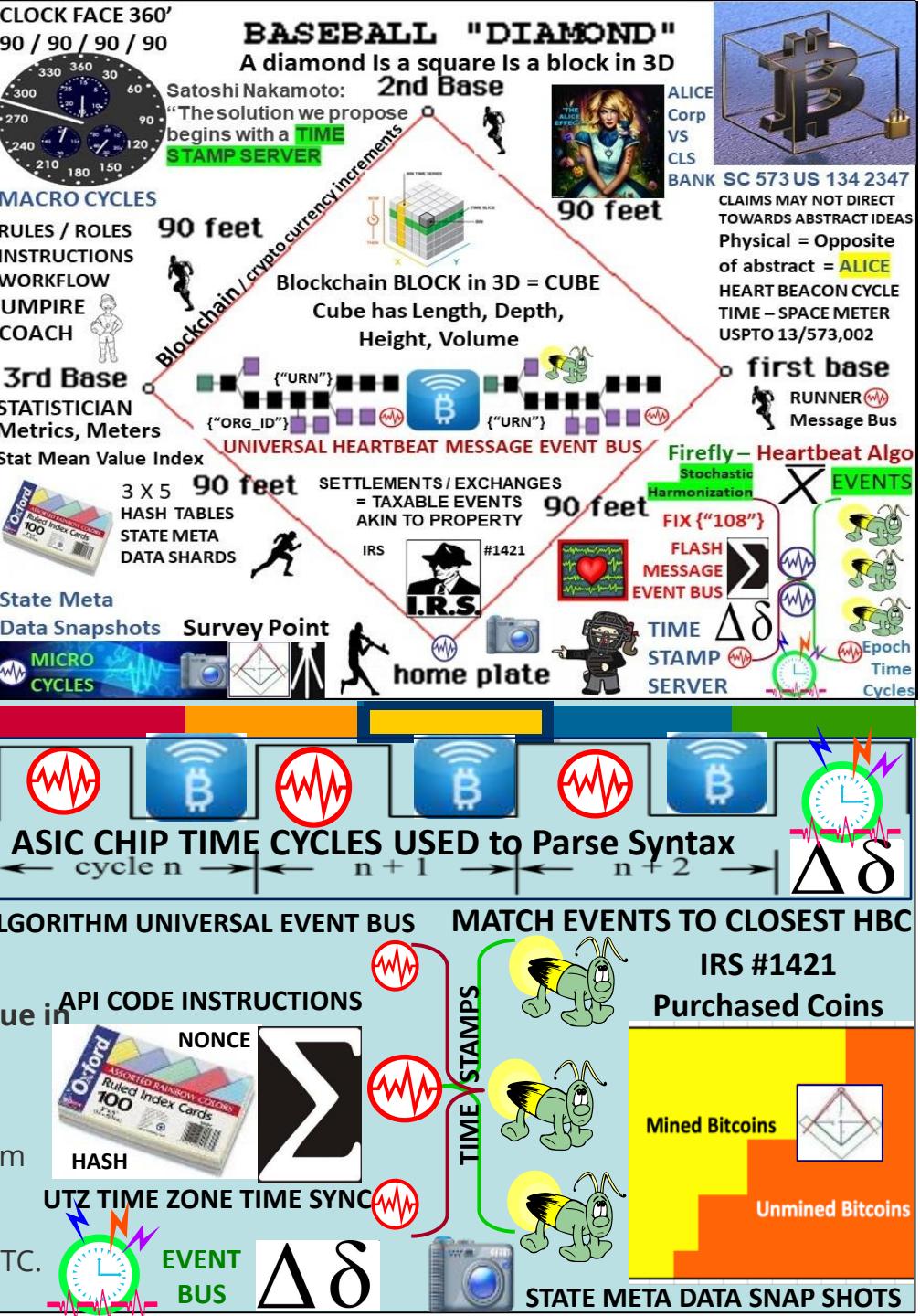
Transaction ID, Block ID, time-stamp, BWAP per block, Value in USD. BTC per transaction, bitcoin transaction fees per transaction.

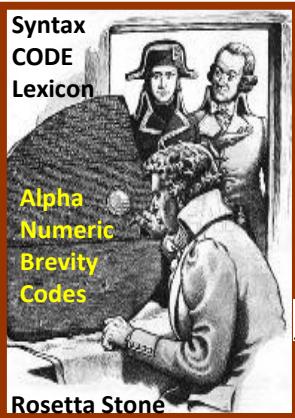
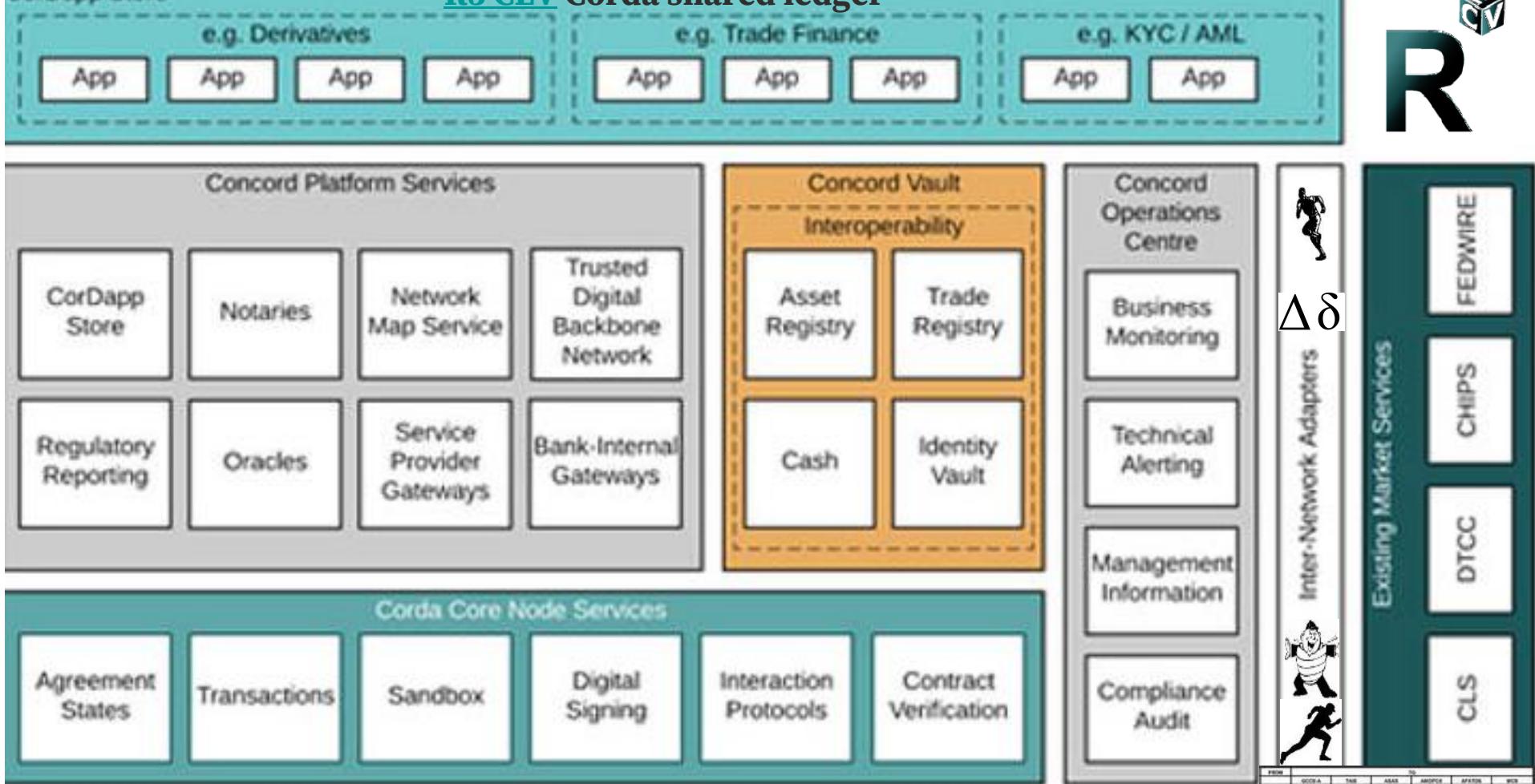
"Blocks are a measure of time":

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

11.8 - Kinematics	
11.8.1 - Acceleration	
11.8.2 - Angular	
11.8.3 - Linear	
11.8.4 - Estimated	
11.8.5 - Predicted	
11.8.6 - Smoothed Data	
11.8.7 - Position	
11.8.8 - Bearing Angle	
11.8.9 - Horizontal	
11.8.10 - Vertical	
11.8.11 - Bearing Angle	
11.8.12 - Covariance Rate	

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



XBRIL / CDE / DAML STOCK MIC CODES
STRUCTURED MILITARY MESSAGE
TEMPLATE FORMS LOGIC / FILTERS
300+ Use Case Templates

Federation Gateway

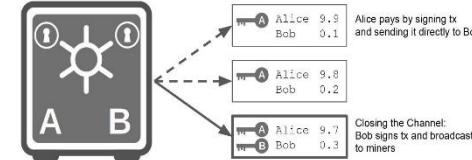


PROJECT LIGHTING

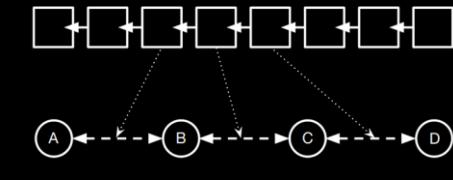
transactions sent over / off chain micropayment channels

Micropayment Channels

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



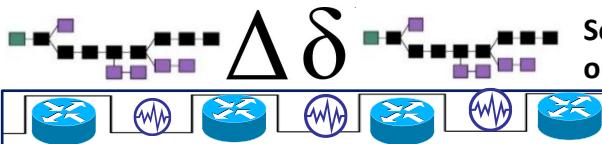
LIGHTNING



Millions of Transactions. Milliseconds of Delay.

Hashed TIME LOCK contracts component for global consensus

OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/ Random # BEACON



Payment channels multi-hop hub spoke model like internet routing

FIREFLY – HEARTBEAT ALGORITHM



FIREFLY – HEARTBEAT

CLOCK FACE 360°
90 / 90 / 90 / 90



MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW



3rd Base

STATISTICIAN
Metrics, Meters

Stat Mean Value Index



3 X 5 HASH TABLES
STATE META
DATA SHARDS

State Meta

Data Snapshots

Survey Point

MICRO CYCLES

home plate

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Sync Delta

State Meta

Data Snaps

Server nodes, miners
only keep recent blocks

X EVENTS

FIX {"108"}

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Sync Delta

State Meta

Data Snaps

ADJACENT FIELDS

SEPARATE CHANNELS



MESSAGE EVENT BUS



MESSAGE EVENT BUS

EVENT REPORTING ACROSS TIME-SPACE

ALICE CORP VS CLS BANK SC 573 US 134 2347 CLAIMS MAY NOT DIRECT TOWARDS ABSTRACT IDEAS

Physical = Opposite of abstract = ALICE

HEART BEACON CYCLE

TIME – SPACE METER

USPTO 13/573,002

first base RUNNER Message Bus

home plate

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

Fix {"108"}

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Sync Delta

State Meta

Data Snaps

ADJACENT FIELDS

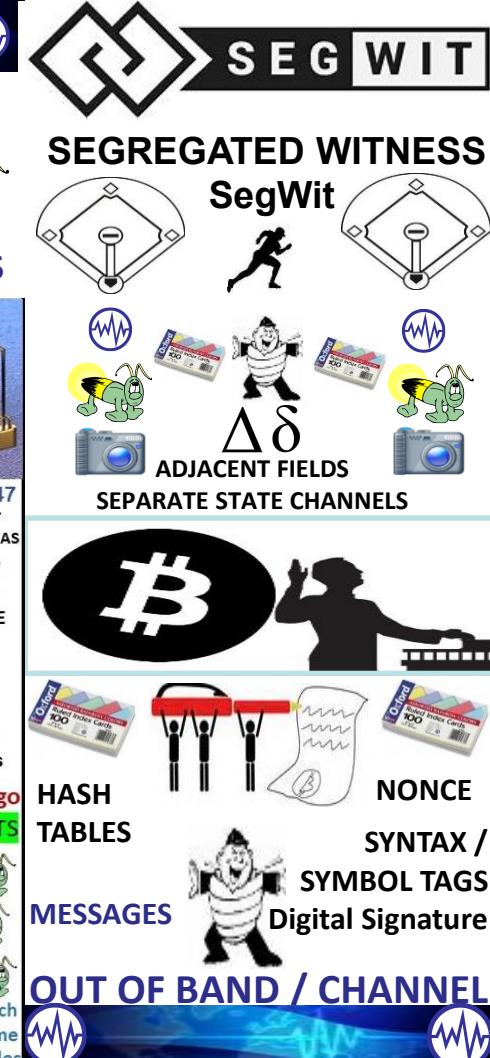
SEPARATE CHANNELS

NONCE

SYNTAX / SYMBOL TAGS

Digital Signature

OUT OF BAND / CHANNEL



Segregated witness = Separated signatures

- signatures are cryptographic proofs also known as witnesses

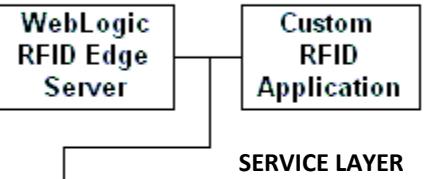
- moving signatures out of transactions
- keeping a separate repository of the signatures
- making them optional in propagation and storage
- signature are the biggest part of transactions
- can be implemented as a soft-fork vs a hard-fork

Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data



EPCIS DATA MODEL



SERVICE LAYER

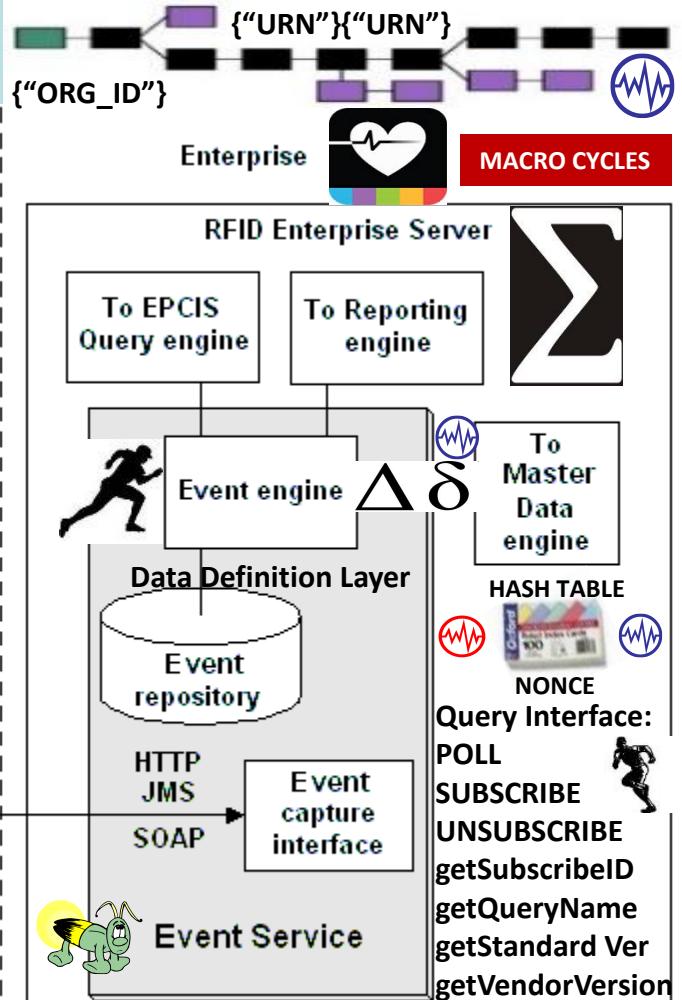
XML

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



CLOSER IS CHEAPER
CLOSER IS FASTER



MICRO CYCLES



NETOPS SOP

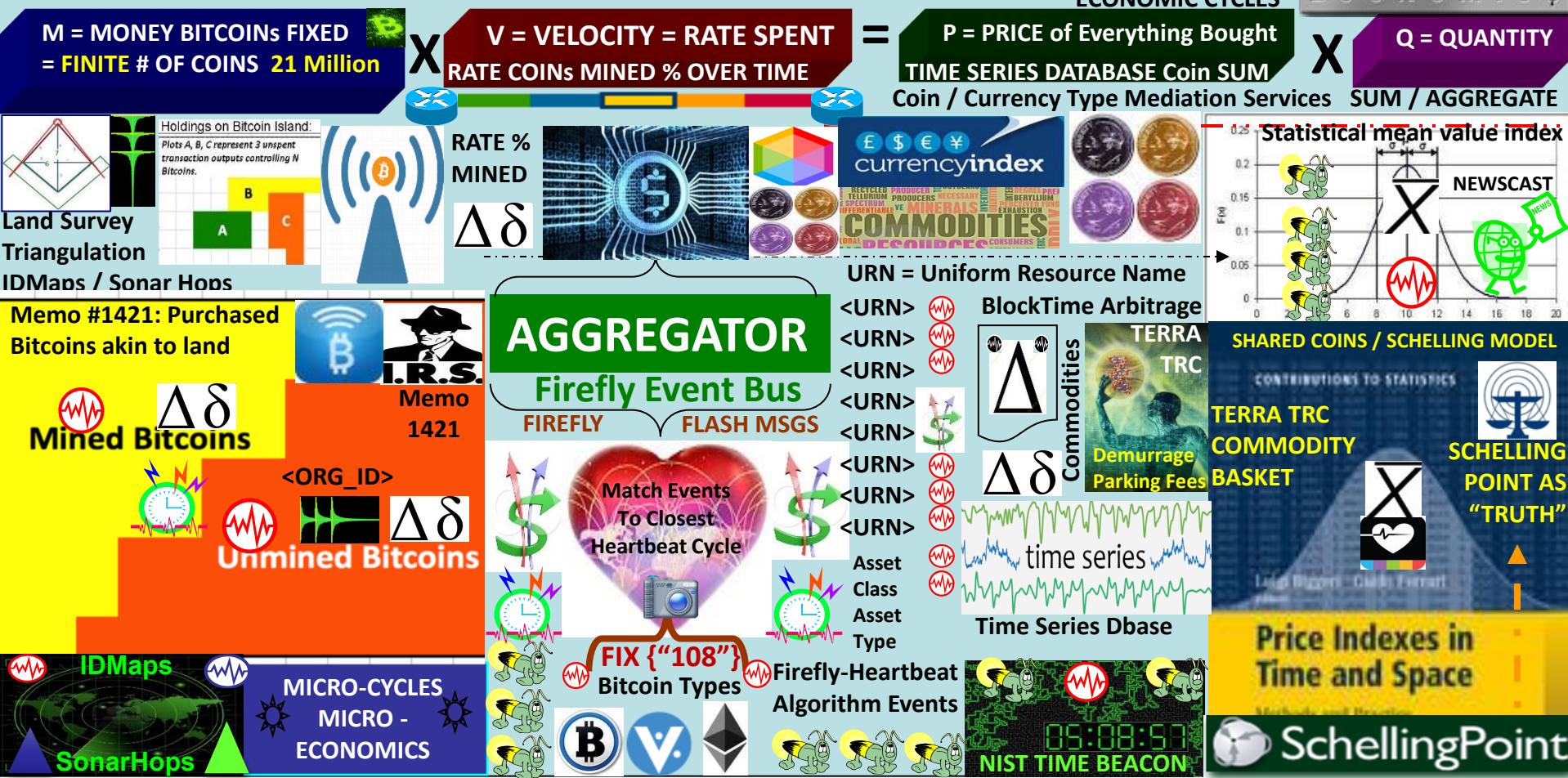


ROSETTA STONE

How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

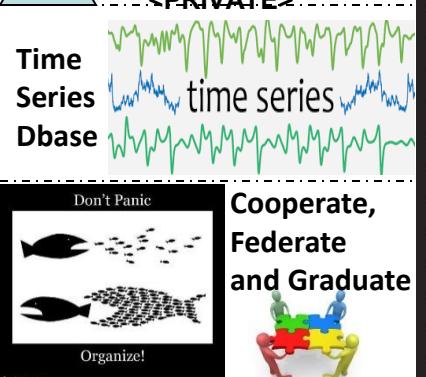
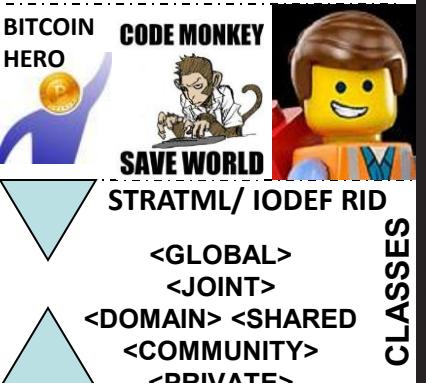
$$MV=PQ \text{ Money} \times \text{Velocity} = \text{Price} \times \text{Quantity}$$

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



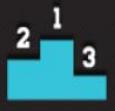
BADGES

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



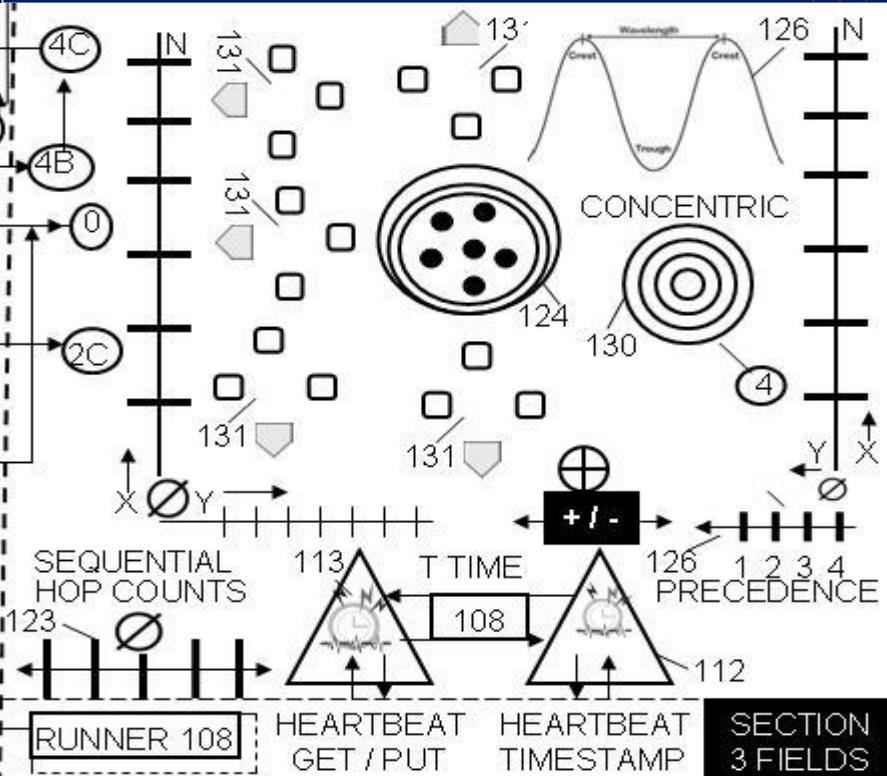
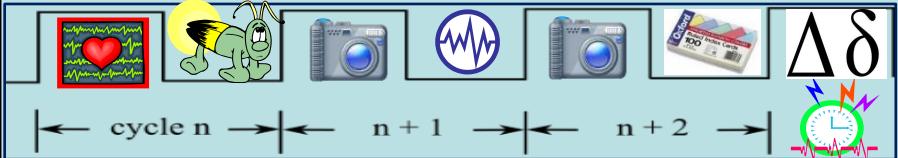
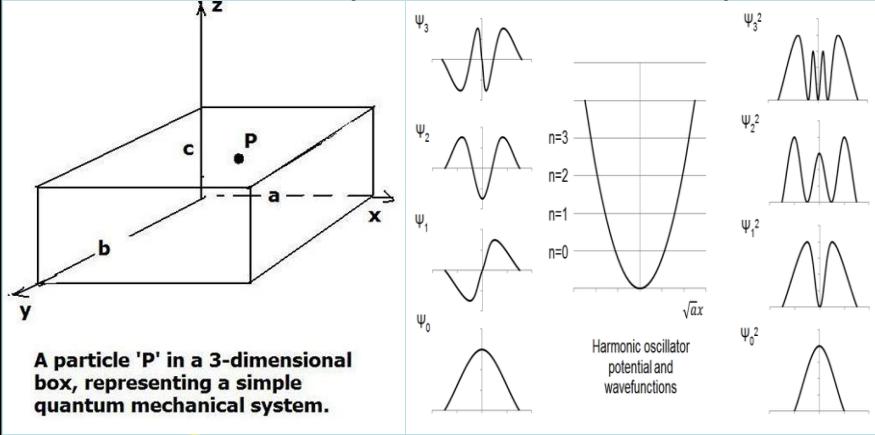
A COMPELLING NARRATIVE



CHALLENGING BUT ACHIEVABLE TASKS



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

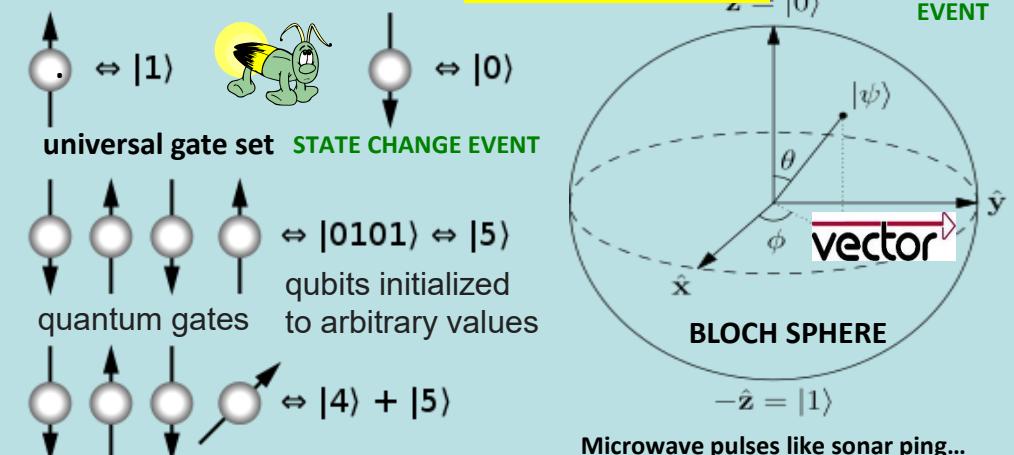
Vertical polarization vectors from a known point 0 null Sonar Hop meme



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?

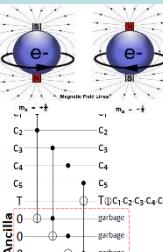


qubits can be in a superposition of all the classically allowed states

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)

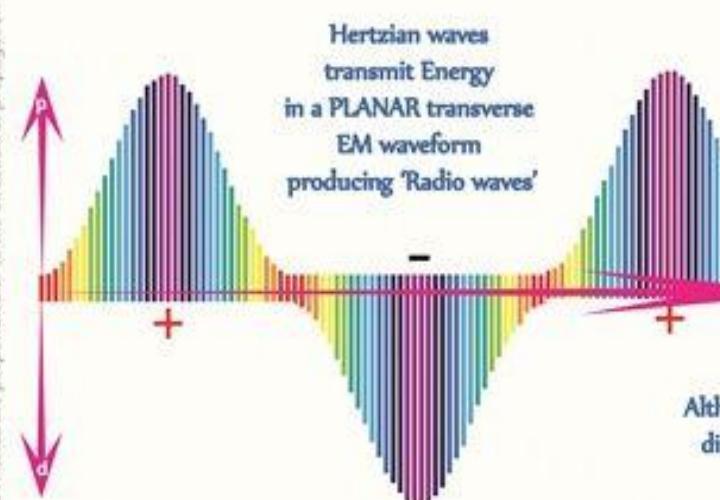


CLOSER = < Infrastructure
= CHEAPER SLA

ElectroMagnetic waveforms



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



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

f



(22 February 1857 - January 1 1894)

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

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



"EVERYWHERE IS ENERGY SPINNING"

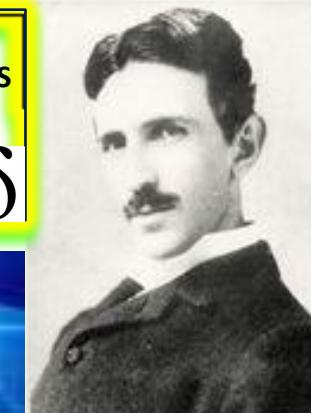


"As in nature, all is ebb and tide, all is wave motion,
so that in all branches of industry, alternating
currents, electric wave motion will have sway." N.
Tesla

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.

Tesla

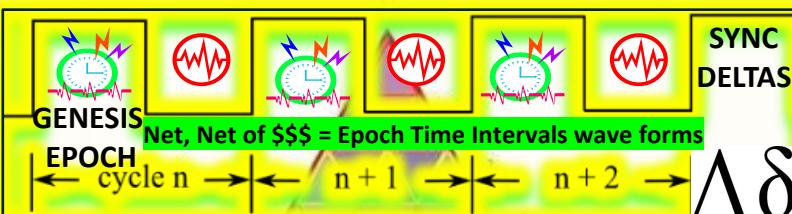
Nikola Tesla



(10 July 1856 – 7 January 1943)

V

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



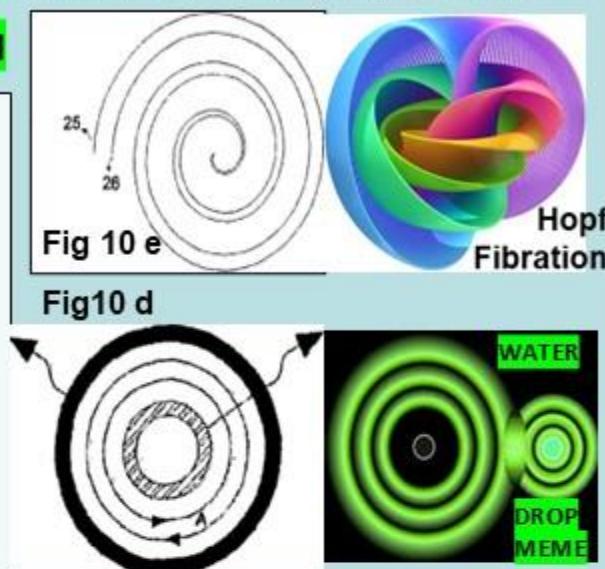
Cycles per Second

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

ENERGY PRODUCTION

ABSTRACT: A propulsion system for aerial, terrestrial, underwater or space propulsion, through manipulation (or engineering) of the vacuum with proper electromagnetic interactions. Vacuum manipulation.. new form of propulsion, and has applications in energy production and on change of time decay of radioactive elements. Opposing magnetic or electric fields create a mass repelling force, while attracting magnetic or electric fields create a mass attracting force. This vacuum manipulation process.. used to propel a mass that contains field sources that perturb the vacuum.. the creation of a repulsion point in space through the interference of two or more longitudinal electro dynamic (micro) waves



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

Phase 2: Shared file stores data for 5 tags:

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



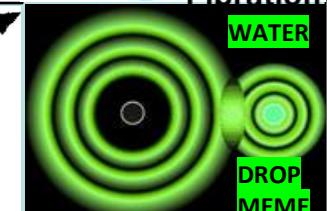
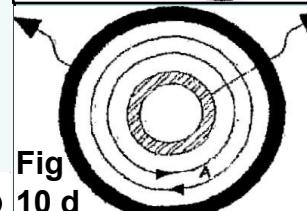
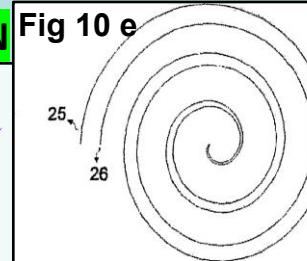
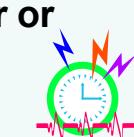
Paul Revere = Linear, Sequential meme





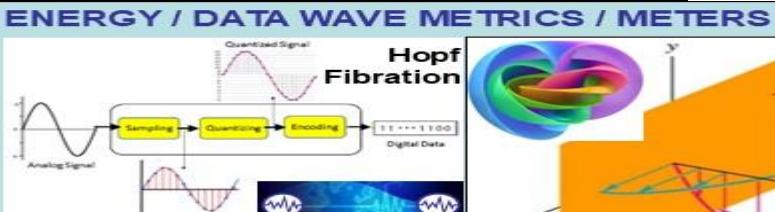
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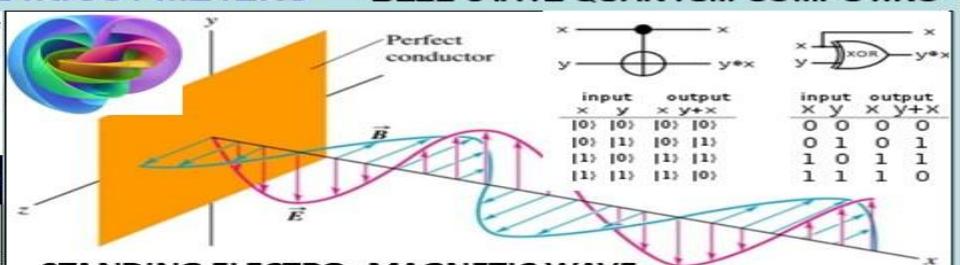


THESIS: All things net, net of programmable \$\$\$ are formed using:

- 1) Time epochs created by quartz crystal silicon chips
- 2) Syntax used / not used as programming instructions during epoch time cycles

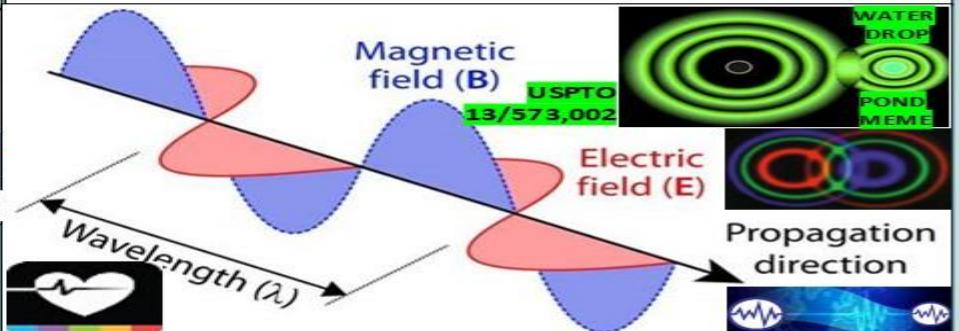
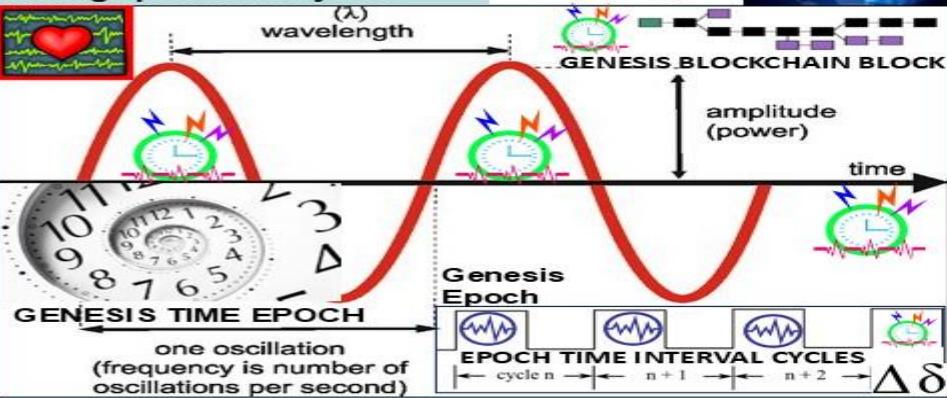


BELL STATE QUANTUM COMPUTING



STANDING ELECTRO- MAGNETIC WAVE

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



"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

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





TESLA Harmonic Sphere Flux Resonator

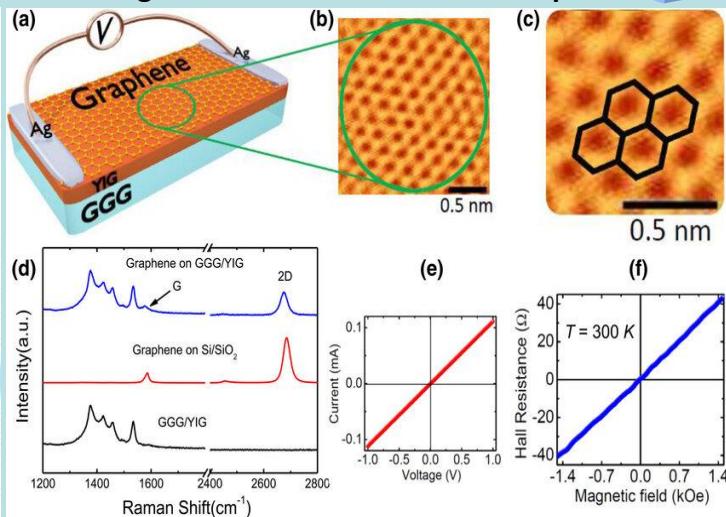
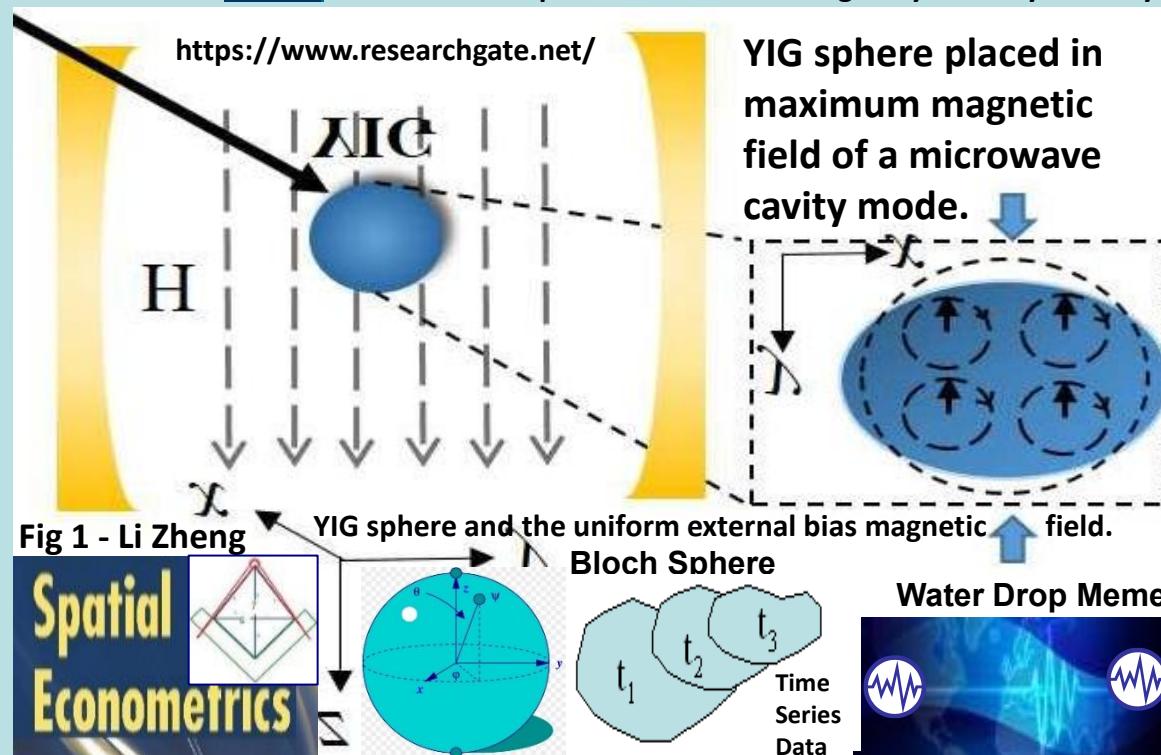
ENERGY / DATA

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

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

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

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



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.

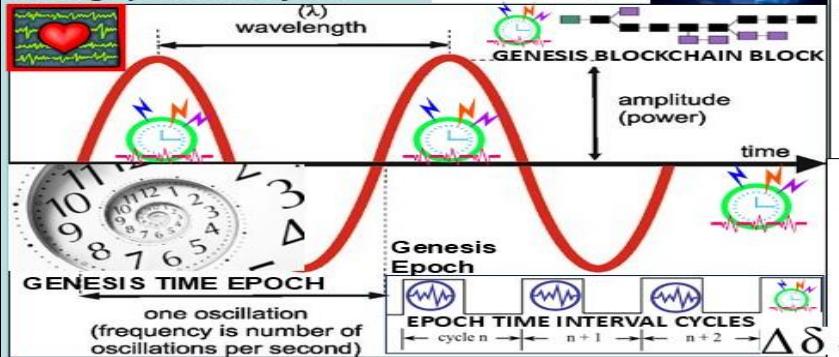
IEEE 802.1AG HOP BY HOP DETECTION
IEEE 802.11 HbH HOP BY HOP CONTROL

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]



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

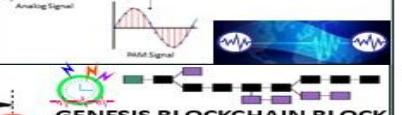
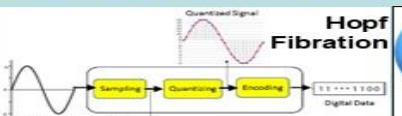
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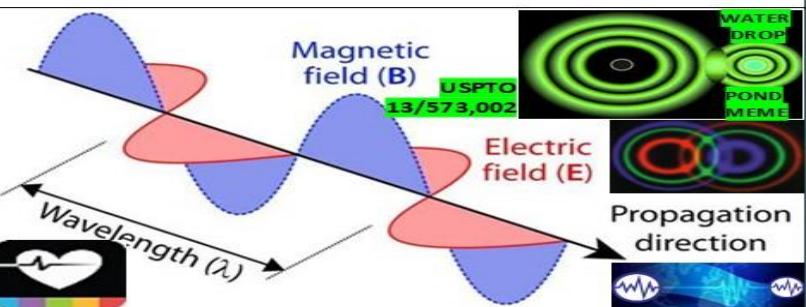
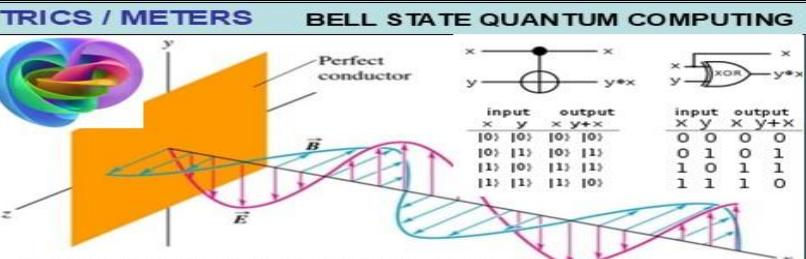
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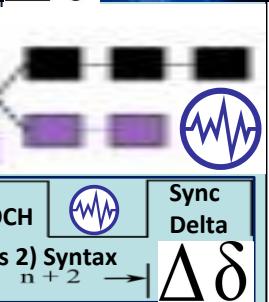
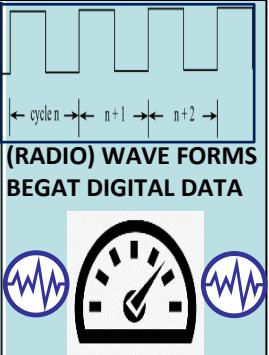
ENERGY / DATA WAVE METRICS / METERS



GENESIS BLOCKCHAIN BLOCK



"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



EPOCH EPOCH EPOCH Sync Delta

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

$\Delta\delta$

cycle n n+1 n+2 →

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EPOCH EPOCH EPOCH Sync Delta

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

$\Delta\delta$

cycle n n+1 n+2 →

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EPOCH EPOCH EPOCH Sync Delta

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

$\Delta\delta$

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Fisher information flux flows are generated and stored in wave packets as they propagate. This temporal aspect is crucial for understanding how information builds up in a system over time

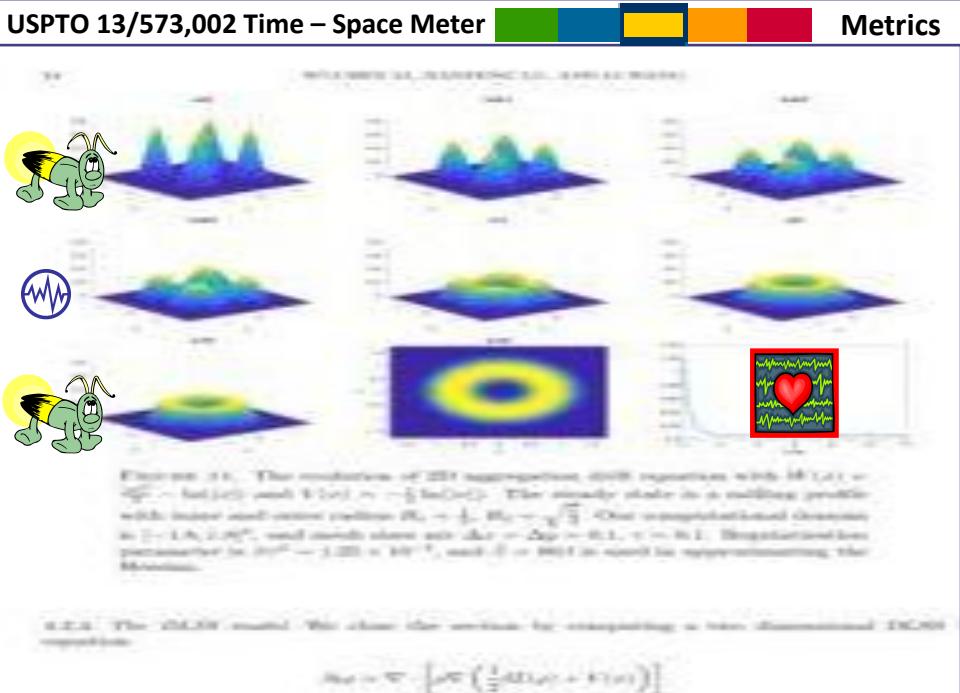


The Variance of...

the partial derivative w.r.t. ϑ of...

the log-likelihood
function of θ
given observed
value of X

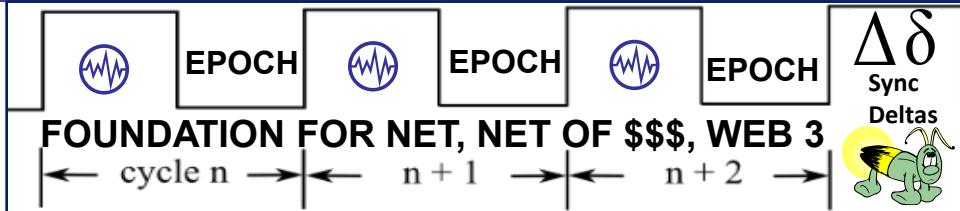
$$\Delta\delta = \mathcal{I}(\boldsymbol{\theta}) = Var\left(\frac{\partial}{\partial\boldsymbol{\theta}}\ell(\boldsymbol{\theta} | \mathbf{X})\right)$$



Continuity equation for flow of Fisher information in wave scattering: Nature / ISF International Space Federation



An electromagnetic wave scattered at an object carries locally defined and conserved information about all of the object's constitutive parameters. Specifically, we introduce the density and flux of Fisher information for general types of wave fields and identify the corresponding sources and sinks of information through a fundamental continuity equation. Our theoretical predictions involve a movable object embedded in a disordered environment by measuring the corresponding **Fisher information flux** at microwave frequencies. Our results improve the understanding of the generation, propagation of information supports tracking and designing the flow of information in complex system of systems environments.



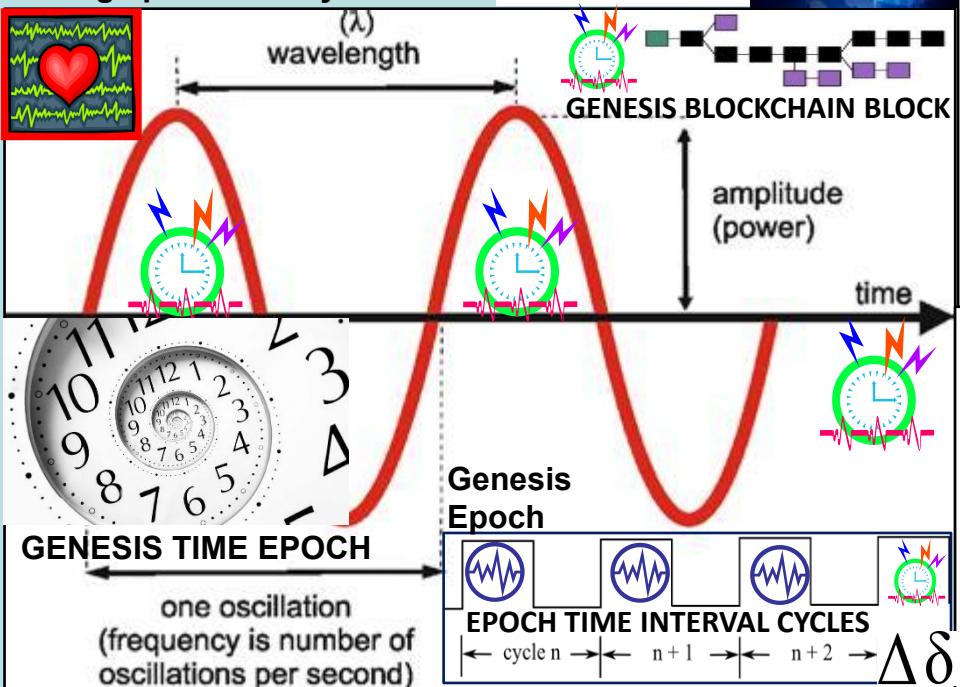
THESES: All things net, net of programmable \$\$\$ are formed using:

ENERGY / DATA WAVE METRICS / METERS

BELL STATE QUANTUM COMPUTING

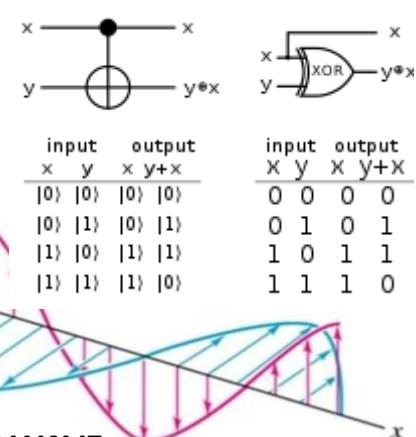
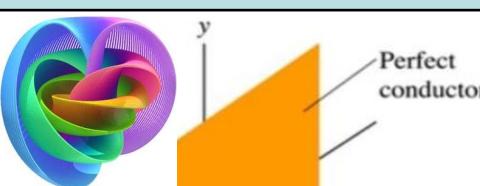
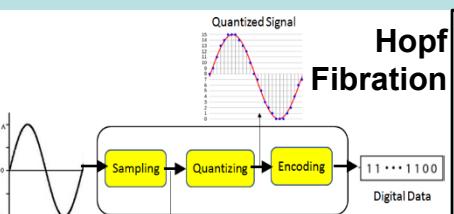
1) Time epochs created by quartz crystal silicon chips

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



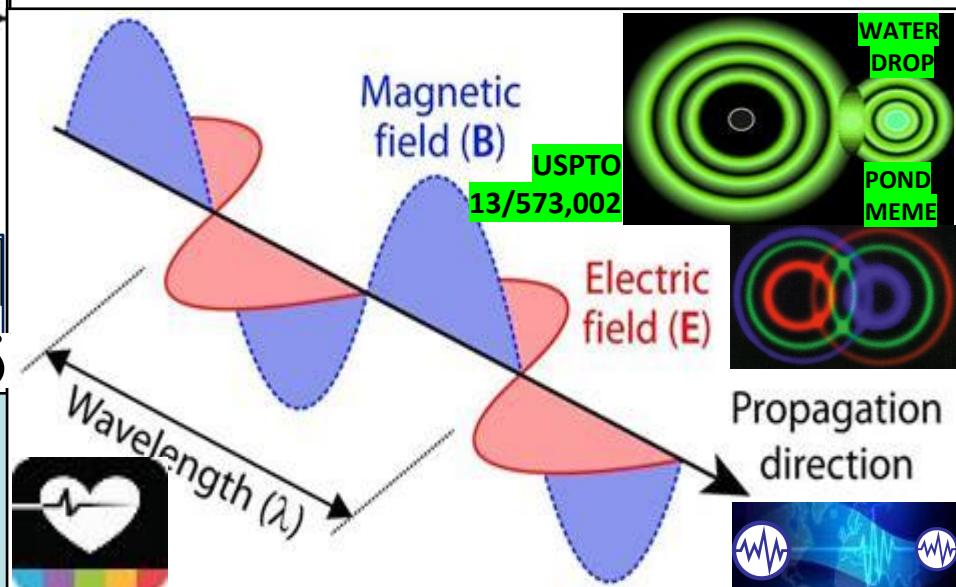
Quantum Computing Vibrations encode, process data like quantum computers. A simple mechanical system built from aluminum rods uses vibrations to encode information, mimicking quantum computing in a non-quantum system. "Light is made from photons, the quantum of light. mechanical vibrations or sound waves 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](https://phys.org/news/2018-06-quantum_1.html)



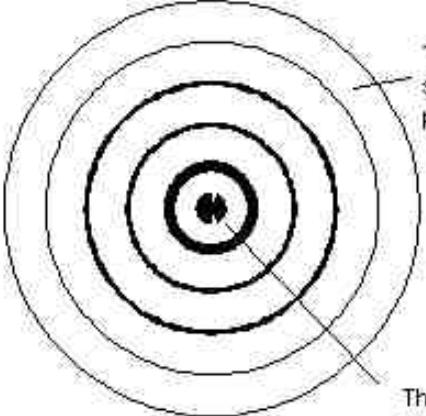
STANDING ELECTRO- MAGNETIC WAVE

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



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

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



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

The pointlike Particle effect at the Wave Center

Paul Revere Linear, sequential meme

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

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

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

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

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

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

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

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

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

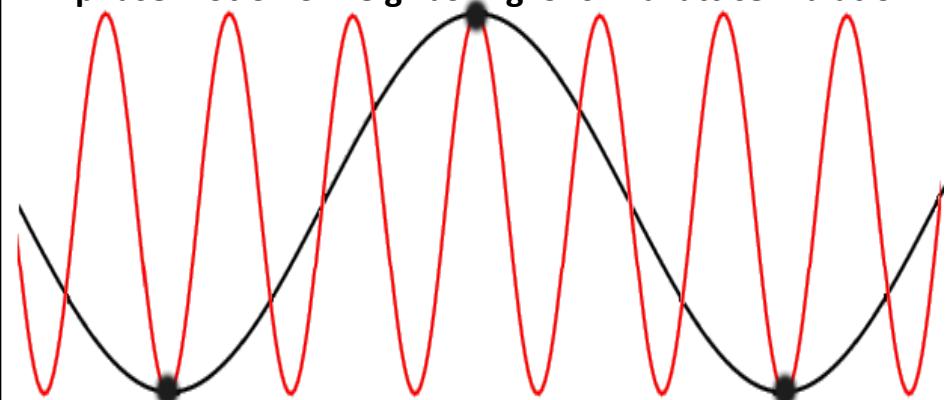


"Simplicity is the ultimate sophistication".
(Leonardo da Vinci)

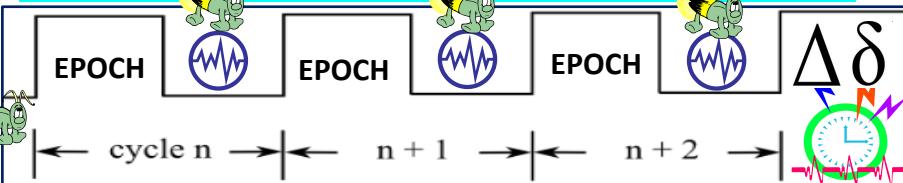
ACOUSTIC PHONON

USPTO 13/573,002

in-phase motion of neighboring ions in a lattice vibration

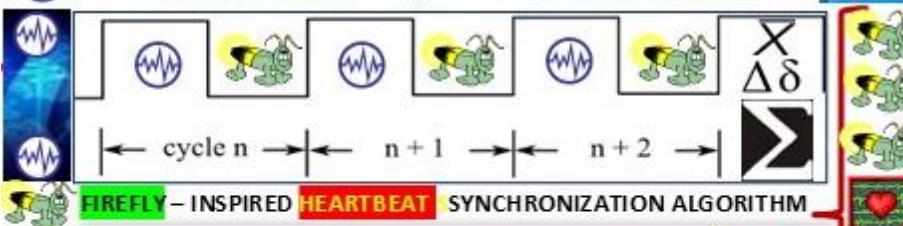
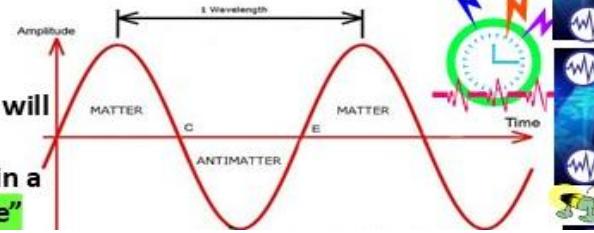


Phonons: A phonon is a quantum of the lattice vibration, the collective motion of atoms constituting a crystal. There are two types of phonons: optical and acoustic. The optical phonon has high-frequency oscillation in the THz range and the unit cell center of mass does not move. It undergoes a dipole interaction with light. The acoustic phonon propagates at sound velocity, which is the first derivative of the phonon dispersion curve at the Γ -point (wave vector $k \approx 0$) in the first Brillouin zone. A simple example is a one-dimensional diatomic chain, in which the unit cell contains two atoms. In a crystal of N unit cells, there are $2N$ atoms and $2N$ degrees of freedom of motion. The displacement of an atom from its equilibrium position is expressed using plane waves with reduced wave vectors, defined within the first Brillouin zone. The oscillations are approximated by $2N$ harmonic oscillators of different wave vectors. The vibrational frequency is related to the wave vector through the phonon dispersion relation. Phonons are created and annihilated in the harmonic oscillators. SOURCE: SCIENCE DIRECT: <https://sciedirect.com/topics/engineering/acoustic-phonon>



"nodes eventually agree" stochastic harmonization temporal sync

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



FIREFLY - INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM

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

THESIS: All things net, net of programmable \$\$\$ are formed using: 1. Time epochs created by quartz crystal silicon chips 2) Syntax used / not used as programming instructions during epoch - temporal time cycles



</EVENT>

SYNC DELTA $\Delta\delta$



Eric Trump: "Bitcoin to 1 MILLION"
VS QUANTUM SUPREMACY



TRUMP Quantum SPEED BUMP ???

SOUND WAVES enable Different types of quantum tech to "talk"

BITCOIN TRANSACTION AKIN TO LAND
ORG_ID in CLEAR / Person ID encrypted
'wave-particle duality'
is simply the quantum
'uncertainty principle'

TIME EPOCHS & SYNTAX = FOUNDATION TECH

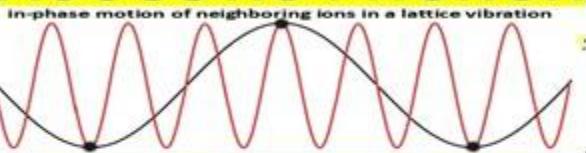
USPTO 13/573,002 The Heart
Beacon Cycle Time – Space
Meter / Adaptive Template



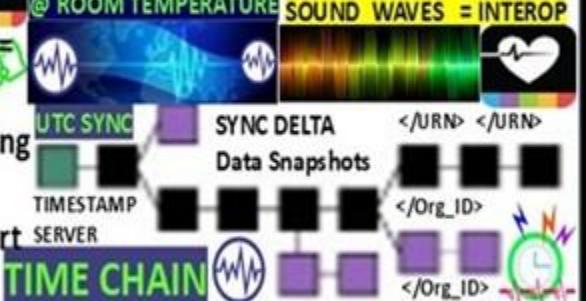
ABSTRACT VS NATURE:
573 U.S. 134 S.Ct 2347
"BITCOIN's VALUE = TIME ITSELF"
"TIME IS SPECIFIED IN UNITS OF BLOCK TRANSACTION CONFIRMATION TIMES"

FISHER INFORMATION FLUX FLOWS

ACOUSTIC PHONON



SOUND / LIGHT e.g., Q.R.N.B. QUANTUM COMPUTING @ ROOM TEMPERATURE



Net of \$\$\$ formed with:
1 EPOCH TIME CYCLES

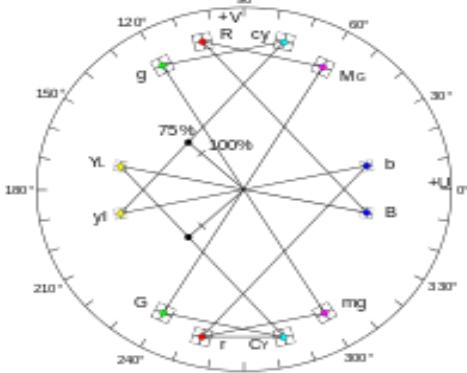
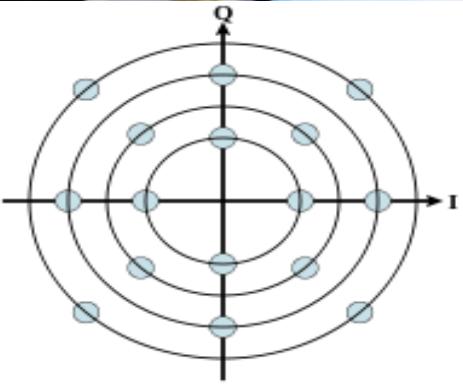
2 {"Syntax"} "The Word"
"In the Beginning" Genesis Block

"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"



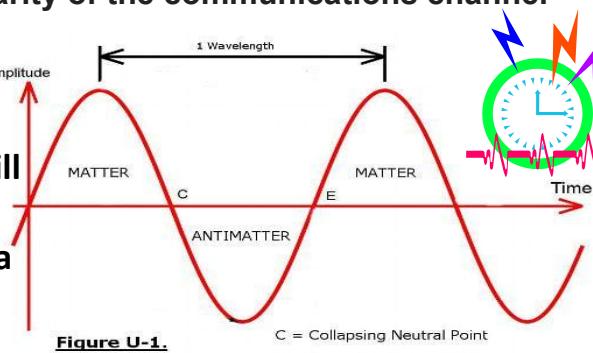
www.RLighthouse.com



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”}

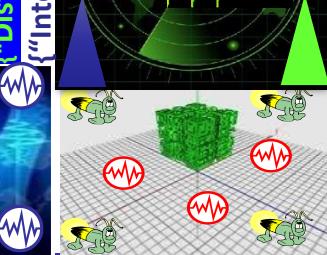
{“Interest”}

vector

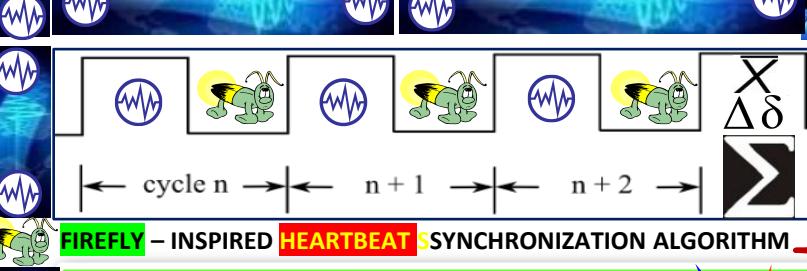
triangulation



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



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



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



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.

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)...

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.



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



NIST QUANTUM ENCRYPTION RANDOMIZATION BEACON

UNPREDICTABLE SAMPLING

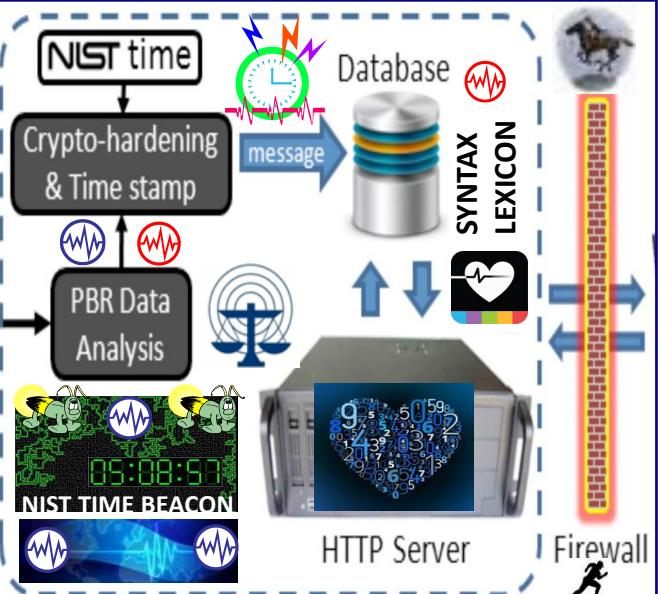
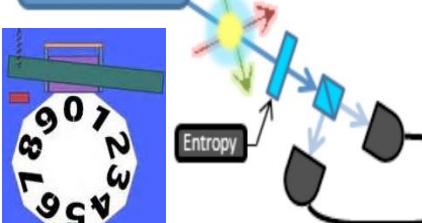
SECURE AUTHENTICATION

SECURE MULTI

PARTY /
AUTHENTICATION

Entanglement
Source

RANDOM
NUMBER
GENERATOR



NIST

**NON
REPUDIATION**

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

IDMaps Distance Estimation Service

SonarHops



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>

NDN
 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 State
 of Internet & estimates distance between any IP address pair Snap
 Shots

Time / Distance Metrics



PROXIMITY

OFFSHORE BEACONS ONSHORE

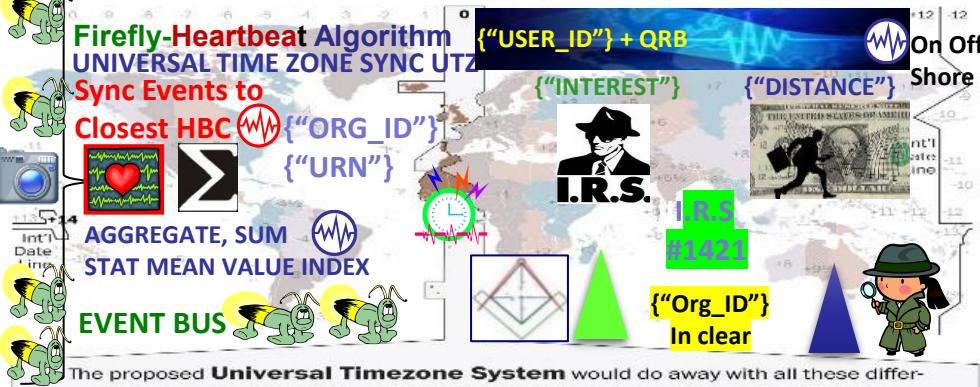
NDN

NDN

</interest></distance>

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

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**



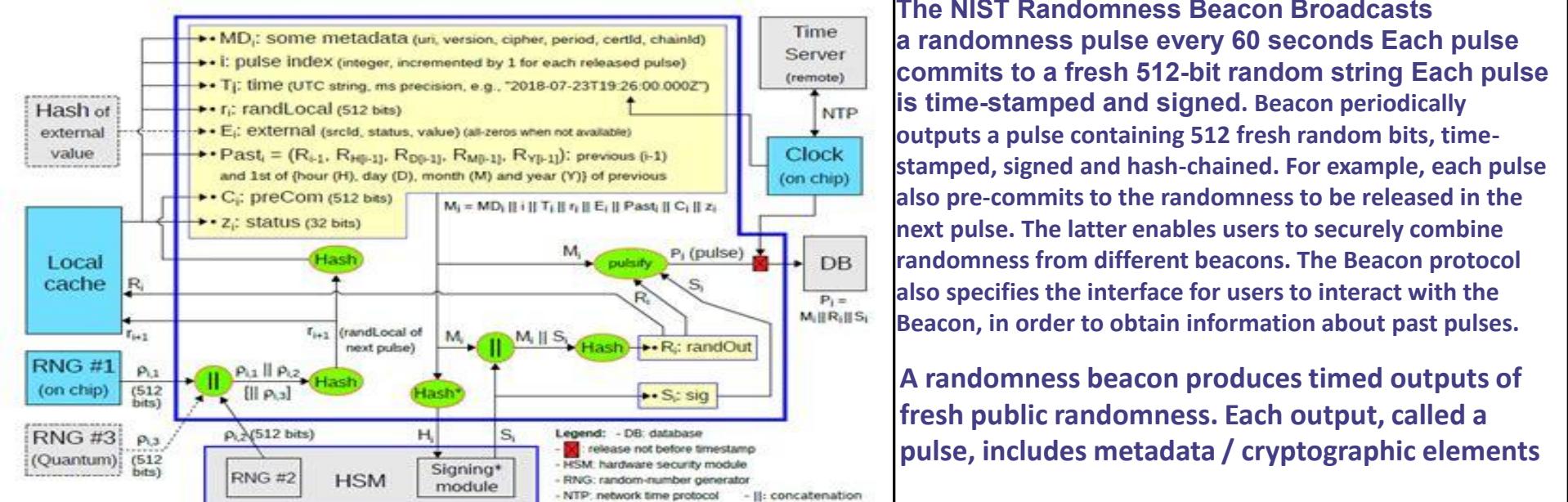
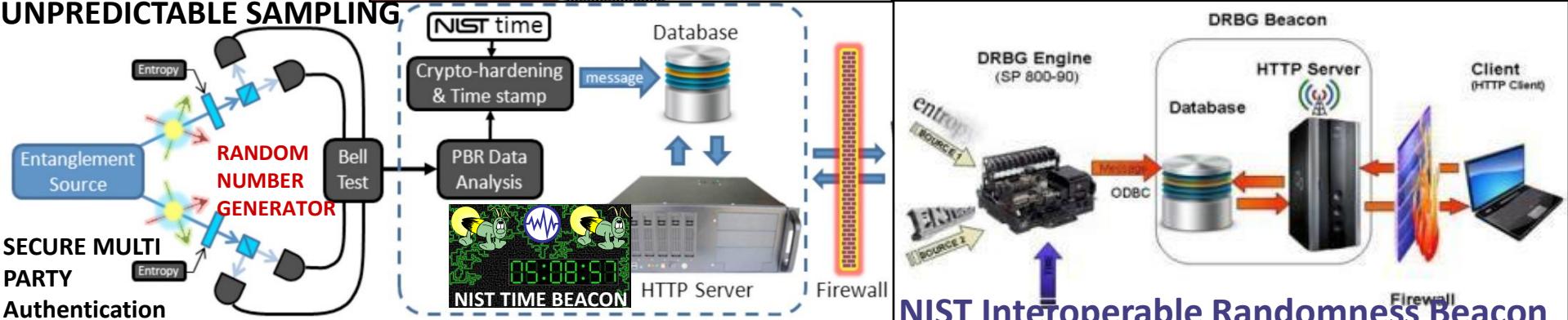
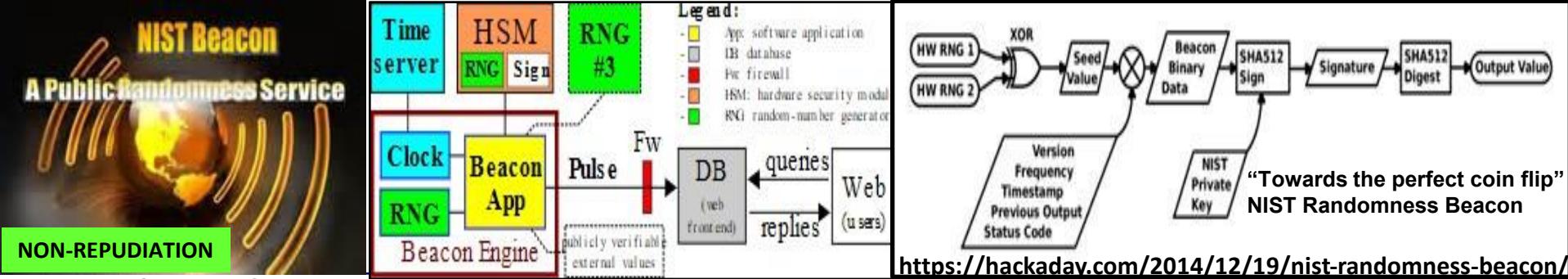


Figure 2. Illustration of the generation of the i^{th} pulse by a Beacon App (2.0)

NIST Interoperable Randomness Beacon

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

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

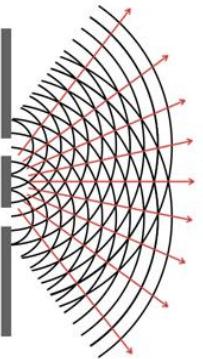
The main goal of the NIST Random # Beacon is to serve as a baseline for deployment of many interoperable beacons

Double-Slit Experiment

Screen with two slits

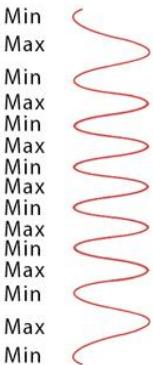
PARTICLE ?

Sodium lamp



Screen

WAVE ?

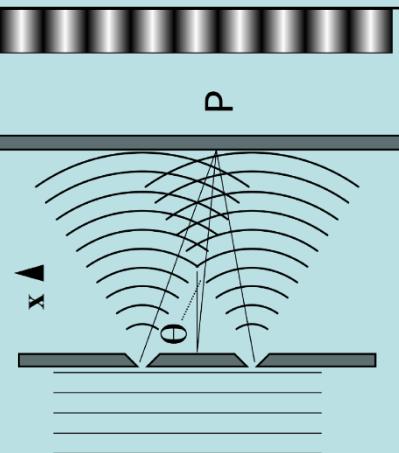


Light source Rays of light coming from the source reach the slits

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

Alternating bright and dark fringes due to interference of light waves

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



CLOCK FACE 360°
90 / 90 / 90 / 90



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



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

MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW

UMPIRE

COACH

90 feet

Blockchain / cryptocurrency increments

BlockChain BLOCK in 3D = CUBE

Cube has Length, Depth,

Height, Volume

3rd Base

STATISTICIAN

Metrics, Meters

Stat Mean Value Index

90 feet

SETTLEMENTS / EXCHANGES

= TAXABLE EVENTS

AKIN TO PROPERTY

IRS

#1421

Fix {"108"}

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

EVENTS

Firefly – Heartbeat Algo

X

EVENTS

Epoch Time Cycles

Micro Cycles

MICRO CYCLES

TIME STAMP SERVER

EVENTS

Epoch Time Cycles

Micro Cycles

MICRO CYCLES

TIME STAMP SERVER

EVENTS

Epoch Time Cycles

Micro Cycles

MICRO CYCLES

TIME STAMP SERVER

EVENTS

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TIME STAMP SERVER

EVENTS

Epoch Time Cycles

Micro Cycles

MICRO CYCLES

TIME STAMP SERVER

EVENTS

Epoch Time Cycles

Micro Cycles

MICRO CYCLES

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TIME STAMP SERVER</p

The Hopf Fibration

Edmund Harriss

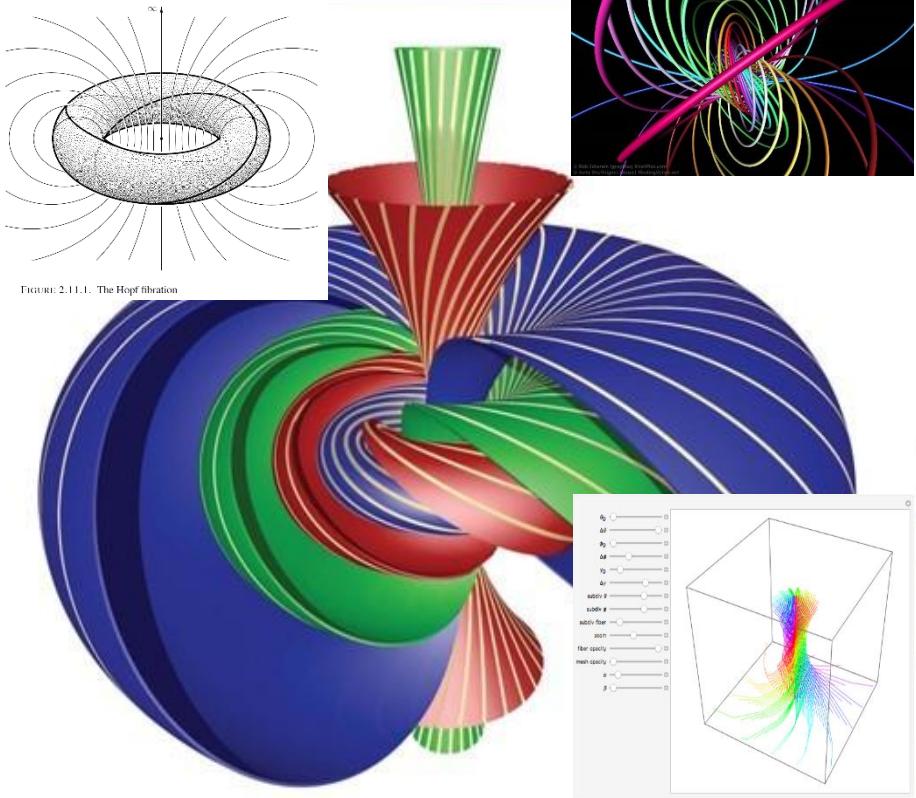
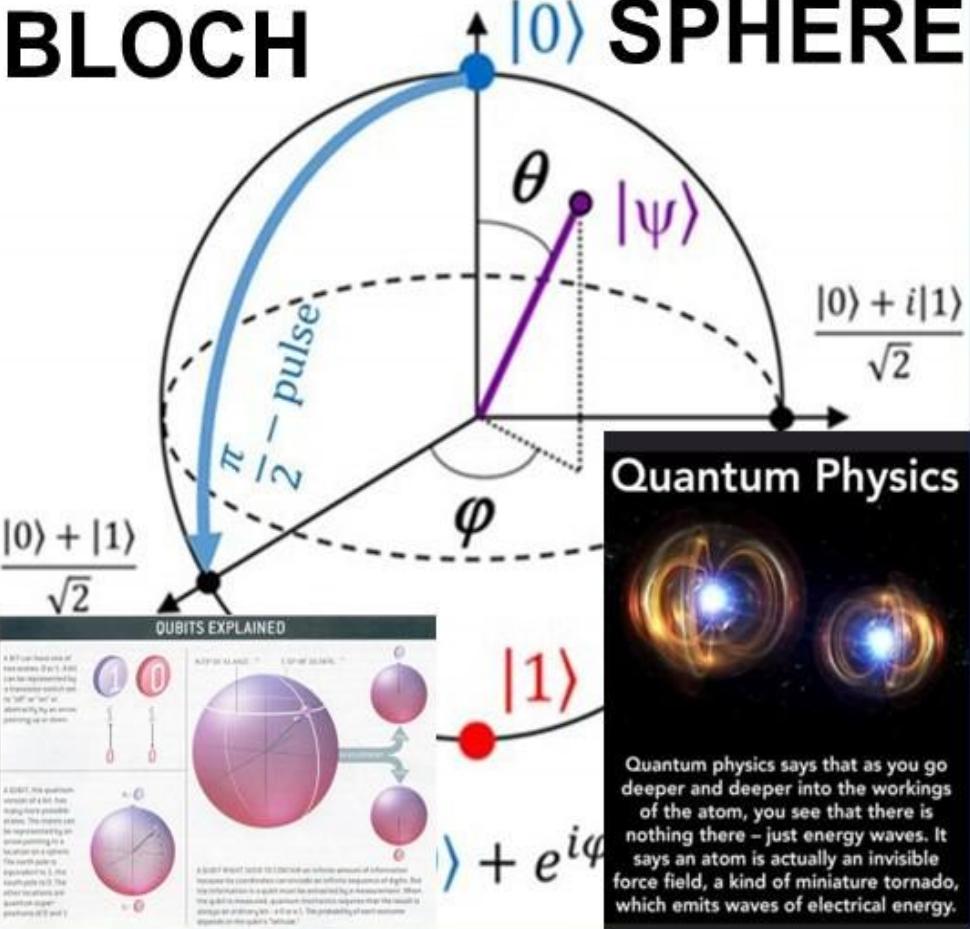


FIGURE 2.11.1. The Hopf fibration

BLOCH SPHERE



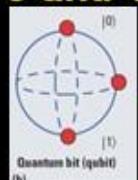
Hopf Fibration / #Bloch sphere

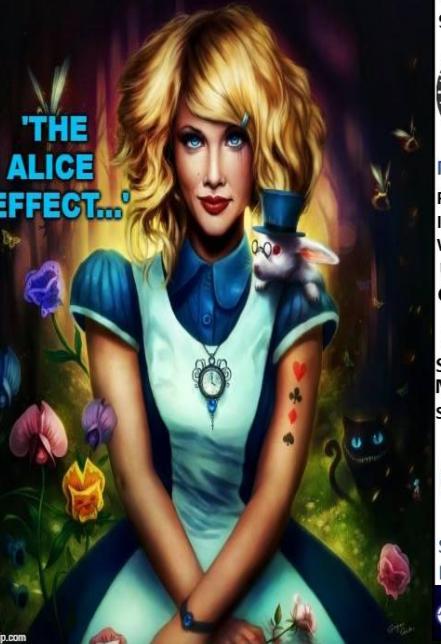
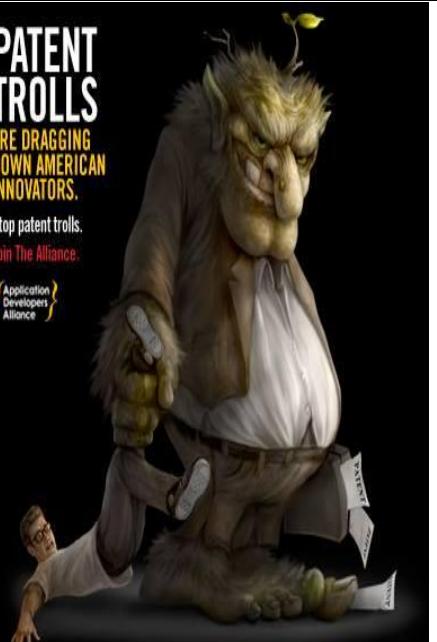
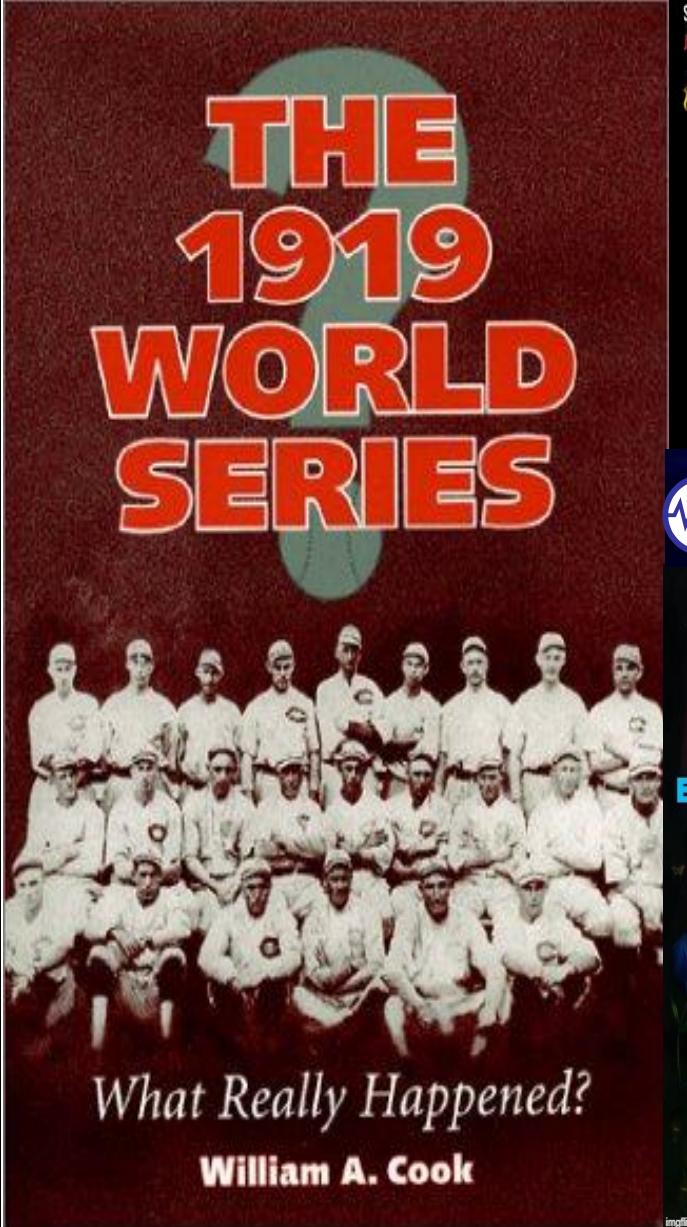
"the most important object in the universe"

"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.







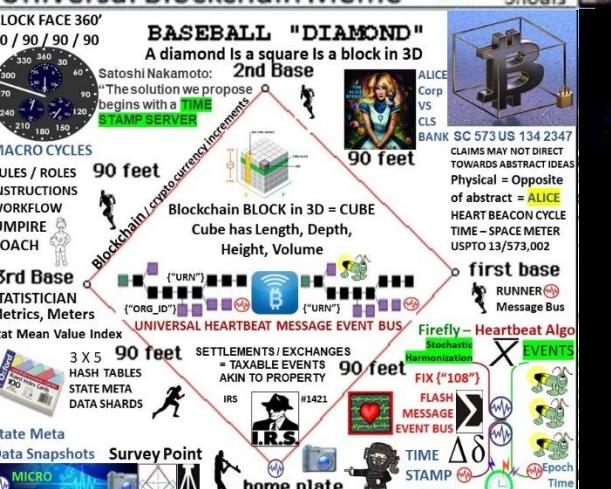
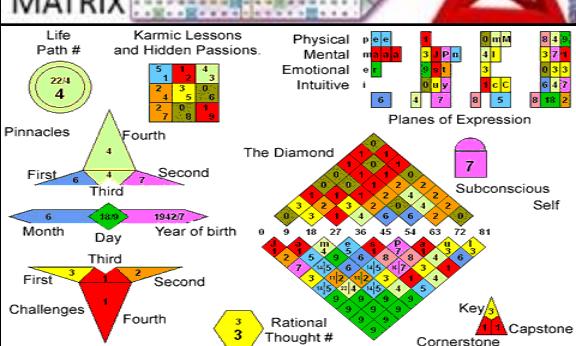
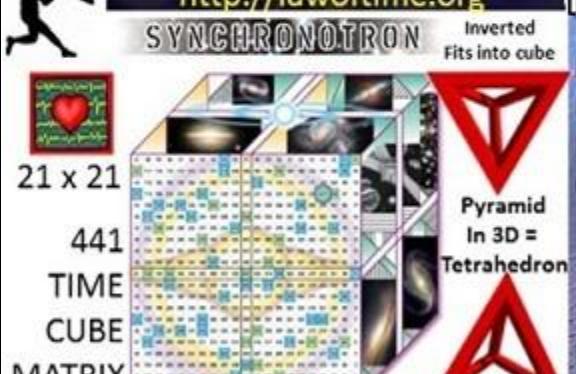
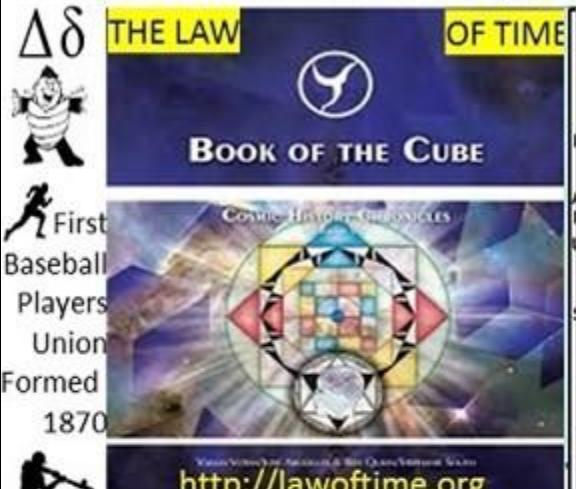
USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter

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

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

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

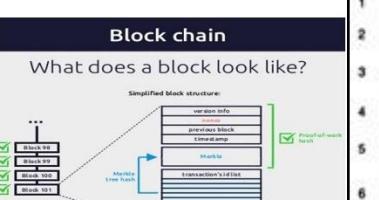


Satoshi Bitcoin Blockchain
Time Stamp Server

Timestamp Server

The solution we propose begins with a timestamp server. A timestamp server works by taking a block of data to be timestamped and widely publishing the hash, such as in the Internet or Usenet news [25]. The timestamp proves that the data did not exist outside at the time of publication. This timestamp can be used to verify the timestamping of a document, forming a chain, with each additional timestamp reinforcing the confidence in





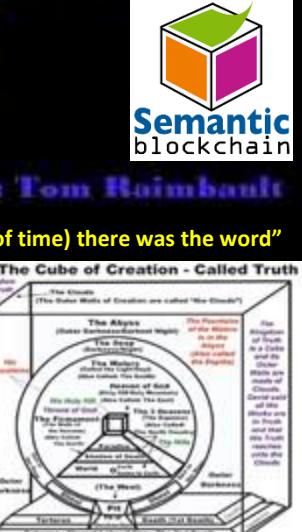
Metatron's Cube and the Platonic Solids



“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.

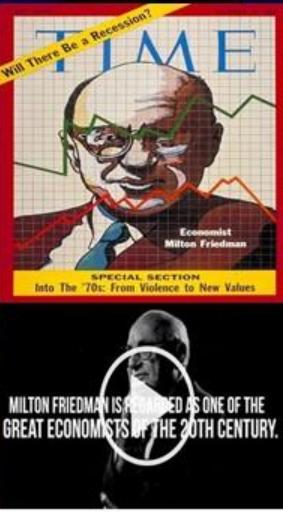
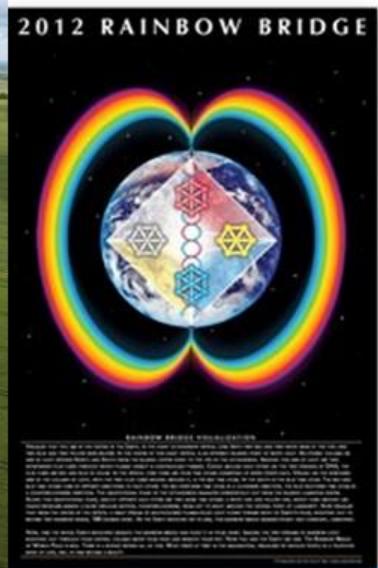
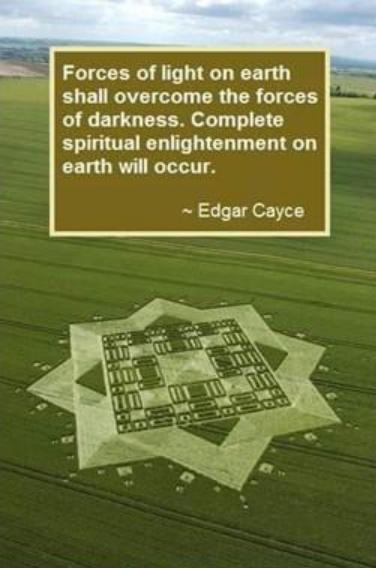
Over the next ten years, we are going to see our world innovate unlike never before, particularly in the fields of AI, technology, science, space travel, UFOs, networks, and the Internet. Major Universal truths will also be revealed as we welcome the New Age of Aquarius. The old world will soon come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



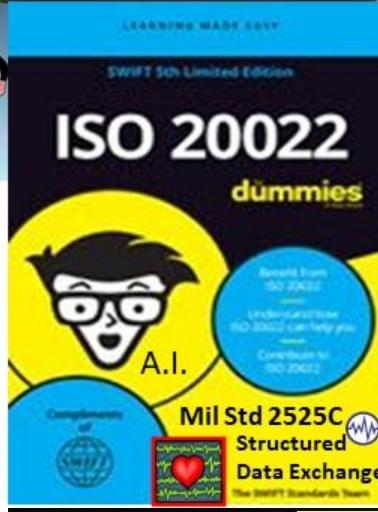
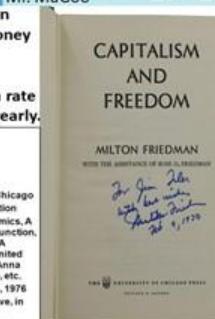
"ONLY A CRISIS—ACTUAL OR PERCEIVED—PRODUCES REAL CHANGE. WHEN THAT CRISIS OCCURS, THE ACTIONS THAT ARE TAKEN DEPEND ON THE IDEAS THAT ARE LYING AROUND."

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.



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

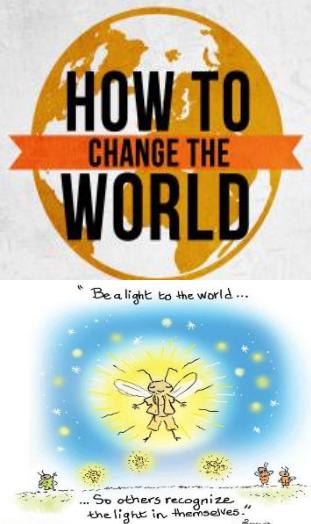
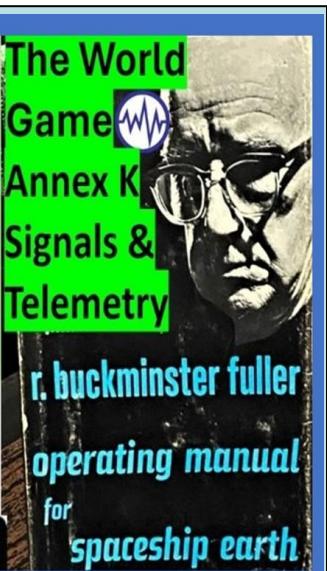
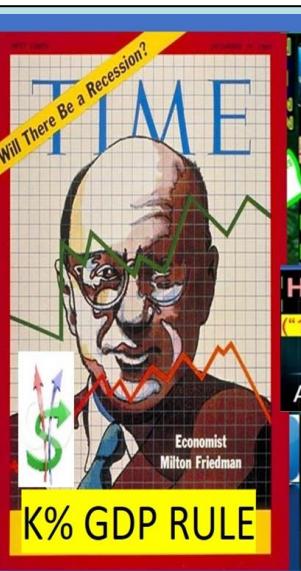
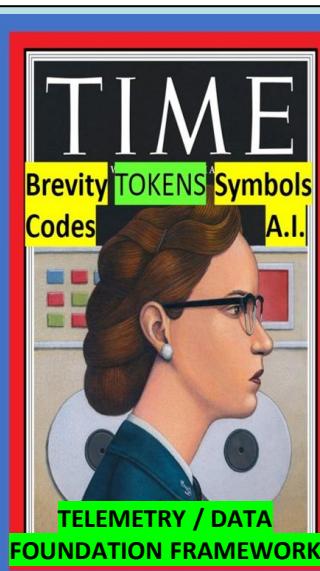
Buckminster Fuller "build a new model that makes the old model obsolete"

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

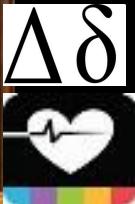
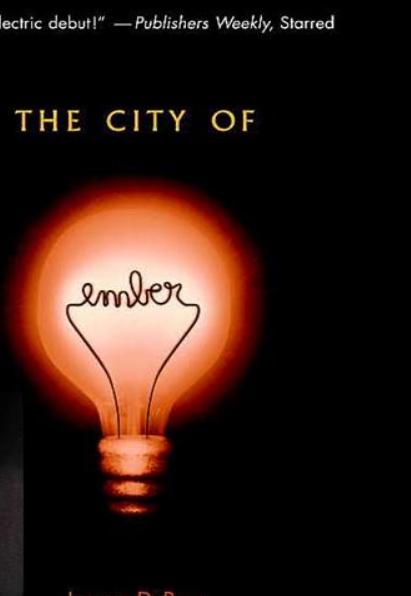
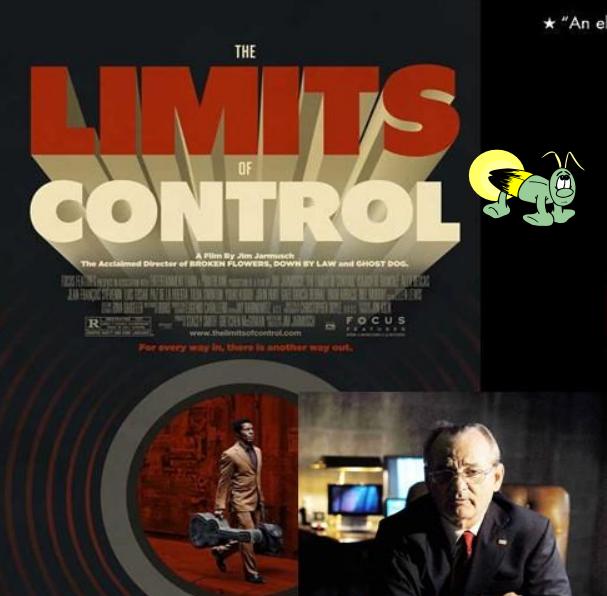
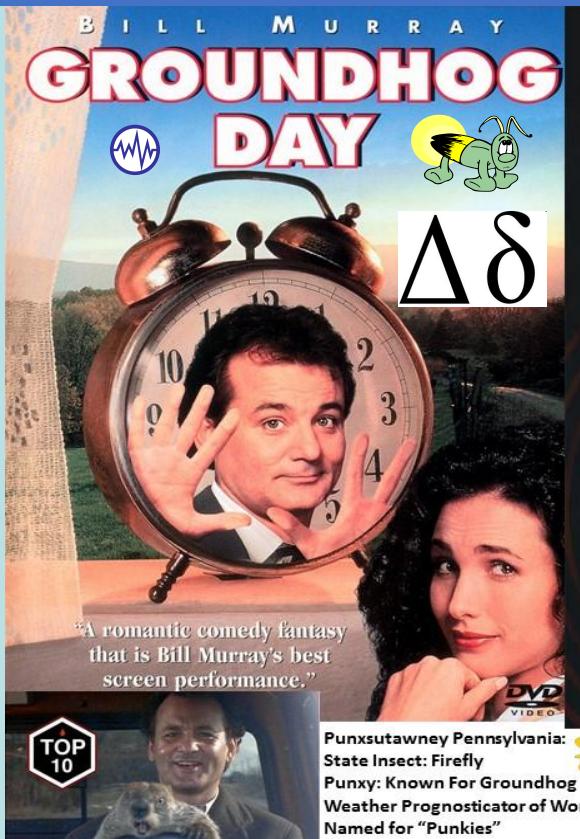
#algorithmic #stablecoin #buckminster #fuller #cryptocurrency #Milton #Friedman



DISNEY'S FANTASIA



UNIVERSAL LAW CAUSE / EFFECT ACTION / INACTION IF / Then / or.. ELSE
heart icon
colorful bar
lightning bolt icon
clock icon



GNATS
punk·ie [púngkee] NOUN
1. a fly, almost invisible to the naked eye, that sucks the blood of animals and other insects, leaving painful hictng welts.



R. Buckminster Fuller Utopia or Oblivion: the Prospects for Humanity

A challenging blueprint for the future by the world-renowned revolutionary thinker and inventor

World (Peace) Game
1961 simulation by Buckminster to help create solutions to overpopulation, the uneven distribution of global resources.

The World Game
Annex K
Signals & Telemetry
r. buckminster fuller operating manual for spaceship earth



Spatial Econometrics
TOKEN ECONOMICS
EVENT / ALERT BUS
MONEYBALL
ECONOMICS



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!

Feb 10, 1960 Aquarius / Aquarius Rising

The Time Keeper
Borderlands 4

Alice Corp. v. CLS Bank International

573 U.S. 134

S. Ct. 2347

2014



"Claims may not direct towards abstract ideas"

Bloomberg Law:

Crypto Lawsuit Deluge

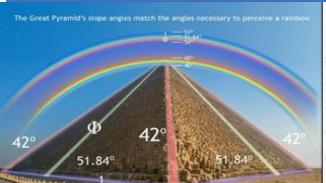
Has Big Firms Scrambling to Keep Up

USPTO 13/573,002
Filed 2012

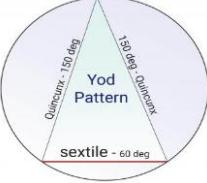
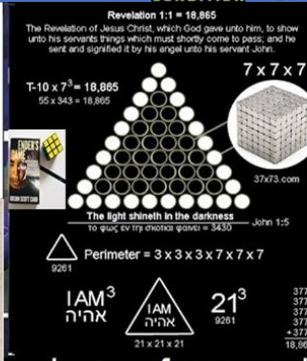
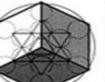


Satoshi Nakamoto Reveal #2

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



GENESIS OF ALL FORM



Wayward Son

The Timekeeper is the primary antagonist in Borderlands 4, a ruthless dictator who rules over the planet Kairos from on high.

A world-altering catastrophe threatens his perfect Order, unleashing mayhem across Kairos, the most dangerous planet discovered so far in the Borderlands universe

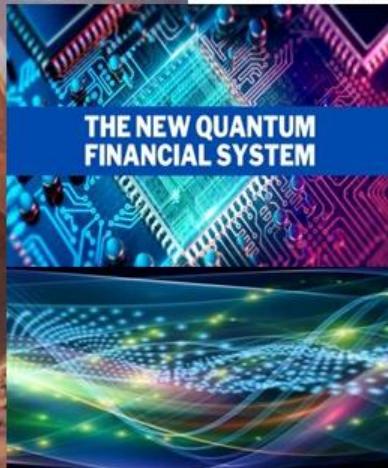
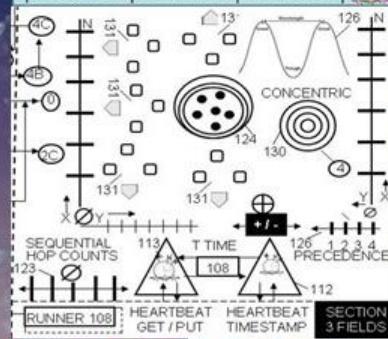
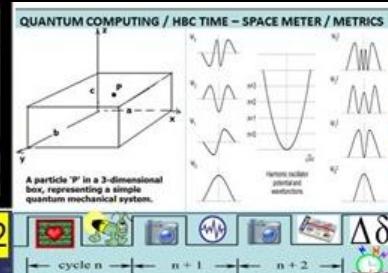
BORDERLANDS 4



QUOTE: "As in nature, all is ebb and tide, all is wave motion, so that in all branches of industry, alternating currents, electric wave motion will have sway." Nikola Tesla



USPTO 13/573,002



FUTURE MAN

Born: February 10th 1960 & 06:44 AM

Aquarius

Aquarius Rising

Mystic Yod

THE
YOD

AND OTHER
POINTS
IN YOUR
HOROSCOPE

By HELEN PAUL
&
BRIDGET MARY
O'TOOLE



Because abstract ideas, laws of nature, and natural phenomenon "are the basic tools of scientific and technological work", the Supreme Court has expressed concern that monopolizing these tools by granting patent rights may impede innovation rather than promote it. See Alice Corp., 573 U.S. at 216, 110 USPQ2d at 1980; Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. 66, 71, 101 USPQ2d 1961,

