



UTOPIA ? $\Delta\delta$ OBLIVION ?

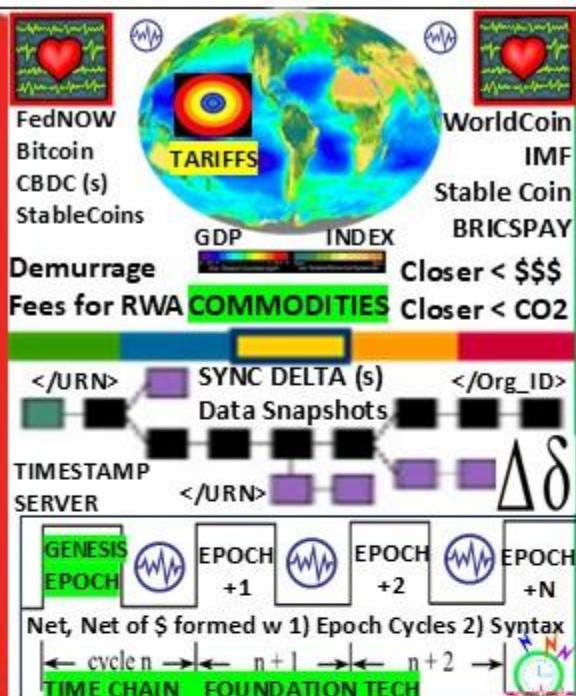
TradeFi TRC Trade Reference Currency

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



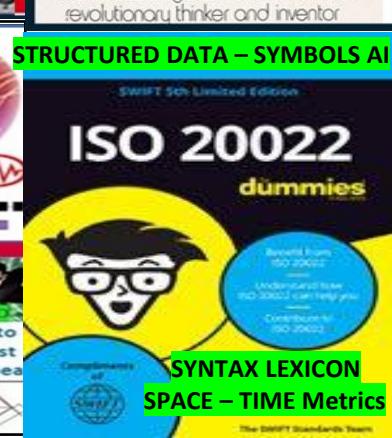
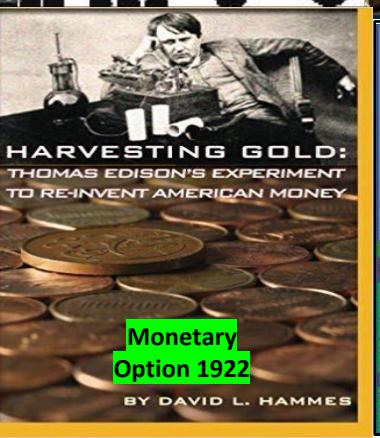
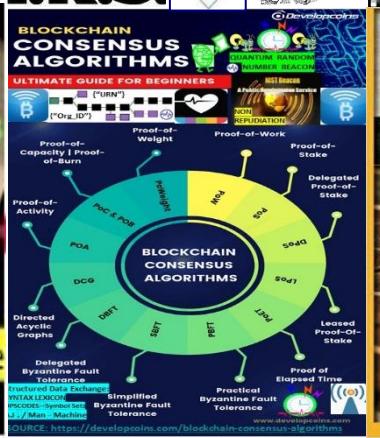
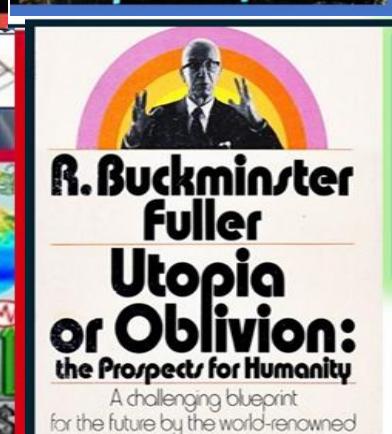
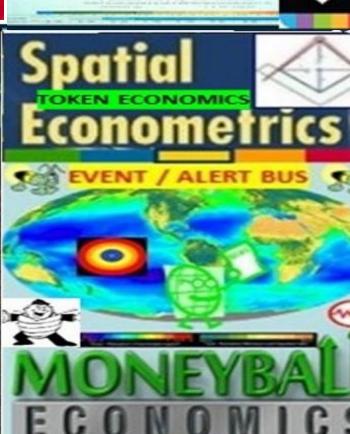
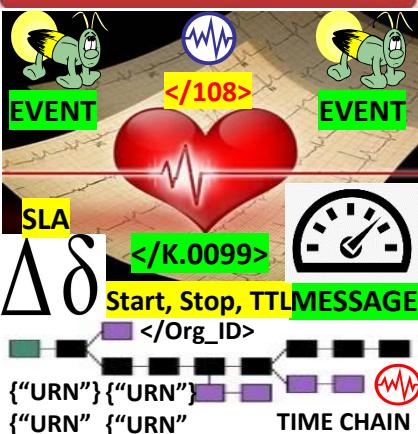
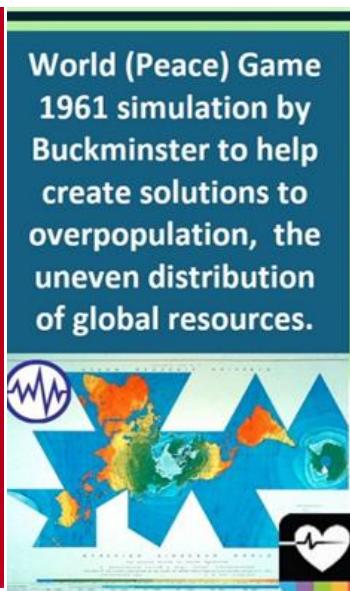
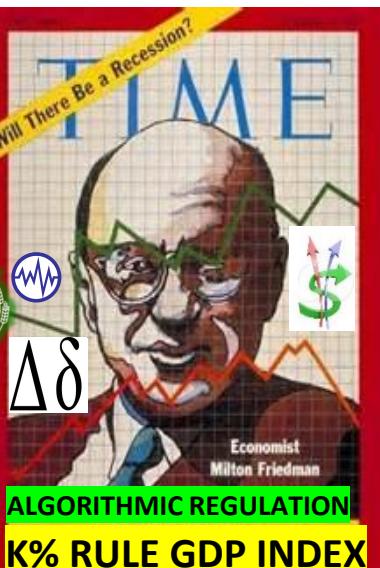
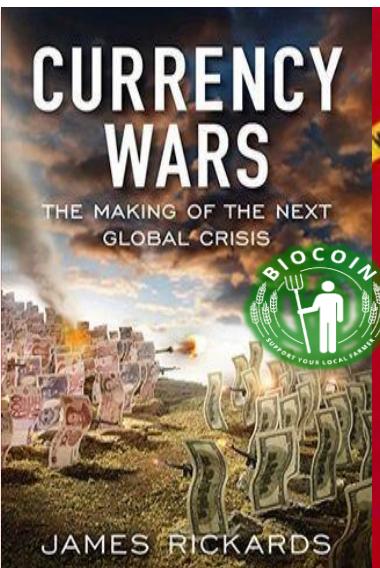
STAT MEAN VALUE INDEX

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



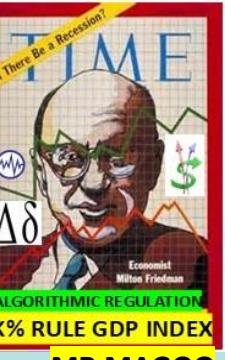


THE ARLINGTON INSTITUTE

THE HEART BEACON CYCLE
TIME – SPACE METER / METRICS
BRIDGE / MEDIATION / MODERATION
GATEWAYS TO A NEW WORLD
USPTO 13/573,002



REV K
Linda
The
Psychic



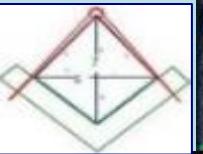
World (Peace) Game
1961 simulation by
Buckminster to help
create solutions to
overpopulation, the
uneven distribution
of global resources.



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MR MAGOO
X 3

SQUARE &
COMPASS

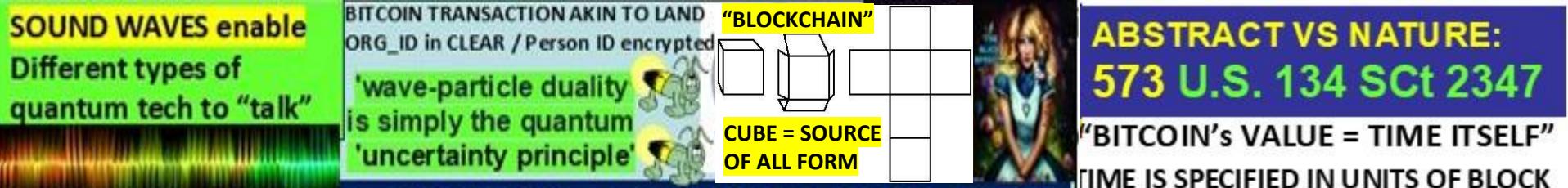


TRANSITIONNET
A GLOBAL INITIATIVE TO DESIGN A NEW WORLD

JOIN THE TEAM OF INNOVATORS
AND THOUGHT LEADERS

THE ARLINGTON INSTITUTE





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 ???

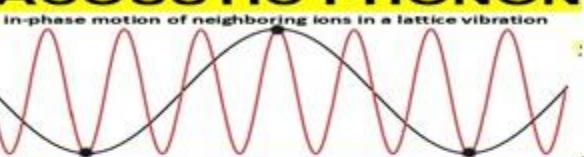
Q: 1/3 of an event (transaction) ... really ???

**ABSTRACT VS NATURE:
573 U.S. 134 S.Ct 2347**

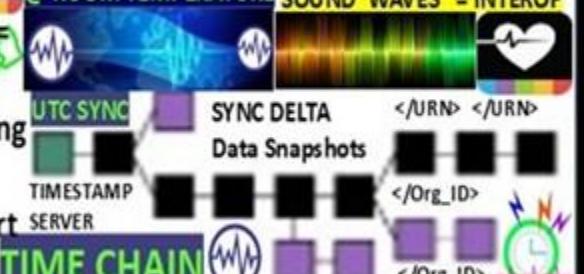
"BITCOIN'S VALUE = TIME ITSELF"
TIME IS SPECIFIED IN UNITS OF BLOCK TRANSACTION CONFIRMATION TIMES"

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"

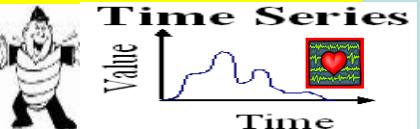
"In the Beginning" Genesis Block

"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



SYNTAX LEXICON Library

1st Compiler



STRUCTURED DATA EXCHANGE
TEMPLATE FORMS
300+ USE CASES

LOGIC / FILTERS



Alpha Numeric Brevity Codes



Coder Guide Rosetta Stone

SYNTAX / SYMBOL LEXICON LIBRARY



"Bitcoin is a LANGUAGE"
Digiinomics

"BITCOIN MAKES MONEY PROGRAMMABLE.
MONEY IS SIMPLY DATA"

"BITCOIN'S VALUE = TIME ITSELF"

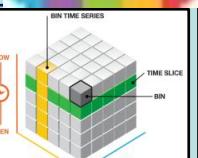
"Time is specified in units of block transaction confirmation times"



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



MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW

UMPIRE

COACH

3rd Base

STATISTICIAN

Metrics, Meters

Stat Mean Value Index

3 X 5 HASH TABLES

STATE META DATA SHARDS

SETTLEMENTS / EXCHANGES

= TAXABLE EVENTS

AKIN TO PROPERTY

IRS #1421

State Meta Data Snapshots

Survey Point

MICRO CYCLES

Flash Message Event Bus

Fix "108"

Time Stamp Server

Epoch Time Cycles

Time Stamp Server

Circle USDC

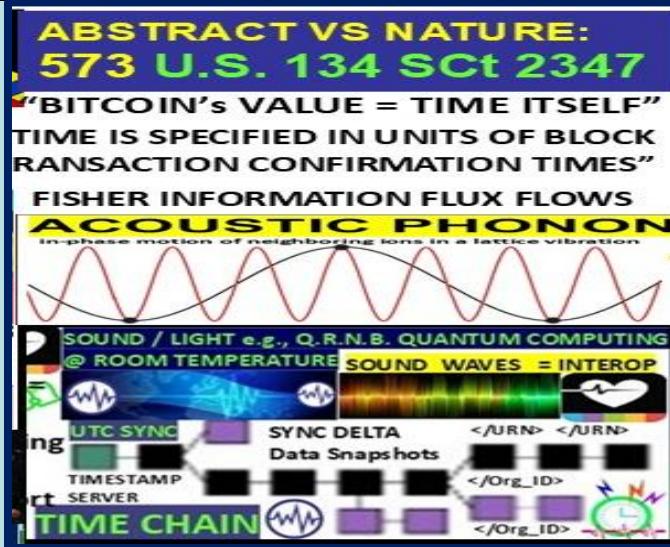
Investopedia

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

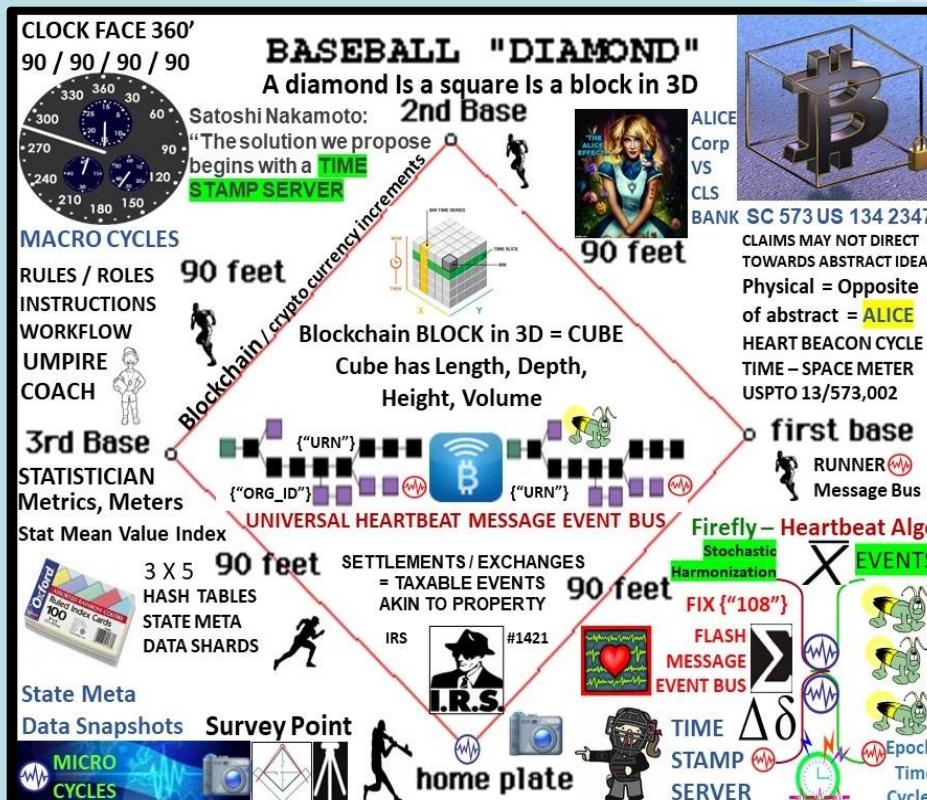
Stablecoins aims to provide an alternative to the high volatility of the most popular cryptocurrencies, Source JDSUPRA



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”

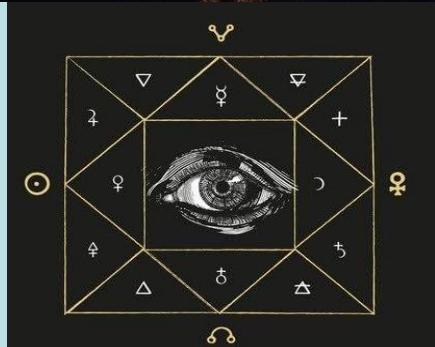


NOSTRADAMUS of FRANCE CENTURY 8: QUATRAIN 28:

“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

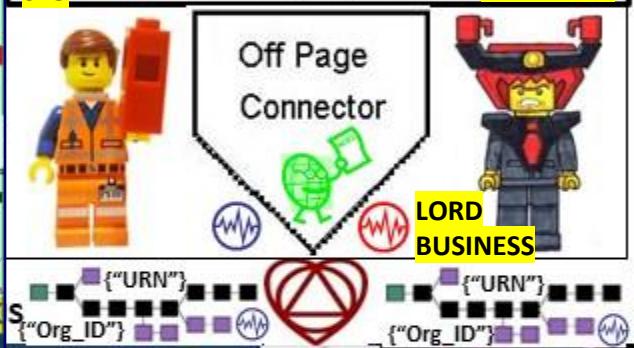
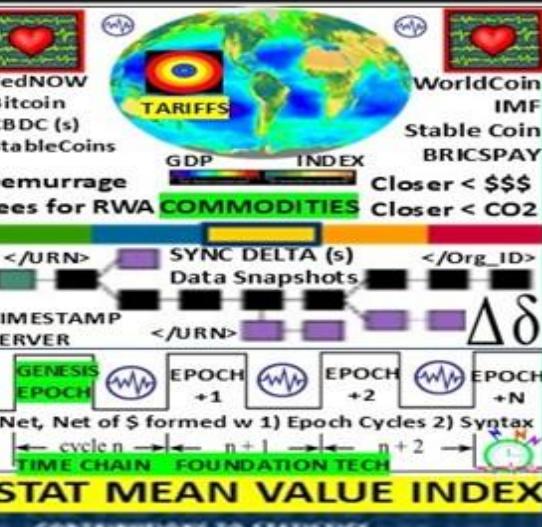
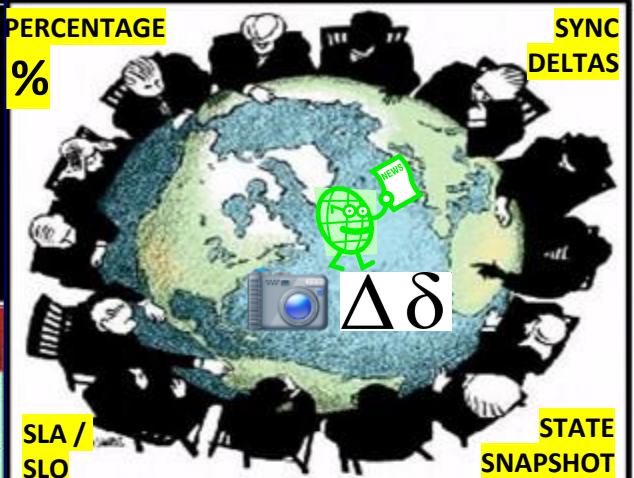
World Game (s) Fulcrum

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

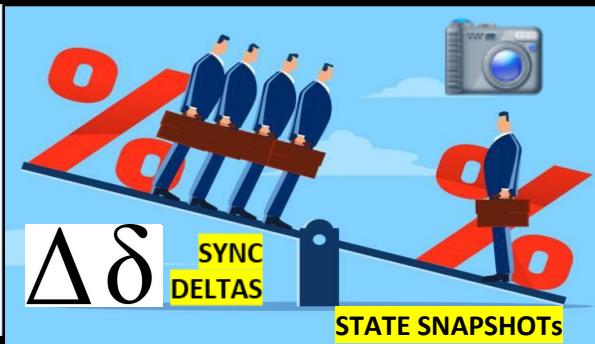


World Game (s) Fulcrum

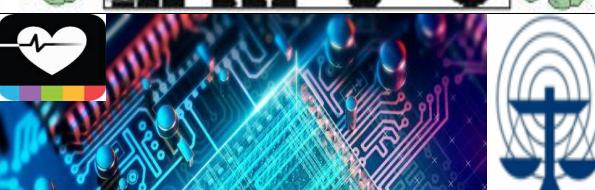
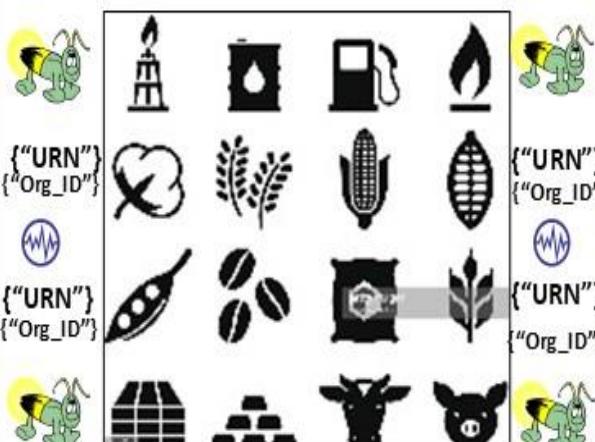
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Schelling Point Conference: focuses on the intersection of **cryptocurrency and social good**, bringing together innovators, thought leaders, and advocates to explore how **blockchain** tech can create positive change.

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 NEW QUANTUM FINANCIAL SYSTEM



Humanitarian Assistance Networked Donor System

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



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



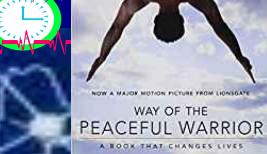
Reuse adaptive procedural template guides from Battlefield Digitization among a federated systems of systems improving synergy, synchronicity to achieve shared sustainable goals



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



OPERATIONS
OTHER
THAN
WAR



Beacon Communities

Vernetzte Operationsführung



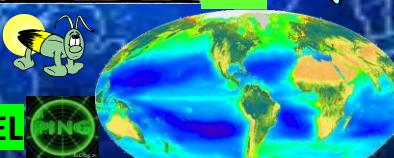
Proximity Beacons



JAEGERS



Closer < \$\$\$ < FUEL



GLOBAL
MISSION NETWORKING
FMN
FEDERATE * SHARE * WIN



NEWS



NEWS



ALGORITHM



NEWS



EVENT / ALERT Flash Heartbeat Message Bus

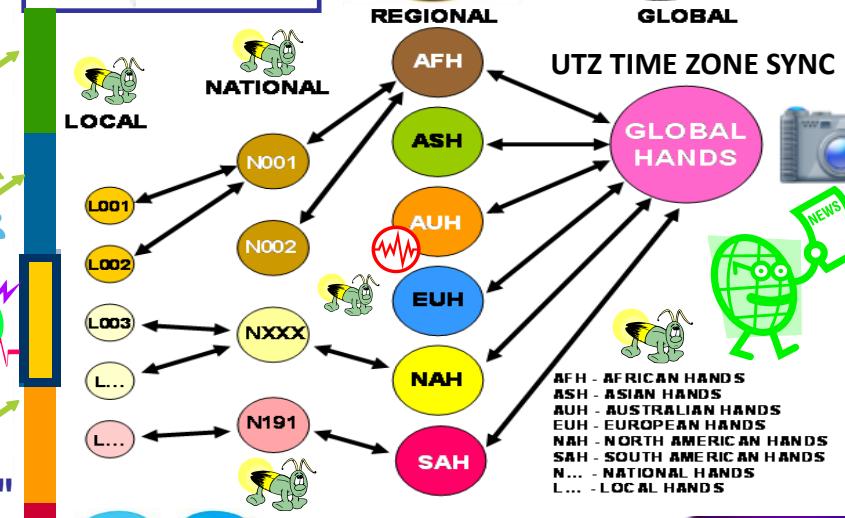
JBFSA



"PAINT IT A
DIFFERENT
COLOR"



REGIONAL



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

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



DAN MILLMAN

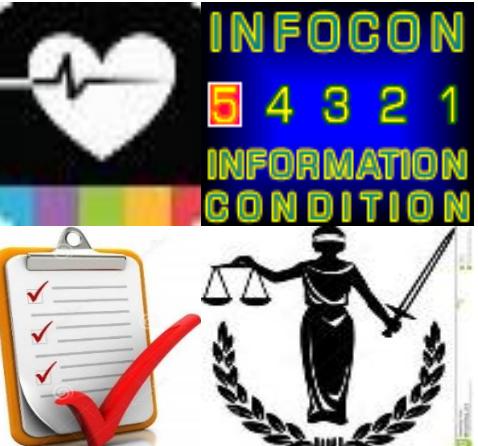
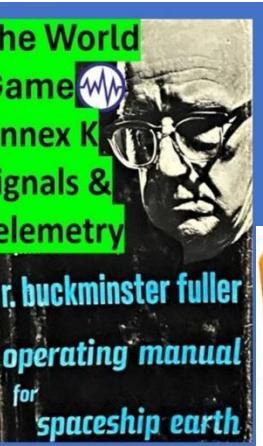
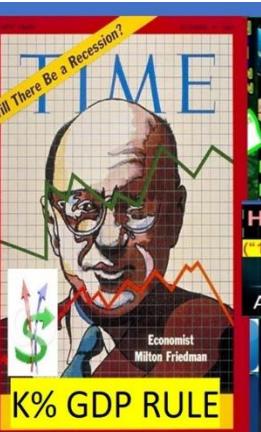
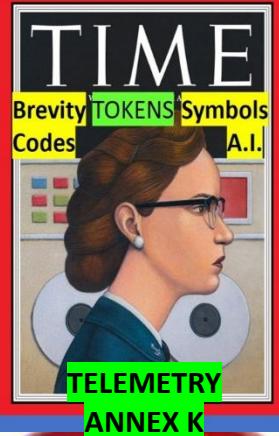


NOW A MAJOR MOTION PICTURE FROM LIONSGATE
WAY OF THE
PEACEFUL WARRIOR
A BOOK THAT CHANGES LIVES

OFF SHORE
OUTER BANKS



KAIJU



- 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

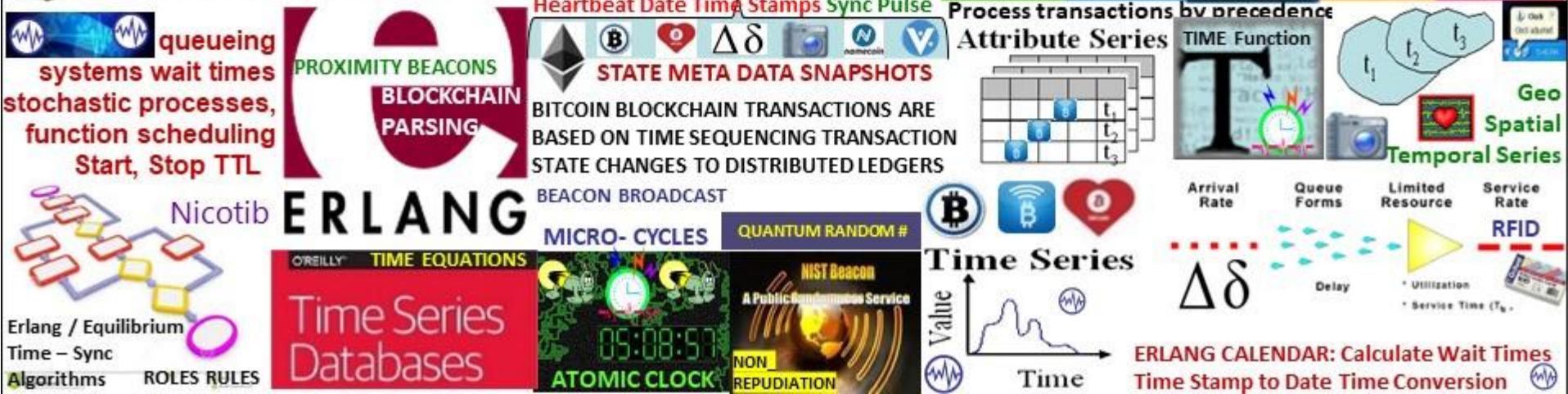


Spatial / temporal UTZ synchronization, stochastic harmonization, Time - Space Distance Estimation Service Common Consensus Algo meme Eco sustainable incentives “We can synchronize ourselves, DAO Trade Federations in time - space for common purposes” Eco sustainable, Equitable Economic econometrics.

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.



Numismatics: study of currency

Marcus Aurelius



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

Roman Denominations



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

THE TERRA (TRC)

Trade Reference Currency



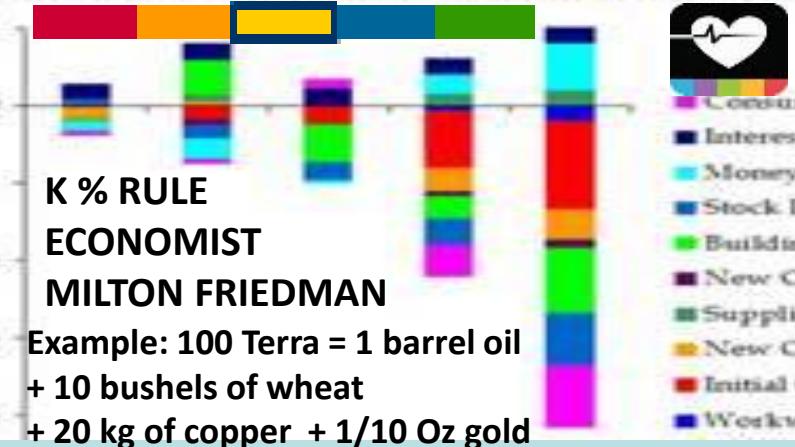
Terra Trade Reference Currency TRC
"world currency" Bernard A. Lietaer
Belgian economist proposed 1991
Basket of 9-12 most important
commodities. Public issued
demurrage fees for storage,
shipping, handling..



Commodities Index Basket / FIAT PRICE Discovery Algo / MEDIATION

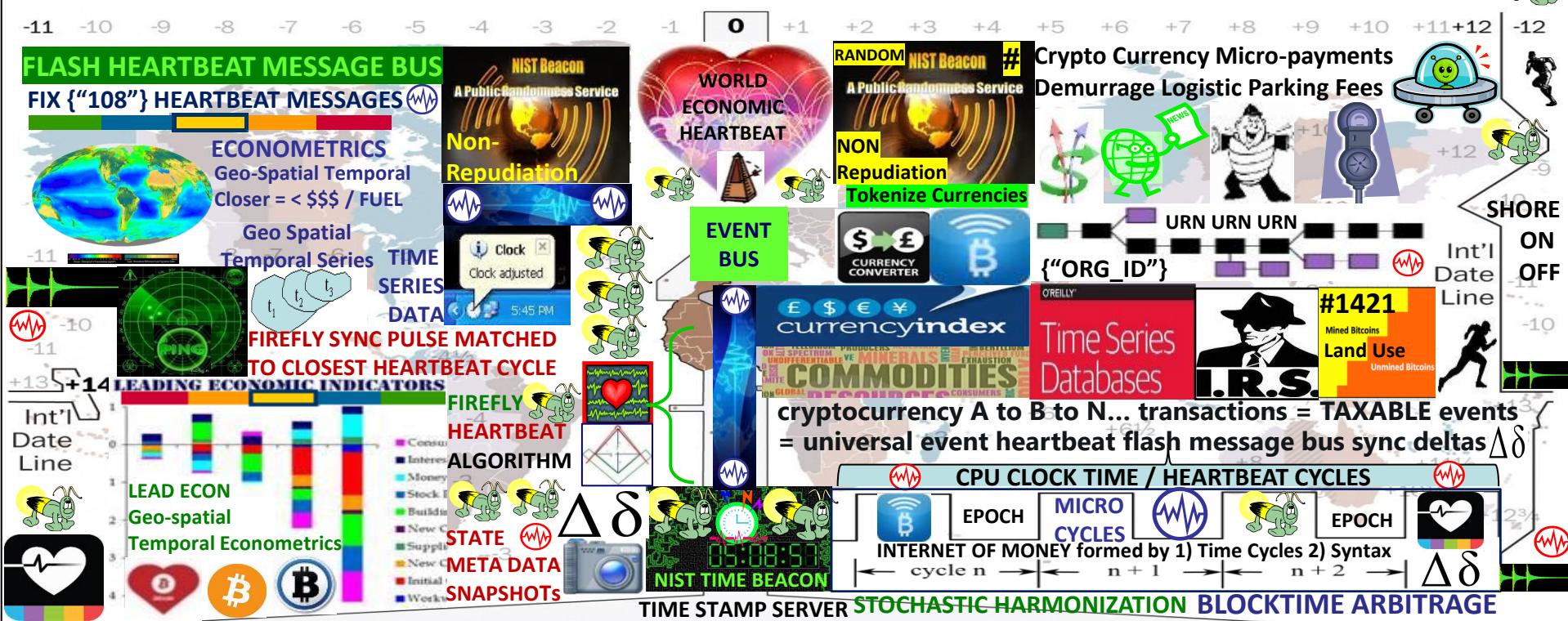


LEADING ECONOMIC INDICATORS





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



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

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

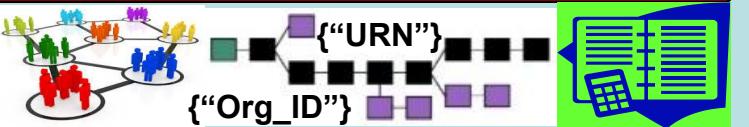
This highlights the cultural and financial significance of Honus Wagner memorabilia, which could potentially be replicated in the digital space with NFTs (AI web search)

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"

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



- 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 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"}



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



Bitcoin Mining Pools
MEME / METAPHOR MEDIATION



DISTRIBUTED AUTONOMOUS ORGANIZATION = DAO RAND Corp

term coined circa 1991 now in use by Blockchain tech corporations

Uniform_Resource_Name



IeT DEVICE / PLATFORM
IoT SENSOR DEVICE



{"Asset_Type"}



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

STOCK EXCHANGE

MIC MARKET IDENTIFIER
CODES / BREVITY CODES

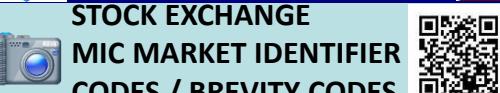


{"DUNS #"} {"Org_ID"} Heartbeat Snaps
QR CODE
{"URN"} {"URN"} {"URN"} MICRO-CYCLES



Signalling, Telemetry

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





FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME





World Game Annex K

Signals & Telemetry



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



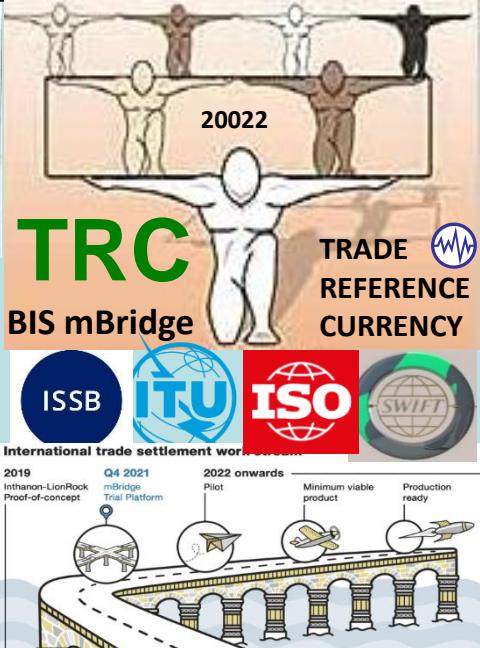
Eco Economic Epoch Heartbeat: reuse of DoD / NATO signal, telemetry syntax - symbol set structured data exchange system of systems engineering framework for DAO Trade Federations, programmable money / Economy. It is time to stand on the shoulders of giants.

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 that makes the old model obsolete” Buckminster Fuller



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



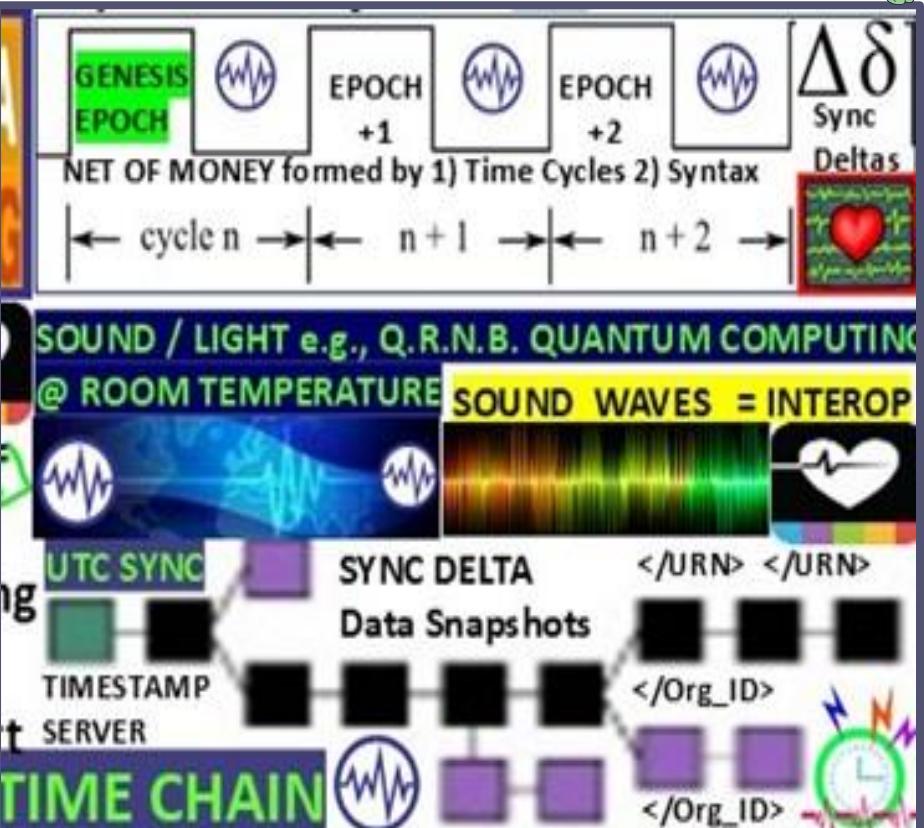
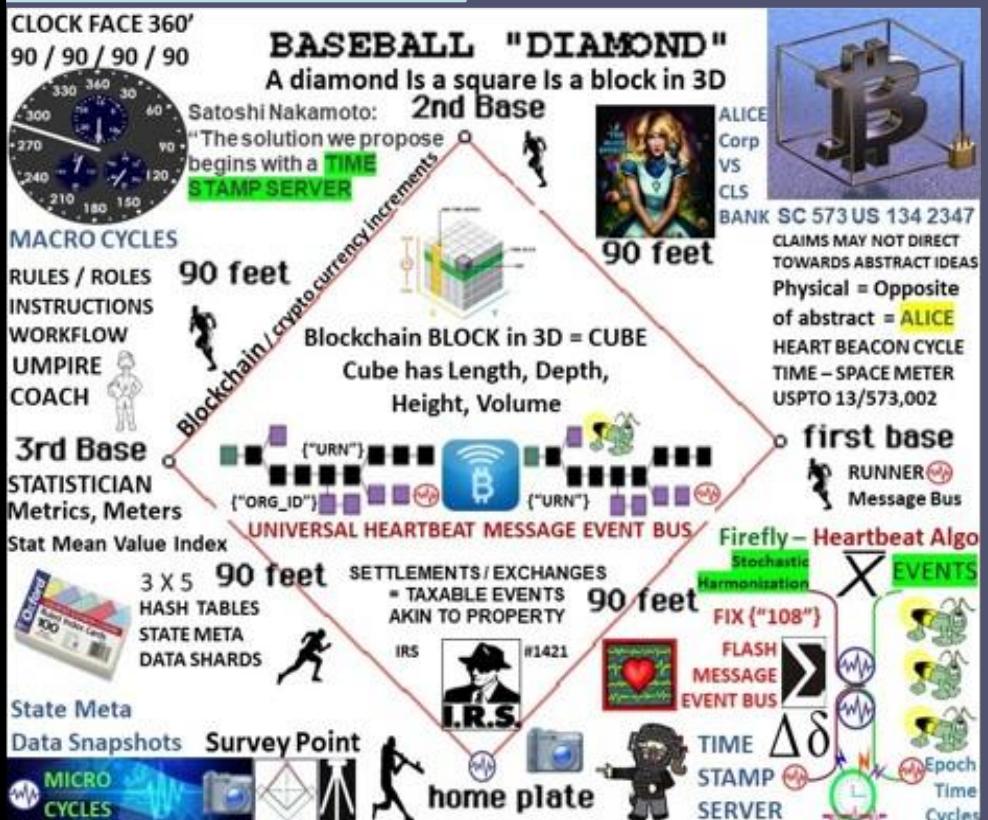
Eco Economic Epochs
For Programmable \$\$\$
Programmable Economy
Re Monetize (Crypto) Currency
Symbol / Message Sets A.I.
FIREFLY Inspired
Heartbeat Algorithm
Message Event Bus





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

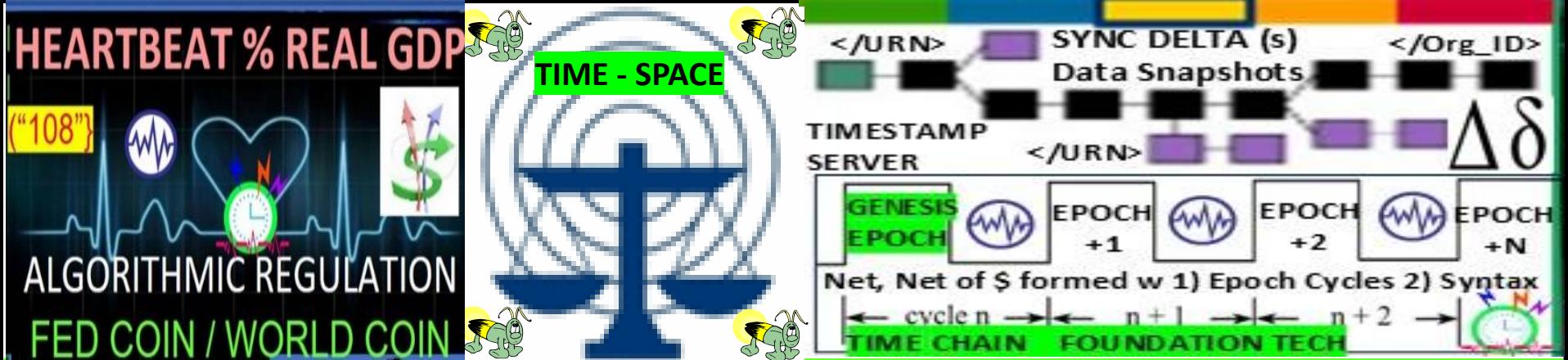
1919 BLACKSOX WORLD SERIES GAME FIXING RULING



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”





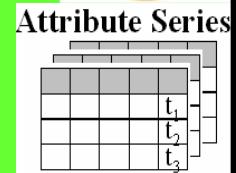
Banks, Tech firms' form teams to assert foundation tech as a legal basis for IP intellectual property claims for programmable \$\$\$ DeFI / TRADEFI

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)

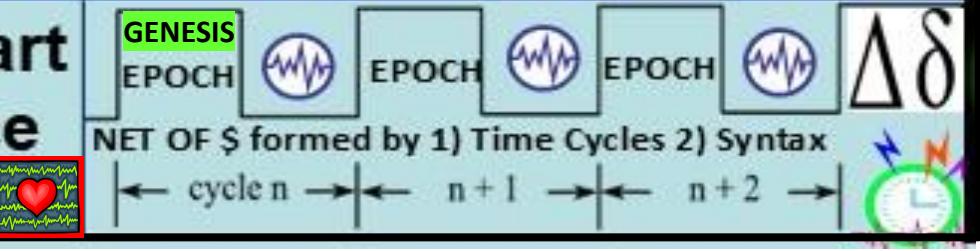


SOUND WAVES enable
Different types of quantum tech to "talk"



TIME EPOCHS & SYNTAX = FOUNDATION TECH

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



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 ?

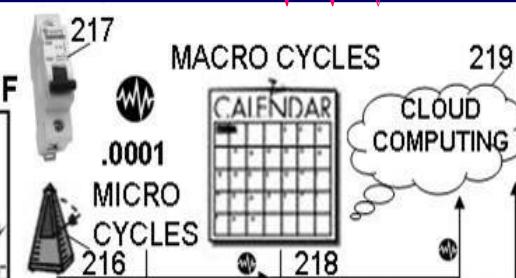
<https://intelligenteconomist.com/microtransactions/>

REPLACEMENT SHEET

BUILDING BLOCKS

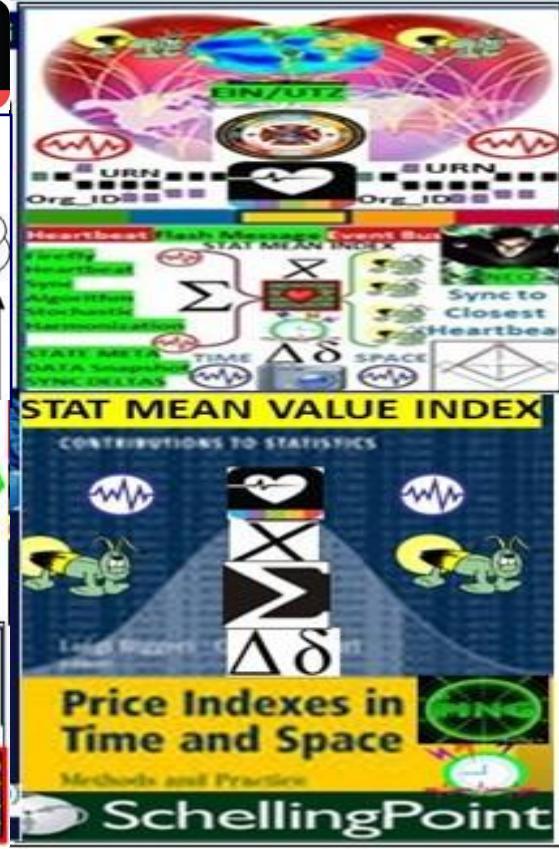
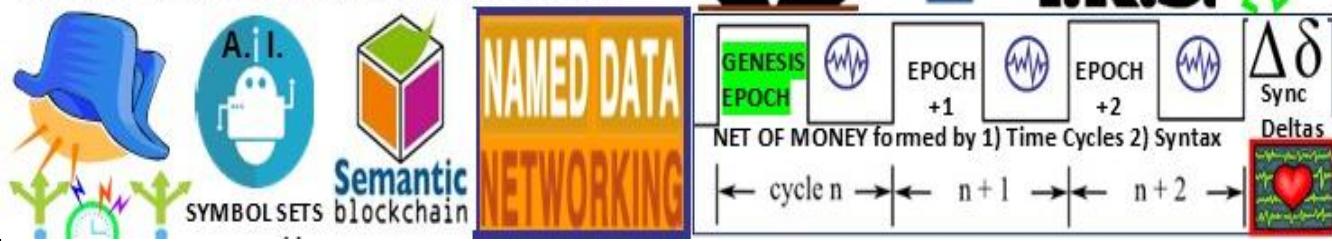
201

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





Eco Economic Epochs

Distributed Event Processing

Distributed State Machine

DEFI FINTECH IP WARS / Litigation Foundation Tech



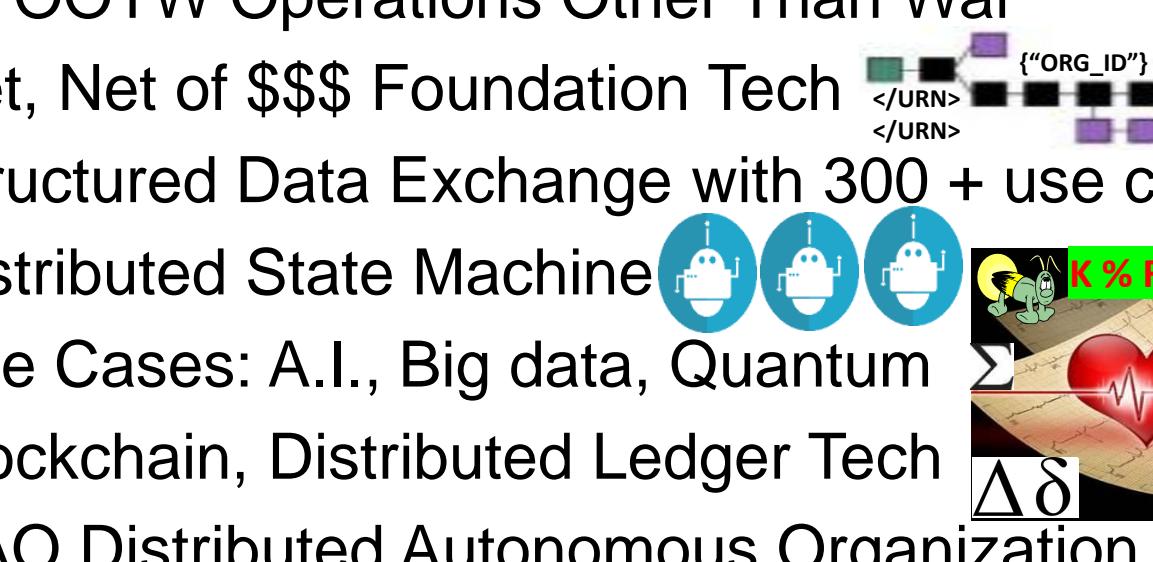
SWORDS to PLOWSHARES

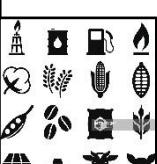
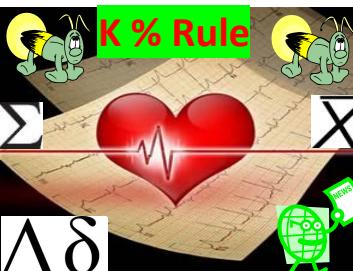


The logo features a blue digital camera icon on the left, followed by the text "USPTO 13/573,002" in large blue letters, and "573 U.S. 134 SCt 2347" in smaller blue letters below it.



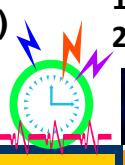
**Symbols
Rule
The World
OPSCODE
BREVITY
CODES
Mapped
To symbols
2525A,C D**

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



Federation
Gateway

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

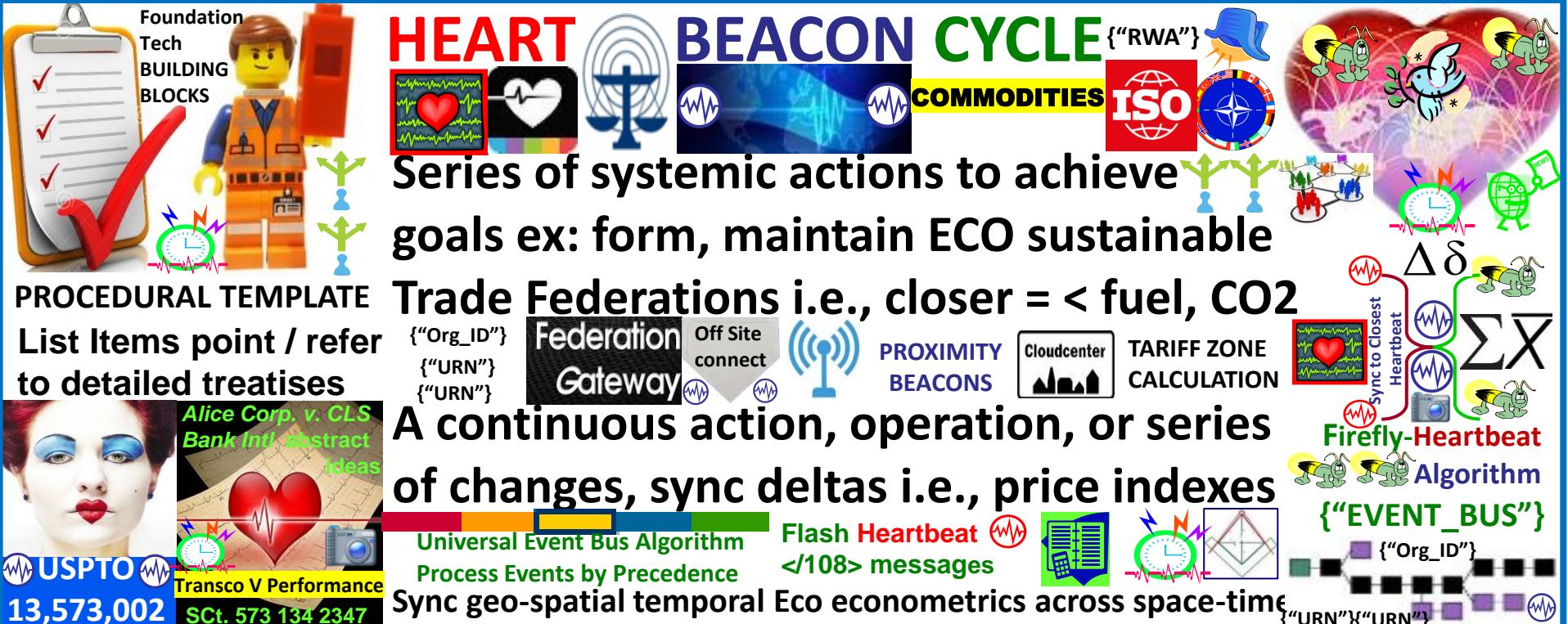


Net, Net of \$\$\$ money consists:

- 1) Epoch Time Cycles
- 2) Syntax used / not in epochs



HET START-STOP Time to LIVE



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





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 UTZ SYNC SYNC
PROCESSING PULSE DELTAS



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



UTZ STOCHASTIC HARMONIZATION



Universal Metrics / Meters

$\Sigma \Delta$

Fix ("108")

RFID

TARIFF TOOL ZONE CALCULATION

\$\$\$

Sync Delta State Meta Data Snapshots

ON / OFF SHORE

BTC

TIME-SPACE SYNC

ECO ECONOMIC HEARTBEAT

(\$\$)

Int'l Date Line

Sync Delta State Meta Data Snapshots

ON / OFF SHORE

BTC

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ECO ECONOMIC HEARTBEAT

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ON / OFF SHORE

BTC

TIME-SPACE SYNC

ECO ECONOMIC HEARTBEAT

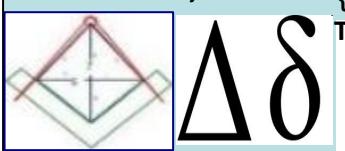
(\$\$)

THE TERRA (TRC)

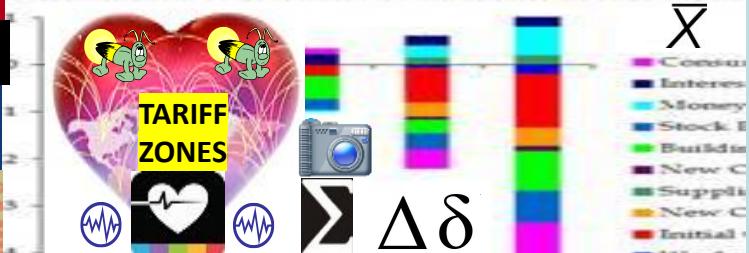
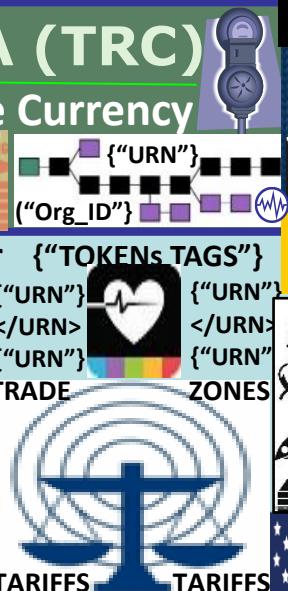
Trade Reference Currency



SLA: Closer = Cheaper {
Closer = Less Fuel {"UP"
= Less Time, CO2 </UP>
"LUB"



DEMURRAGE FEES MICRO PAYMENTS



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



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



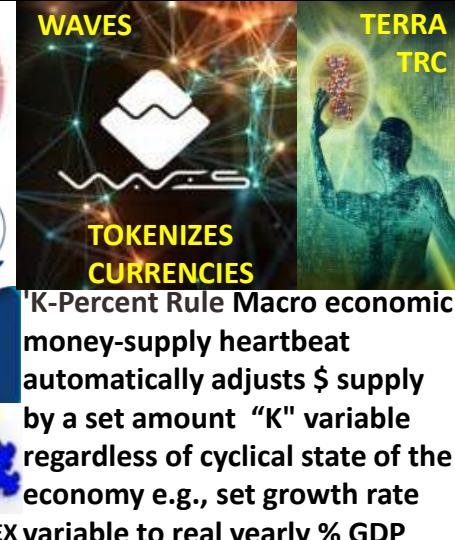
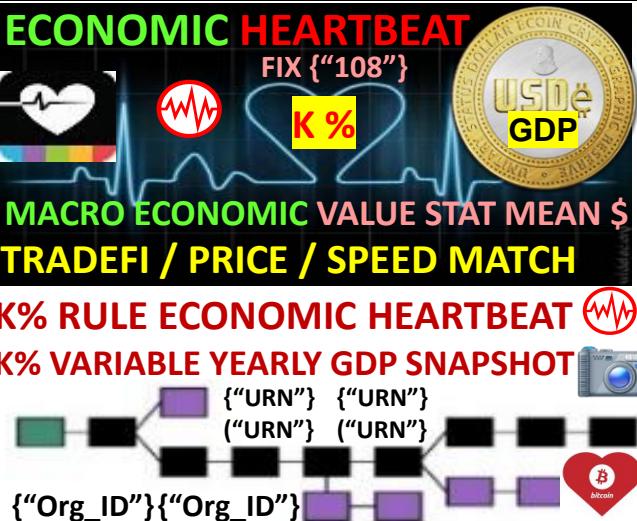
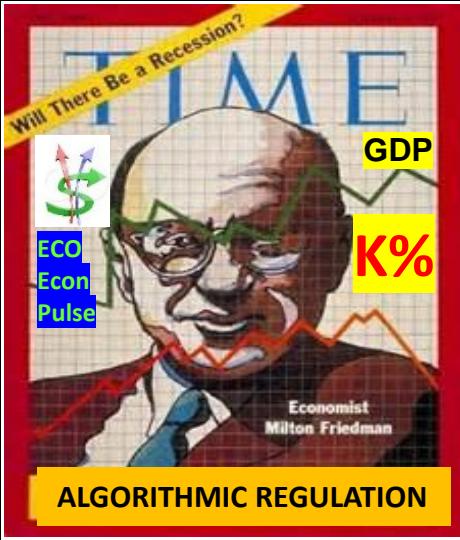
Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic “heartbeat” events approximately at the same time. It differs from classical clock sync in that nodes are not interested in counting cycles to agree on the ID of the current clock cycle. There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



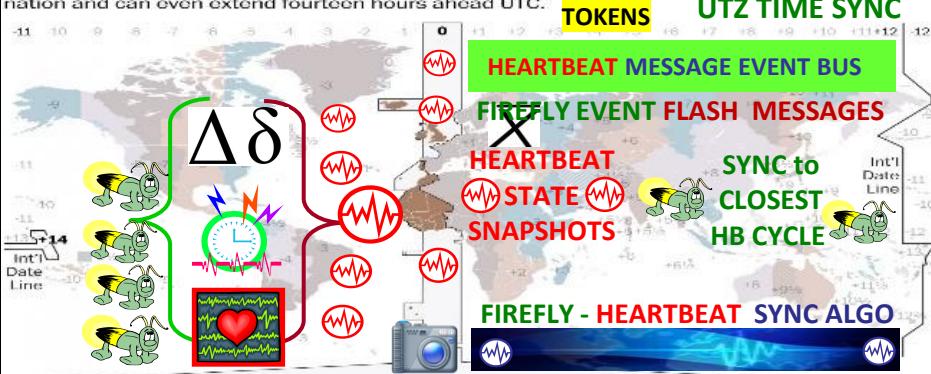
French newspaper "Le Fédériste"
"L'Europa monnaie de la paix"
Money of peace" Born Jan 1st 1933 \$\$\$

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

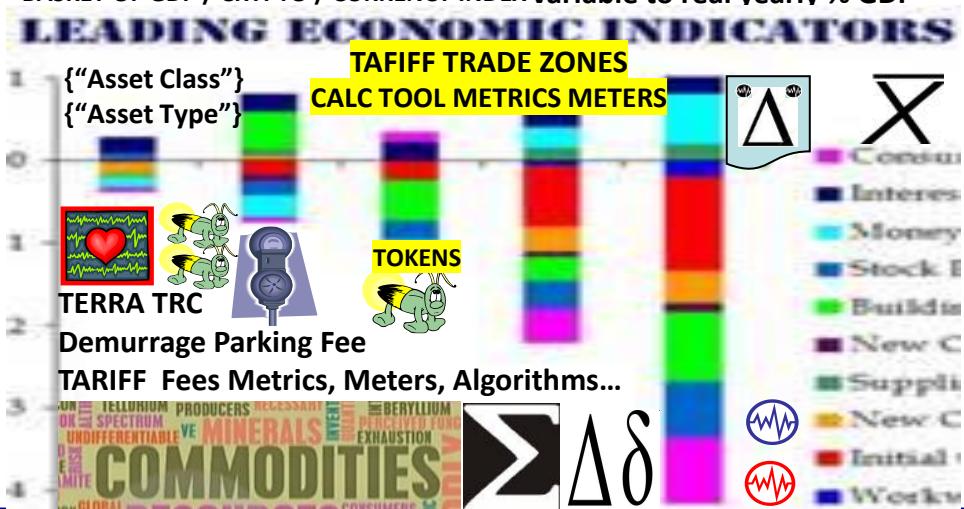
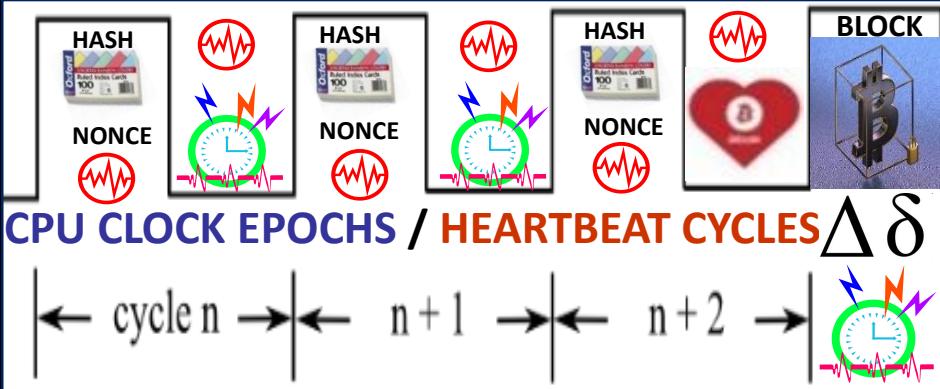




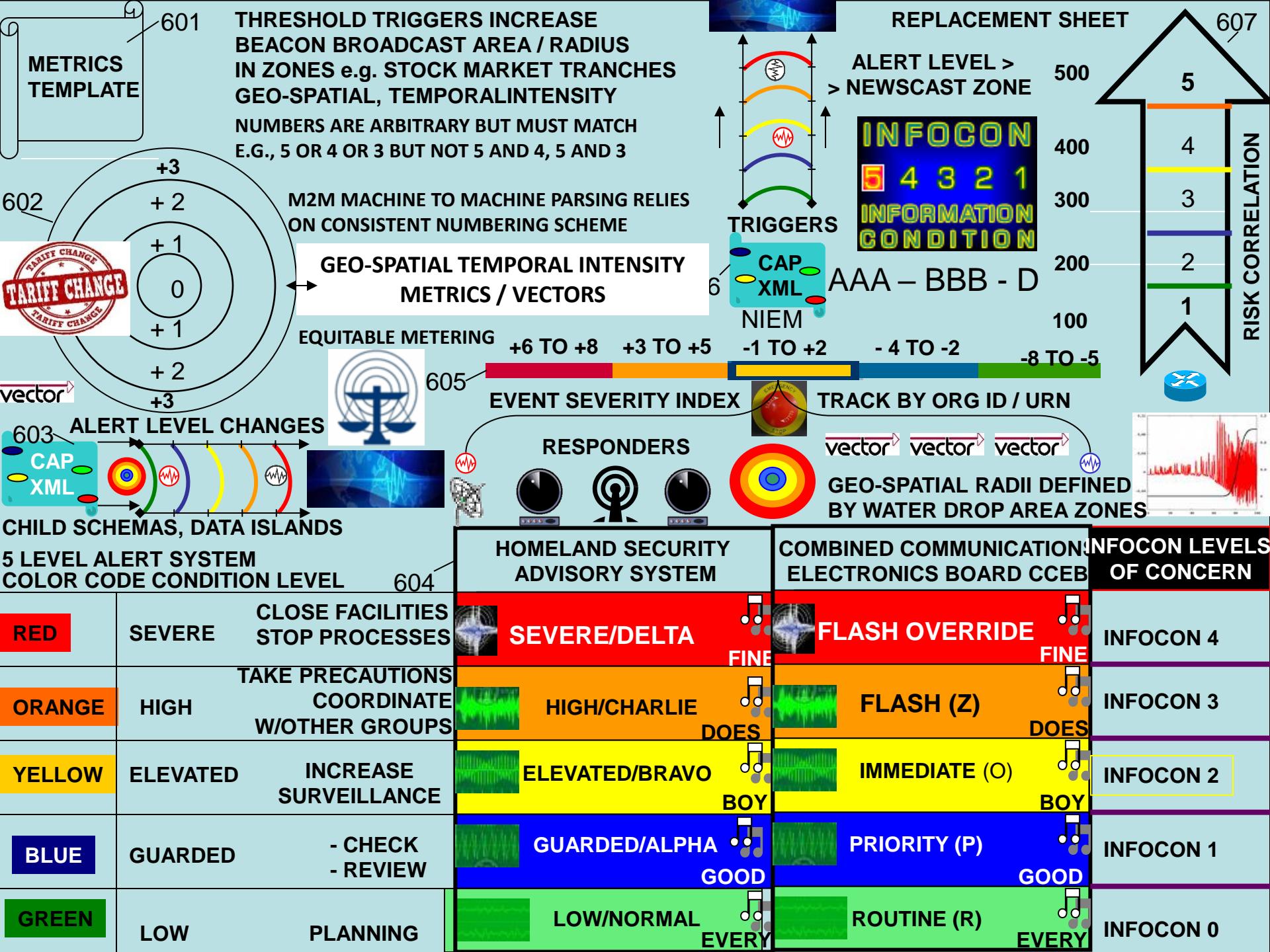
The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours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



"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

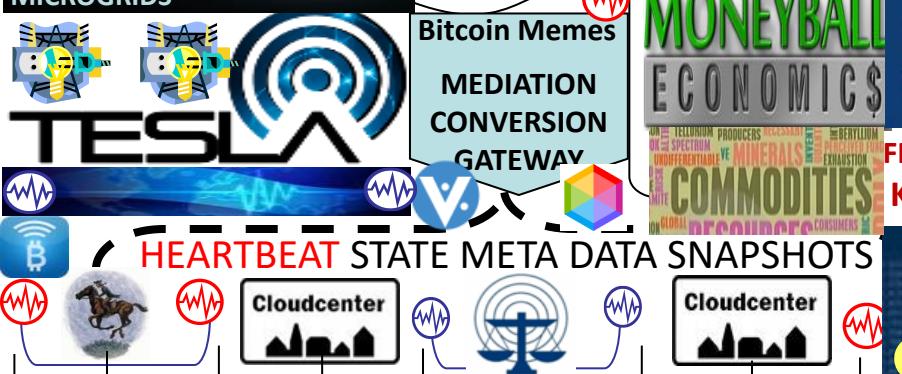
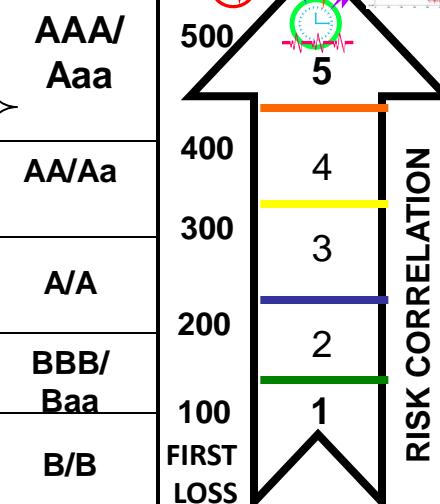


</FILTERS>{"FILTERS"}
</CLASS_TYPE>



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

LAST LOSS



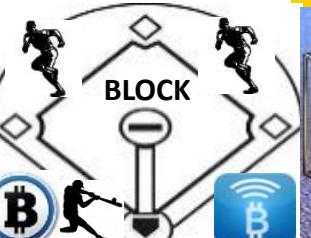
IEEE 802.15.4 OASIS MQTT

TELEMETRY TRANSPORT

IEEE 802.1AG HOP BY HOP

DETECTION

Bitcoin = Property



BLOCKTIME ARBITRAGE



Blockchain Timestamps



Triangulation

Euclidian Geo

GPS GEO LOC

DATE TIME STAMP

NDN </INTEREST>

NDN {"DISTANCE"}

Demurrage Charges

vector

Multi-Meme Metrics

EVENT BUS

Match to Closest

Heartbeat Cycle

FIREFLY-HEARTBEAT

ALGORITHM

$\Delta\delta$
Heartbeat Snapshots



$\Delta\delta$



BLOCKCHAIN PARSING



Clock
Clock adjusted



Firefly Events
Strive to Sync
To Closest
Heartbeat



ERLANG



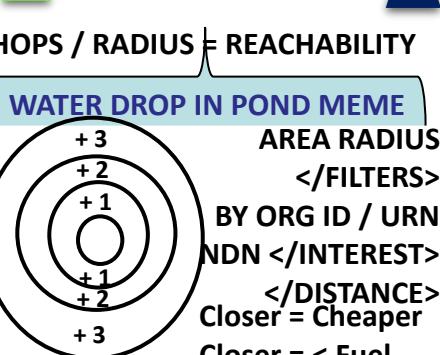
Water Drop in Pond Meme



AREA RADIUS



</FILTERS>
BY ORG ID / URN
NDN </INTEREST>
</DISTANCE>
Closer = Cheaper
Closer = < Fuel

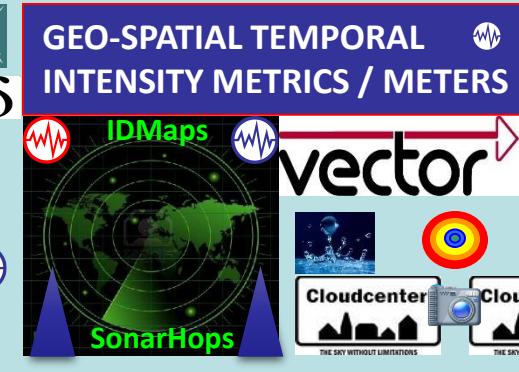
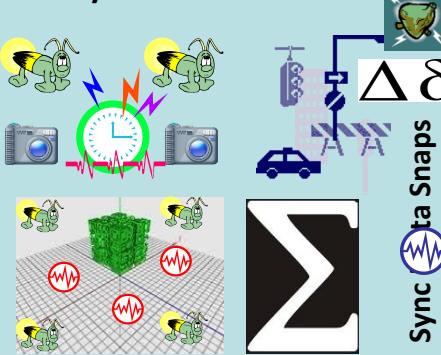




IDMaps: Global Internet Host Distance Estimation Service



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



IDMaps scalable Internet-wide architecture measures, disseminates distance information



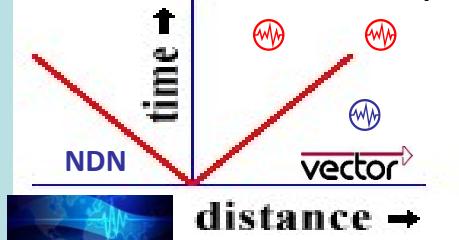
HOP COUNTS



REACHABILITY



/localhost/nfd/fib/add-nexthop



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



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

Name Prefix
<Org_ID> Trie (NPT)



NDN NAMES

NDN NAMED DATA NETWORK RIB /
FIB Datasets event notification

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

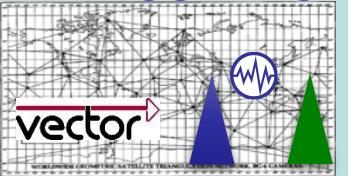


NDN INTEREST LENGTH
= DISTANCE BY HOPS

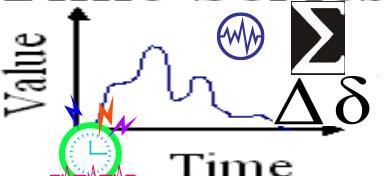
NDN
INTEREST

IS DATA
FRESH ?

TRIANGULATION



Time Series



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

Datasets and Event Notification

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

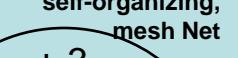
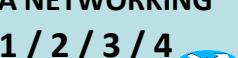
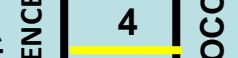
GEO-SPATIAL TEMPORAL INTENSITY METRICS, METERS, VECTORS, TARIFF

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



XML	INFOCON
MTF	5
300 +	4
MSG	3

INFOCON
INFORMATION CONDITION



Geo-Spatial Temporal Intensity NOVEL METRICS / METERS:



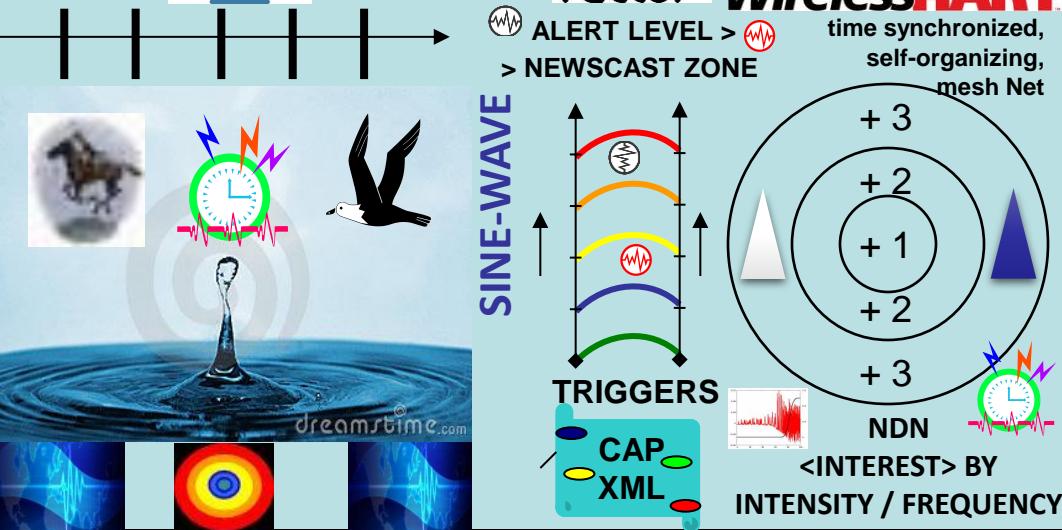
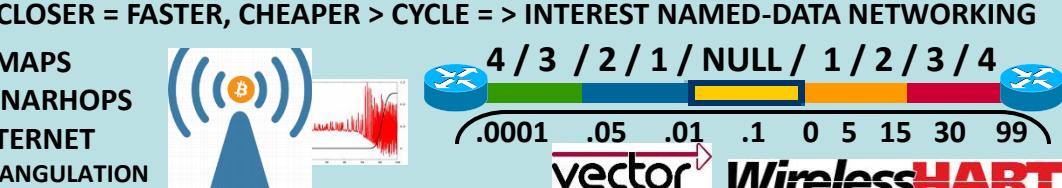
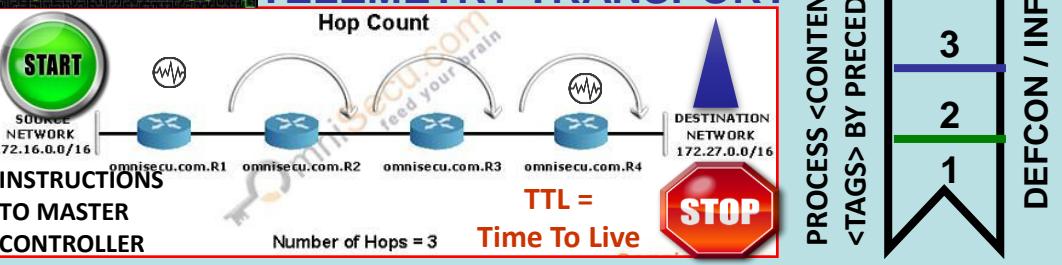
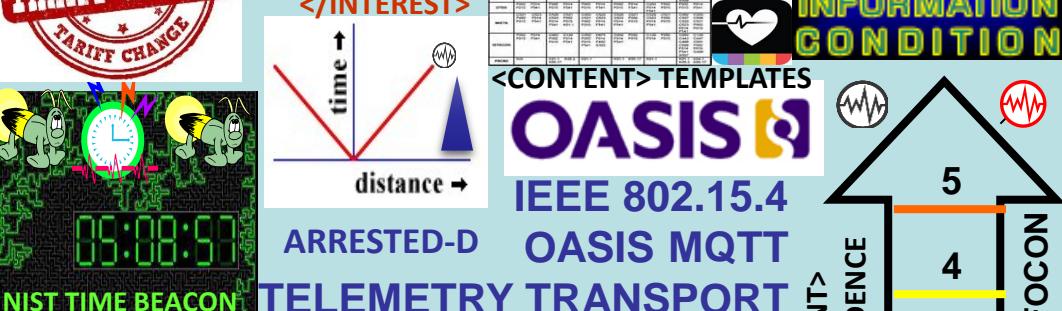
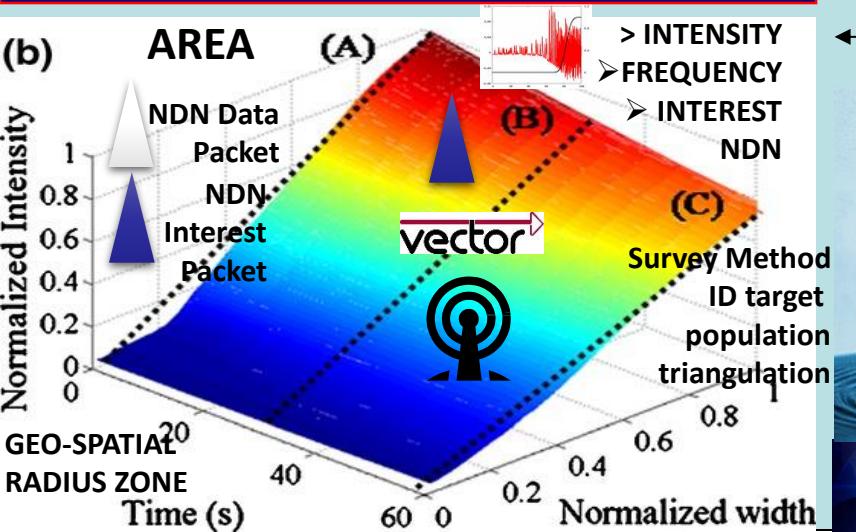
Paul Revere = linear, sequential



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

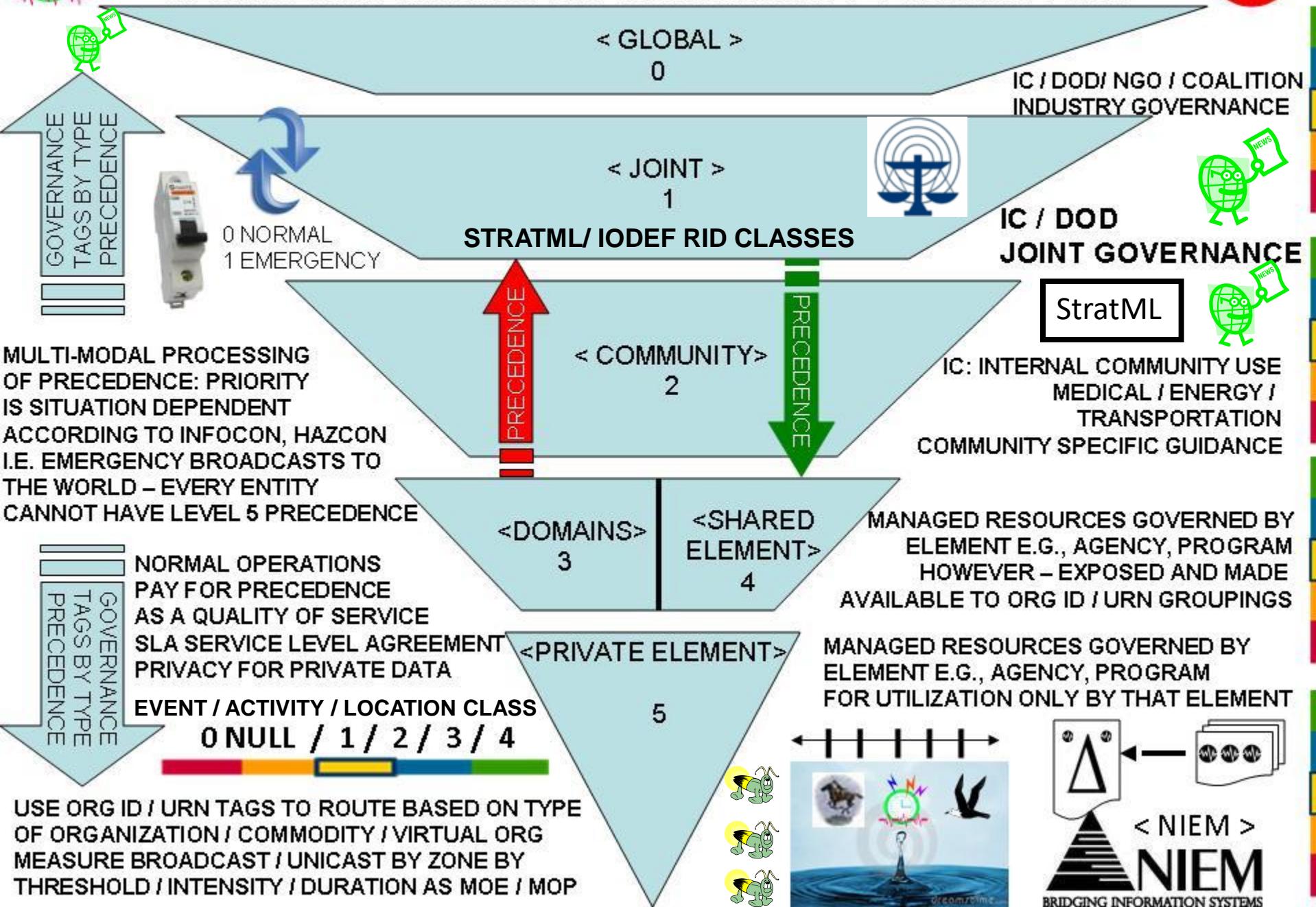
TIME STAMP BY Org ID, URN Before FUSION CENTER

Position of a point in space relative to another point





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



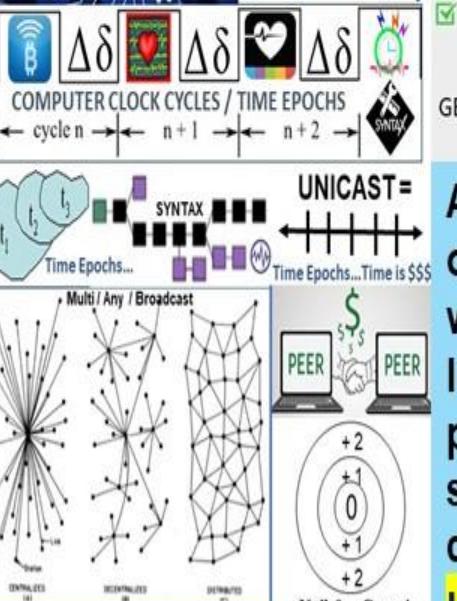
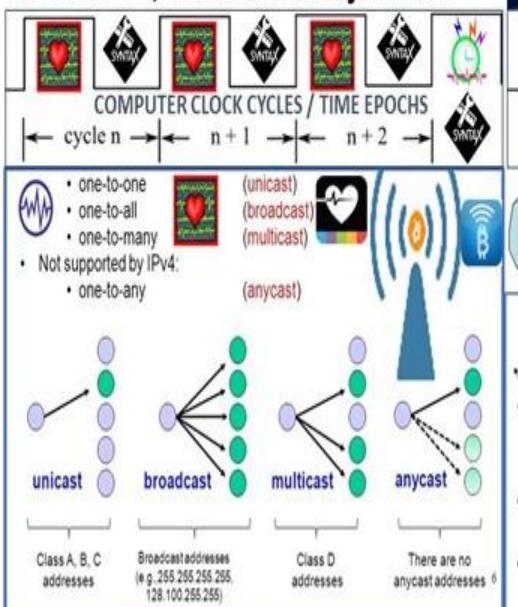
Foundation Technology Trinity:

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...

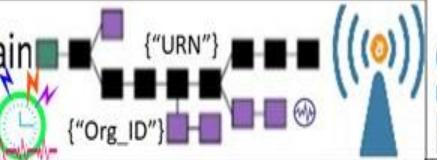


All things internet, programmable net of money are formed using:
 1) Epoch Time Cycles to 2) process (not) syntax as instructions

Epoch Time Cycles / Syntax

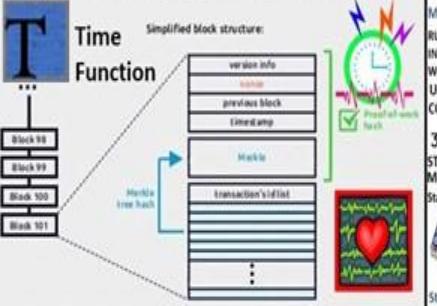
Internet / Internet of Money building blocks

Satoshi Bitcoin Blockchain
Time Stamp Server



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)).
Merkle (A summary hash from the block's transaction tree).

Transaction's id list (Set of transaction's identification hashes, that was included into the block's merkle 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



Structured Data Exchange

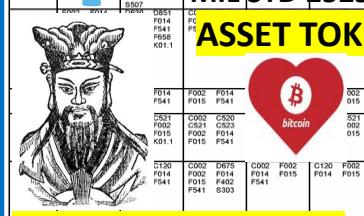


SYNTAX LEXICON
ROSETTA STONE

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

{"URN"} {"TRANSACTION ID"}

MESSAGE TEXT FORMAT :

SEG RPT OCC CLASSNAME SETID SEQ FIELD OCCURRENCE SET FORMAT NAME

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

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

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



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



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



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



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



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



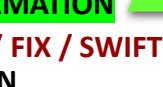
M 11NUPRES GENTEXT 9 /M /M // (NU) 1.B FRIENDLY FORCES / TRADE FEDERATION



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



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



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



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



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



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



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



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



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



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



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

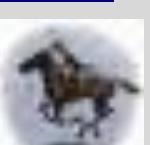
SYMBOLS	Friend	Neutral	Hostile	DICAL EVAC & HOSPITALISATION
	Partner		Competitor	M - MILITARY OPERATIONS

TOKENIZED ECONOMY BREVITY CODE OPSCOSE MAPPET TO SYMBOLS



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		A.I. 	F002 F015 S201	C203 C400 D630 E500 F002 F014		
AFATDS	F002 F014 F015 F541 S201	INFOCON  5 4 3 2 1 INFORMATION CONDITION		M2M 			
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	A423 A659 A656 A690 C002 C203 C400 C505 F002 F014 F015 F541	 Rosetta Stone  Syntax Lexicon  Coder's Guide	A423 C505 F014 F015 F541 S201	"SYMBOLS RULE THE WORLD"  

MESSAGE CATALOG

300 + Use Cases

Data Elements: entity, attribute, relationship equivalents

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

300 + Use Cases		Information Categories and Examples						
Object Categories	Examples	Location	Movement	Identify	Status	Activity	Intent	
OOB	SYNTAX LEXICON	STRUCTURED DATA lat/long	EXCHANGE spd/hdg	Message country / alliance, type/class	Sets readiness	targeting, reconitering	COA {"Java JS"}	
		Machine Trust Language MTL		CDL Contract Description Language				
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 Entity	Class Diagram Class	Relational Database Table	Object DBMS Class	XML DTD / Schema Element	TADILs Message
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/depth	Attribute Attribute	PURCHASE CODES Domain Value	Field / Column Instance, Value	Object DBMS Attribute	XML DTD / Schema Child Element or Element Attribute	MTF TADILs FFIRN / FFN / FUDN DUI FUD
				TOKENS				

Information Elements Roles

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



FFUDN: Field Format Unit Designator

EFIRN Field Format Index Reference #

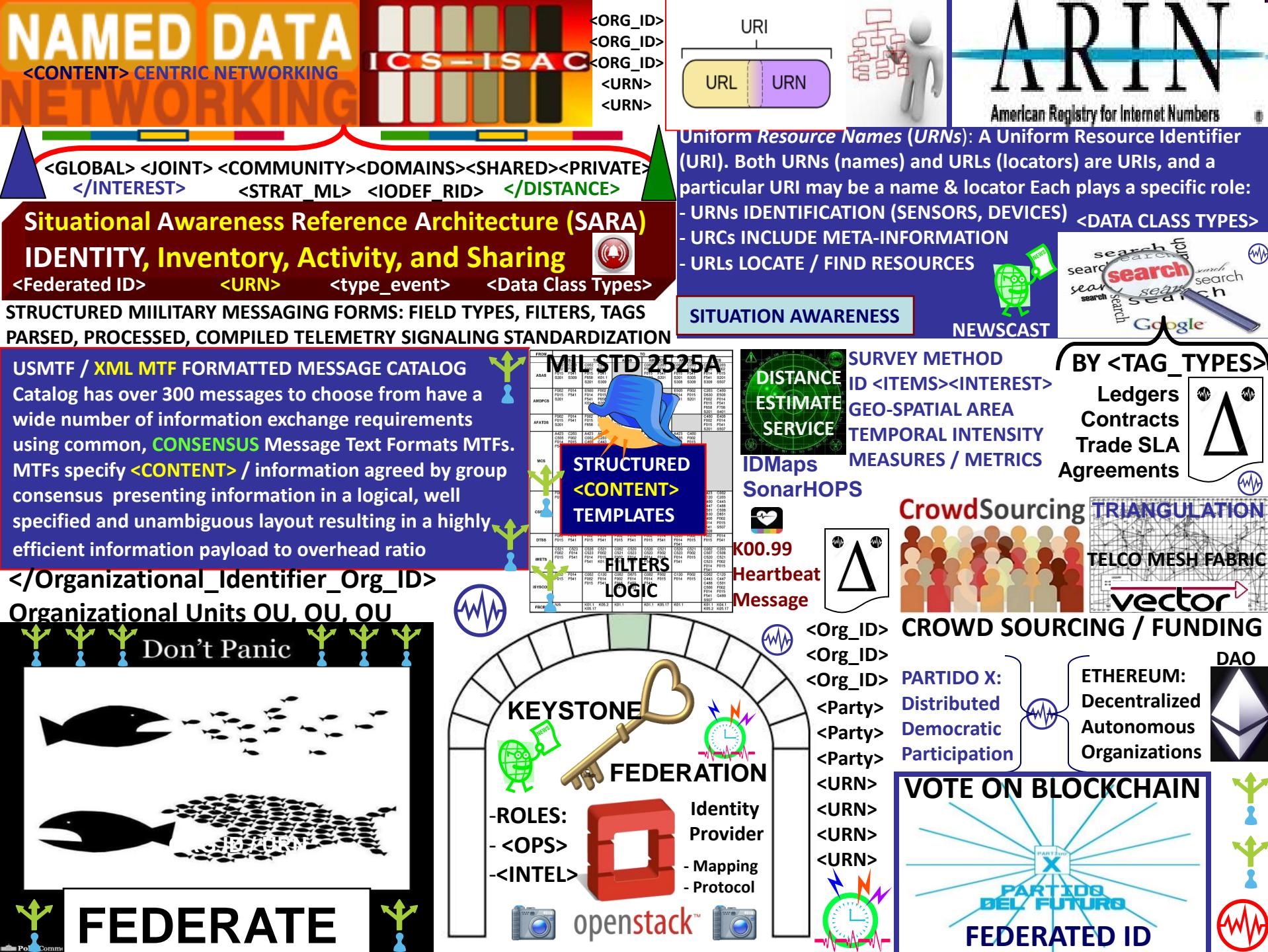
Structured military messaging ID's messages, message sets, data element, symbol fields <108>



PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES

DATA		SYSTEM FUNCTIONS		PERFORMANCE	
11.4 - Classification		11.8 - Kinematics			
11.4.1 - Category		11.8.1 - Pos / Vel / Acc (PVA)			
11.4.1.1 - Confidence Level		11.8.1.1 - Acceleration			
11.4.1.2 - Estimate Type		11.8.1.1.1 - Angular			
11.4.1.2.1 - Alternative		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	
11.4.1.3.4 - Substance				1.2.4 - Smooth / D	
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					



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

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 STAMDARD MAN – MACHINE INTERFACE

USE CASE: standards adherence support for IEEE, ITU, 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	GCCS-A	TAIS	ASAS	AMDPSCS	AFATDS	CODE GUIDE
ASAS	C002 C203 F014 F541 S201 S309	C002 C203		C002 C203 F014 F541 S201 S309	C002 C203 F014 F541 S201 S309	MIL STD 2525A, B, C, D ["URN"] {"Org_ID"}
AMDPSCS			OPSCODE BREVITY CODES			ISO
AFATDS	F002 F014 F541 S201					Patent Application 9/11 2003: Method to commercialize structured military messaging 20022
MCS	C203 A659 C002 C203 C400 C443 C401 C444 C501 C503 C504 C505 C507 C509 F002 F014 F015 F541 S201 S507					DoD Systems of Systems Engineering Structured Data Exchange MIL Standards / ISO Standards
TOKENS						BREVITY OPSCODES MAPPED TO SYMBOLS, SYMBOL SETS FOR A.I. ARTIFICIAL INTELLIGENCE MAN – MACHINE INTERFACE
SIOP						STANDARD, CONSISTENT SYMBOLS
ASSET TOKENS						
Token Economy						

MESSAGE CATALOG 300 + Use Cases

Object Categories	Examples	Information Categories and Examples
OOB	SYNTAX LEXICON	STRUCTURED DATA EXCHANGE Message Sets
Infrastructure	Comm, power, transportation, water/sewer	Machine Trust Language MTL
Sociological	culture, religion, economic, ethnic, government, history, languages	ER Model Class Diagram Relational Database Object DBMS XML DTD / Schema
Geophysical	Terrain, weather, climatology, oceanography, astrometry	Domain Value PURCHASE CODES Instance, Value TOKENS

Data Elements: entity, attribute, relationship equivalents

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

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

STANDARD, CONSISTENT SYMBOLS

Information Elements Roles

- COI Determination Org Interaction
- Search and Discovery
- Ontologies STANDARDS
- Taxonomies REFERENCE
- Metadata Attributes / Filters ("Org_ID") ("URN") </URN> </URN> FILTERS

FFUDN: Field Format Unit Designator #

FFIRN Field Format Index Reference #

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

({"108"}) Firefly-Heartbeat Hash Messages

PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES DATA SYSTEM FUNCTIONS PERFORMANCE

11.4 - Classification
11.4.1 - Category
11.4.2 - Confidence Level
11.4.3 - Contracting Type
11.4.4 - Alternative
11.4.4.2 - Evaluated PURCHASE CODES
11.4.4.3 - Value

SYMBOL Friend Neutral Hostile Competitor

2525C Partner



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

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11.4.4.3 - Value

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2525C Partner

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

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

CONFUCIOUS

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

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



SHARING:

COMMON <TAGS>

<Organizational_ID>

Resource Names <URN>

<Time_Stamps>

<State-Meta_Data>

<DATA_CLASS_TYPE>

<Heartbeat_snapshots>

<TAG> LIBRARY
TEMPLATES

NAMED DATA
NETWORKING
<Content> Centric

<ELEMENTS>

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

STRATEGIC
MARKUP

StratML

LANGUAGE

GEO-SPATIAL TEMPORAL
INTENSITY METRICS / METERS

IDMaps



vector

tripwire™

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

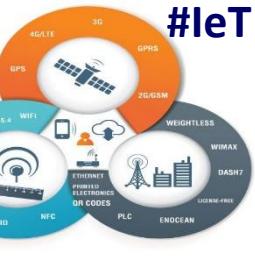
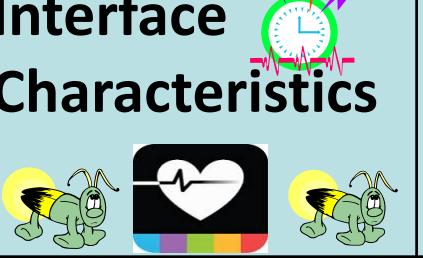
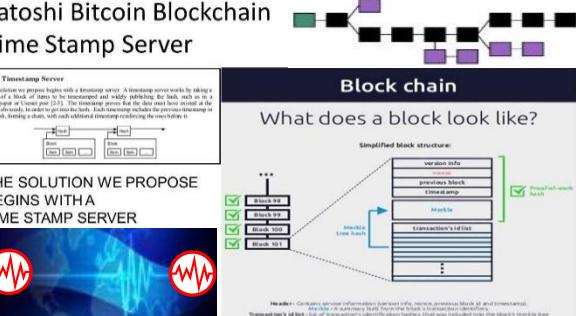
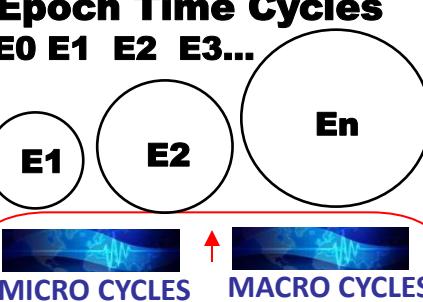
STRUCTURED
<CONTENT>
TEMPLATES

CYBER SECURITY
CONTENT
LEXICON ROSETTA STONE

USMTF / XML MTF FORMATTED MESSAGE CATALOG

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

FROM	TAB	ABA	AMOPCS	AFATOS	MCS
ABAD	F002 F014	F014 F022	F002 F014	F002 F014	F002 F014
	F001 F021	F021 F014	F001 F021	F001 F021	F001 F021
	F003 F023	F023 F014	F003 F023	F003 F023	F003 F023
	F004 F024	F024 F014	F004 F024	F004 F024	F004 F024
	F005 F025	F025 F014	F005 F025	F005 F025	F005 F025
	F006 F026	F026 F014	F006 F026	F006 F026	F006 F026
	F007 F027	F027 F014	F007 F027	F007 F027	F007 F027
	F008 F028	F028 F014	F008 F028	F008 F028	F008 F028
	F009 F029	F029 F014	F009 F029	F009 F029	F009 F029
	F010 F030	F030 F014	F010 F030	F010 F030	F010 F030
	F011 F031	F031 F014	F011 F031	F011 F031	F011 F031
	F012 F032	F032 F014	F012 F032	F012 F032	F012 F032
	F013 F033	F033 F014	F013 F033	F013 F033	F013 F033
	F014 F034	F034 F014	F014 F034	F014 F034	F014 F034
	F015 F035	F035 F014	F015 F035	F015 F035	F015 F035
	F016 F036	F036 F014	F016 F036	F016 F036	F016 F036
	F017 F037	F037 F014	F017 F037	F017 F037	F017 F037
	F018 F038	F038 F014	F018 F038	F018 F038	F018 F038
	F019 F039	F039 F014	F019 F039	F019 F039	F019 F039
	F020 F040	F040 F014	F020 F040	F020 F040	F020 F040
	F021 F041	F041 F014	F021 F041	F021 F041	F021 F041
	F022 F042	F042 F014	F022 F042	F022 F042	F022 F042
	F023 F043	F043 F014	F023 F043	F023 F043	F023 F043
	F024 F044	F044 F014	F024 F044	F024 F044	F024 F044
	F025 F045	F045 F014	F025 F045	F025 F045	F025 F045
	F026 F046	F046 F014	F026 F046	F026 F046	F026 F046
	F027 F047	F047 F014	F027 F047	F027 F047	F027 F047
	F028 F048	F048 F014	F028 F048	F028 F048	F028 F048
	F029 F049	F049 F014	F029 F049	F029 F049	F029 F049
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	F031 F051	F051 F014	F031 F051	F031 F051	F031 F051
	F032 F052	F052 F014	F032 F052	F032 F052	F032 F052
	F033 F053	F053 F014	F033 F053	F033 F053	F033 F053
	F034 F054	F054 F014	F034 F054	F034 F054	F034 F054
	F035 F055	F055 F014	F035 F055	F035 F055	F035 F055
	F036 F056	F056 F014	F036 F056	F036 F056	F036 F056
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	F038 F058	F058 F014	F038 F058	F038 F058	F038 F058
	F039 F059	F059 F014	F039 F059	F039 F059	F039 F059
	F040 F060	F060 F014	F040 F060	F040 F060	F040 F060
	F041 F061	F061 F014	F041 F061	F041 F061	F041 F061
	F042 F062	F062 F014	F042 F062	F042 F062	F042 F062
	F043 F063	F063 F014	F043 F063	F043 F063	F043 F063
	F044 F064	F064 F014	F044 F064	F044 F064	F044 F064
	F045 F065	F065 F014	F045 F065	F045 F065	F045 F065
	F046 F066	F066 F014	F046 F066	F046 F066	F046 F066
	F047 F067	F067 F014	F047 F067	F047 F067	F047 F067
	F048 F068	F068 F014	F048 F068	F048 F068	F048 F068
	F049 F069	F069 F014	F049 F069	F049 F069	F049 F069
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	F065 F085	F085 F014	F065 F085	F065 F085	F065 F085
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	F067 F087	F087 F014	F067 F087	F067 F087	F067 F087
	F068 F088	F088 F014	F068 F088	F068 F088	F068 F088
	F069 F089	F089 F014	F069 F089	F069 F089	F069 F089
	F070 F090	F090 F014	F070 F090	F070 F090	F070 F090
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	F072 F092	F092 F014	F072 F092	F072 F092	F072 F092
	F073 F093	F093 F014	F073 F093	F073 F093	F073 F093
	F074 F094	F094 F014	F074 F094	F074 F094	F074 F094
	F075 F095	F095 F014	F075 F095	F075 F095	F075 F095
	F076 F096	F096 F014	F076 F096	F076 F096	F076 F096
	F077 F097	F097 F014	F077 F097	F077 F097	F077 F097
	F078 F098	F098 F014	F078 F098	F078 F098	F078 F098
	F079 F099	F099 F014	F079 F099	F079 F099	F079 F099
	F080 F0100	F0100 F014	F080 F0100	F080 F0100	F080 F0100
	F081 F0101	F0101 F014	F081 F0101	F081 F0101	F081 F0101
	F082 F0102	F0102 F014	F082 F0102	F082 F0102	F082 F0102
	F083 F0103	F0103 F014	F083 F0103	F083 F0103	F083 F0103
	F084 F0104	F0104 F014	F084 F0104	F084 F0104	F084 F0104
	F085 F0105	F0105 F014	F085 F0105	F085 F0105	F085 F0105
	F086 F0106	F0106 F014	F086 F0106	F086 F0106	F086 F0106
	F087 F0107	F0107 F014	F087 F0107	F087 F0107	F087 F0107
	F088 F0108	F0108 F014	F088 F0108	F088 F0108	F088 F0108
	F089 F0109	F0109 F014	F089 F0109	F089 F0109	F089 F0109
	F090 F0110	F0110 F014	F090 F0110	F090 F0110	F090 F0110
	F091 F0111	F0111 F014	F091 F0111	F091 F0111	F091 F0111
	F092 F0112	F0112 F014	F092 F0112	F092 F0112	F092 F0112
	F093 F0113	F0113 F014	F093 F0113	F093 F0113	F093 F0113
	F094 F0114	F0114 F014	F094 F0114	F094 F0114	F094 F0114
	F095 F0115	F0115 F014	F095 F0115	F095 F0115	F095 F0115
	F096 F0116	F0116 F014	F096 F0116	F096 F0116	F096 F0116
	F097 F0117	F0117 F014	F097 F0117	F097 F0117	F097 F0117
	F098 F0118	F0118 F014	F098 F0118	F098 F0118	F098 F0118
	F099 F0119	F0119 F014	F099 F0119	F099 F0119	F099 F0119
	F0100 F0120	F0120 F014	F0100 F0120	F0100 F0120	F0100 F0120
	F0101 F0121	F0121 F014	F0101 F0121	F0101 F0121	F0101 F0121
	F0102 F0122	F0122 F014	F0102 F0122	F0102 F0122	F0102 F0122
	F0103 F0123	F0123 F014	F0103 F0123	F0103 F0123	F0103 F0123
	F0104 F0124	F0124 F014	F0104 F0124	F0104 F0124	F0104 F0124
	F0105 F0125	F0125 F014	F0105 F0125	F0105 F0125	F0105 F0125
	F0106 F0126	F0126 F014	F0106 F0126	F0106 F0126	F0106 F0126
	F0107 F0127	F0127 F014	F0107 F0127	F0107 F0127	F0107 F0127
	F0108 F0128	F0128 F014	F0108 F0128	F0108 F0128	F0108 F0128
	F0109 F0129	F0129 F014	F0109 F0129	F0109 F0129	F0109 F0129
	F0110 F0130	F0130 F014	F0110 F0130	F0110 F0130	F0110 F0130
	F0111 F0131	F0131 F014	F0111 F0131	F0111 F0131	F0111 F0131
	F0112 F0132	F0132 F014	F0112 F0132	F0112 F0132	F0112 F0132
	F0113 F0133	F0133 F014	F0113 F0133	F0113 F0133	F0113 F0133
	F0114 F0134	F0134 F014	F0114 F0134	F0114 F0134	F0114 F0134
	F0115 F0135	F0135 F014	F0115 F0135	F0115 F0135	F0115 F0135
	F0116 F0136	F0136 F014	F0116 F0136	F0116 F0136	F0116 F0136
	F0117 F0137	F0137 F014	F0117 F0137	F0117 F0137	F0117 F0137
	F0118 F0138	F0138 F014	F0118 F0138	F0118 F0138	F0118 F0138
	F0119 F0139	F0139 F014	F0119 F0139	F0119 F0139	F0119 F0139
	F0120 F0140	F0140 F014	F0120 F0140	F0120 F0140	F0120 F0140
	F0121 F0141	F0141 F014	F0121 F0141	F0121 F0141	F0121 F0141
	F0122 F0142	F0142 F014	F0122 F0142	F0122 F0142	F0122 F0142
	F0123 F0143	F0143 F014	F0123 F0143	F0123 F0143	F0123 F0143
	F0124 F0144	F0144 F014	F0124 F0144	F0124 F0144	F0124 F0144
	F0125 F0145	F0145 F014	F0125 F0145	F0125 F0145	F0125 F0145
	F0126 F0146	F0146 F014	F0126 F0146	F0126 F0146	F0126 F0146
	F0127 F0147	F0147 F014	F0127 F0147	F0127 F0147	F0127 F0147
	F0128 F0148	F0148 F014	F0128 F0148	F0128 F0148	F0128 F0148
	F0129 F0149	F0149 F014	F0129 F0149	F0129 F0149	F0129 F0149
	F0130 F0150	F0150 F014	F0130 F0150	F0130 F0150	F0130 F0150
	F0131 F0151	F0151 F014	F0131 F0151	F0131 F0151	F0131 F0151
	F0132 F0152	F0152 F014	F0132 F0152	F0132 F0152	F0132 F0152
	F0133 F0153	F0153 F014	F0133 F0153	F0133 F0153	F0133 F0153
	F0134 F0154	F0154 F014	F0134 F0154	F0134 F0154	F0134 F0154
	F0135 F0155	F0155 F014	F0135 F0155	F0135 F0155	F0135 F01

Interface Name	HEARTBEAT Administration Interface [SCOP]					
Documentation URL	http://scop.sourceforge.net/ http://linuxvirtualserver.org/software/index.html					
API Information	 #leT					
Programmable Money World Computer / Blockchain	#Big_Data	Functionality Areas		Cloud Interface Management configuration, start, stop cloud services, edit configuration (heartbeat messages)	Cloudcenter	Cloudcenter
NIST TIME BEACON		API Operation Count		Web service access type Network Effects / A.I.	Web application, front end to [network, device, system, blockchain] heartbeat	Cloudcenter
Interface Characteristics		LANGUAGE / PLATFORM BINDINGS	PHP Java Erlang...	Cloudcenter		Cloudcenter
"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 "		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		Epoch Time Cycles E0 E1 E2 E3...	
QubitCoin Interval: Every 30 Seconds		<p>The solution we propose begins with a timestamp server. A timestamp server works by taking the current time and publishing the hash, such as in a timestamp or a time stamp [2]. The timestamp process that the data must have existed at the time it was timestamped. This is done by publishing the timestamped data on a public ledger, 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>Block chain</p> <p>What does a block look like?</p> <p>Simplified block structure:</p> <ul style="list-style-type: none"> Block info Previous Hash Timestamp Merkle Transactions id list <p>Headers: Contains version information (version info), previous block's hash (previous block), timestamp (timestamp), and a Merkle root hash (merkle root hash).</p> <p>Transactions: A list of transactions (tx) that are being added to the block.</p>				

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

HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

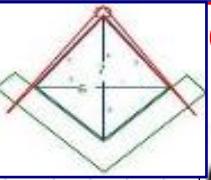
SC ALICE CORP VS CLS BANK: “claims may not direct towards abstract ideas”

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



BLOCKS / COINS PENDING ISSUE

B
A
C

$\Delta\delta$

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”

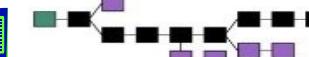
Coin never travel, but simply switch owners”

Step 1: prove coin ownership <Org_ID> Coin Issuer

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

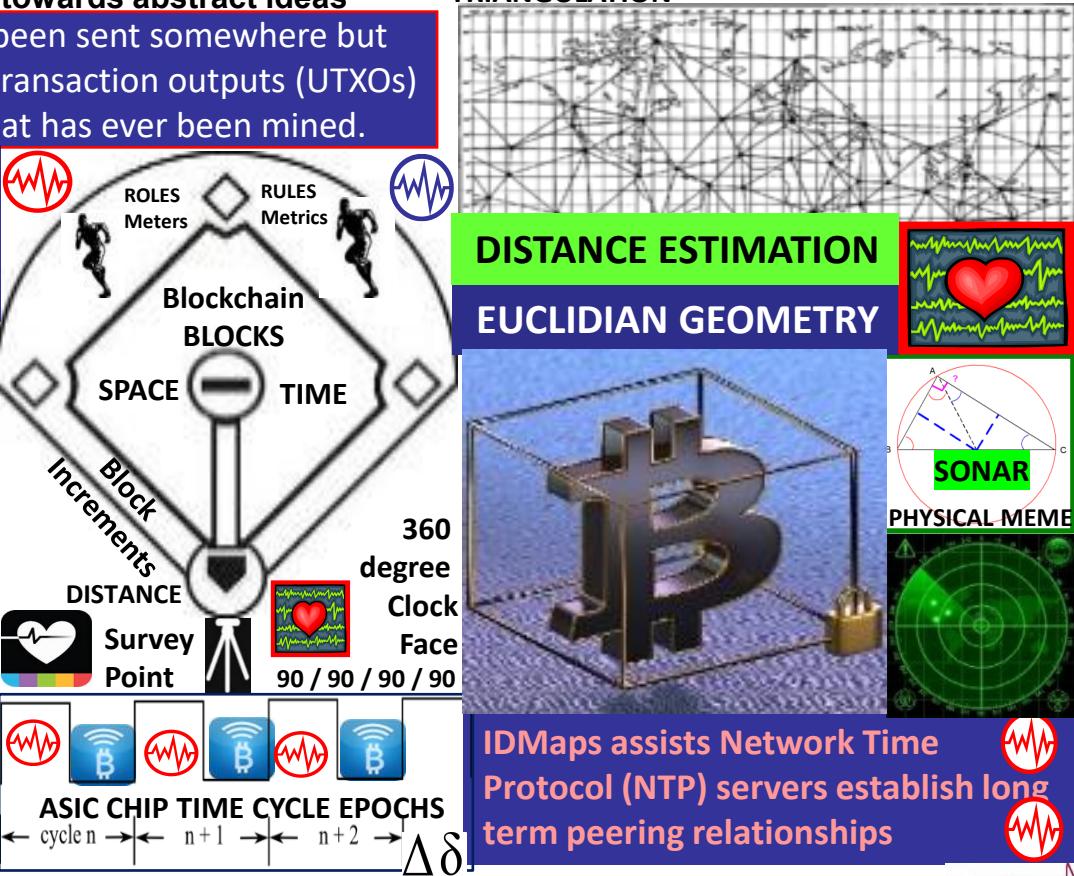
Step 3: specify ownership <Org_ID> issuing agent

Step 4: Issuing Org of Record adjudicates w buyer

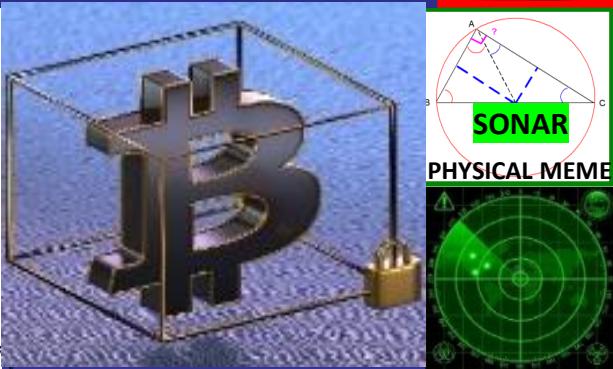


$\Delta\delta$

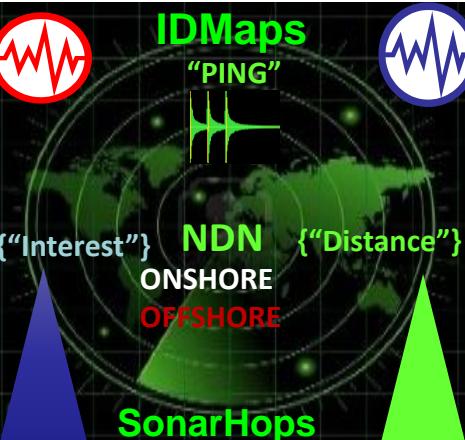
TRIANGULATION



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

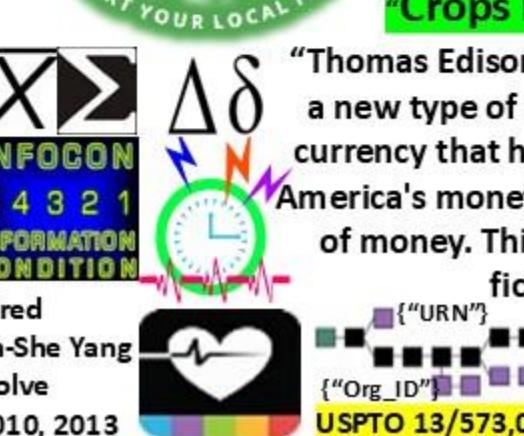


COMMODITY FUTURES TRADING COMMISSION



SLA Service Level Agreement
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

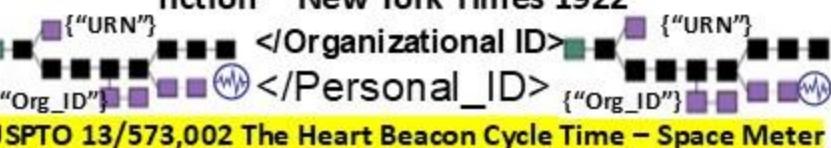


Edison's Monetary Option
Cambridge University Press 2009

"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

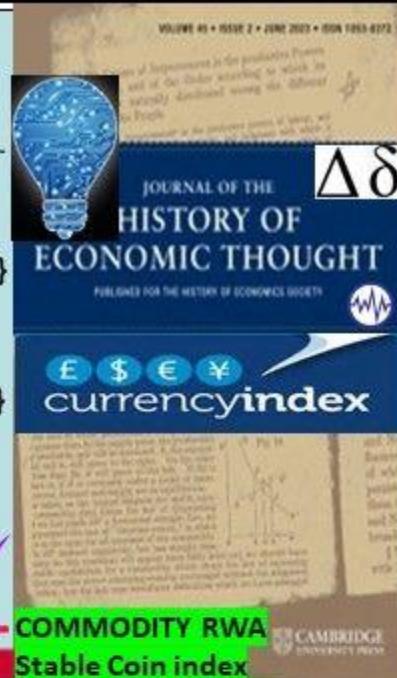


ALGORITHMIC STABLE COIN COMMODITY INDEX CURRENCY PROGRAMMABLE \$\$\$

BELT and ROAD
Trade Initiative



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



NETWORK
CENTRIC
OPERATIONS
INFOCON
4 3 2 1
INFORMATION
CONDITION



Thomas Edison's Monetary Option Cambridge University Press 2009

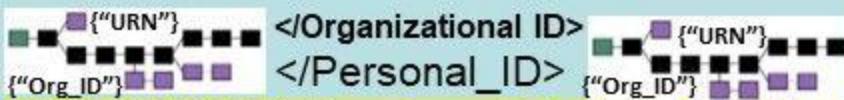
"Crops hold their value best over time"



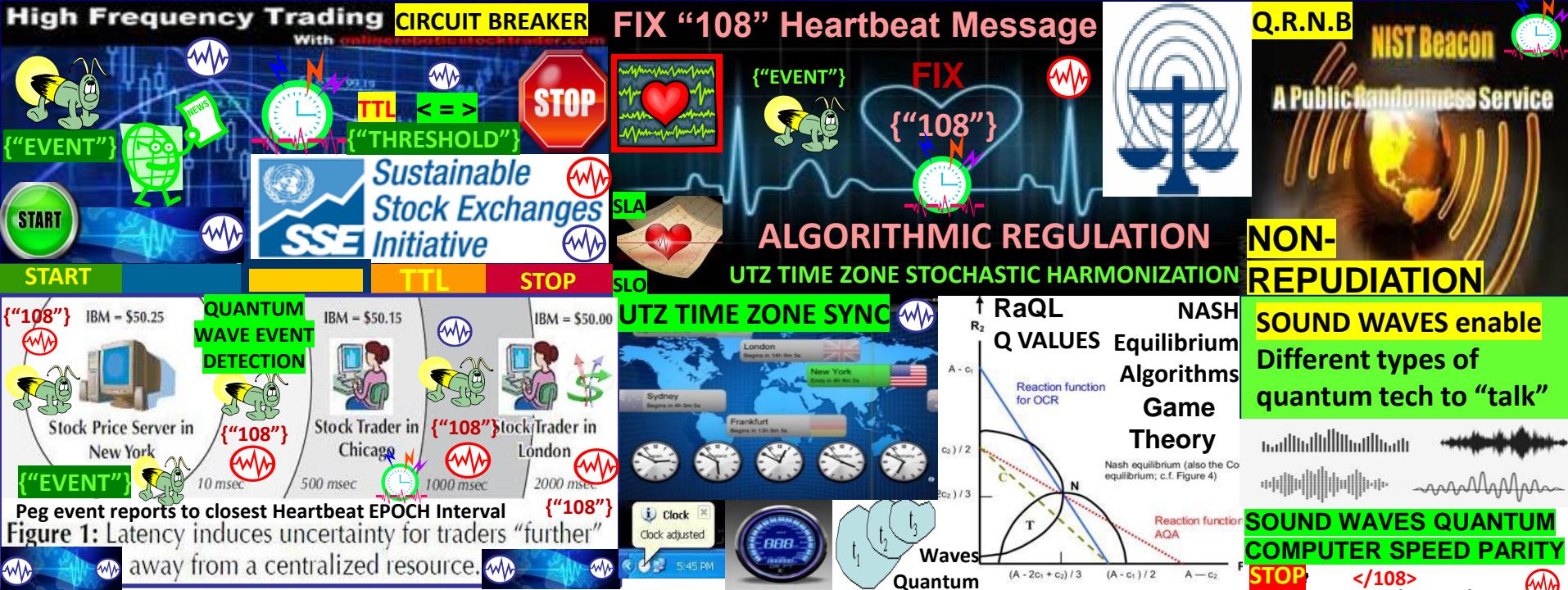
COMMODITY RWA
REAL WORLD ASSET
STABLE COIN INDEX

BY DAVID L. HAMMES

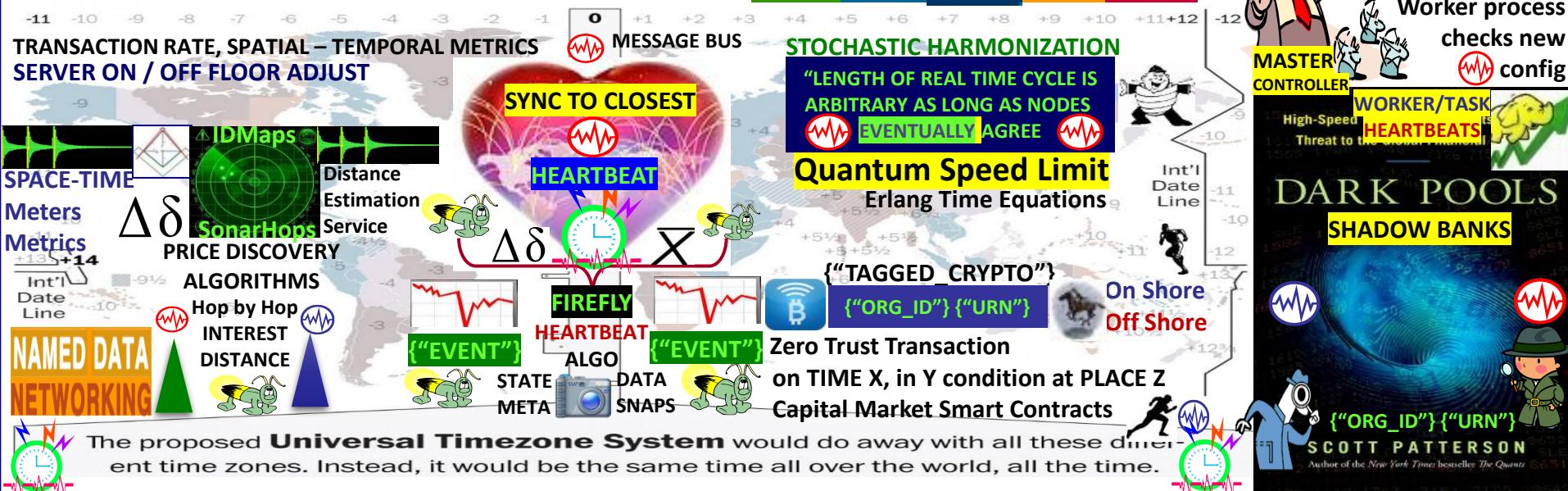
"Thomas Edison publicly introduced his latest invention: a new type of money, a crop index commodity-backed currency that he believed was the long-term solution to America's monetary woes. "I want to cast the variable out of money. This gold money is not good enough. It's a fiction" "New York Times 1922

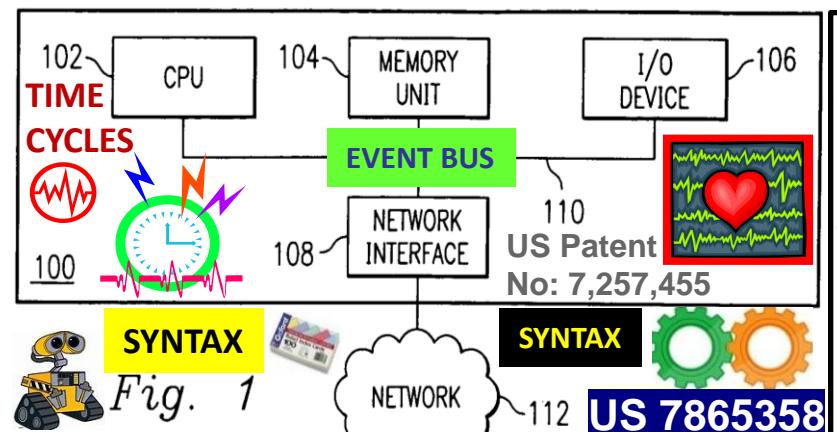


USPTO 13/573,002 The Heart Beacon Cycle Time – Space Meter



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.



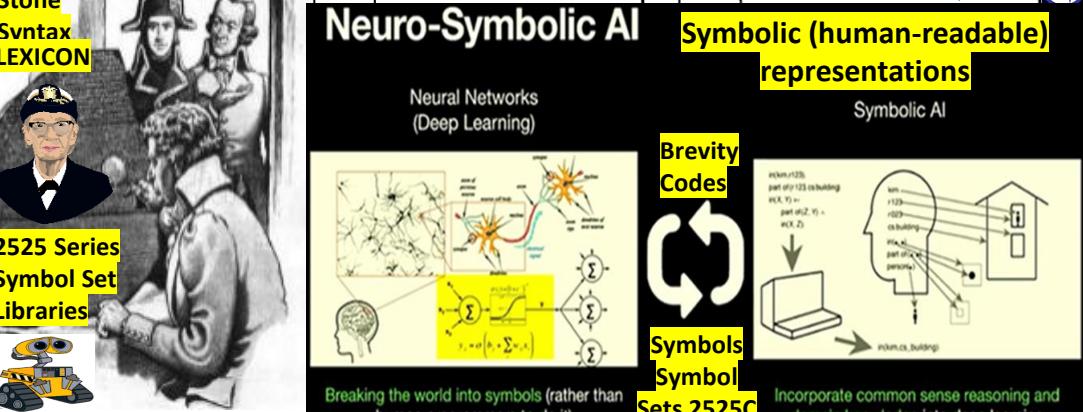
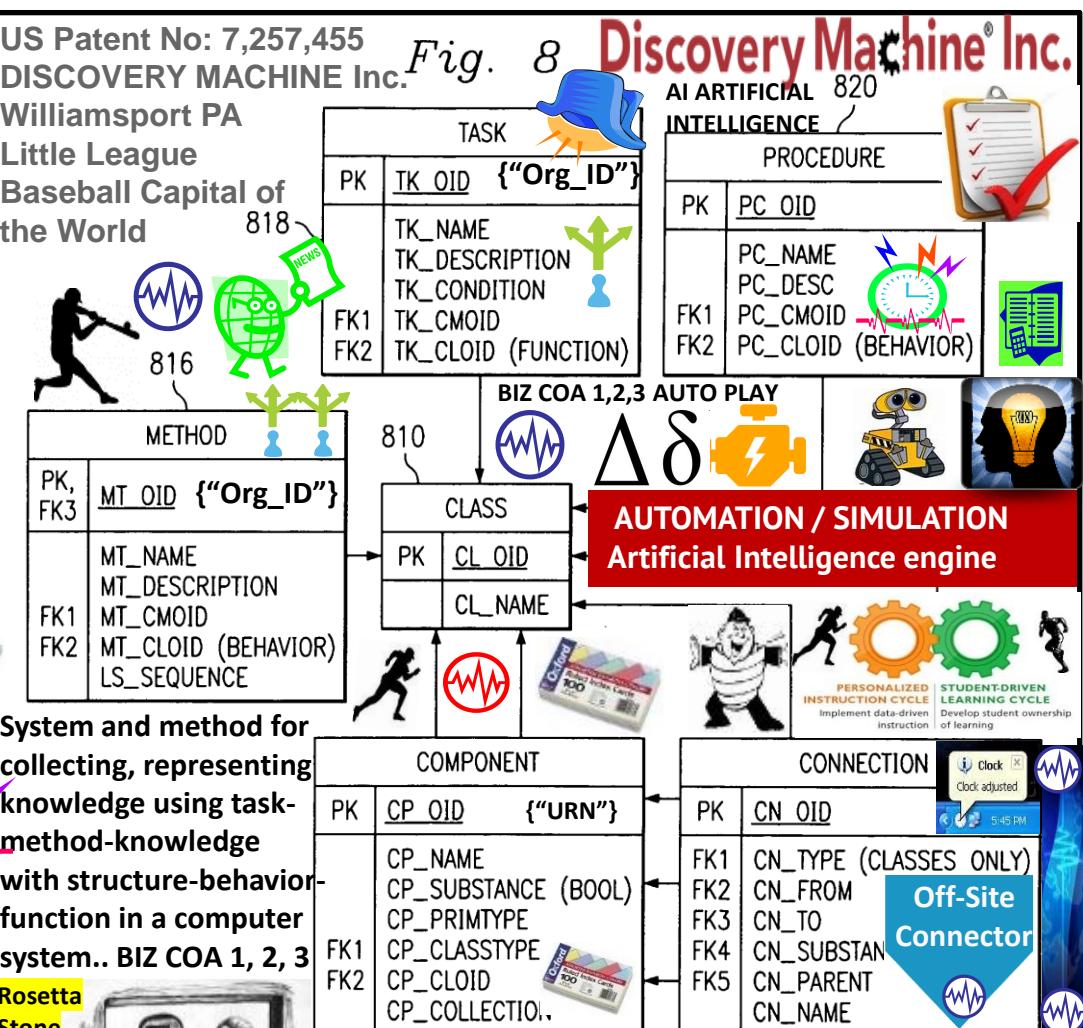
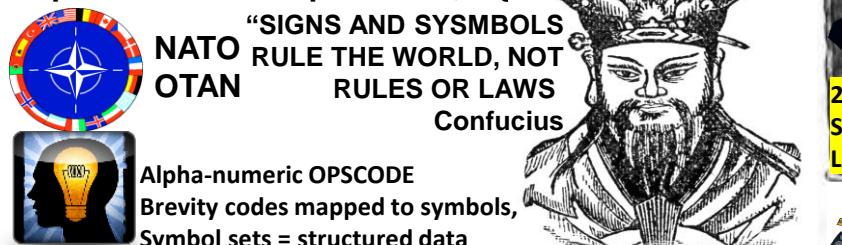


Machine-based system for transforming data from a source form to a target form, a tool is provided for sharing information established in developing a transformation model. The shared information may relate to rules for mapping source collection terms to standardized terms, rules for ordering or SYNTAX,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



Symbolic artificial intelligence: collection of all methods in artificial intelligence

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

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

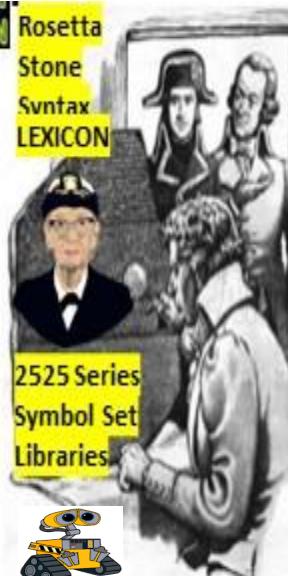
This claim implies both that human thinking is a kind of symbol manipulation (because a symbol system is necessary for intelligence) and that machines can be intelligent (because a symbol system is sufficient for intelligence).[3] The idea has philosophical roots in Hobbes (who claimed reasoning was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

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

data from a first form to a second form

CONDITION

Rosetta
Stone
Syntax
LEXICON



2525 Series
Symbol Set
Libraries

FRT CP CLOUD

EFS I CN PAREN

ABCA OPSCODE BREVITY CODES

Neuro-Symbolic AI

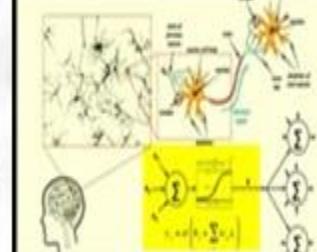
Symbolic (human-readable)
representations

Neural Networks
(Deep Learning)

Symbolic AI

Brevity
Codes

Symbolic AI



Breaking the world into symbols (rather than
sets 2525)

Symbols
Symbol

Incorporate common sense reasoning and



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



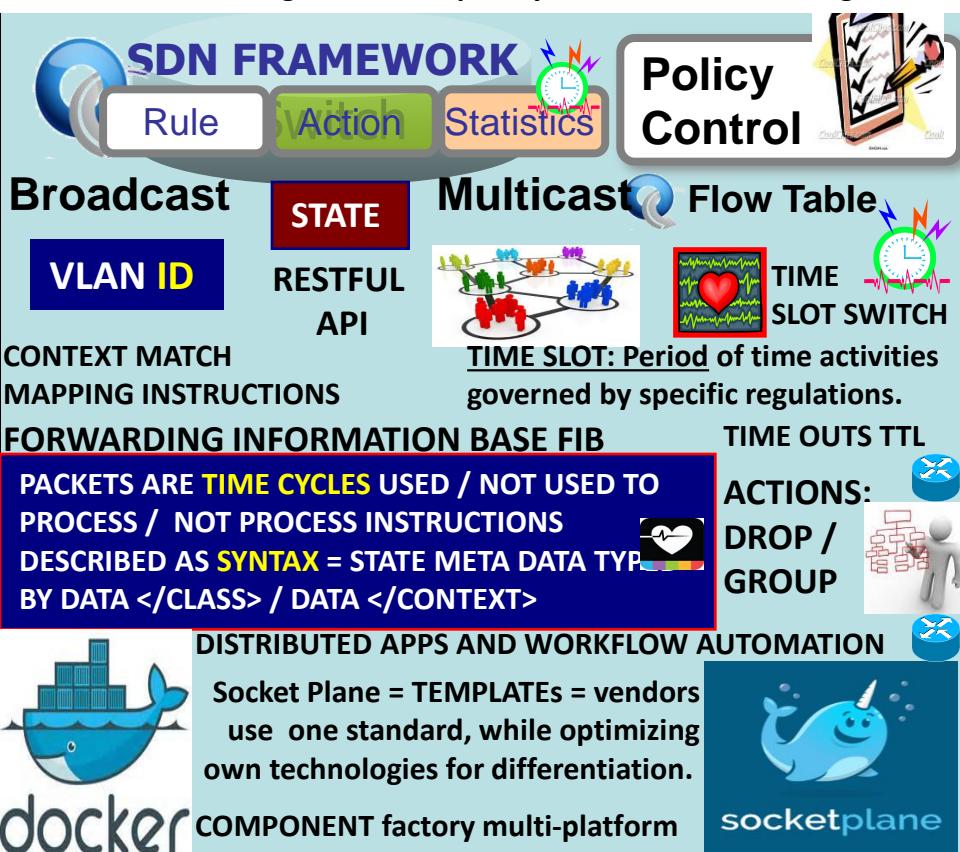
Confucius

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



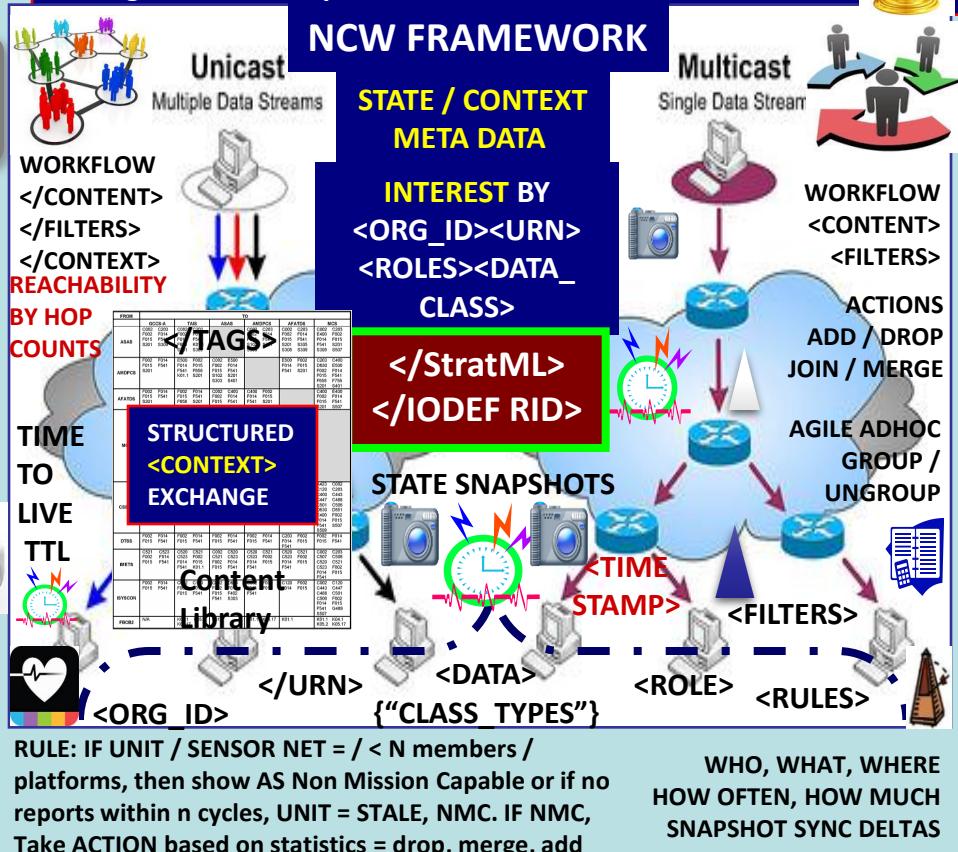
- SDN is a *framework* to allow network administrators to *automatically* and dynamically manage and control a *large number* of network devices, *services*, topology, traffic paths, and packet handling (quality of

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



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

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



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

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

SCt 573 ALICE CORP VS CLS BANK PHYSICAL MEMES

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



TIME / DISTANCE SERVICE LEVEL
AGREEMENT SLA / O Operations

IEEE 802.15.4 OASIS MQTT

TELEMETRY TRANSPORT

IEEE 802.1AG HOP BY HOP
DETECTION

IEEE 802.11
HOP BY HOP CONTROL



Unused Resources / Unmet Needs

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

DISTANCE
INFO SERVICE

Time Series

RISK

Value

Time

IDMaps

SonarHops

WATER DROP IN POND MEME IS
SONAR NAVY METAPHOR / MEME

NDN </INTEREST>
NDN {"DISTANCE"}

NAMED DATA
NETWORKING

602

603

PAUL REVERE

LINEAR, SEQUENTIAL

TCP/IP HOP BY HOP COUNT

Energy Attenuates over Distances

CLOSER SOURCE

CHEAPER RATE

TESLA



TIME / DISTANCE SERVICE LEVEL
AGREEMENT SLA / O Operations

HOP BY HOP CONTROL



Unused Resources / Unmet Needs

vector

Spatial
Econometrics

TIME-SPACE BEACON

INFOCON

Spaceship

METRICS / METERS

INFORMATION
CONDITION

Earth

TRADE WITH EARTH

????

Signals &

BITCOIN

SIRIUS DISCLOSURE

Telemetry

buckminster fuller
operating manual
for spaceship earth

Annex

MOON =

ASTEROID BELTS =

"Numbers are the
Universal Language

offered by deity to humans as
confirmation of the truth"

RARE MINERALS

MAIN ASTEROID BELT

MARS

MOON

MERCURY

HELIUM 3

VENUS

Alpha
Numeric
Brevity
Codes

EARTH

SYNTAX
LEXICON

STOCHASTIC

KOO.99

HARMONIZATION

CODE

Farther = More Cost

➢ Fuel, Resources

Service Level Agreements

UNIVERSAL
EVENT MESSAGE BUS

ERLANG

FIREFLY-HEARTBEAT
ALGORITHM

TIME- SPACE METRICS

ANDERSON
INSTITUTE

TROJAN ASTEROIDS

JUPITER

EVENT MESSAGE BUS

5.2

43

Light minutes

22

Astronomical units

13

0

1.5

2.7

ERLANG

TIME-SPACE METRICS

FIREFLY-HEARTBEAT ALGORITHM MESSAGE EVENT BUS

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13

0

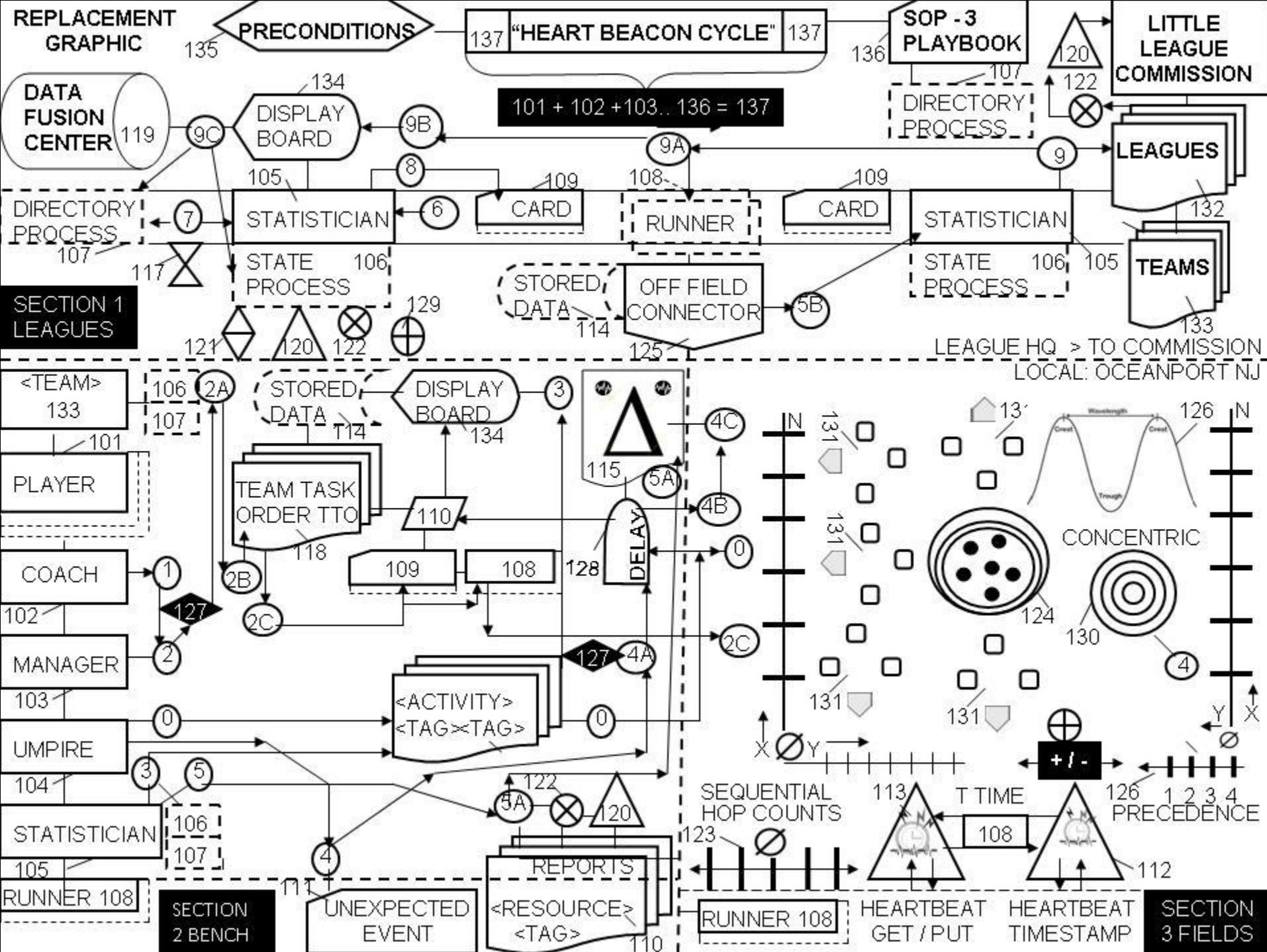
1.5

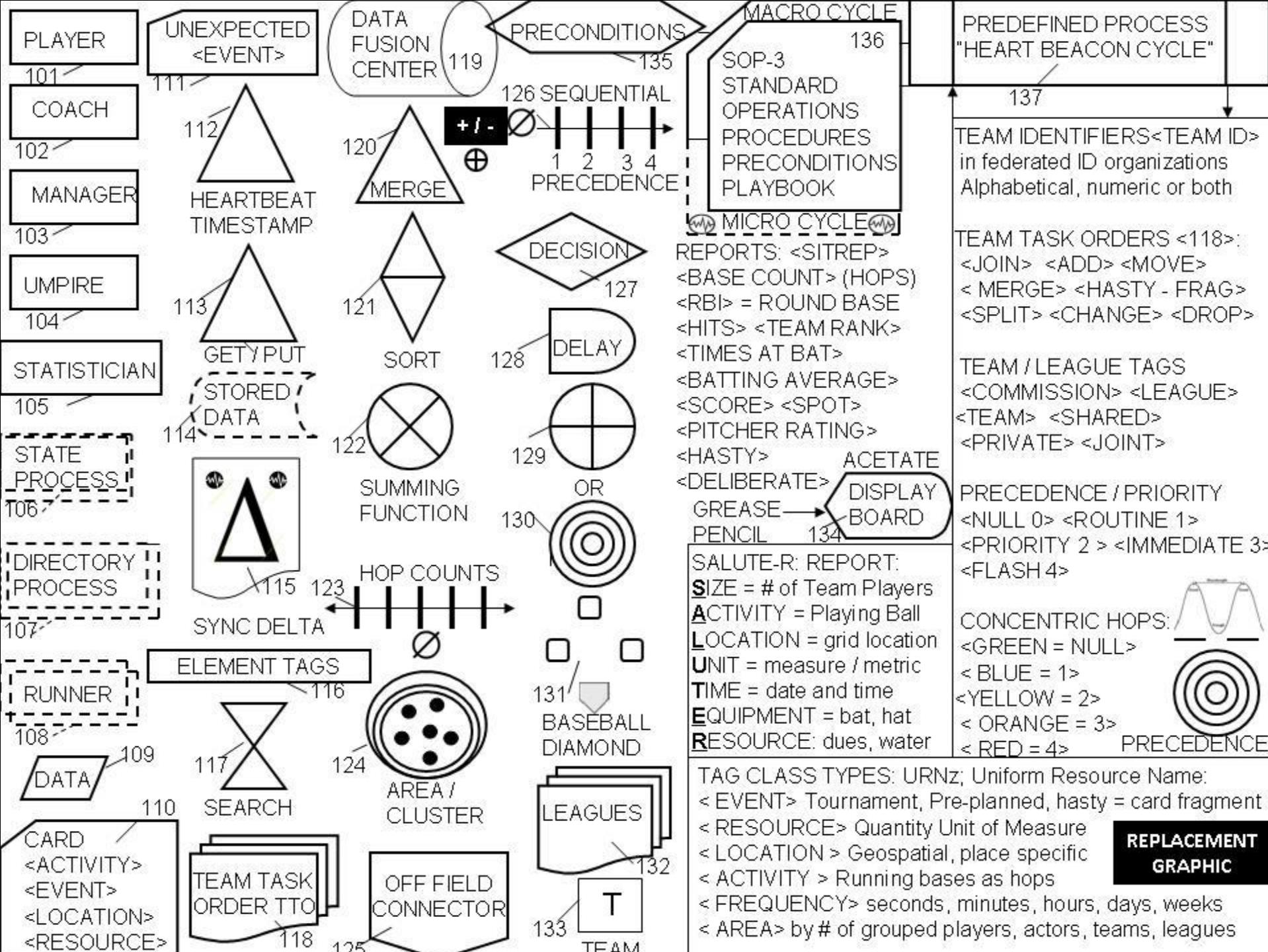
2.7

ERLANG

TIME-SPACE METRICS

FIREFLY-HEARTBEAT ALGORITHM MESSAGE EVENT BUS





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

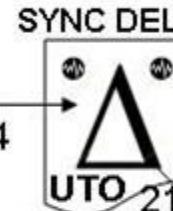
MICRO CYCLES

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



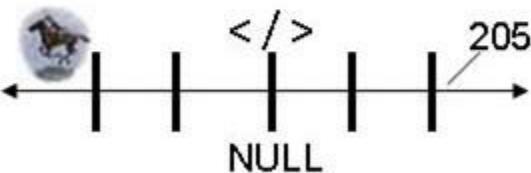
SYNC DELTA METRICS IN SLA CLAUSES AS
MOE, MOP METER IN TAX CODES, TRANCHE
CLASSES / RATINGS ARBITRAGE TRIGGERS

203

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



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



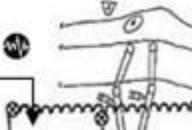
LENGTH, THRESHOLD, INTENSITY, DURATION



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

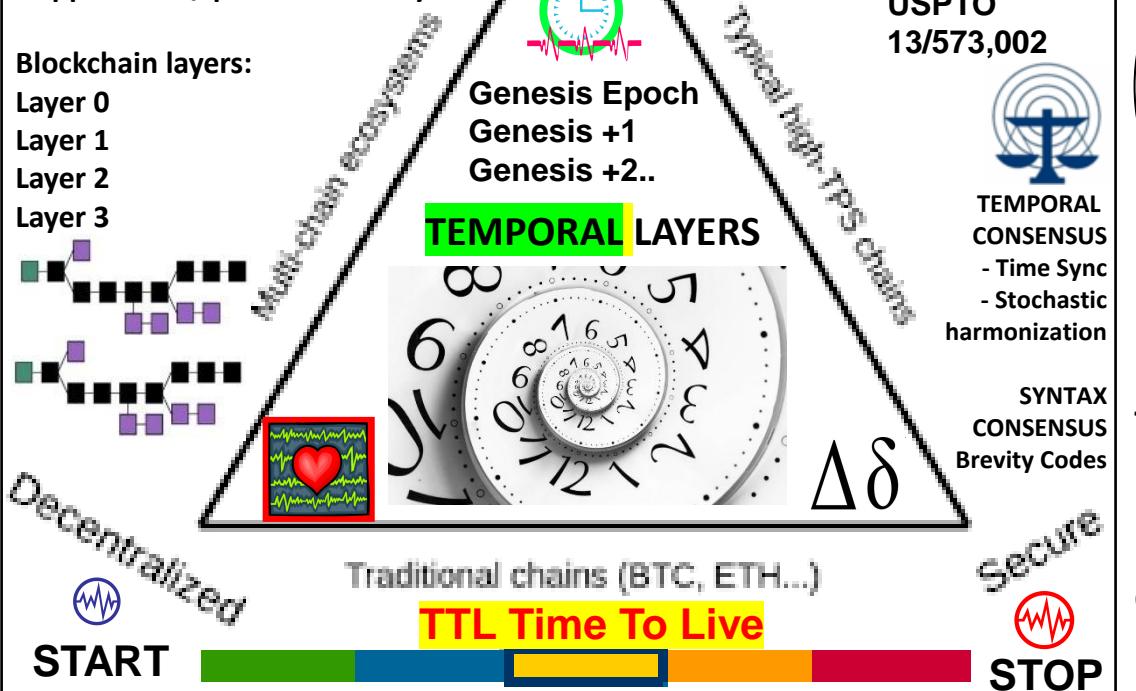
Blockchain Quad-lemma

"five layers of blockchain tech:

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

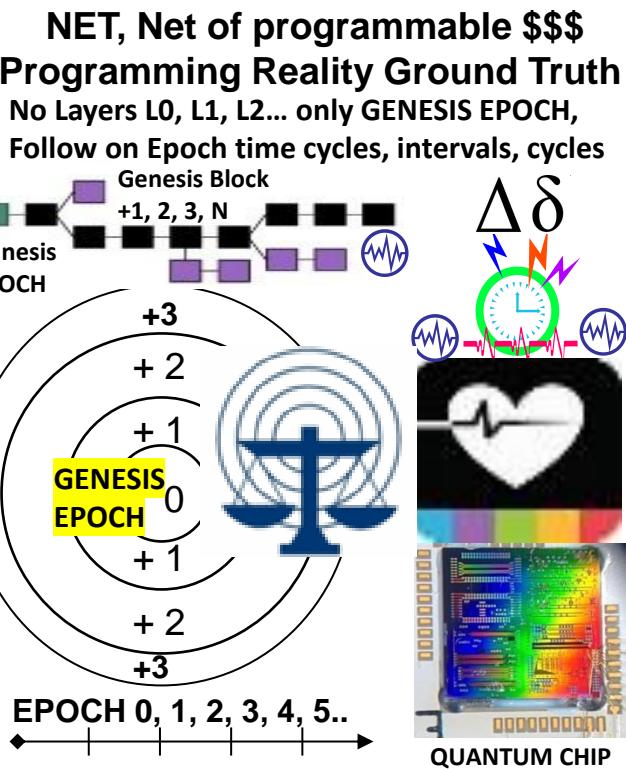
Blockchain layers:

- 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..

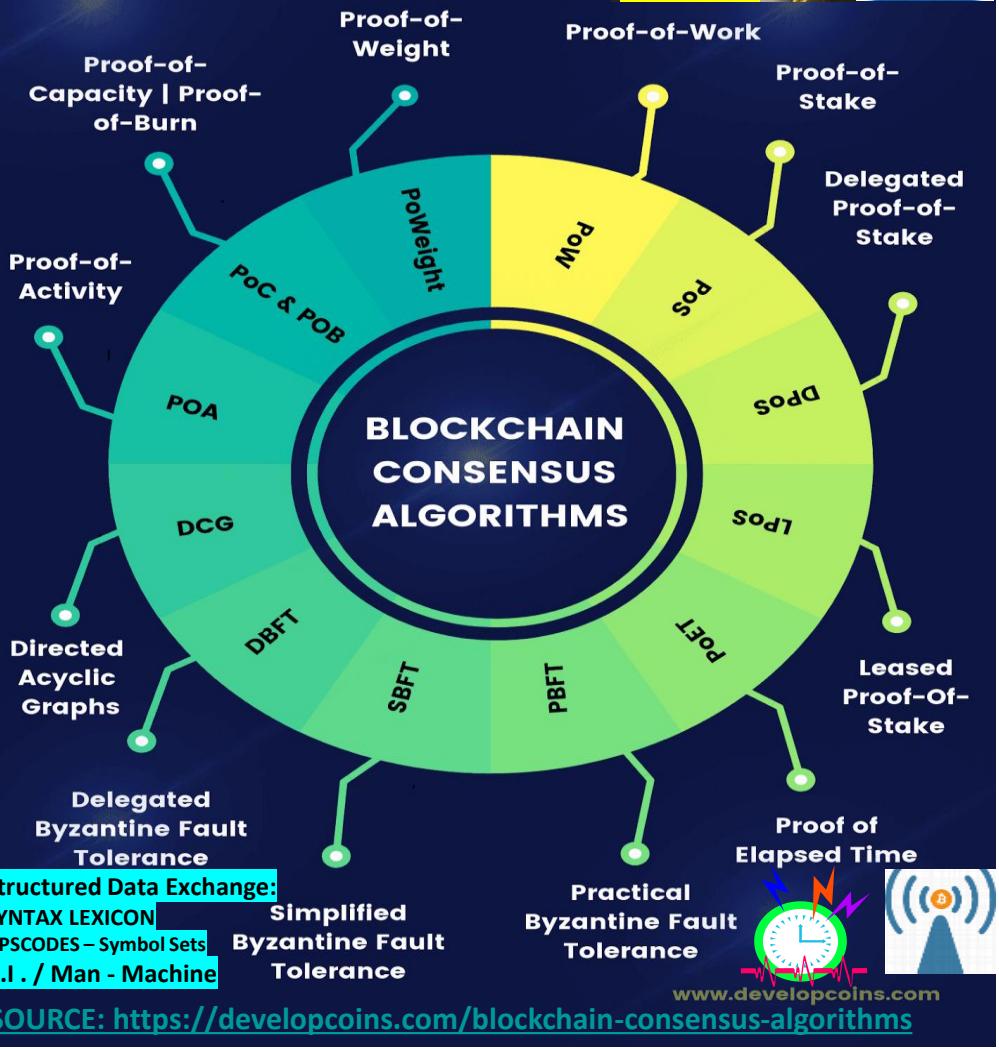
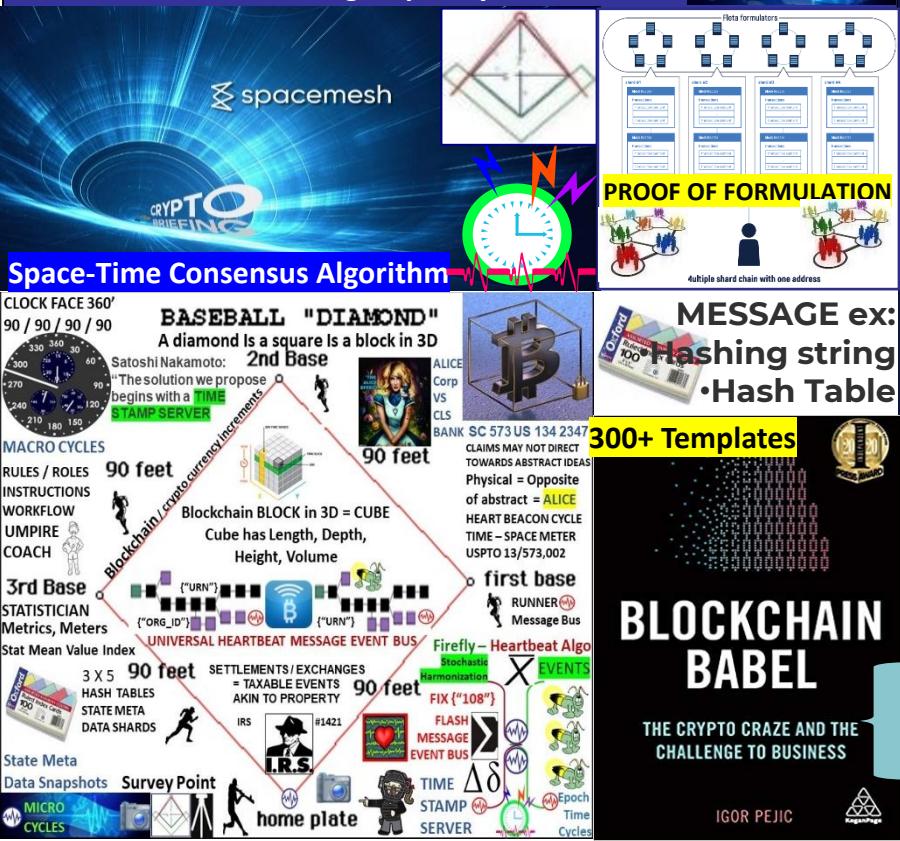
Q: Which meme describes the myriad blockchain consensus algorithms the most comprehensively that uses an algorithm (based on nature = “shortest path to the knowledge of truth Luxor Temple) enabling distributed system of systems geo-spatial, UTZ Universal Time Zone temporal, semantic - syntactic sync,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



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

STABLE PROTOCOL THREE MAIN TYPES:

DeFi-Native: Cap Labs, Elixir, Level

Collateralized Debt Positions: Ducat, Felix

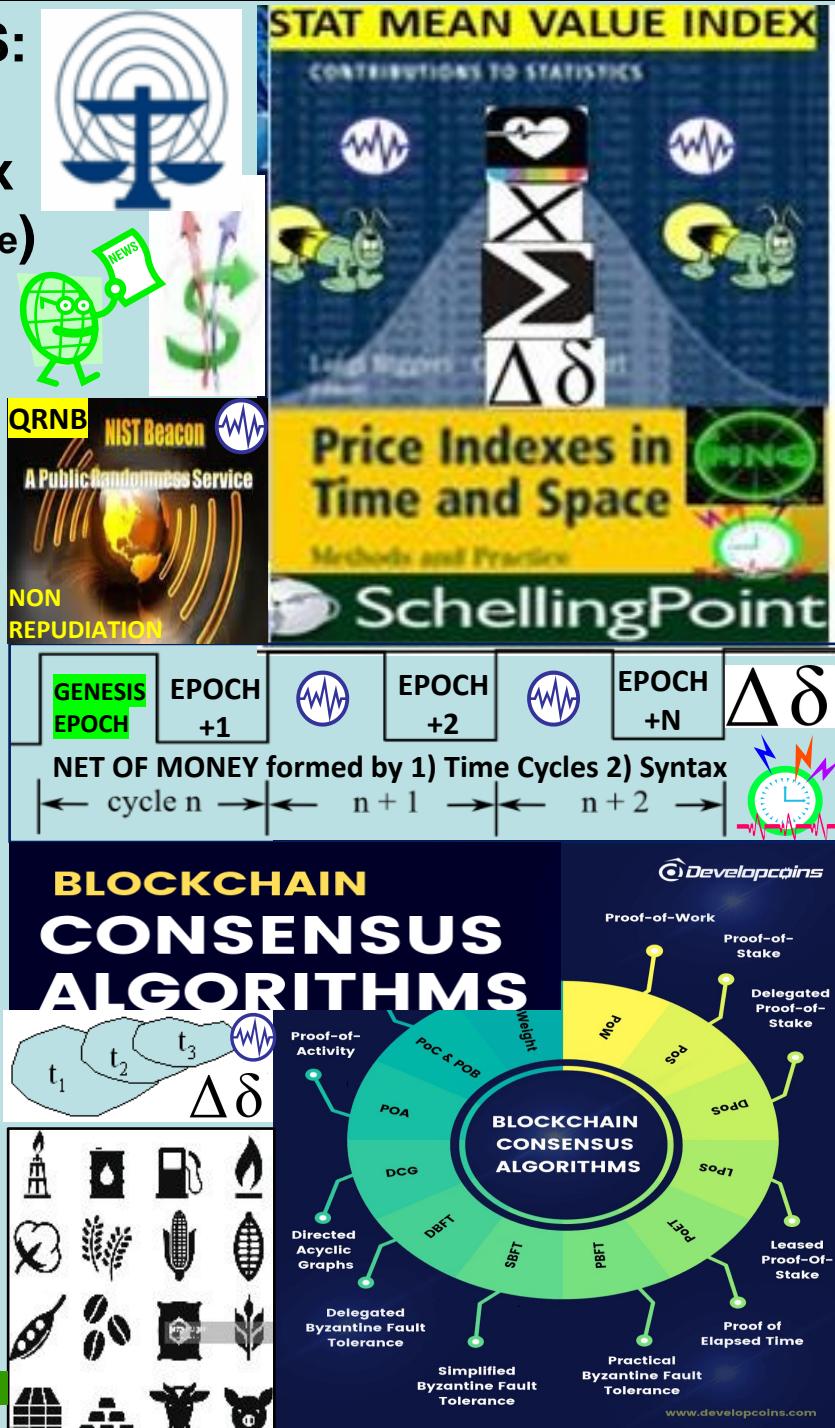
RWA-Backed:, EAnzen, Superstatethena (UStb update)

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



THE BITCOIN BLOCKCHAIN FOR DUMMIES



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

Satoshi Nakamoto Bitcoin Paper



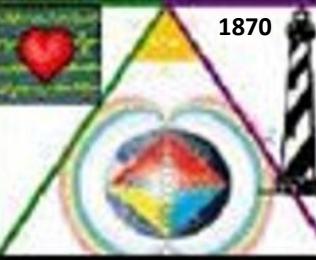
Satoshi Nakamoto



Craig WRIGHT
a.k.a.
Satoshi Nakamoto



"Bitcoin is a LANGUAGE"



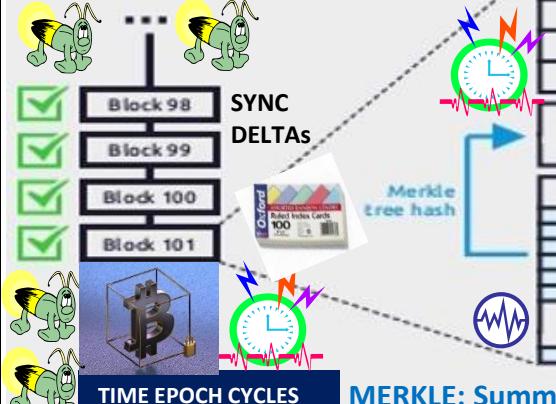
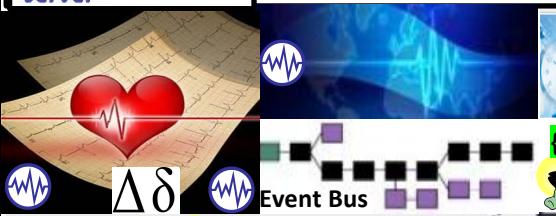
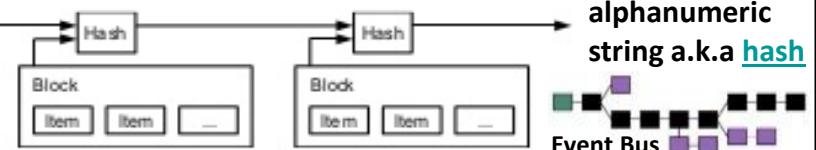
Wright Brother's 1st Flight
Cape Hatteras Outer Banks

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

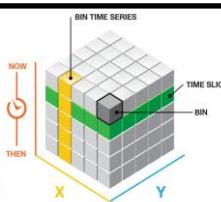
3. Timestamp Server

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

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



JapanNet Crypto Time
Authentication Service
(Timestamp Service)



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

RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH

3rd Base

STATISTICIAN
Metrics, Meters
Stat Mean Value Index

3 X 5
HASH TABLES
STATE META
DATA SHARDS

State Meta

Data Snapshots

Survey Point

MICRO CYCLES

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

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

90 feet

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

Blockchain / crypto currency increments

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

90 feet

SETTLEMENTS / EXCHANGES
= TAXABLE EVENTS
AKIN TO PROPERTY

IRS #1421

Fix {"108"}

FLASH MESSAGE
EVENT BUS

TIME STAMP SERVER

TIME STAMP SERVER



BANK SC 573 US 134 2347

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

first base

RUNNER Message Bus

Firefly – Heartbeat Algo

EVENTS

Epoch

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

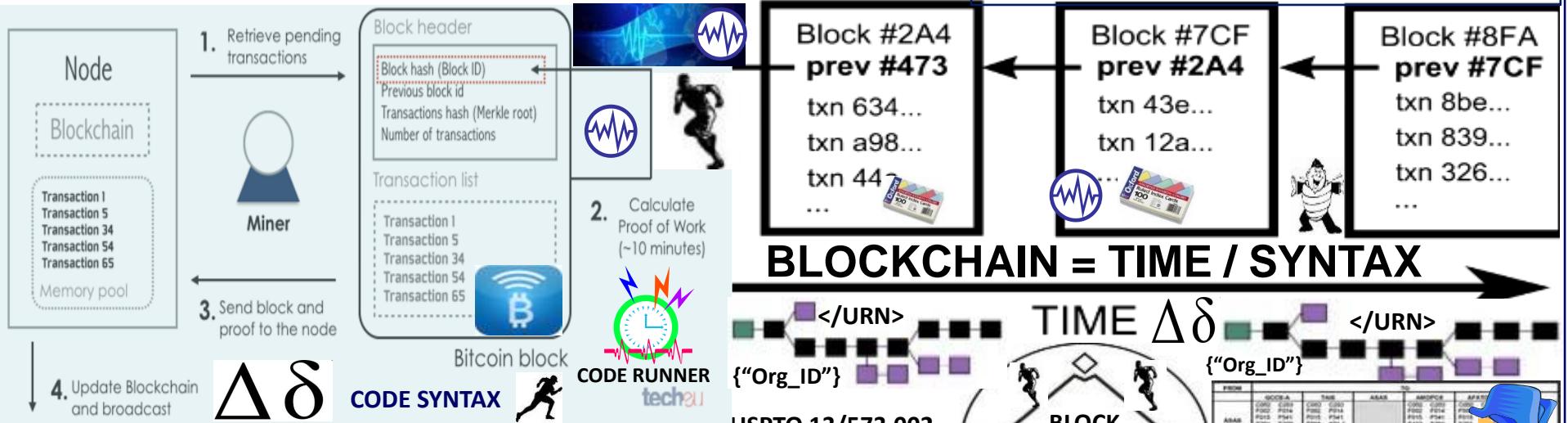
Header - Contains service information (version info, nonce, previous block id and timestamp). {"Org_ID"}

Merkle - A summary built from the block's transaction identifiers.

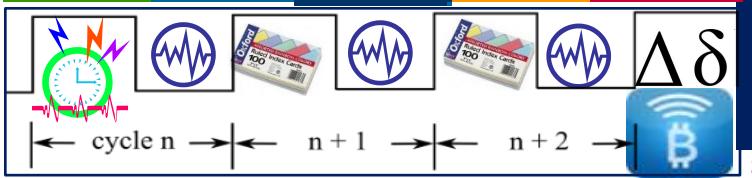
Transaction's id list - list of transaction's identification hashes that was included into the block's merkle tree.



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.

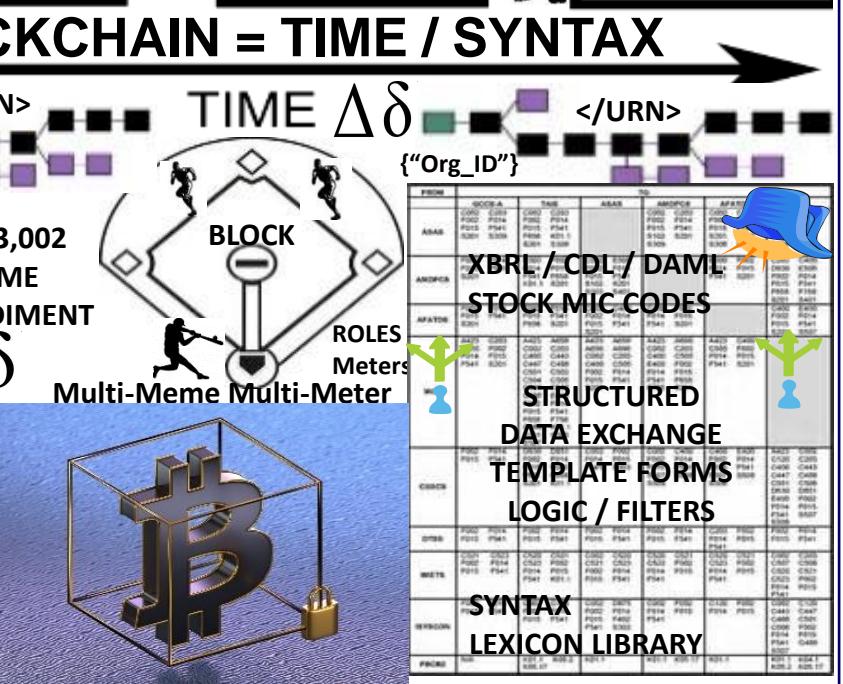
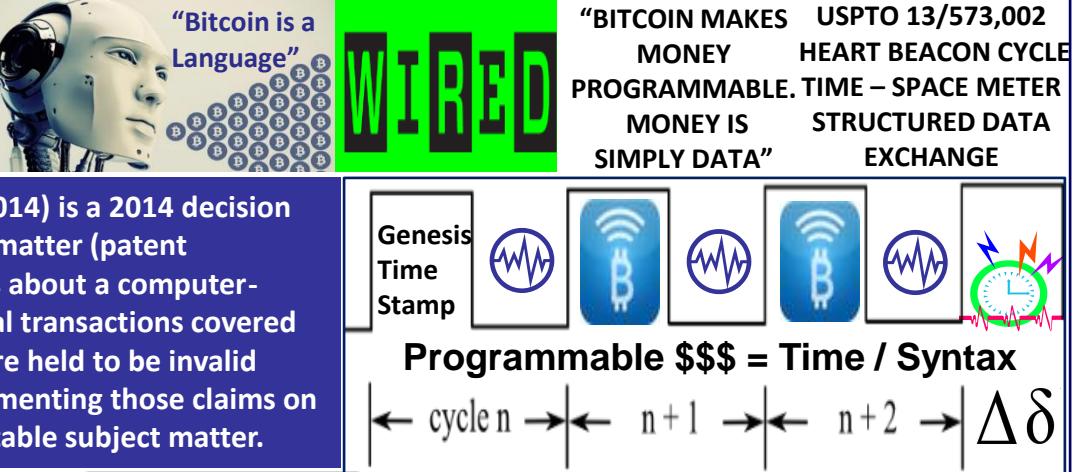


"BITCOIN IS A LANGUAGE / BITCOIN'S VALUE IS TIME ITSELF"



TIME EPOCH CYCLES

State Meta Data Snapshots

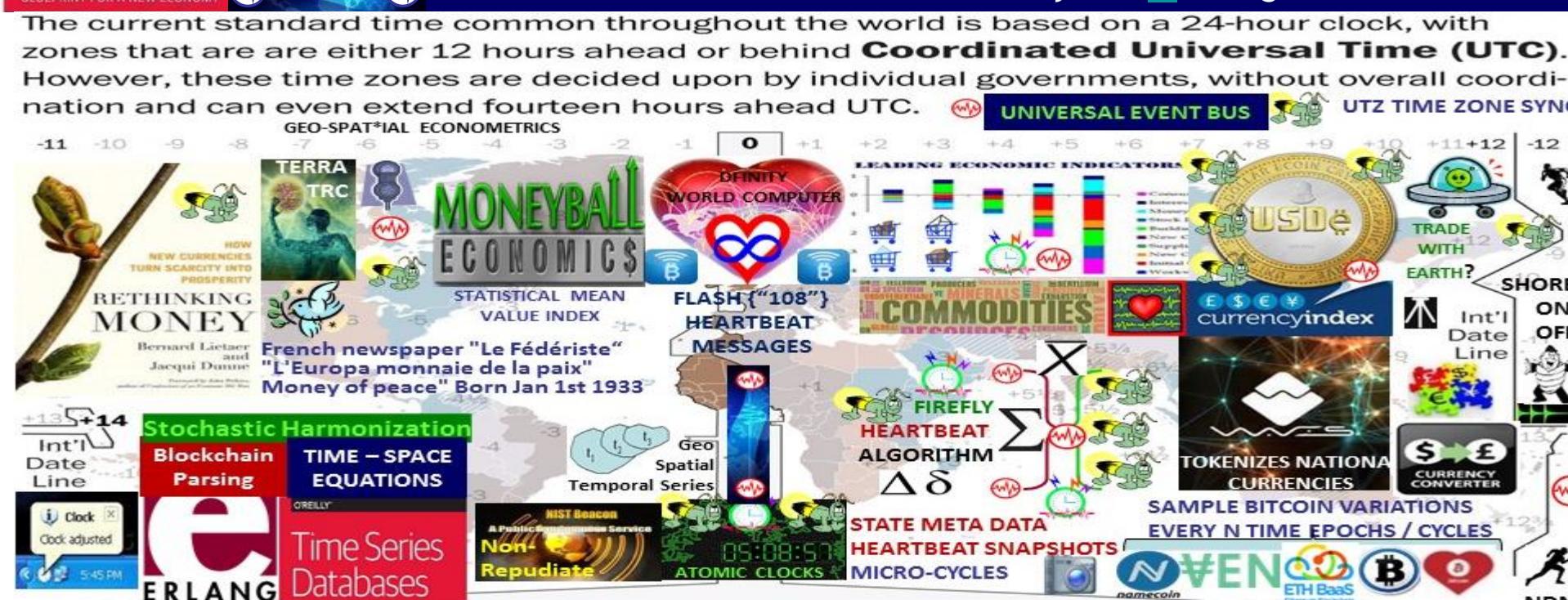




The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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

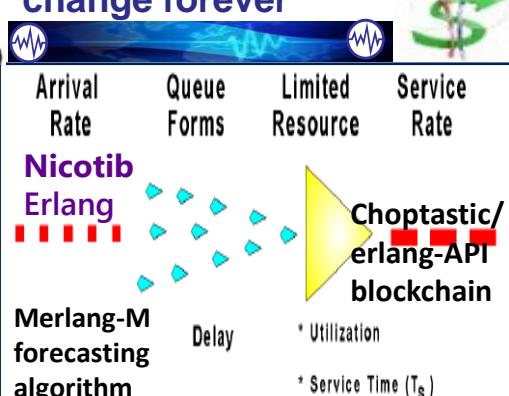
SORTING ALGO'S

[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 $\Delta\delta$ 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	AMAZON	AMAZON	WIKI
XBRL	/ CDL / DAML				
ALPHA	NUMERIC				
BREVITY	CODES				
AZURE	BLETCHLEY				
STRUCTURED					
MILITARY	MESSAGE				
TEMPLATE	FORMS				
LOGIC /	FILTERS				

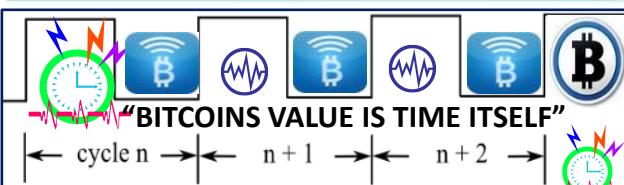




PROOF-OF-WORK



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.

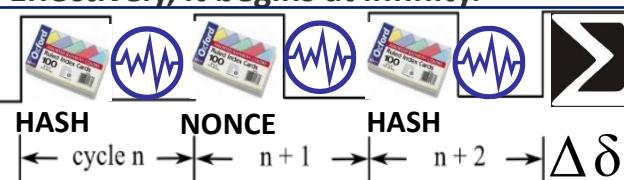


- **target** = maximum value of 8 bytes Snap (2^{64}) divided by the difficulty. Shots

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



GUESS stores the guess
Effectively, it begins at infinity.



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



A photograph of a box of Oxford brand index cards. The box is white with blue and red accents. The word "Oxford" is printed in blue at the top left. Below it, in red, is "INDEX CARDS". In the center, it says "100" and "Color". At the bottom, there is a barcode and some smaller text.

MESSAGE ex:
hing string
•Hash Table

300+Message Templates

LOGIC FILTERS
LOGIC GATES

SYNTAX LIBRARY
LEXICON

CODER'S GUIDE

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**



Neutral transaction protocol

secured REST messaging API's

Interledger Protocol ILP

ripple

Ripple Consensus Ledger (RCL)

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

each retaining control of internal affairs

Federation

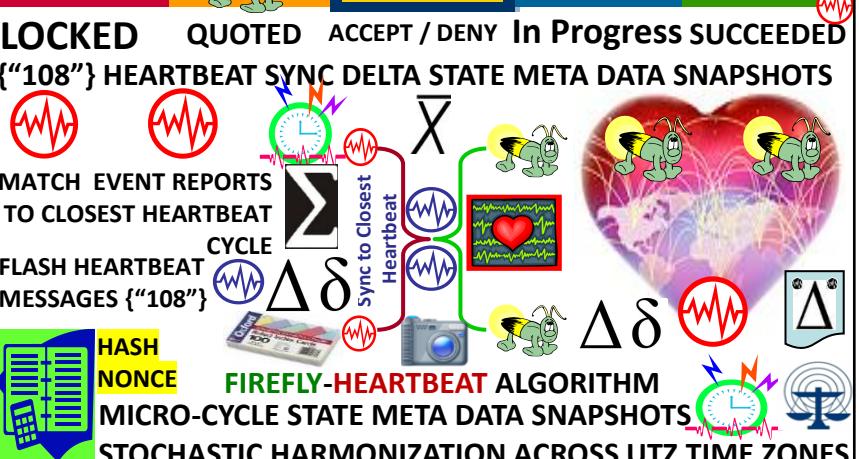
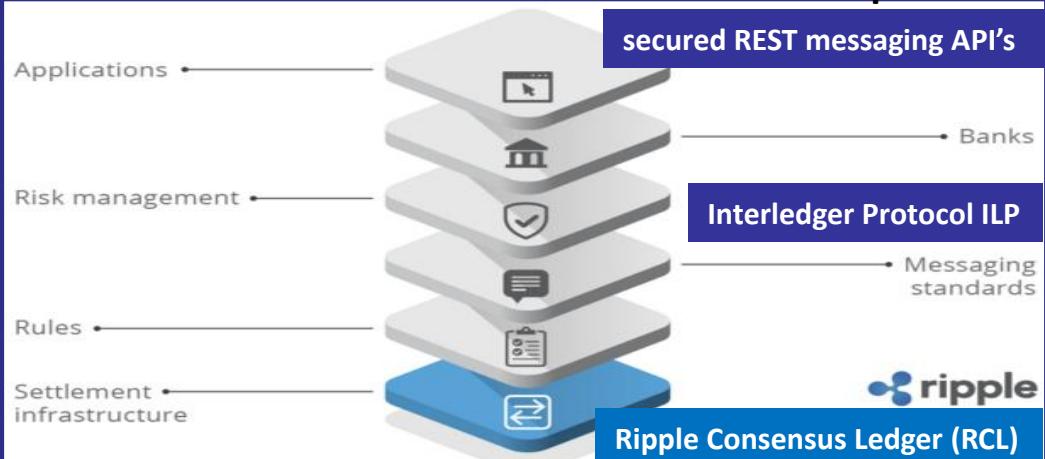
Gateway

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

LIQUIDITY, ORGANIZATIONAL INTEGRITY OF TRADE FEDERATIONS

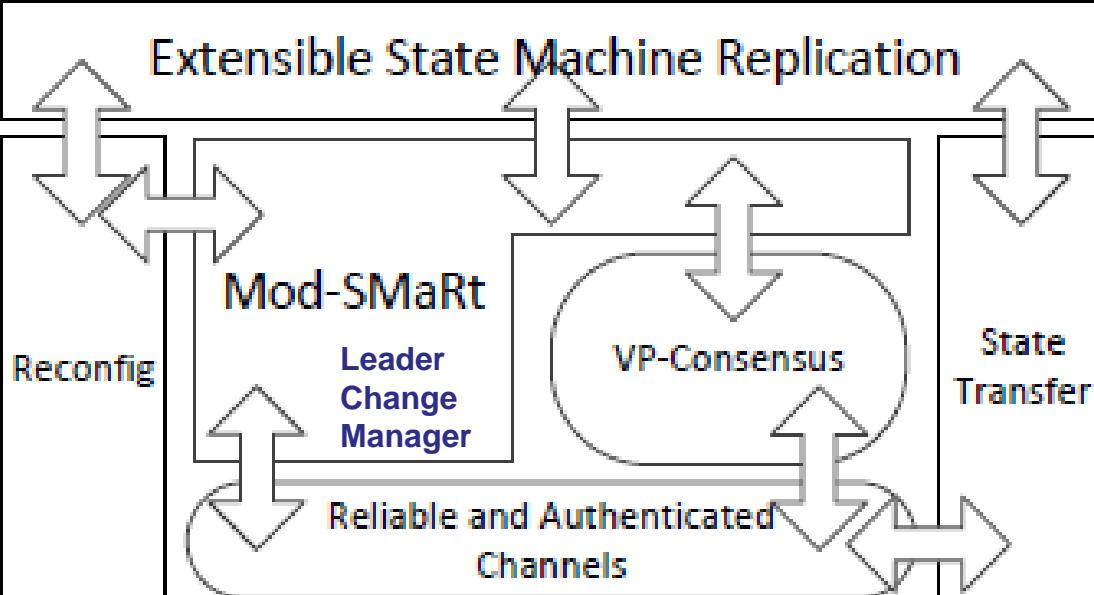
X
FEDERATION CONSENSUS PROTOCOL

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



Byzantine Fault-Tolerant State Machine Replication

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



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

BFT-SMaRT needs an eventually synchronous system

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

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

USCt ALICE CORP V CLS BANK

PHYSICAL = OPPOSITE OF ABSTRACT



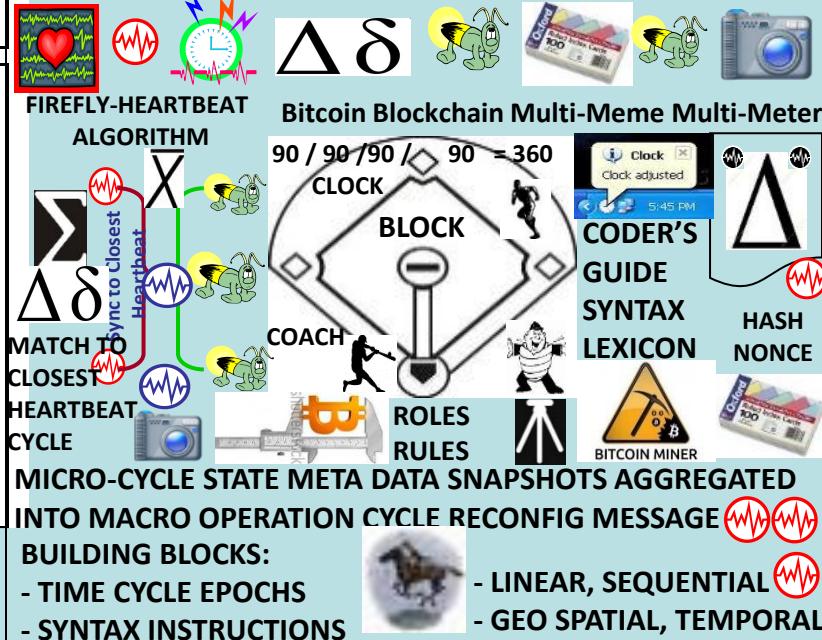
DERIVED FROM BATTLEFIELD DIGITIZATION DISTRIBUTED AUTONOMOUS ORGANIZATION DAO SYSTEM OF SYSTEMS

FEDERATED ID / ORGANIZATIONAL IDENTIFIER {"ORG_ID"}

ADDS, JOINS, DROPS, MOVES TO / FROM DAO

CHANGES IN STATE VIEWED IN "APPLIQUE' OVERLAY VIEWS

00.99 HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS



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

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



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

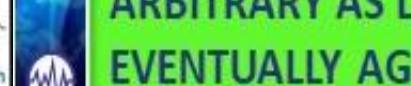
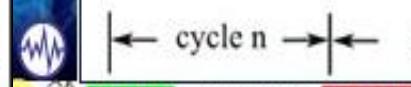
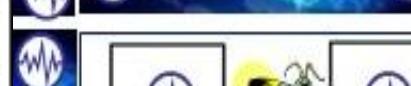
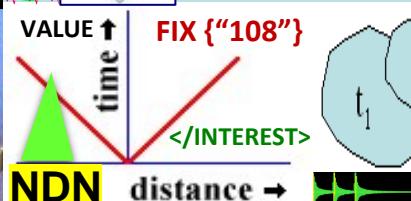
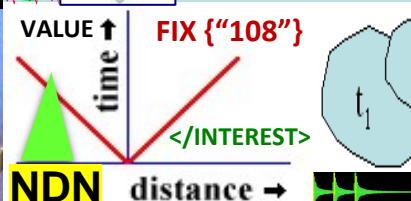


The Volumetric Weight is often referred to as dimensional weight

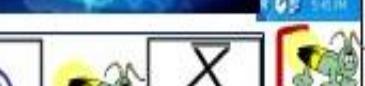
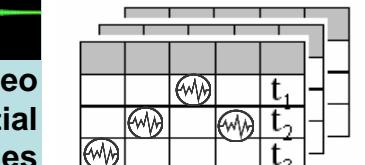
$$\text{Volumetric Weight} = [\text{Width} \times \text{Length} \times \text{Height}]$$



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



Attribute Series



"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



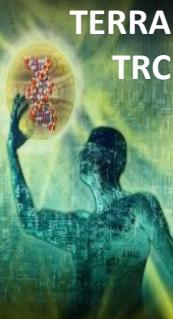
OpenBazaar is a different approach to online commerce. OpenBazaar connects buyers and sellers directly. Because there is no one in the middle of your transactions there are no fees, no restrictions, no accounts to create, and you only reveal personal information you choose.

PROJECT PHILOSOPHY: *MAKE TRADE FREE*

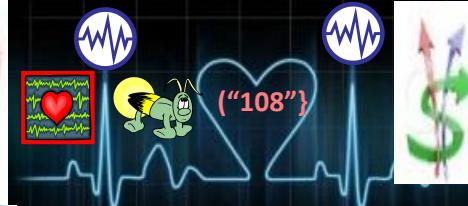
Mission: *shift trade to a decentralized platform*



Demurrage TERRATRC TRADE Fees REFERENCE CURRENCY
“Money of Peace”



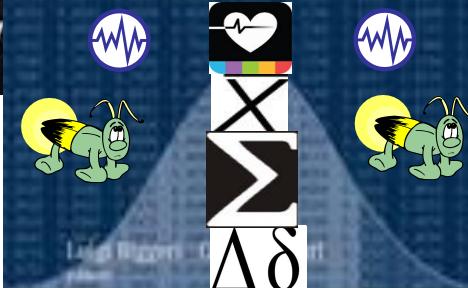
COMMODITIES
ECONOMIC HEARTBEAT



STAT MEAN VALUE PULSE
REAL WORLD ASSETS RWA

STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS



Price Indexes in Time and Space
Methods and Practice

SchellingPoint

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>



Federation
Gateway

ORG ID

UTZ SYNC

</DATA>
("FILTERS")

FIREFLY – HEARTBEAT ALGO

SYNC EVENTS

$\Delta\delta$

TO CLOSEST HB CYCLE

UTZ SYNC

$\Delta\delta$

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.



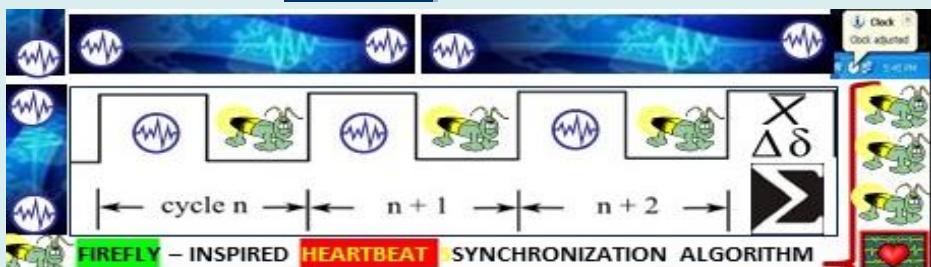
DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS

Linear Sequential Meme

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

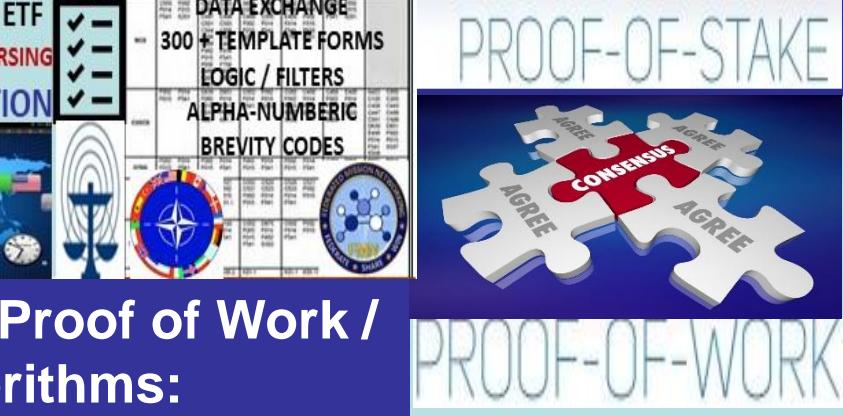
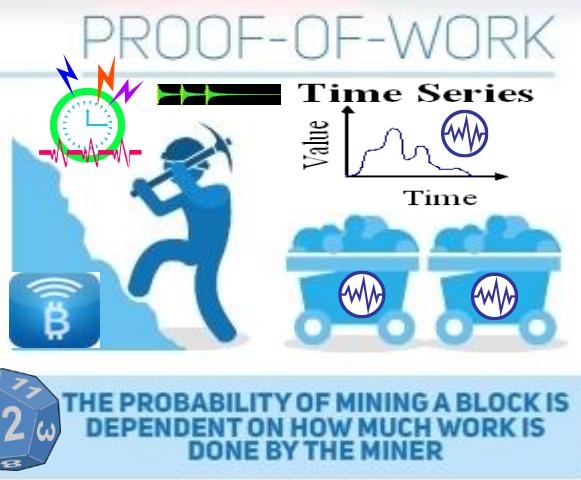
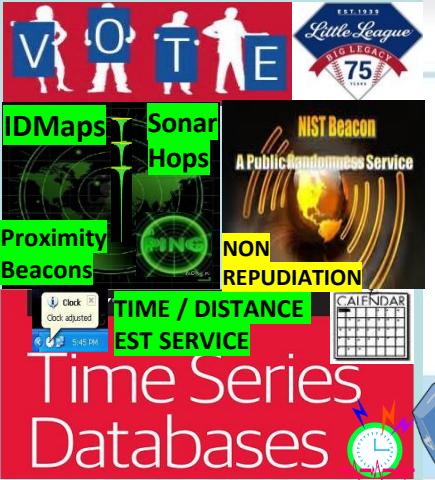




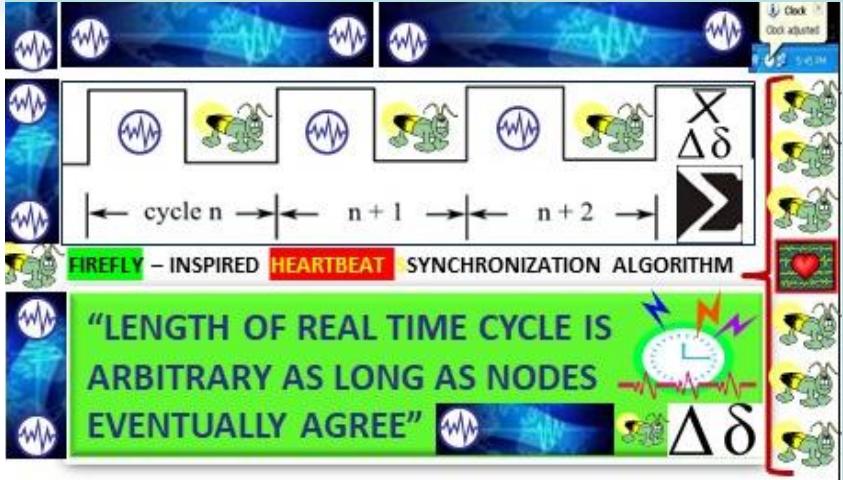
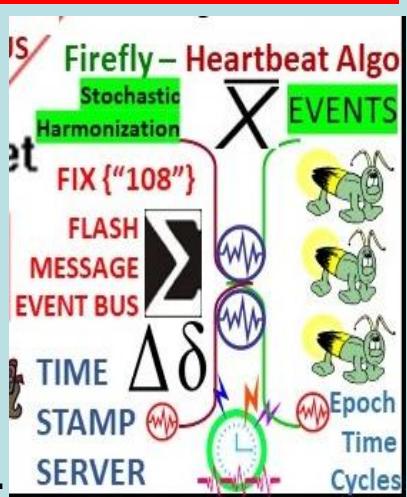
Proof-of-activity PoA is a combination of Proof of Work / Stake blockchain consensus algorithms:

Example of Proof-of-Activity (PoA)

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



PROOF-OF-WORK





VERITAS TOKENS

P2P Capital Market smart contracts Eco Economic HEARTBEAT

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



INFOCON
5 4 3 2 1
INFORMATION CONDITION



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

STATISTICAL MEAN VALUE INDEX PULSE

GDP INDEX ECONOMY K% RULE



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

DAO Distributed Autonomous Organization Investor Pools

Place Order X ritaseum™

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

DeFi Ve TOKENS VeriDAO #DeFi All Market Orders

Denominating Asset: ~BTC:SATOSHIS

Contract Expiry: 16w

Contract Starts at: -

Contract Ends at: -

Cancel Contract at: -

Est. Trans. Fees: \$0.0437

Transaction Fees: \$1.0262

Leverage Fees: \$3.2528

Max. Profit/Loss: + \$95.6773 / - \$104.3227

Total Required: \$104.3227

NIST TIME BEACON

UTZ Time Zone Sync

START

Heartbeat Flash Messages Precedence Processing

Collateral Notional Expiry

FIREFLY HEARTBEAT ALGO EVENT MSG BUS

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

Length of Real Time Cycle is Arbitrary as Long as Nodes Eventually Agree

STOP TTL

Non Repudiation

SYNTAX LEXICON OPS CODE

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

Time – Space Meter Metrics

Qubit

Rosetta Stone

Proof of Authority



{"GROUP ID"}
{"Org_ID"}

Not pay to play, Node identiy is kept as stake

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



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

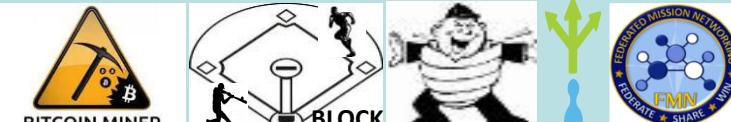
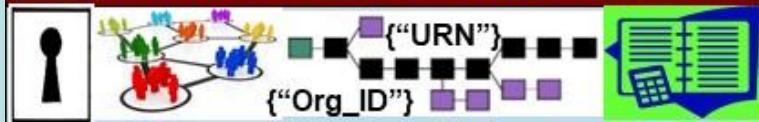
Federation
Gateway
Net joins, drops, splits, merges, moves
Agile, adhoc NETOPS Vs acquisition preserves the **CHANNEL**



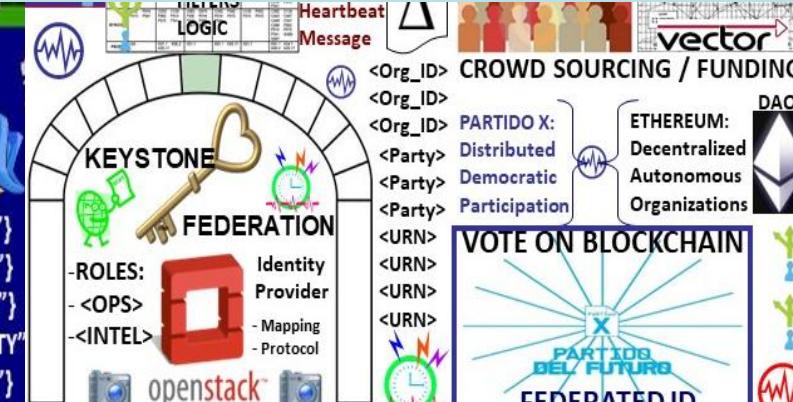
DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



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

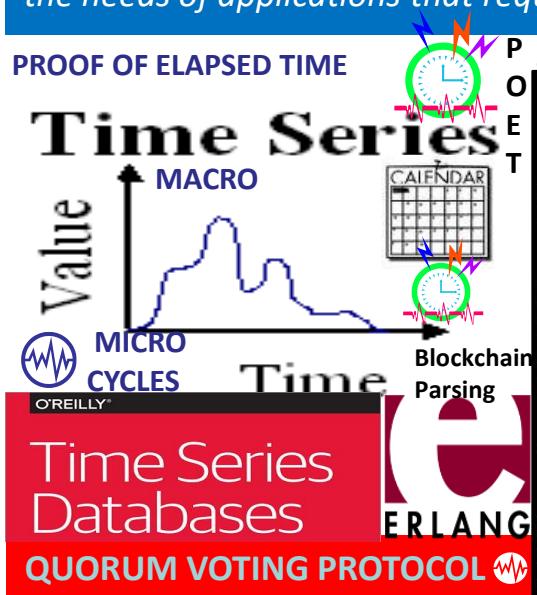


SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

*“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

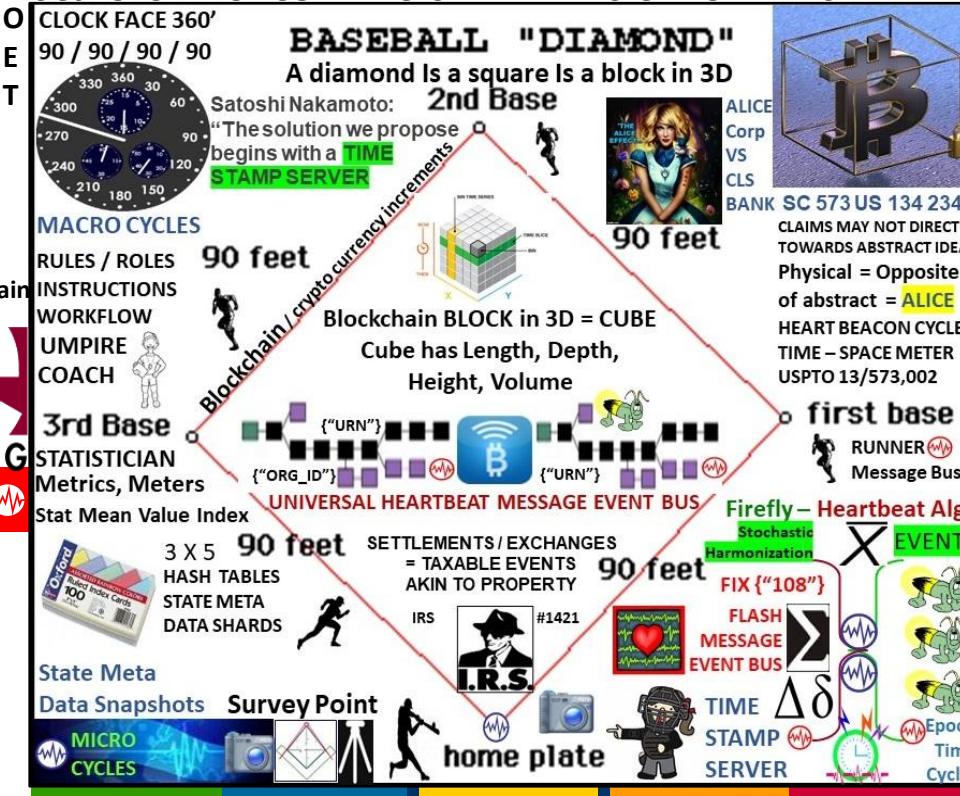
Voting based selection Instead of only using the stake size, the block generators can be selected by votes
ex: League MVP MVP



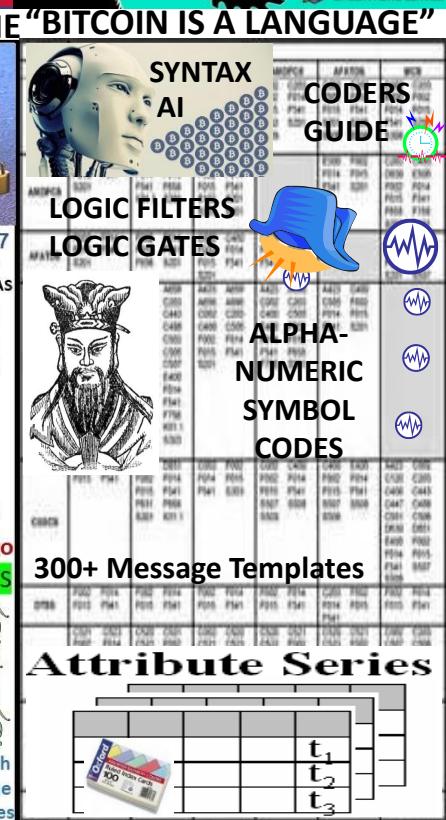
Robert's Rules quorum = minimum # of voting members who must be present at meetings to conduct business of the group

TOURNAMENT LEAGUE BOARD

P Sct #573 ALICE CORP V CLS BANKPHYSICAL UNIVERSAL MEM

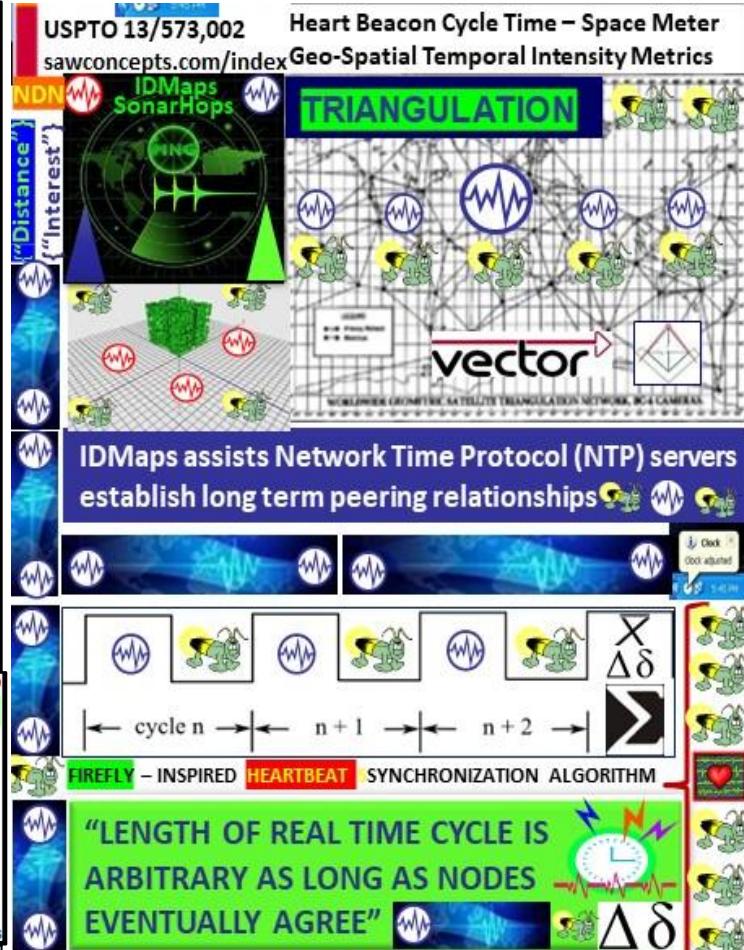
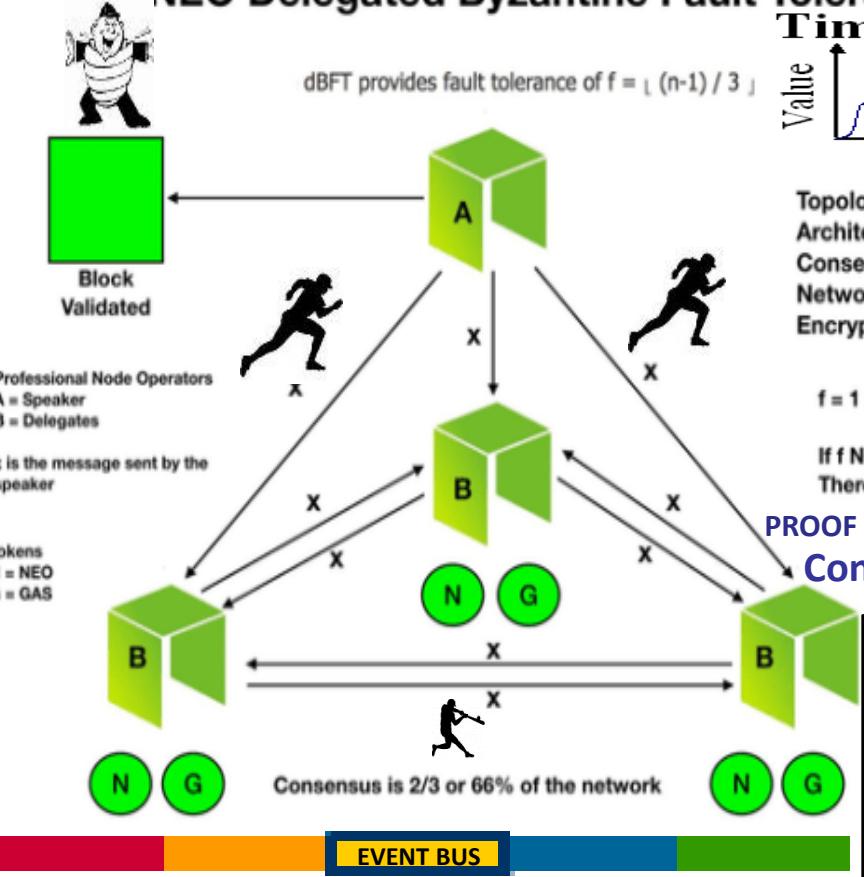


FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BU



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

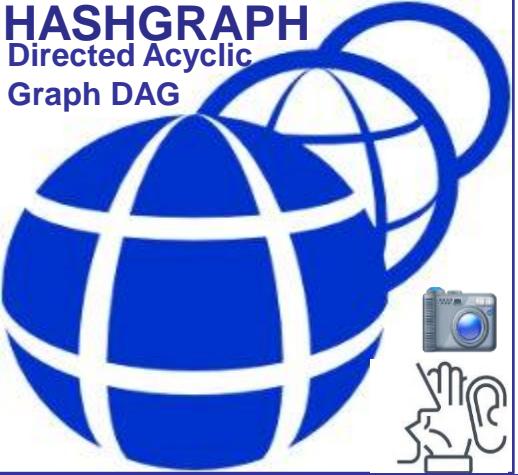
NEO Delegated Byzantine Fault Tolerance (dBFT)



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



Witness
0 / 1

Famous witness
Election

Vote
See

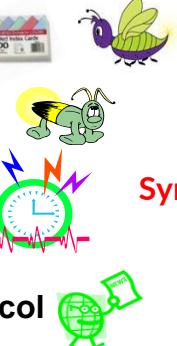
Strongly see
Supermajority

Decide
0 / 1

Round created
Round received

Consensus timestamp
Consensus order $\Delta\delta$

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



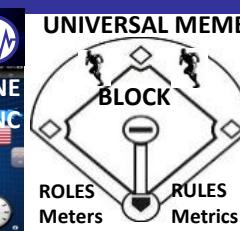
Synchronous



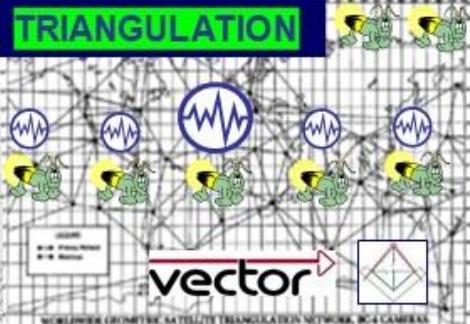
Asynchronous
Micro-Cycle State Meta Data Snapshots

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

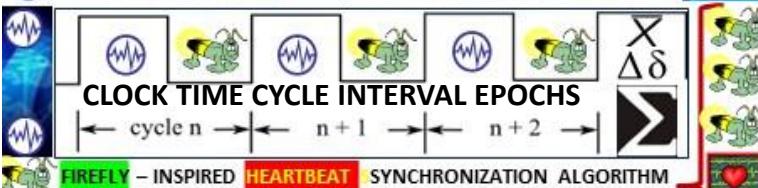


Universal Meme
Sync
ROLES Meters
RULES Metrics
Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics



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

FIREFLY HEARTBEAT Synchronization Algorithm



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



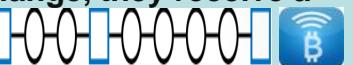
Proof of Burn



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.

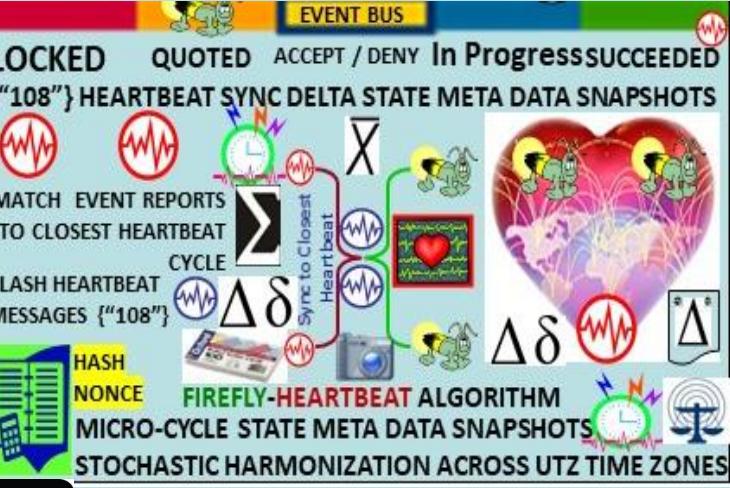
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describe the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining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

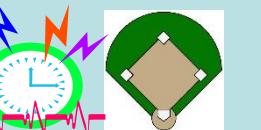
TAG	Volume / Size + / - Of rig	Token Award
{"Org_ID"} ActiveID	[UFO2_ACTIVEID]	</EVENT>
IF1_Heartbeat (IF-Node1)	[UFO2_HEARTBEAT:#]	</EVENT>
IF2_Heartbeat (IF-Node2)	[UFO2_HEARTBEAT:#]	</EVENT>
{"UUID"} IF1_DeviceStatus (IF-Node1)	[UFO2_DEVICESTAT:#]	</EVENT>
{"UUID"} IF2_DeviceStatus (IF-Node2)	[UFO2_DEVICESTAT:#]	</EVENT>
IF1_State (IF-Node1)	Δδ [UFO2_STATE:#]	Δδ IF_State
IF2_State (IF-Node2)	Δδ [UFO2_STATE:#]	Δδ 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](#).



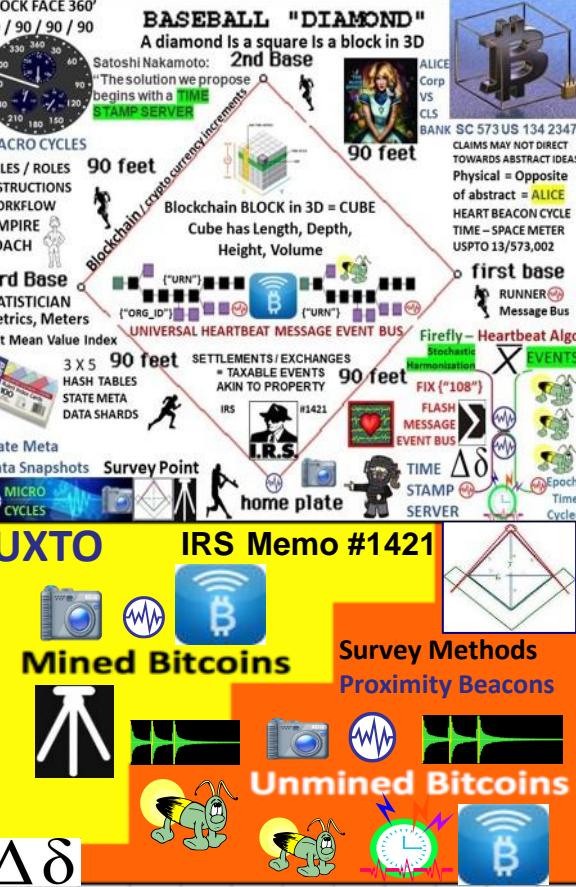
Instead of repeatedly altering the numbers in the block header & repeated hashing for the solution value as in a PoW system, PoC works by storing a list of possible solutions on the mining device's hard drive before mining activity starts



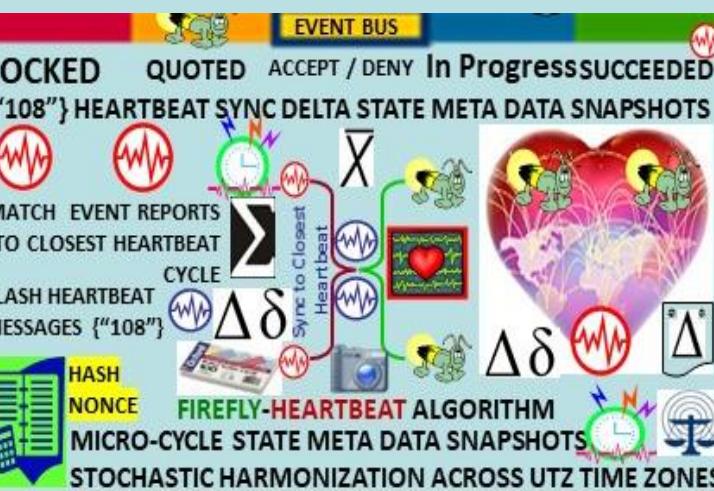
The larger the hard drive, the > possible solution values one can store on the hard drive, the more chances a miner has to match required hash value from his list, resulting in more chances to win the mining reward.



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.

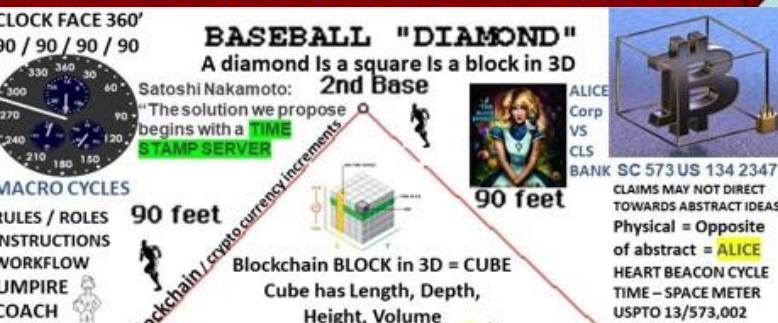


PoST users / nodes must prove that they are spending a certain amount of space for storage.



DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

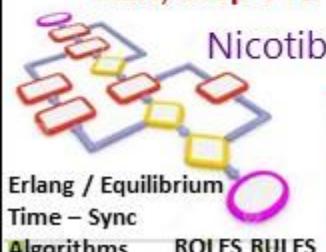
Heart Beacon Cycle FEDERATE / TRADE FEDERATIONS



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



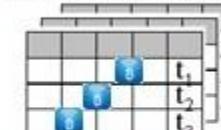
queueing systems wait times stochastic processes, function scheduling Start, Stop TTL



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



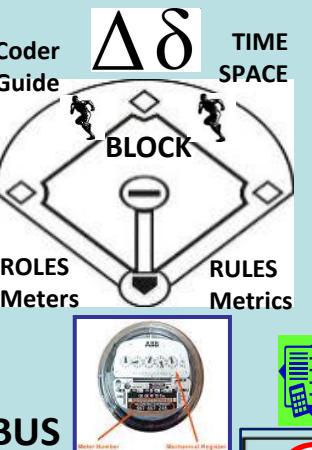
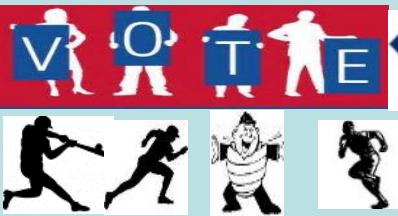
Process transactions by precedence
Attribute Series
TIME Function



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

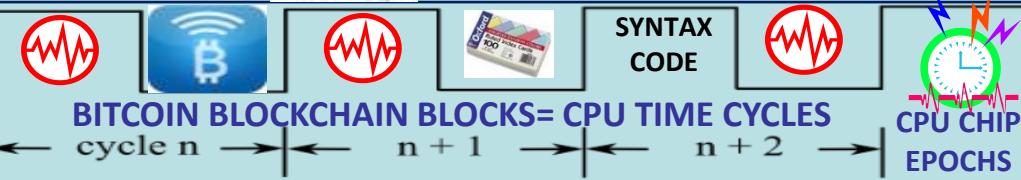
XBRIL / CDL / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

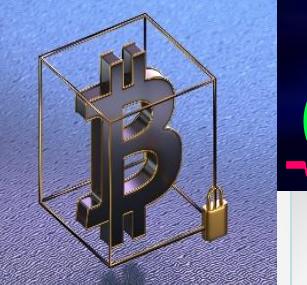


SYNTAX
LEXICON LIBRARY

CPU CHIP
EPOCHS

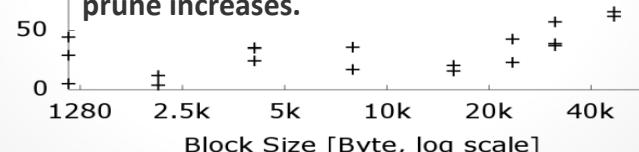


long exponential
intervals (10 min)



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.



COMMAND SYNTAX
RESTFUL State Transfer

MACRO – CYCLES



short deterministic
intervals (10 sec)

MICRO-CYCLES



Block Size [Byte, log scale]

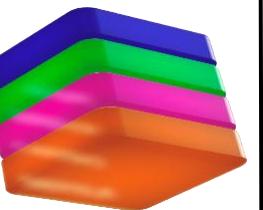


PROTON A CHAIN Virtual Machine

CONTRACT C CHAIN Smart contract

PLATFORM P CHAIN Meta Data

EXCHANGE X CHAIN Cross blockchain



Universal @names Identity / Governance / Resources / Staking

Snowball Consensus

Algorithm

preference := pizza

consecutiveSuccesses := 0

while not decided:

ask k random people preference

if >= α give the same response:

preference := response with >=

α

if preference == old preference:

consecutiveSuccesses++

else:

consecutiveSuccesses = 1

else:

consecutiveSuccesses = 0

if consecutiveSuccesses > β:
decide(preference)



DAG Acyclic Graph Parameters:

n: number of participants

k (sample size): between 1 and n

α (quorum size): between 1 and k

β (decision threshold): >= 1

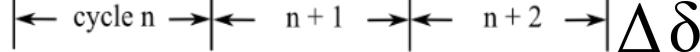
ALL THINGS NET, NET OF \$\$\$

1) EPOCH TIME INTERVALS

2) SYNTAX (not) used in epochs



BLOCKCHAIN EPOCH CLOCK TIME CYCLES

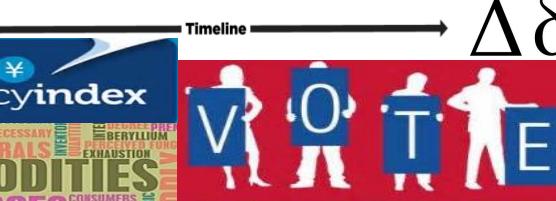
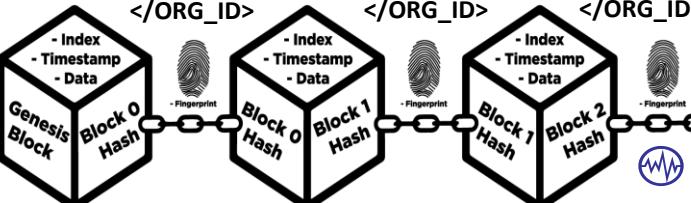


GENESIS BLOCK: "Layers" = follow on epoch time intervals

Block 0

Block 1

Block 2



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

</URN>

</URN>

</URN>



</ORG_ID>

MVP



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



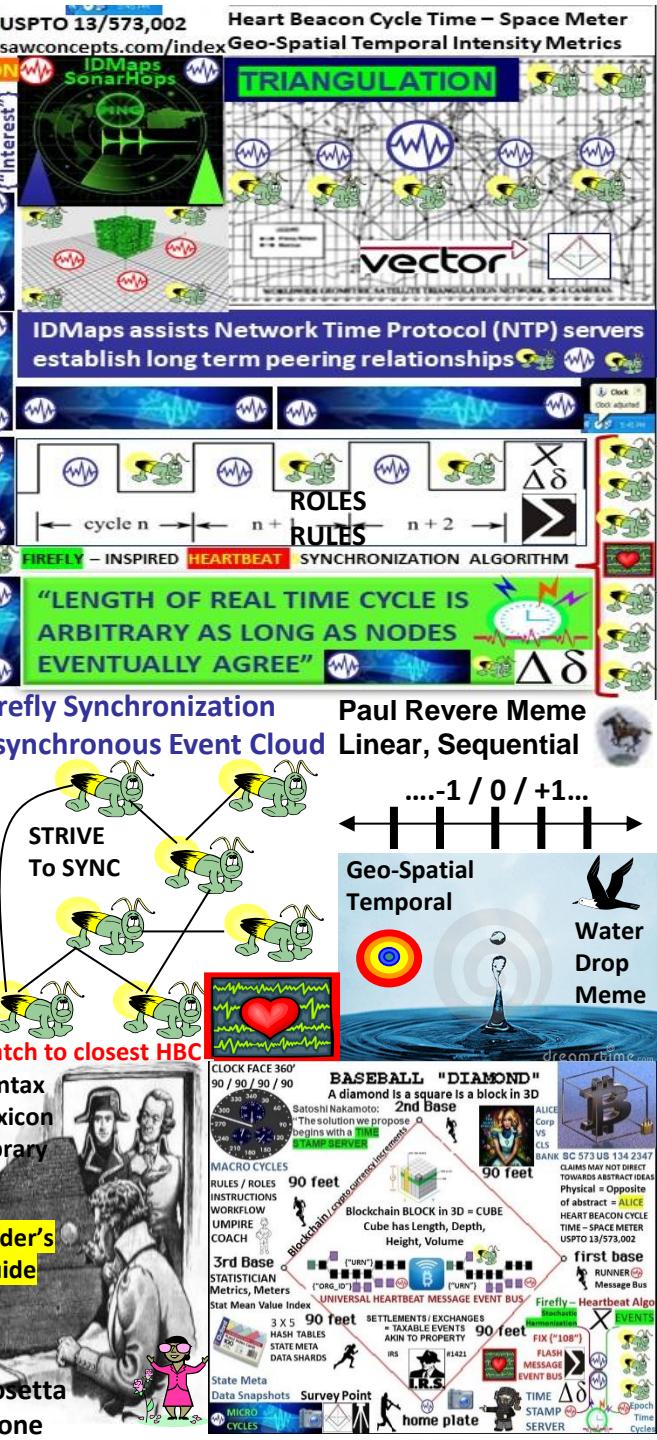
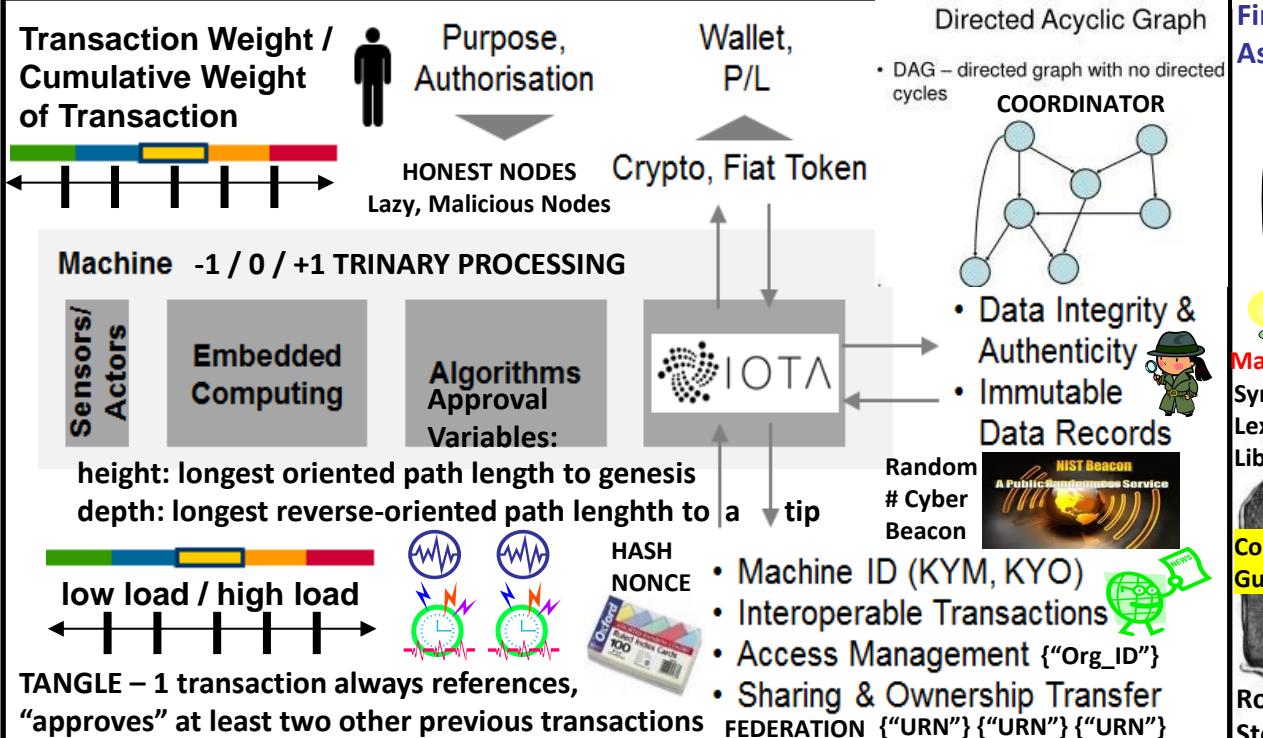


OTA: Internet Of Things IOT distributed ledger
with microtransactions without fees

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



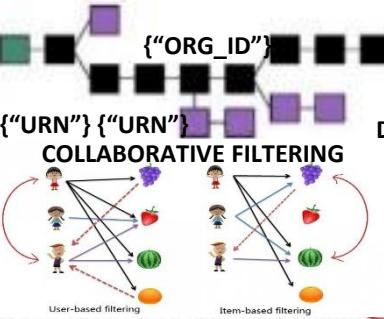


EGAAS

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

NAMED DATA NETWORKING ONLINE **Time Series Databases** **BLOCKCHAIN PARSING**

, corrections **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

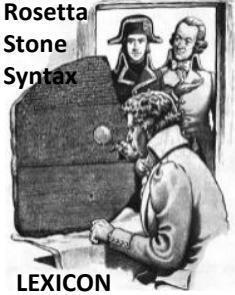
Blockchain middleware: identity and operations management, data, intelligence services like analytics and machine learning. New middleware works with existing Azure services, like Active Directory and Key Vault

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

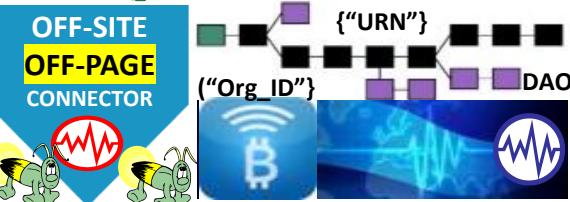
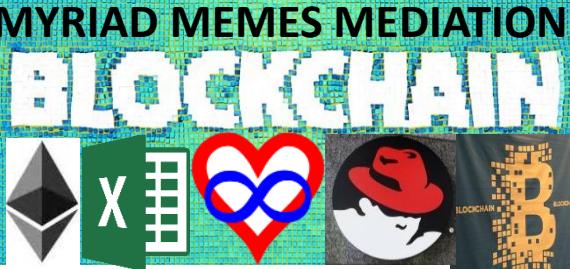
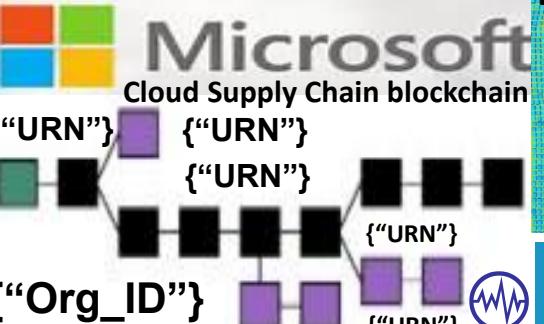


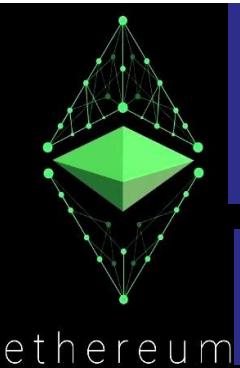
ALPHA NUMERIC	
BREVITY CODES	
SYMBOL CODES	
STRUCTURED MILITARY MESSAGE	
TEMPLATE FORMS	LOGIC / FILTERS

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



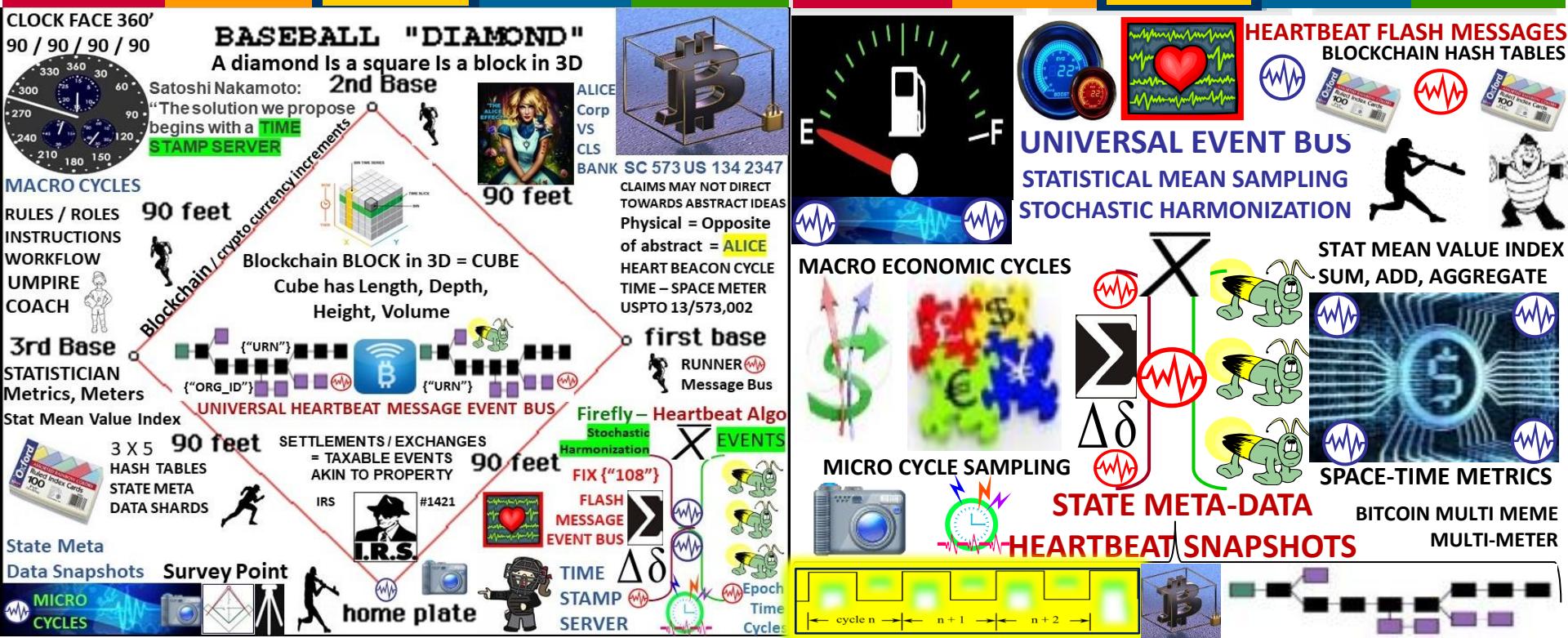


ETHER: Compensate Resource Contribution

Gas: price to
Run contract
transactions

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**

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



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

UTZ TIME ZONE SYNC

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

3 x 5 HASH TABLES STATE META DATA SHARDS

State Meta Data Snapshots Survey Point

MICRO CYCLES

home plate

3 x 5 INDEX CARDS

QUANTUM RANDOM #

3 x 5 INDEX CARDS

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



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

ERLANG API FOR BLOCKCHAIN



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

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

CROSS – CHAIN ATOMIC SWAPS

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



Aeons: energy for applications implemented on the platform.

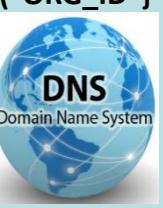
ACCOUNTS & IDENTITY: æternity's accounts are permission-less, but allow customization via schema.org's semantic web scheme. Create & own (**federated group**) / individual identities on the æternity network



("ORG_ID")

("ORG_ID")

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



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

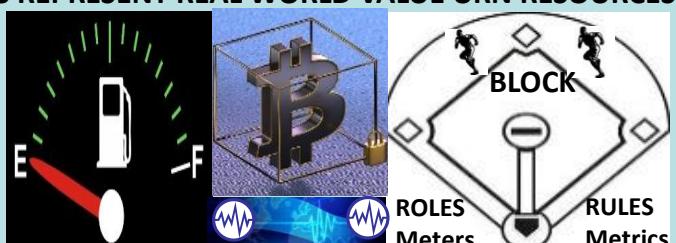
AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS



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

TOKENS REPRESENT REAL WORLD VALUE URN RESOURCES

ETHEREUM USES GAS GUAGE MEME INDICATING THRESHOLD MET / NOT MET



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

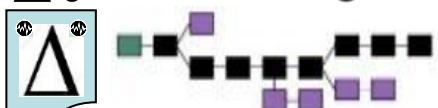
Federation Gateway
("ORG_ID")



HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$ Shared Ledger



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

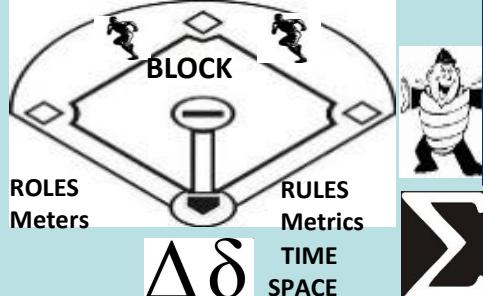
FEDERATION
Federation Gateway

METRICS ("Organization ID")
METERS

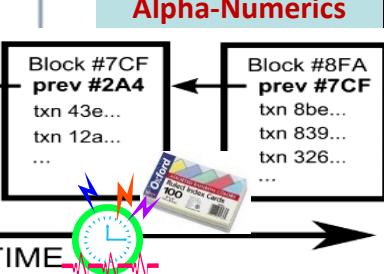
RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE



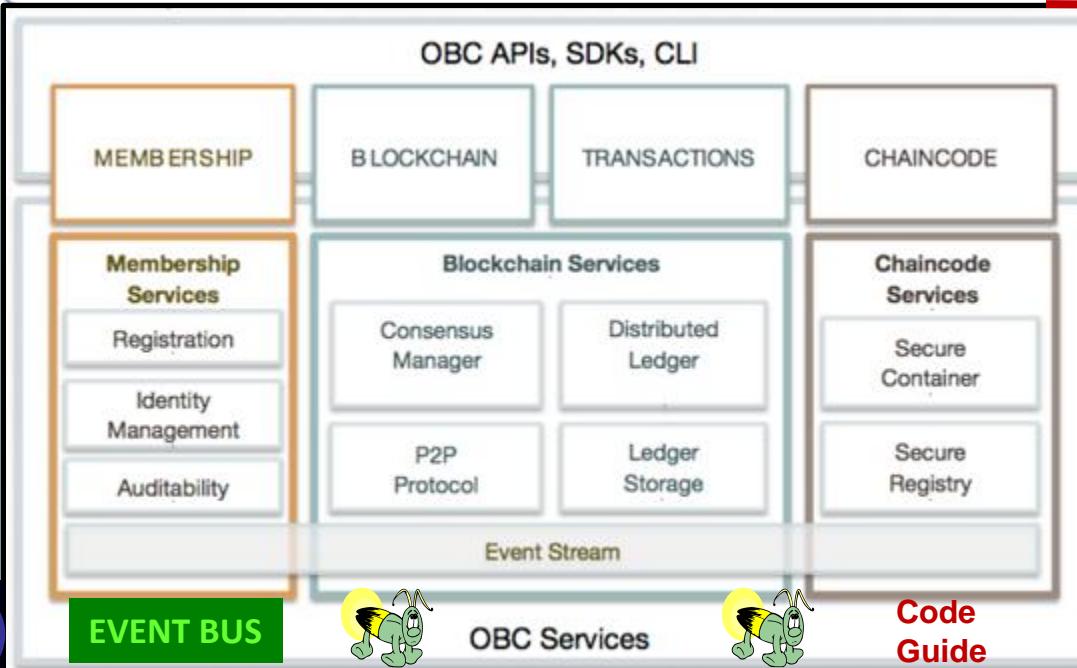
BLOCKTIME ARBITRAGE



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



Alpha-Numerics



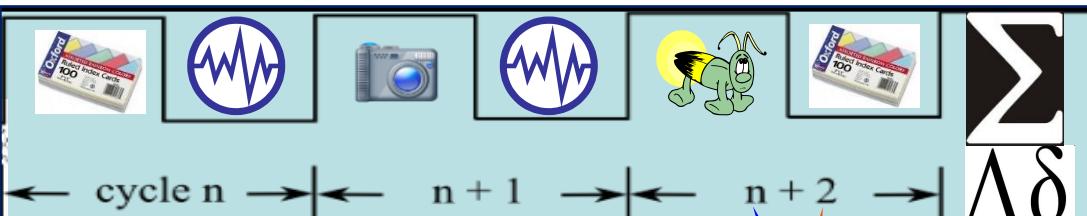
ROSETTA STONE

XBRL / CDL / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

SYNTAX
SYMBOL LIBRARY

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



MICRO-MACRO CYCLE SCHEDULE



FFIRNS
FFUDNS

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



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

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

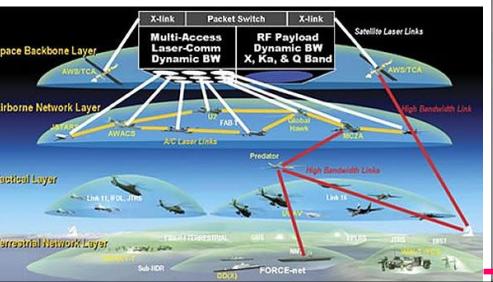
[LINK](http://bitcoinist.net/how-dash-dao-work/) <http://bitcoinist.net/how-dash-dao-work/>

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

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

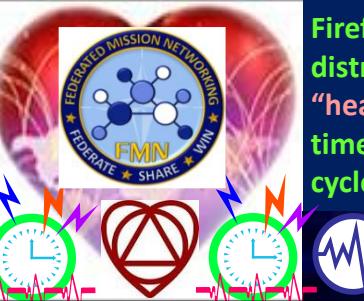
InstantX: To solve the problem of lag time in transactions, Masternodes are able to instantly lock transactions receive payments for their service to the network

DAO: RAND THINK TANK TERM COINED + / - 2001



STOCHASTIC HARMONIZATION **FIREFLY-HEARTBEAT** EVENT BUS

HEART BEACON CYCLE = IMPROVEMENT TO NETWORK CENTRIC WARFARE



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

STATE: stored data at a given instant in time

STATE CHANNELS: blockchain interactions

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



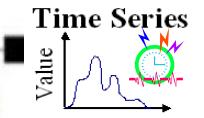
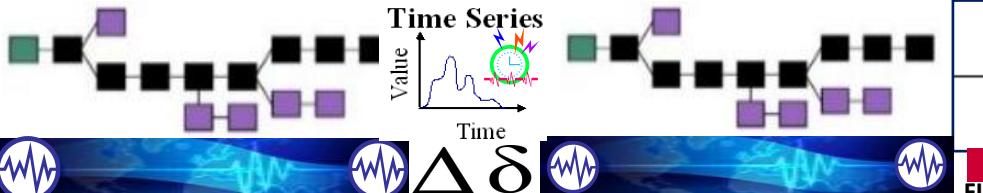
1. Part of the blockchain state is locked via multisignature or smart contract convention, so that a specific set of participants must completely agree with each other to update it.



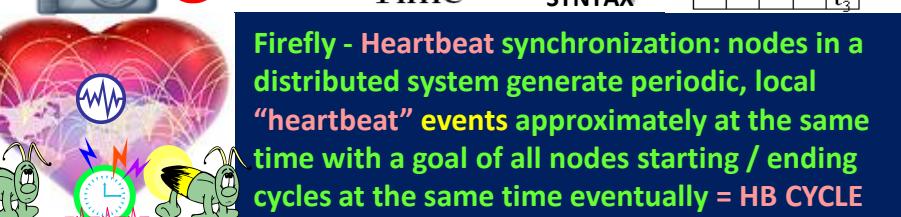
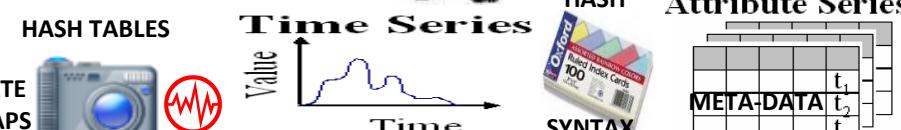
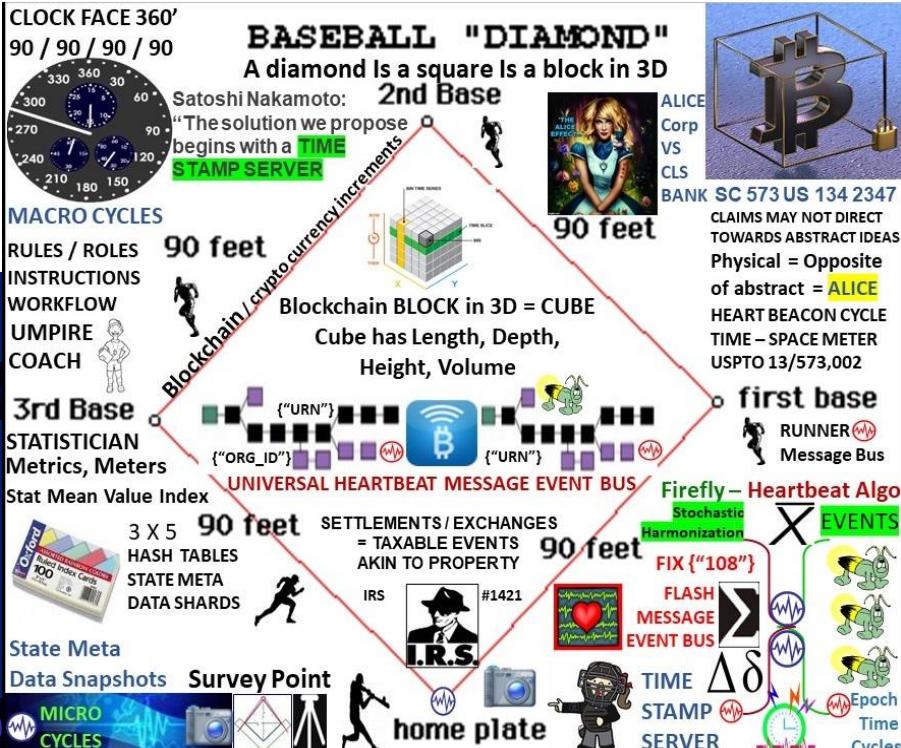
2. Participants update the state amongst themselves by constructing and signing transactions that could be submitted to the blockchain, but instead are made available for a new update "trumps" previous update.



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



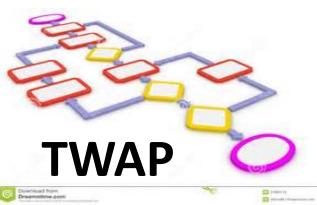
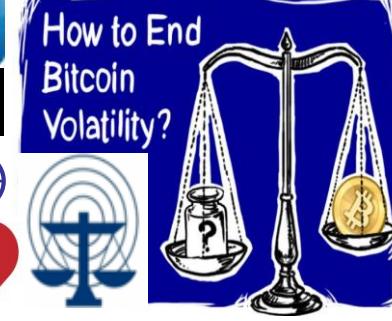
NEW UPDATES OVERWRITE THE PREVIOUS: simplest way is to have any unlocking attempt start a timer, during which any *newer* update can replace the old update (restarting the timer). When the timer completes, the channel is closed and the state adjusted to reflect the last update received. The length of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



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

TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

TWAP GOAL: provide a Time Weighted Average Price Benchmark

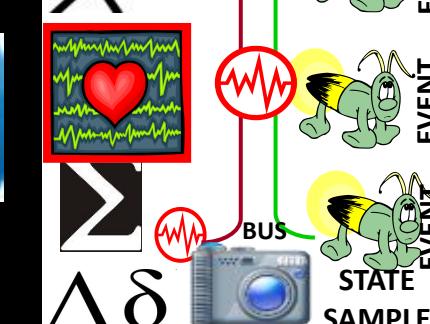


FIREFLY HEARTBEAT ALGO
STAT MEAN VALUE INDEX

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



STATE META
DATA SNAPSHOTS



STATE SAMPLE

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



Rules of engagement
FEDERATION AGREEMENTS
PROCEDURAL TEMPLATE

Registration

Authentication

Proximity based rules

Consensus based rules

Contracts

Checklists

FEDERATION

<UUID> <ORG_ID> <URN>

LDAP DIRECTORY

Physical proximity

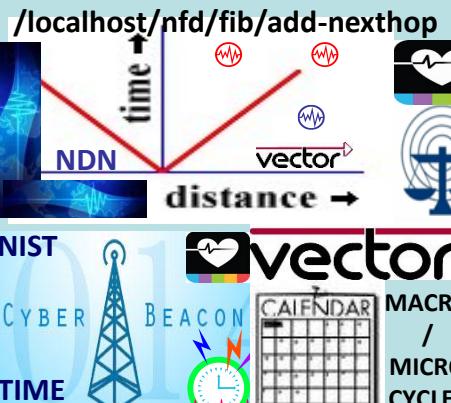
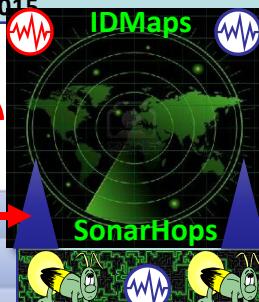
Social proximity

Temporal proximity

Agreements

Payments

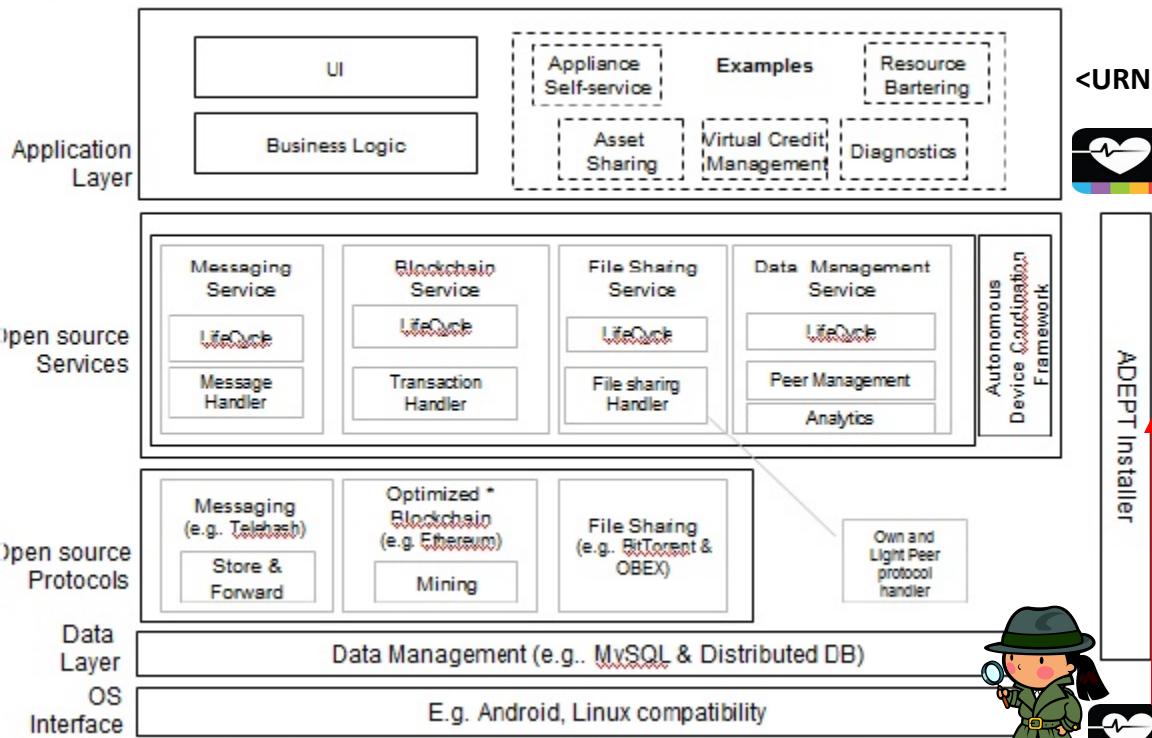
Barter



PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS

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

ADEPT Standard Peer Architecture – Logical View



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

Key Features:

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



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

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

All rates time-stamped in UTC.

Ability to look up by time-stamp.

Ability to look up by block-height.

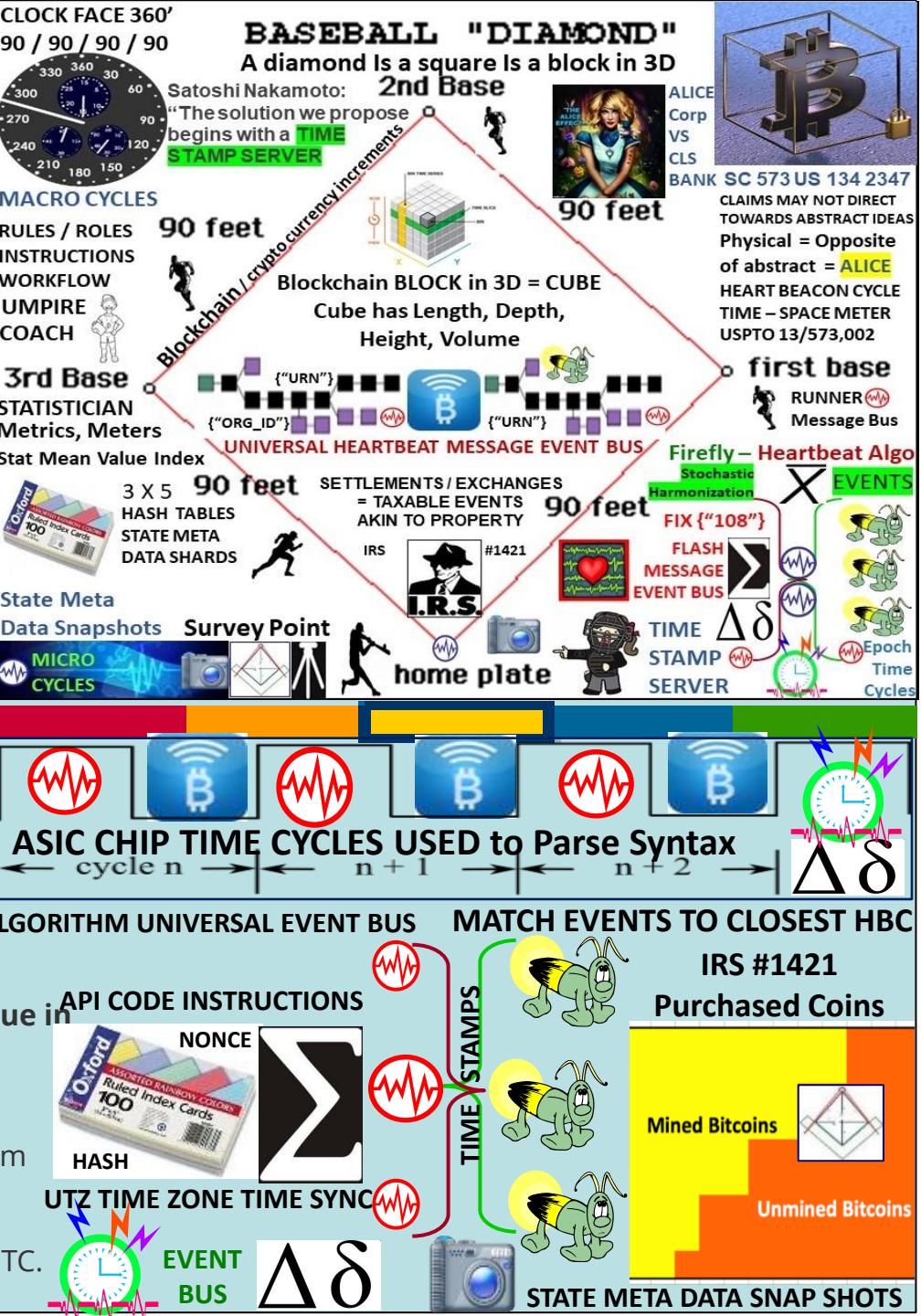
Asset Classes: Digital Currencies

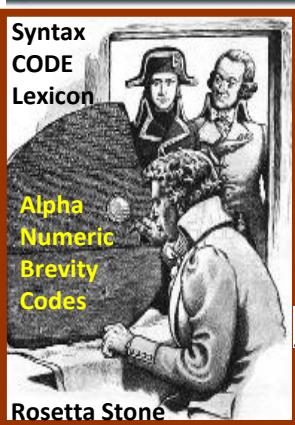
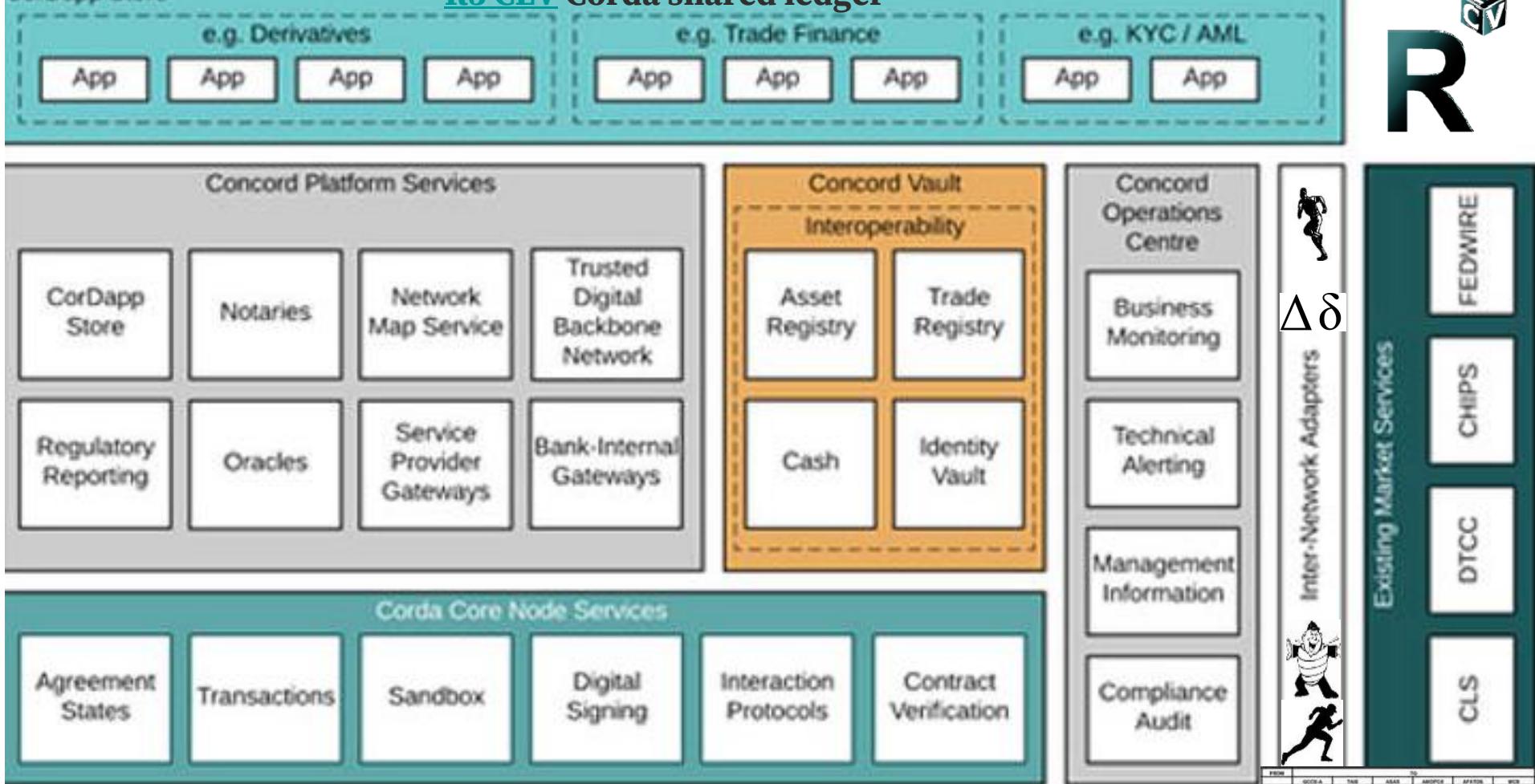
Get by: Block-height, Time-stamp or Transaction

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

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

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

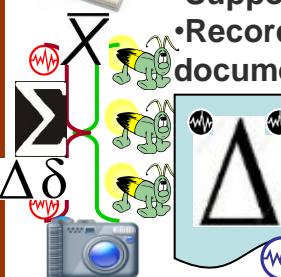




UNIVERSAL EVENT BUS



- Choreographing workflow between f
 - Supports inclusion of regulatory & s
 - Validating transactions solely betwe
 - Supporting a variety of consensus m
 - Recording explicit links between hu



11.8 - Kinematics	
11.8.1 - Pos / Vel / Acc (PVA)	
11.8.1.1 - Acceleration	
11.8.1.1.1 - Circular	
11.8.1.1.2 - Linear	
11.8.1.1.3 - Estimate Type	
1.2.1 - Estimated	
1.2.2 - Observed	
1.2.3 - Predicted	
11.8.1.2 - Smoothed Data	
11.8.1.3 - Position	
11.8.1.3.1 - Bearing Angle	
11.8.1.3.2 - Azimuth, 2D H	
11.8.1.3.3 - Vertical	
11.8.1.4 - Velocity	
11.8.1.4.1 - Horizontal	
11.8.1.4.2 - Vertical	
ture Type	
11.8.1.5 - A Confidence	
- Bearing Angle	
- Bearing Angle Rate	
- Covariance Matrix	

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



XBRL / CDL / DAML STOCK MIC CODES

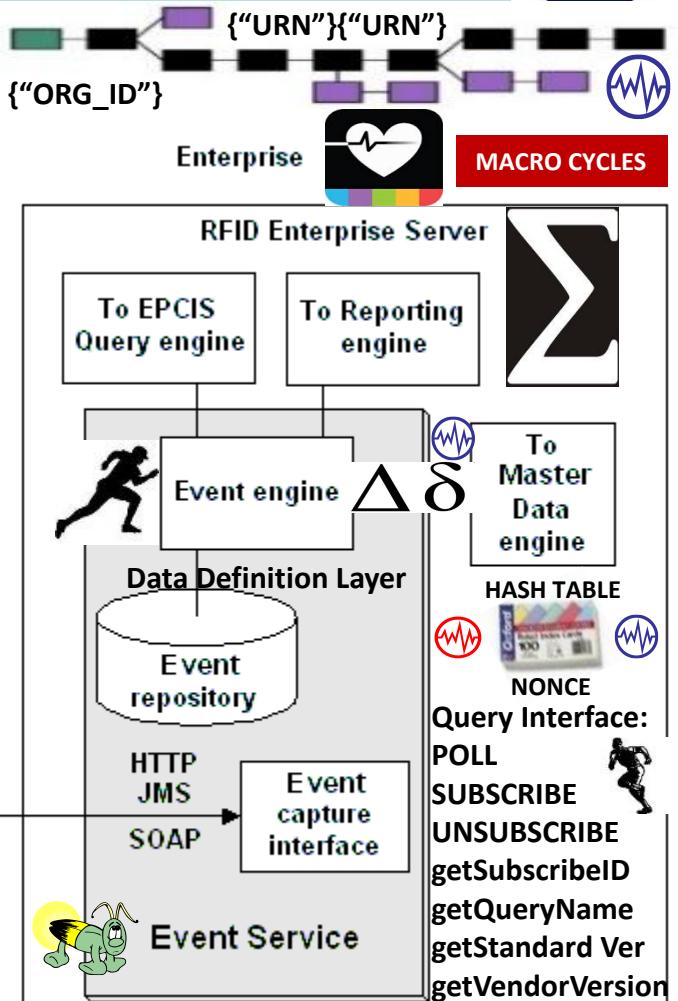
STRUCTURED MILITARY MESSAGE TEMPLATE FORMS



300+ Use Case Templates

Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data



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

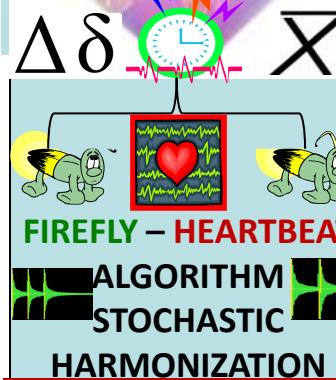
**Why Information about the business context, including:
a Identifier that indicates the business step taking place**



CLOSER IS CHEAPER



MICRO CYCLES



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

RFID Configuration TCP/IP heartbeat message

STRUCTURED DATA EXCHANGE / STRUCTURED MILITARY MESSAGES

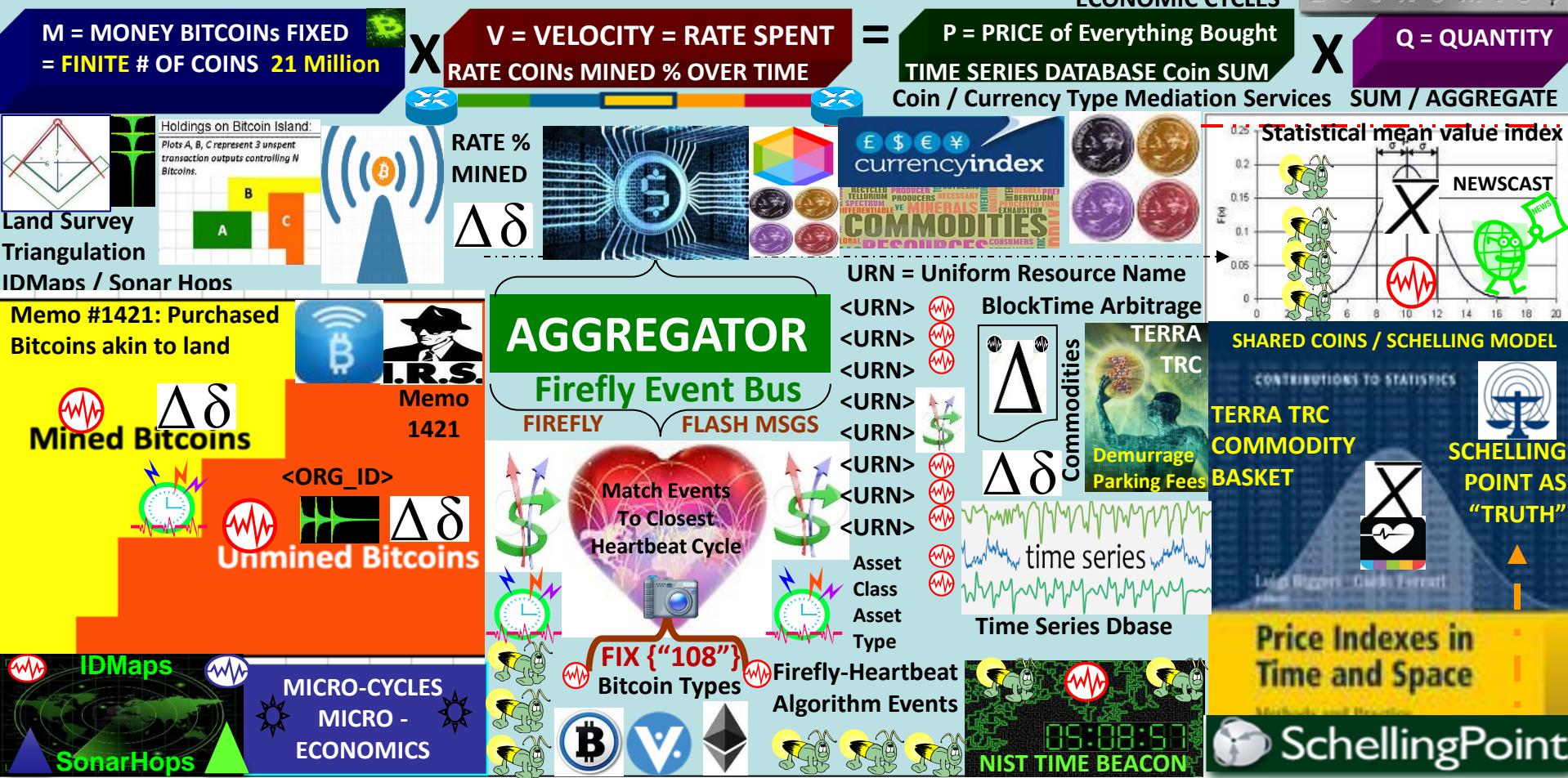
!st Compiler DESIGN Still the **BEST**



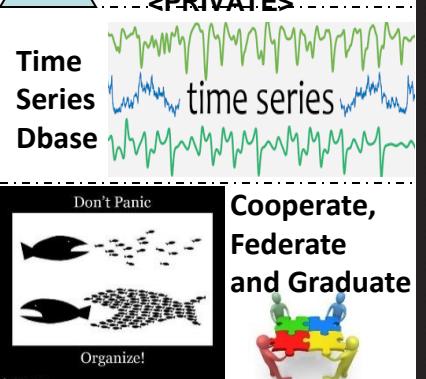
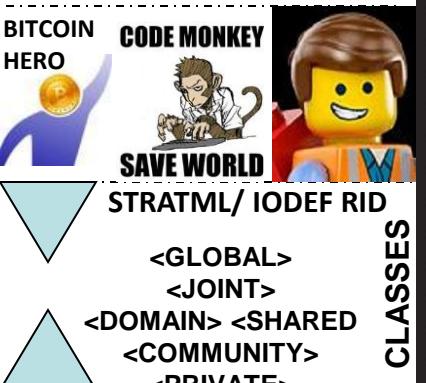
How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

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

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

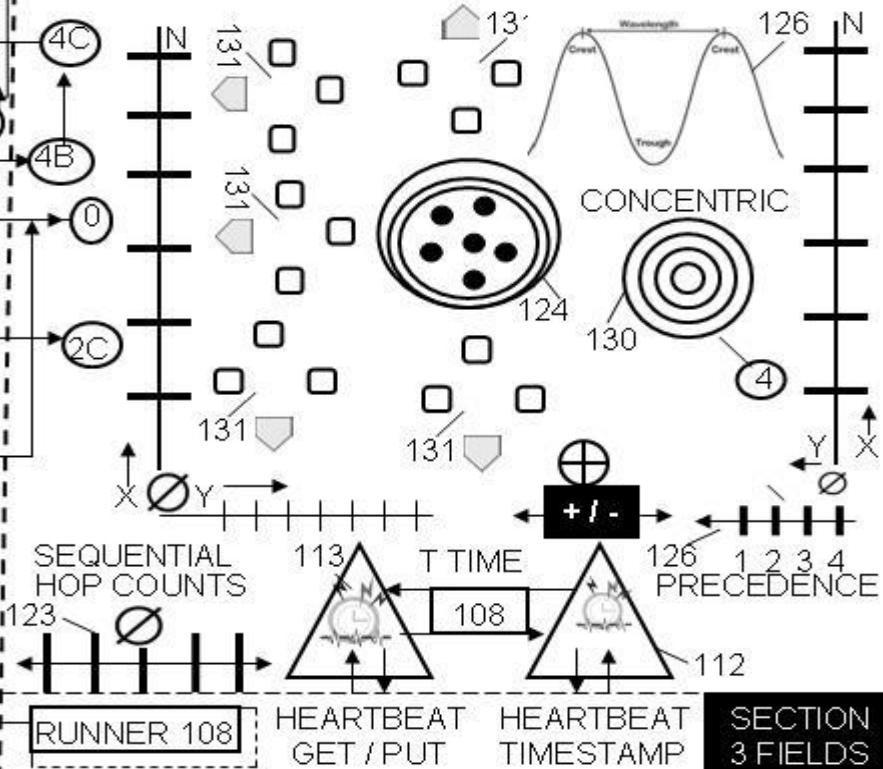
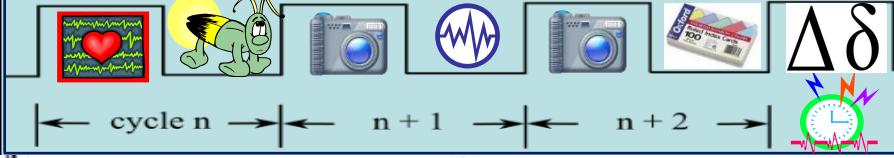
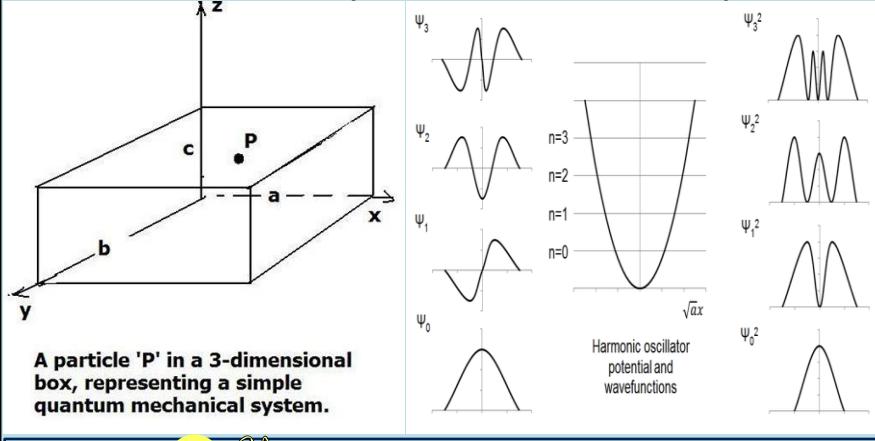
CLEAR GOALS AND RULES OF PLAY

A COMPELLING NARRATIVE

CHALLENGING BUT ACHIEVABLE TASKS



QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS

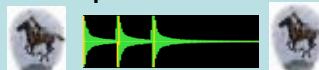


#QuantumComputing USct Alice Corp Vs CLS Bank compliant memes:
In quantum computing, a qubit (or quantum bit (sometimes qbit)) is a unit of quantum information—the quantum analogue of the classical binary bit. A qubit is a two-state quantum-mechanical system, such as the polarization of a single photon: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

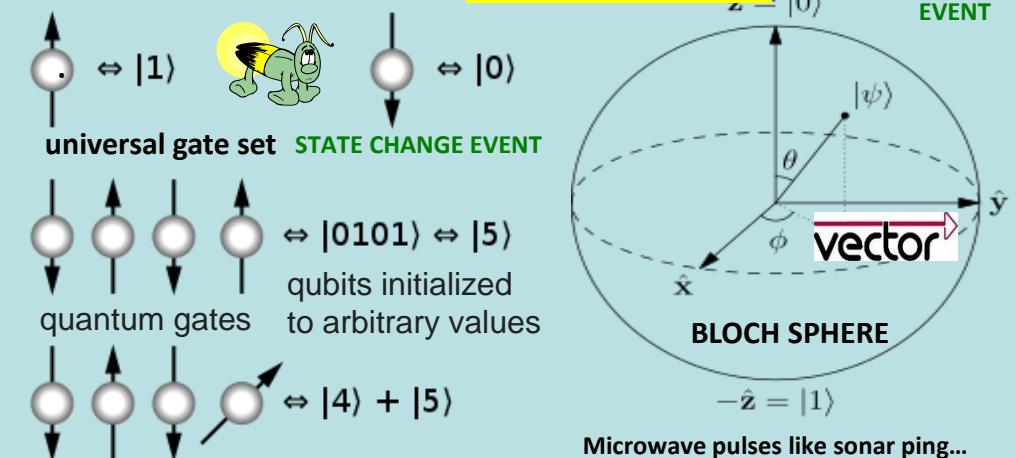
Vertical polarization vectors from a known point 0 null Sonar Hop meme



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?

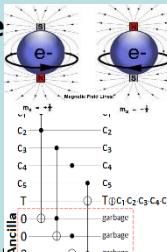


qubits can be in a superposition of all the classically allowed states

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)

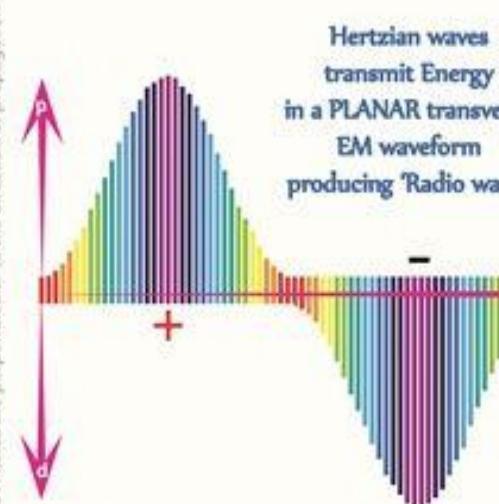


CLOSER = < Infrastructure
= CHEAPER SLA

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.

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



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

"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

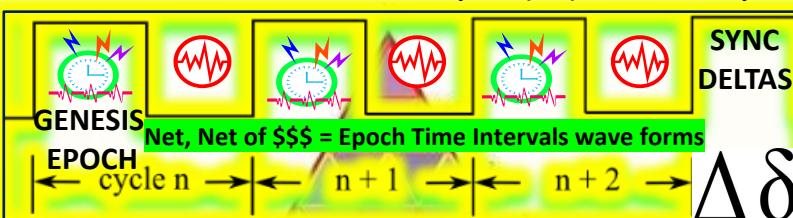
Through longitudinal waves, Tesla transferred energy to receiving devices. He sent electrostatic forces through the air, transferred electrical energies and noted the lethal forces produced by these waves.

Heinrich Hertz

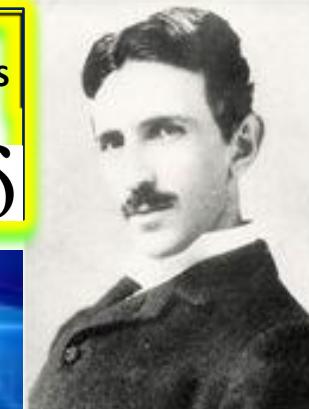


(22 February 1857 - January 1 1894)

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



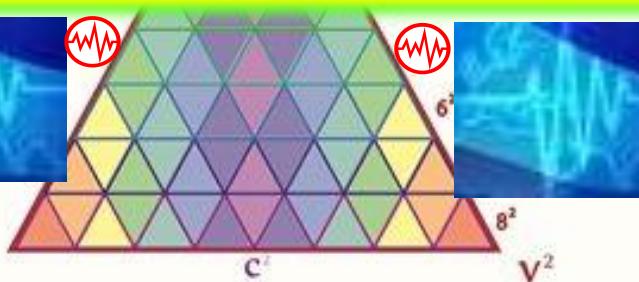
Nikola Tesla



(10 July 1856 – 7 January 1943)

Cycles per Second

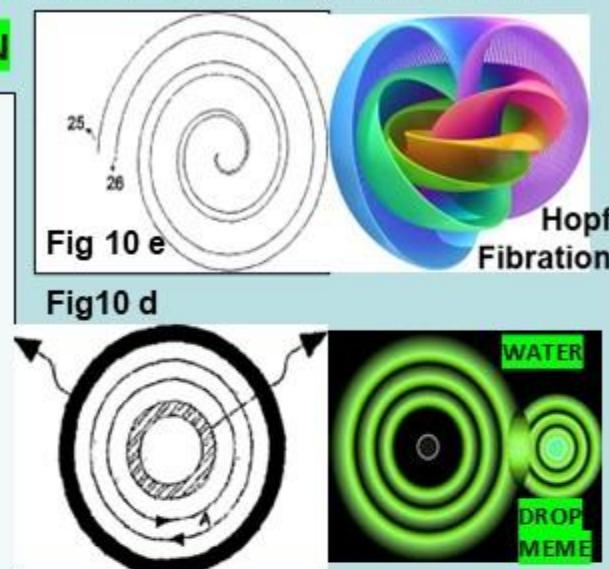
Soon after Hertz's claim of discovering Maxwell's transverse EM waves Tesla visited him and personally demonstrated the experimental error to him. Hertz agreed with Tesla and had planned to withdraw his claim, but varying agendas intervened and set the stage for a major rift in the 'accepted' theories 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



Volts per Second

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.

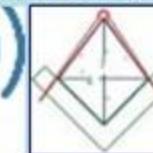
(5) Device Status 2.



Paul Revere = Linear, Sequential meme



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



Geo Spatial
Temporal Series

Water Drop Meme

Geospatial Radius

WATER DROP

MEME= RADIUS

DISTANCE FROM

ENERGY SOURCE

Micro Payments

Demurrage Fees

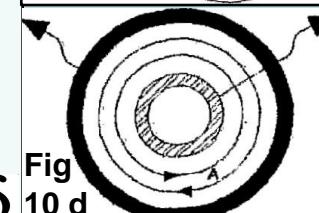
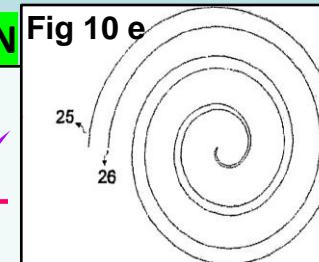




PROPELLION SYSTEM USING THE ANTIGRAVITY FORCE OF THE VACUUM

ENERGY PRODUCTION

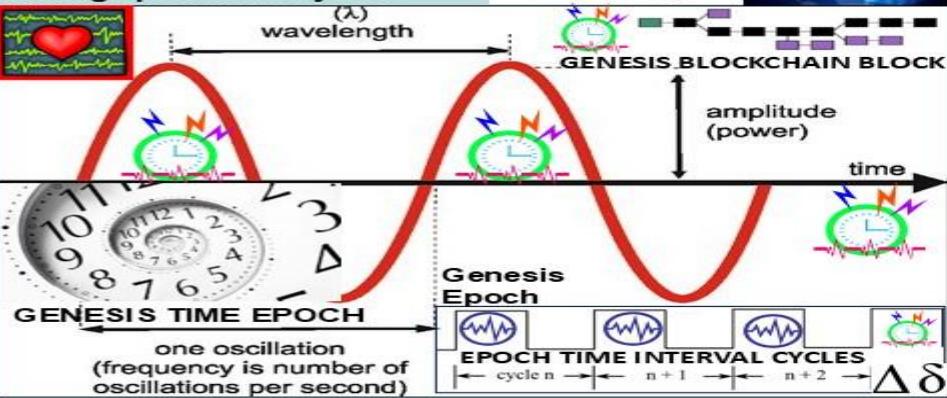
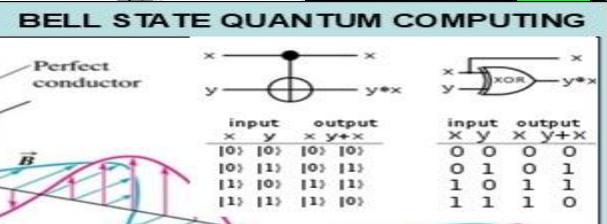
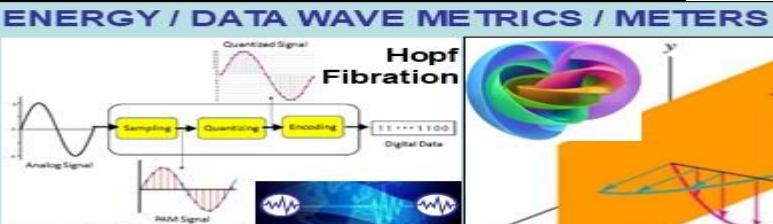
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$$\Delta\delta$$

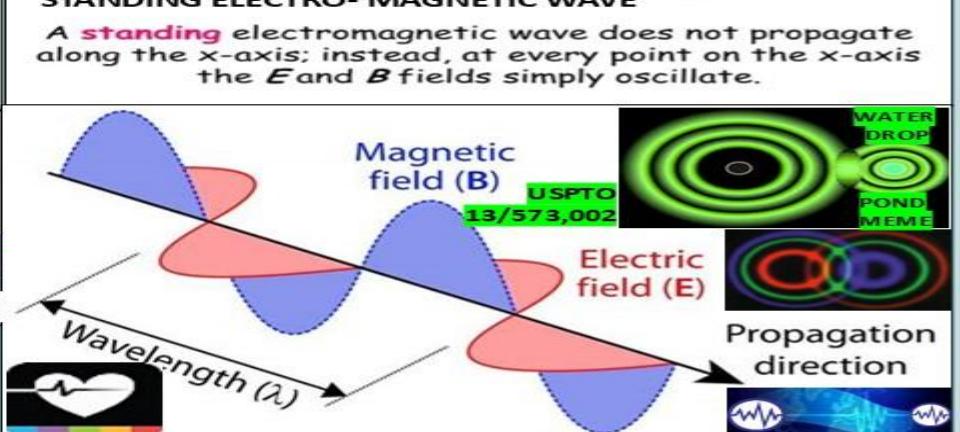
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- 1) Time epochs created by quartz crystal silicon chips
- 2) Syntax used / not used as programming instructions during epoch time cycles



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

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



"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





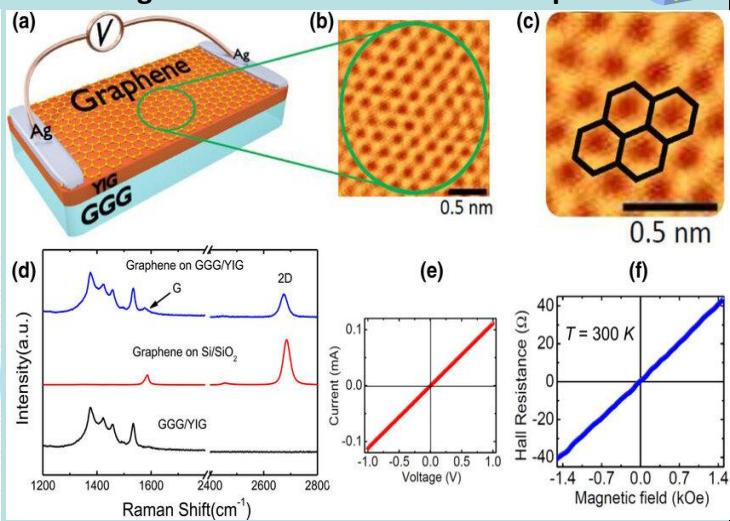
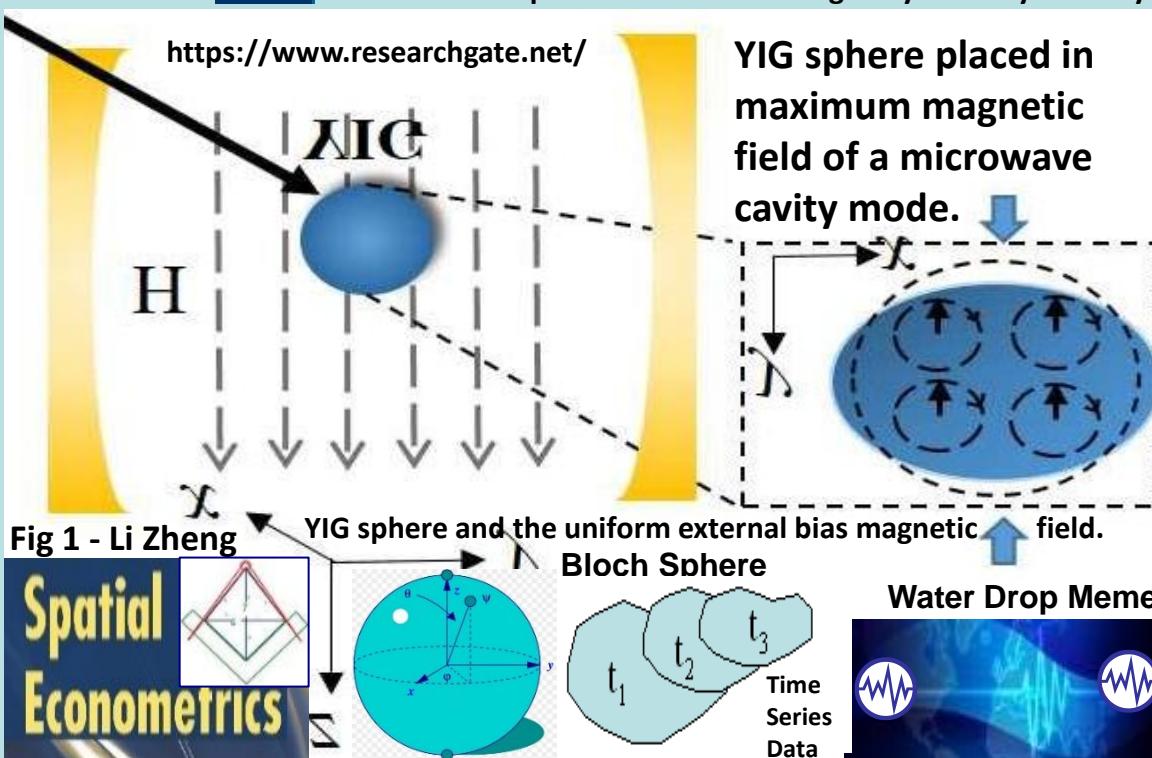
TESLA Harmonic Sphere Flux Resonator

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.

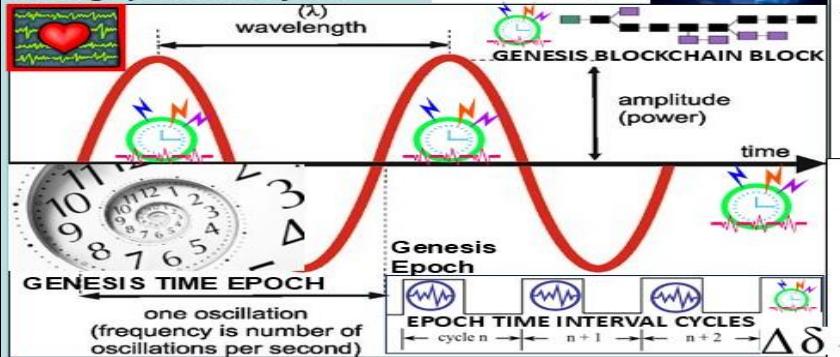
IEEE 802.1AG HOP BY HOP DETECTION
IEEE 802.11 HbH HOP BY HOP CONTROL

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]



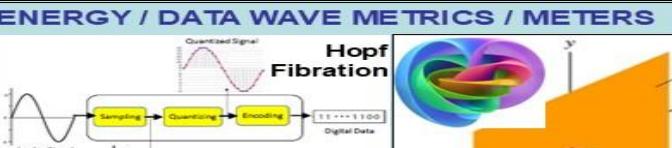
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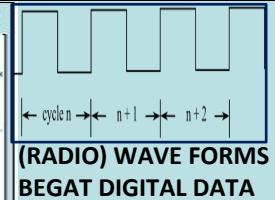
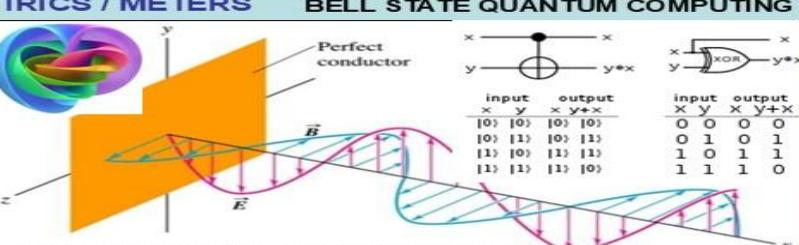


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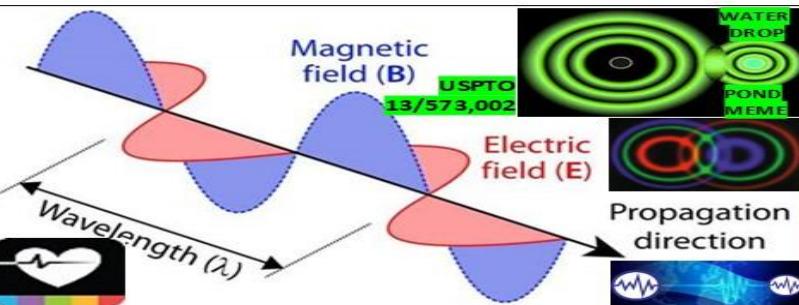
Link: https://phys.org/news/2018-06-quantum_1.html



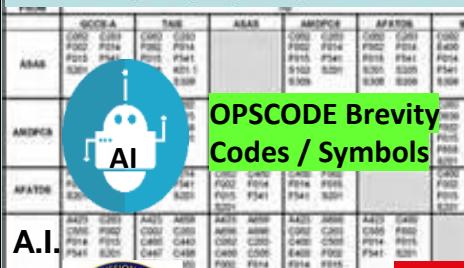
BELL STATE QUANTUM COMPUTING



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.



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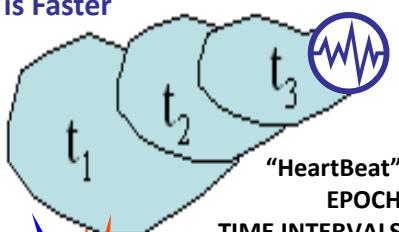
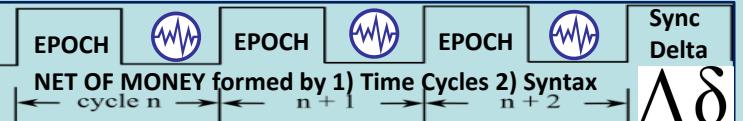
USPTO 13/573,002
573 U.S. 134 SCt 2347
“Alice in Wonderland Ruling”

A.I.

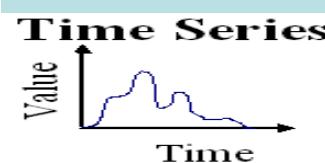


</Org_ID> TIME CHAIN

{"URN, URN, URN"}

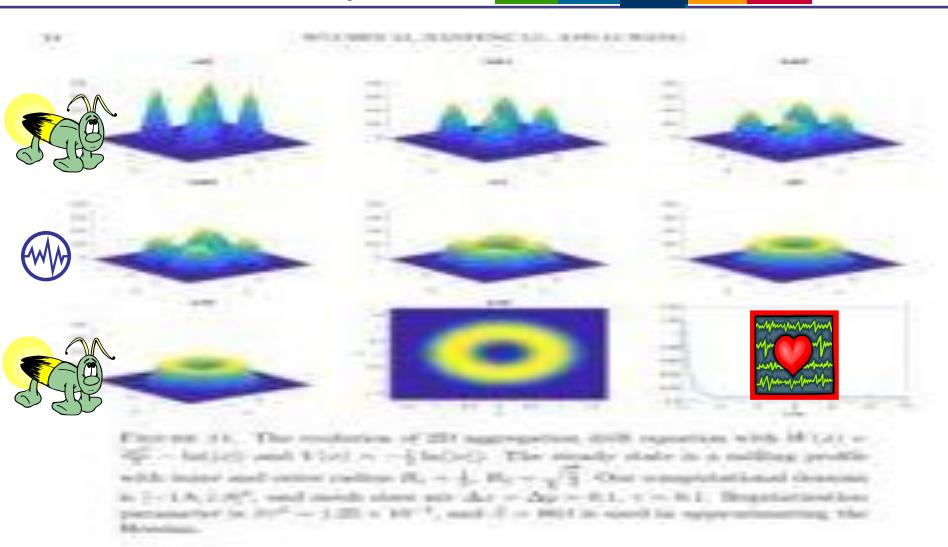


WATER DROP PHYSICAL NATURAL MEME
USPTOb13/573,002



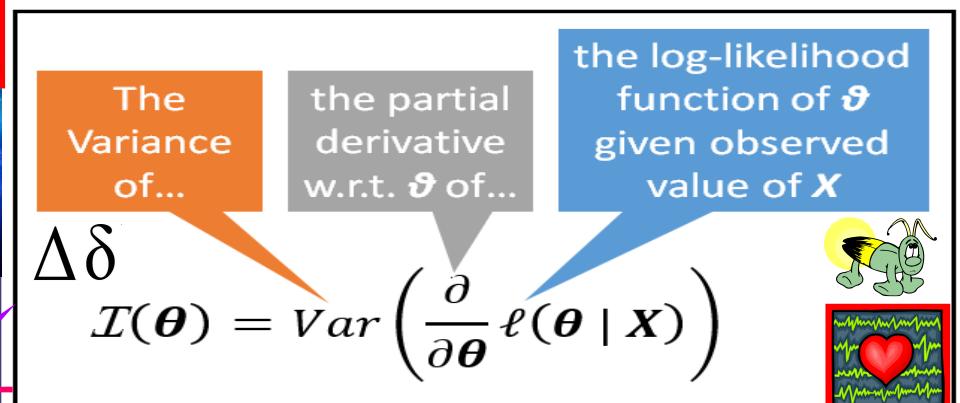
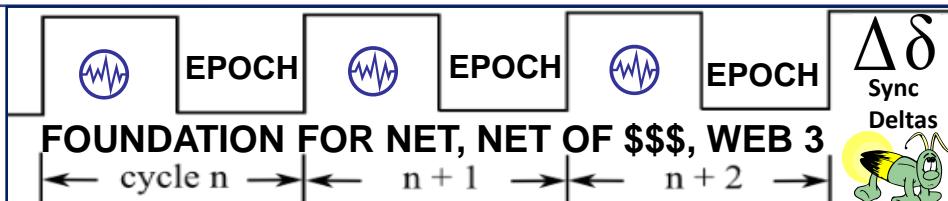
Fisher information flux flows are generated and stored in wave packets as they propagate. This temporal aspect is crucial for understanding how information builds up in a system over time

USPTO 13/573,002 Time – Space Meter



$$\partial \ell / \partial \theta_i = \nabla_{\theta_i} \cdot \left[\rho \ell \left(\frac{\partial \ell}{\partial \theta_i} + \nabla_{\theta_i} \ell \right) \right]$$

Note, $\Delta t = 10^{-1}$, $\Delta x = 10^{-2}$ and related considerations concerning of time compression. In other words, we can compress the integration interval until eliminate its meaningful relevance. As seen in Fig. 3.6, the duration of compression is the equilibrium time $\tau = 10^{-1}$ s, more explicitly, the pixel footprint contains pixels and compression allows of the individual pixel component wise can switch within the current acquisition mode without a great loss.



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.



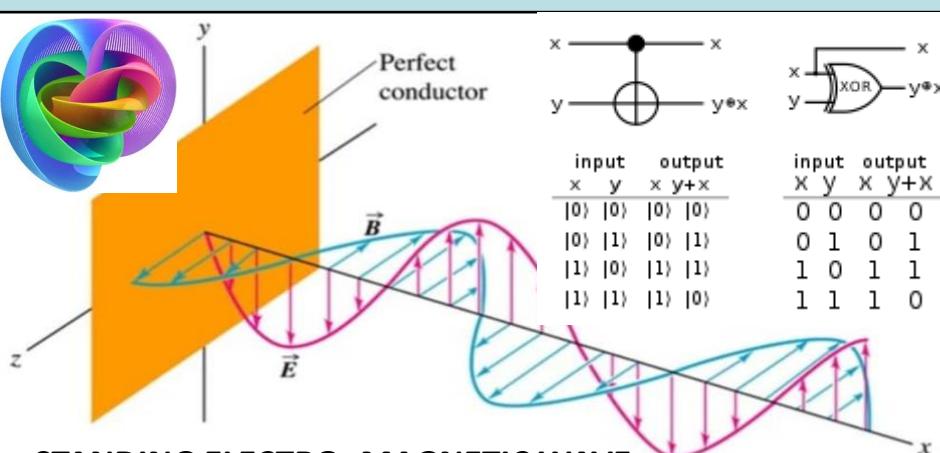
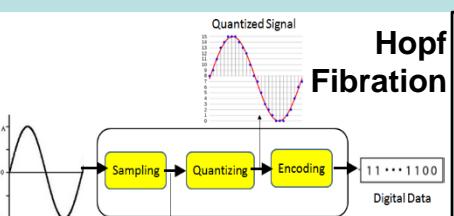
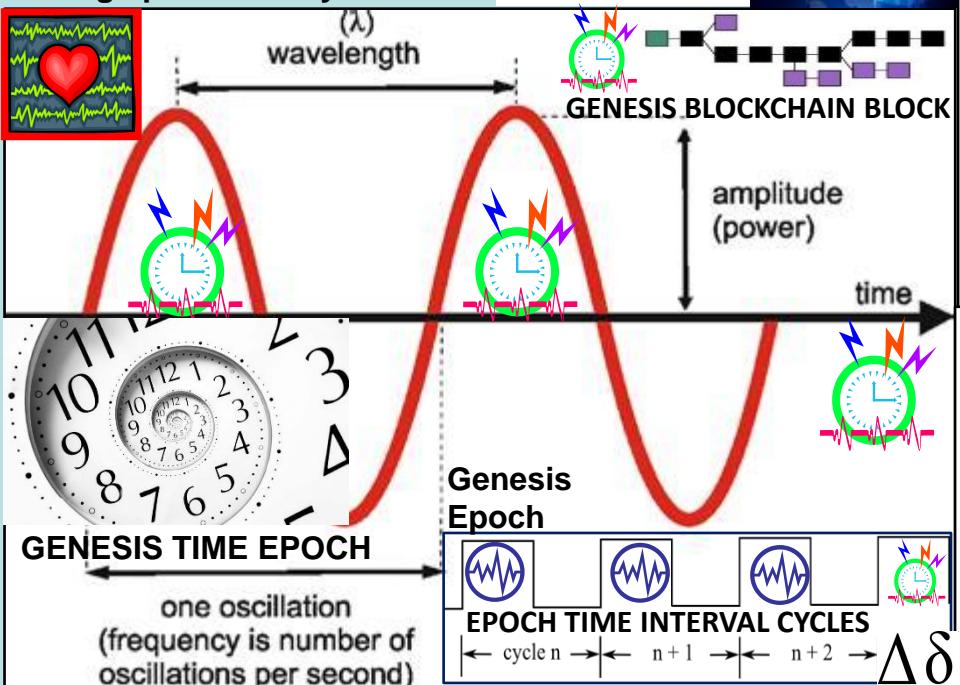
THESIS: All things net, net of programmable \$\$\$ are formed using:

ENERGY / DATA WAVE METRICS / METERS

BELL STATE QUANTUM COMPUTING

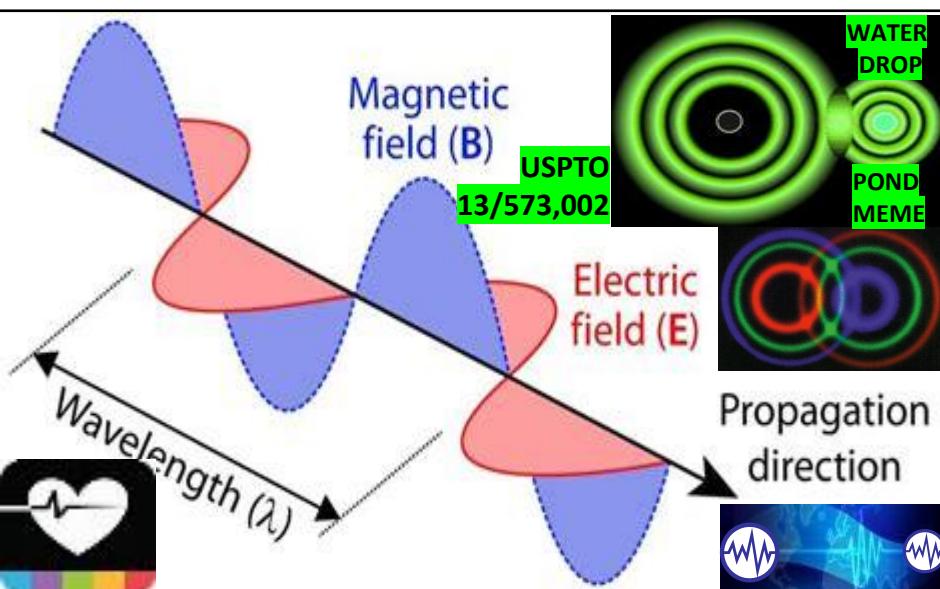
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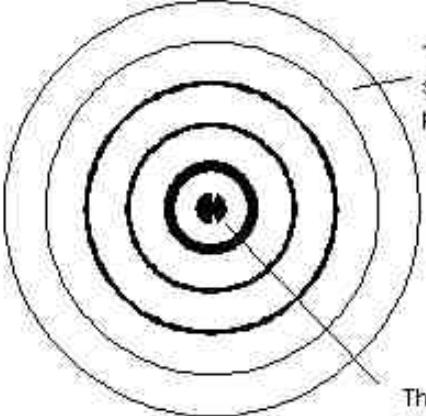
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Water drop in pond meme <https://www.spaceandmotion.com/>



Paul Revere Linear, sequential meme

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

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

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

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

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

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

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

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

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

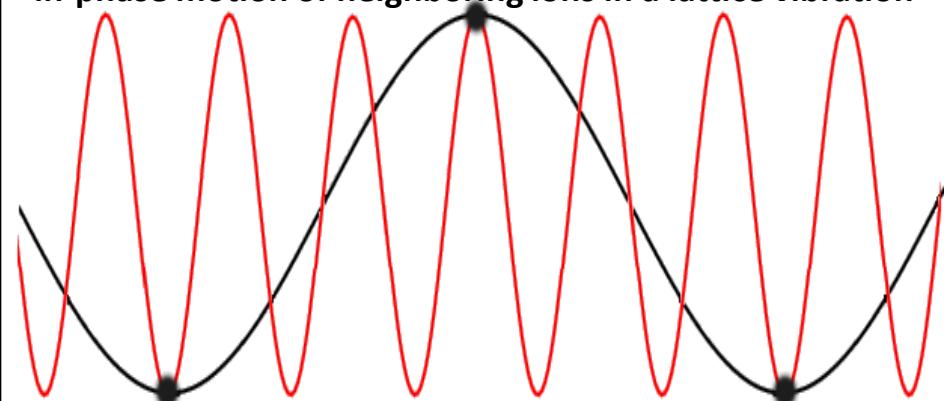


"Simplicity is the ultimate sophistication".
(Leonardo da Vinci)

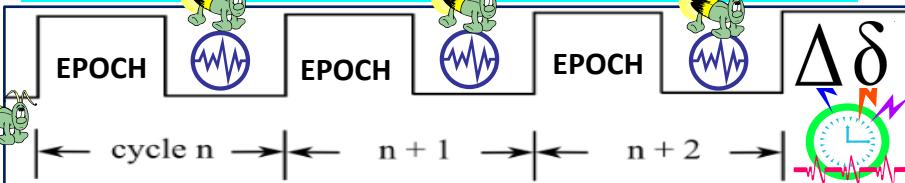
ACOUSTIC PHONON

USPTO 13/573,002

in-phase motion of neighboring ions in a lattice vibration

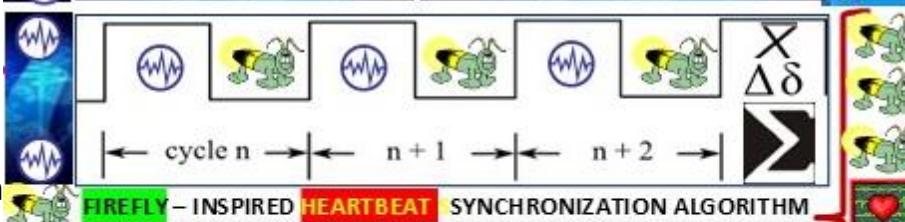
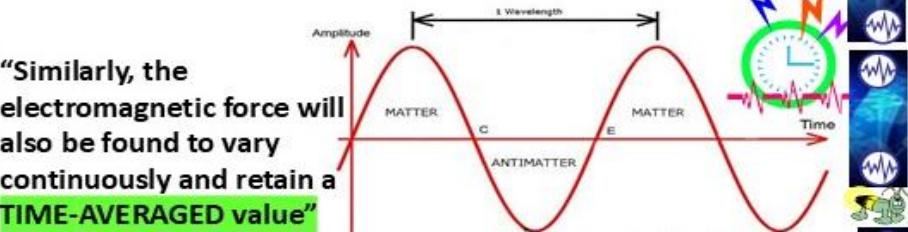


Phonons: A phonon is a quantum of the lattice vibration, the collective motion of atoms constituting a crystal. There are two types of phonons: optical and acoustic. The optical phonon has high-frequency oscillation in the THz range and the unit cell center of mass does not move. It undergoes a dipole 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



SOUND WAVES enable Different types of quantum tech to "talk"
</EVENT> SYNC DELTA Δδ



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



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

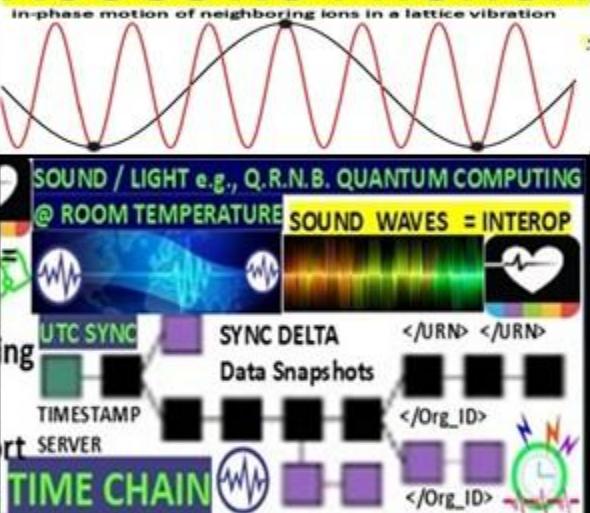


How Will Quantum
Supremacy Affect
Blockchain?

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



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

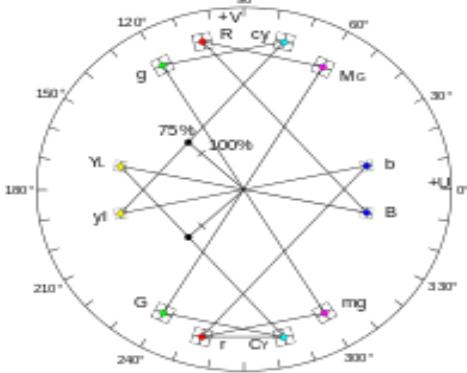
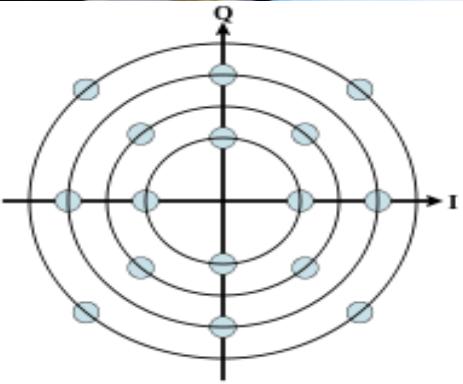
2 {"Syntax"} "The Word"
"In the Beginning" Genesis Block

"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"



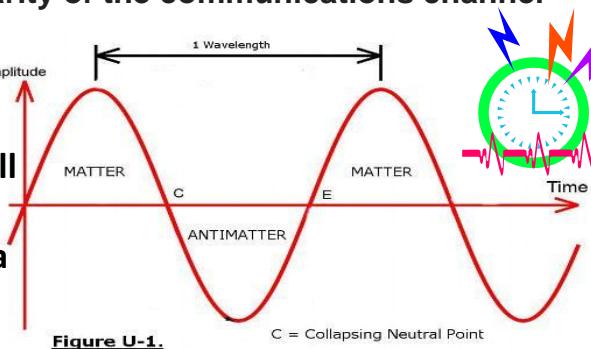
www.RLighthouse.com



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”

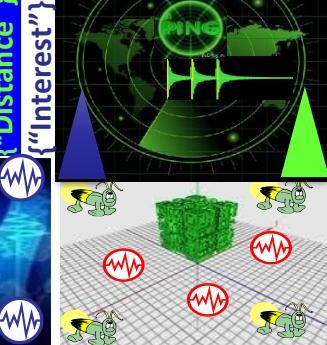


Sine wave of our blinking universe. The 4 fundamental forces will all be found to vary continuously when sampled at 2x the blinking frequency, per Nyquist-Shannon theory



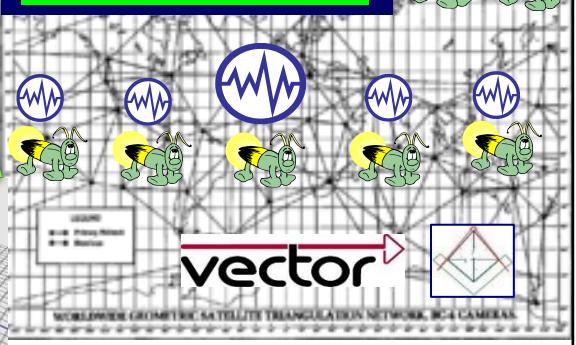
USPTO 13/573,002
sawconcepts.com/index

NDN {“Distance”} {“Interest”}
IDMaps SonarHops

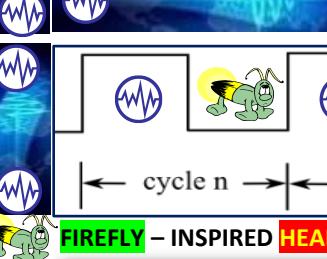


Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics

TRIANGULATION



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”





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)...
...(others)...	...(others)...	...(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

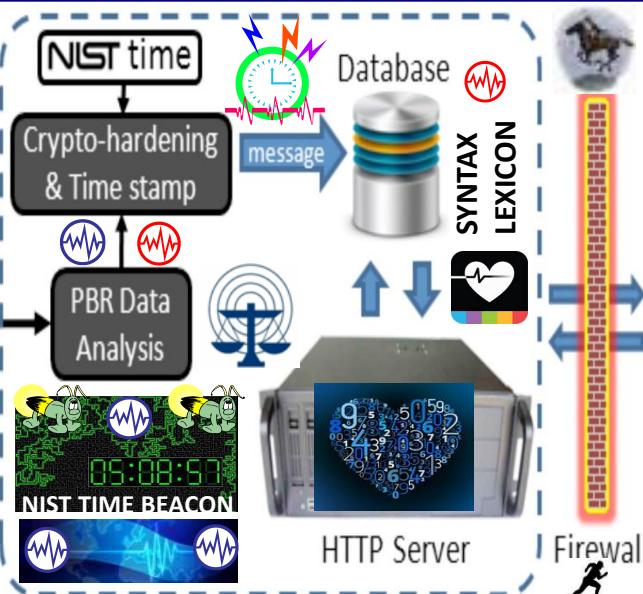
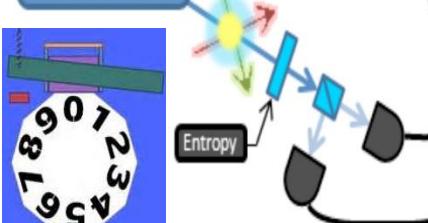
SECURE AUTHENTICATION

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

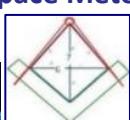
SonarHops



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>

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 Snap
between any IP address pair Shots

Time / Distance Metrics



PROXIMITY

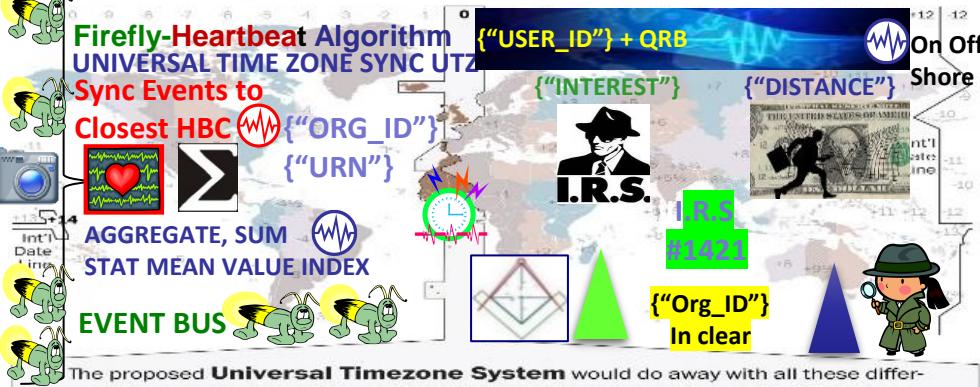
OFFSHORE BEACONS ONSHORE

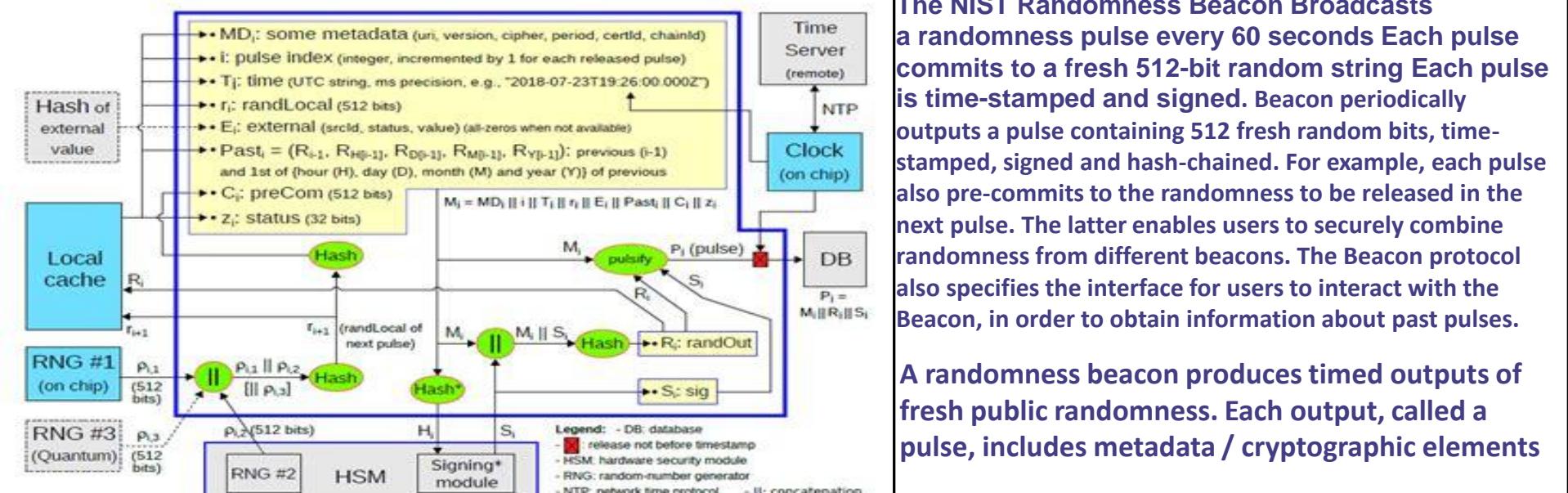
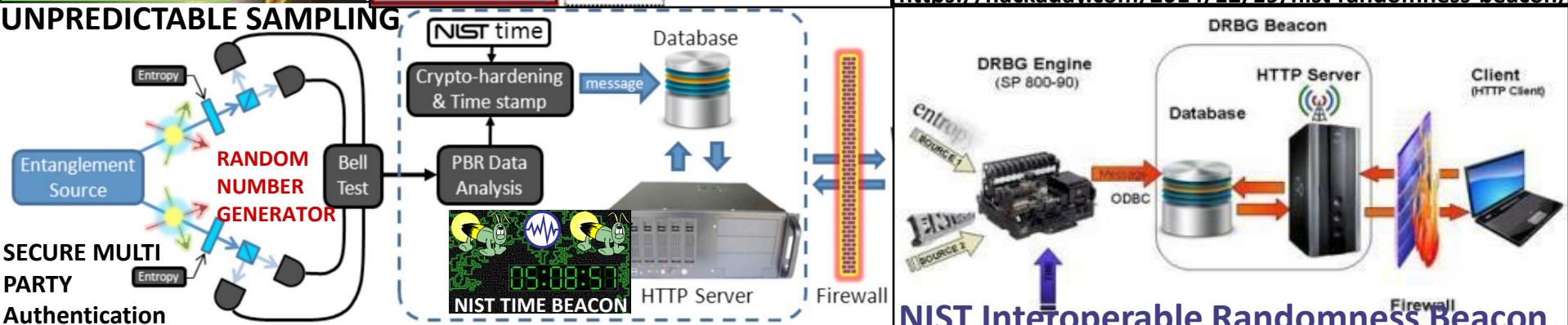
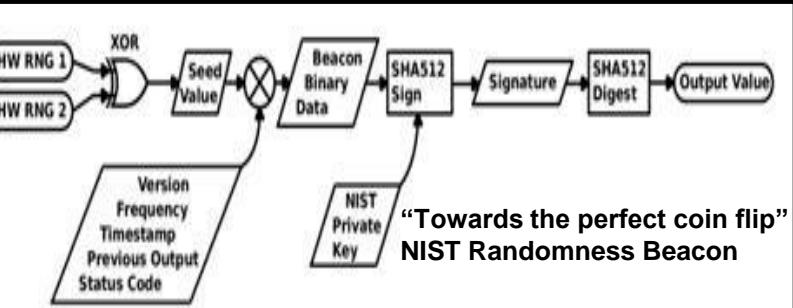
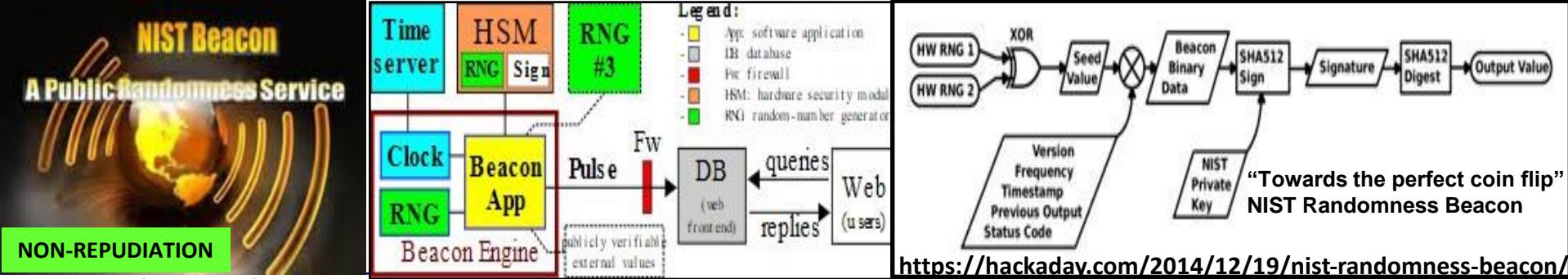


NDN
</interest></distance>

NDN

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**





NIST Interoperable Randomness Beacon

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

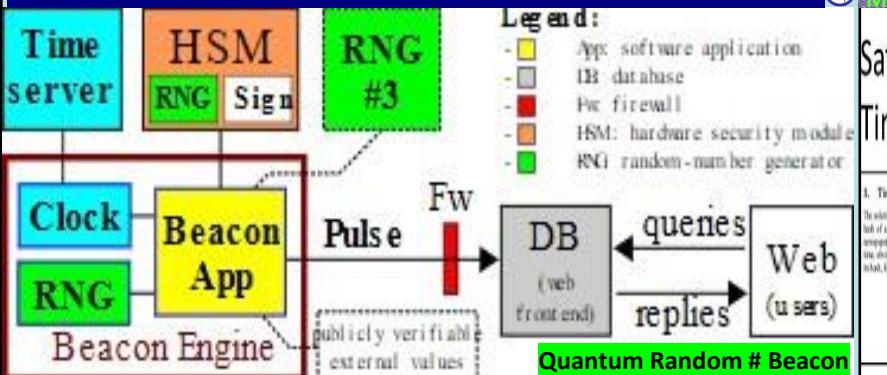
A randomness beacon produces timed outputs of fresh public randomness. Each output, called a pulse, includes metadata / cryptographic elements

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

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

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

NIST Quantum Random Number Beacon



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

Building Blocks:
 Programmable Economy / \$\$\$



Satoshi Bitcoin Blockchain
Time Stamp Server

3. Timestamp Server

The solution we propose begins with a timestamp server. A timestamp server works by taking a batch of items to be timestamped and widely publishing the hash, such as in a newspaper or online post [3]. The timestamp proves for the data must have existed at the time, obviously, in order to get into the hash. Each timestamp includes the previous timestamp in its hash, forming a chain, with each additional timestamp confirming the previous one.

THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER

TIME SPACE

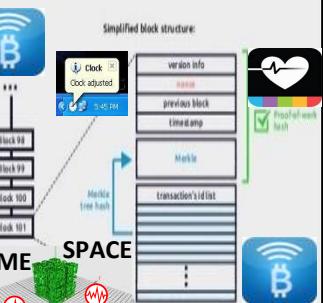
05:08:57

NIST TIME BEACON Metrics / Meters

It's a common practice for blockchains to include a timestamp in each block header, which is included with the block's Merkle tree root.



Block chain
What does a block look like?



WORLD ECONOMIC Heartbeat
ALGORITHMIC REGULATION HEARTBEAT SYNC DELTAS



Firefly - Heartbeat Sync Algorithm
Heartbeat Event Message Bus
UTZ stochastic harmonization

Epoch Time Cycles

E0 E1 E2 E3...

Genesis

Epoch

E0

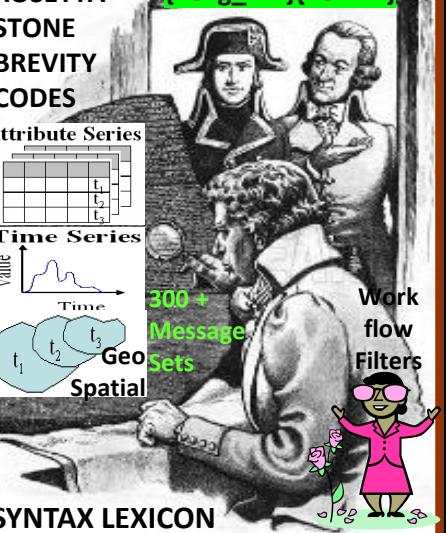
E1

E...n



ROSETTA
STONE
BREVITY
CODES

{"Org_ID"}{"URN"}



QubitCoin Interval: Every 30 Seconds

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



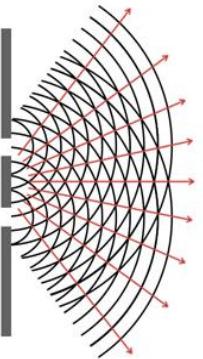
The proposed Universal Timezone System would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.

Double-Slit Experiment

Screen with two slits

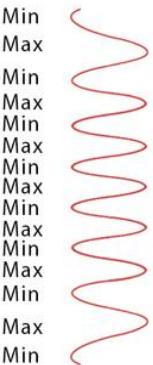
PARTICLE ?

Sodium lamp



Screen

WAVE ?



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

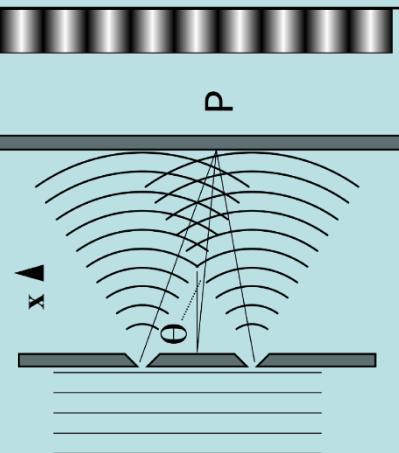
Interference of light waves due to two tiny slits and arrows indicate direction of wave propagation

Alternating bright and dark fringes due to interference of light waves

Intensity of the fringes shows the maxima and minima

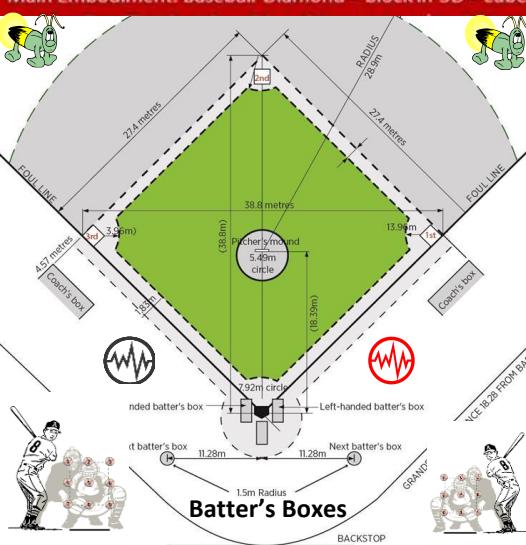
Science Facts

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



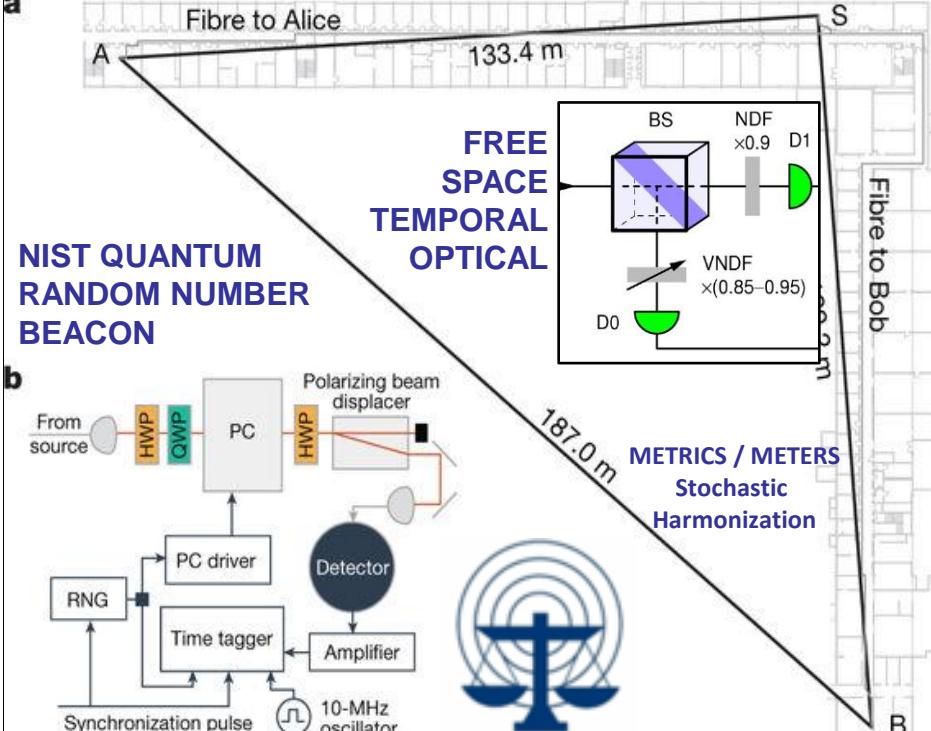
USPTO APPLICATION 13/573 002

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

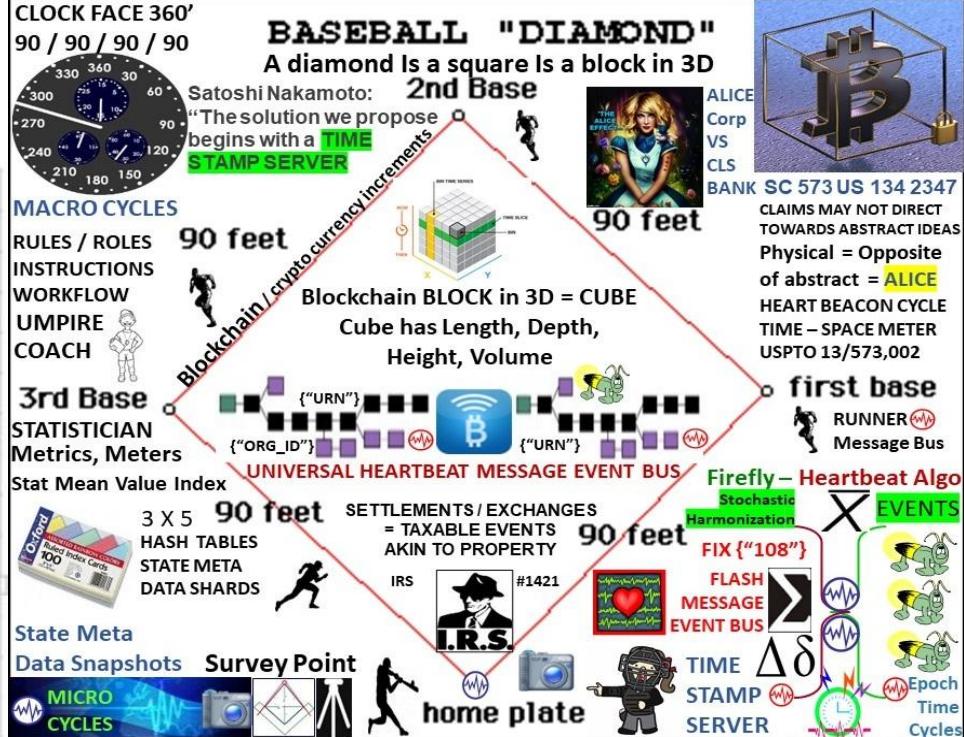


SCOTUS ALICE RULING: "Claims may not direct towards abstract ideas" / Physical = opposite of abstract

a



b



The Hopf Fibration

Edmund Harriss

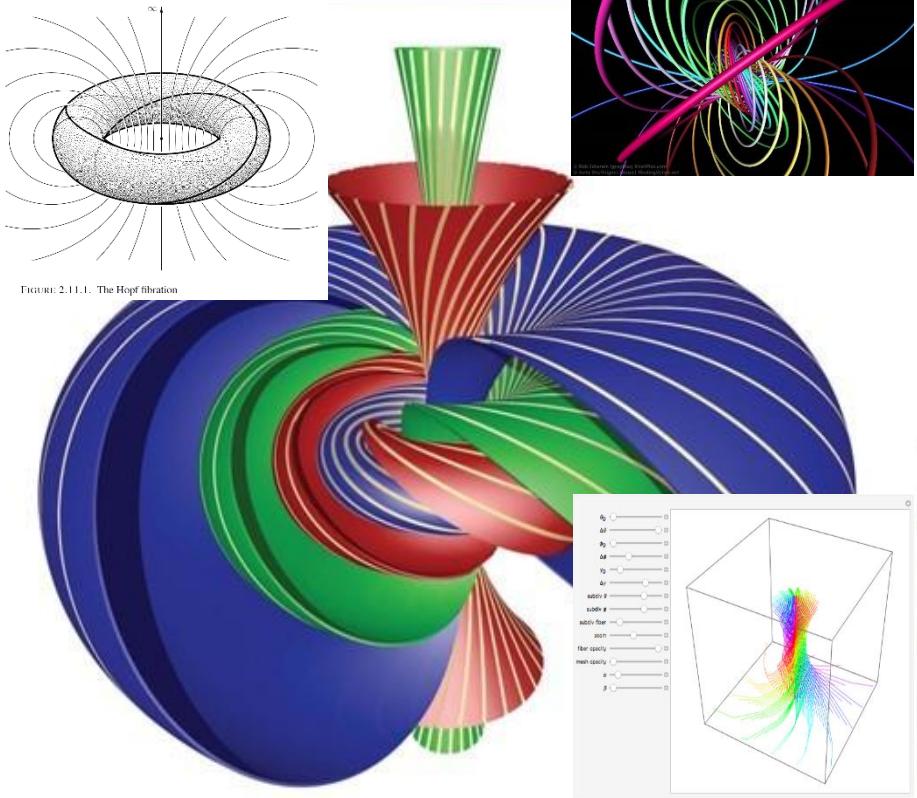
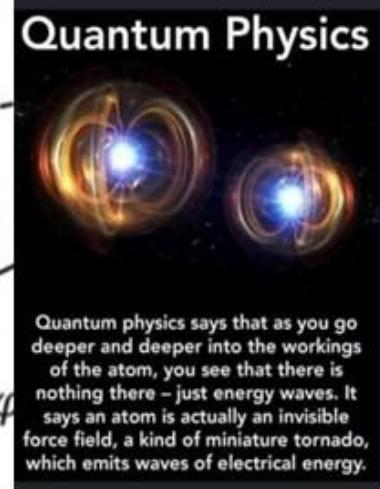
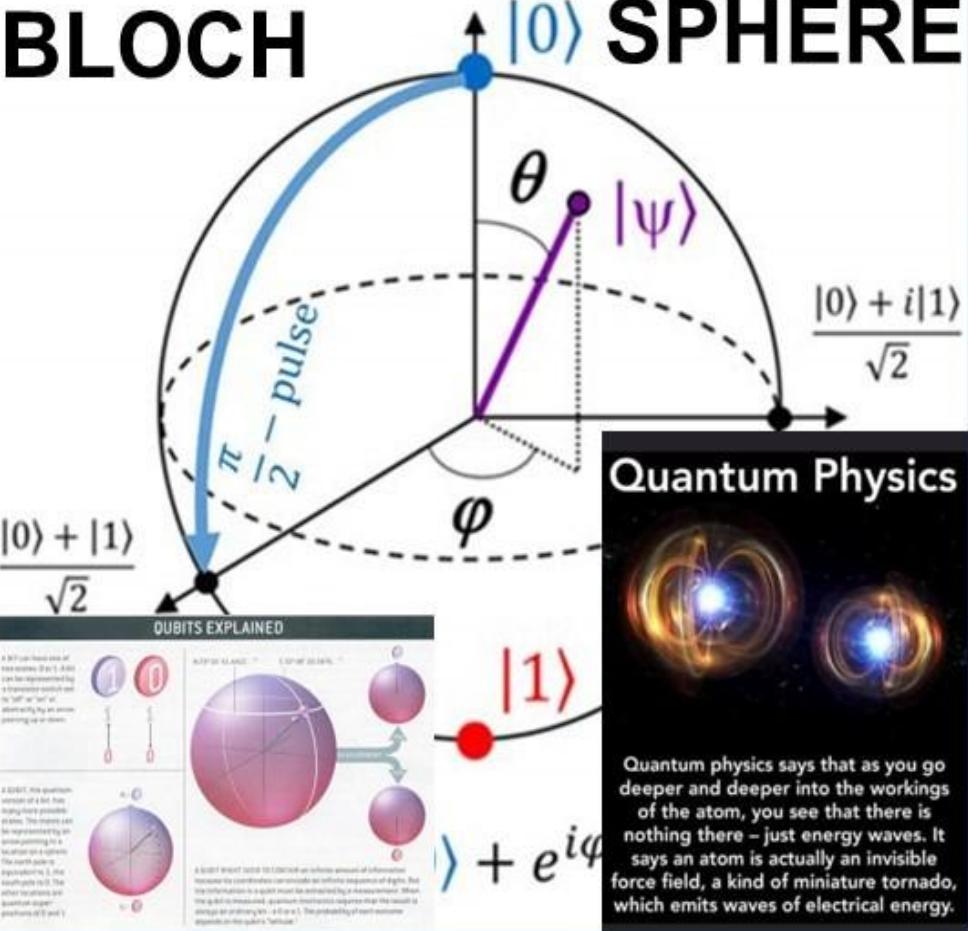


FIGURE 2.11.1. The Hopf fibration

BLOCH SPHERE



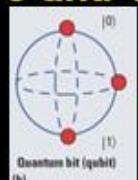
Hopf Fibration / #Bloch sphere

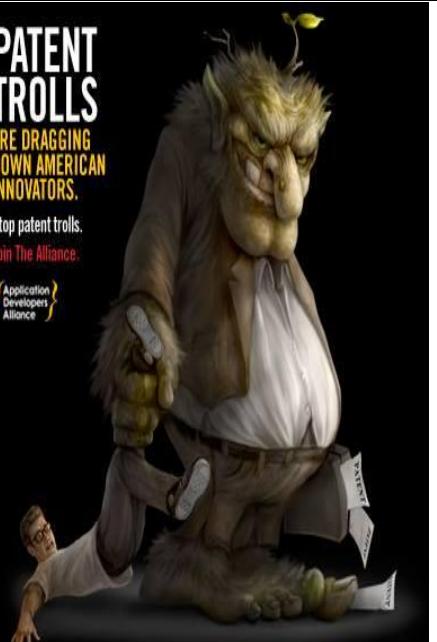
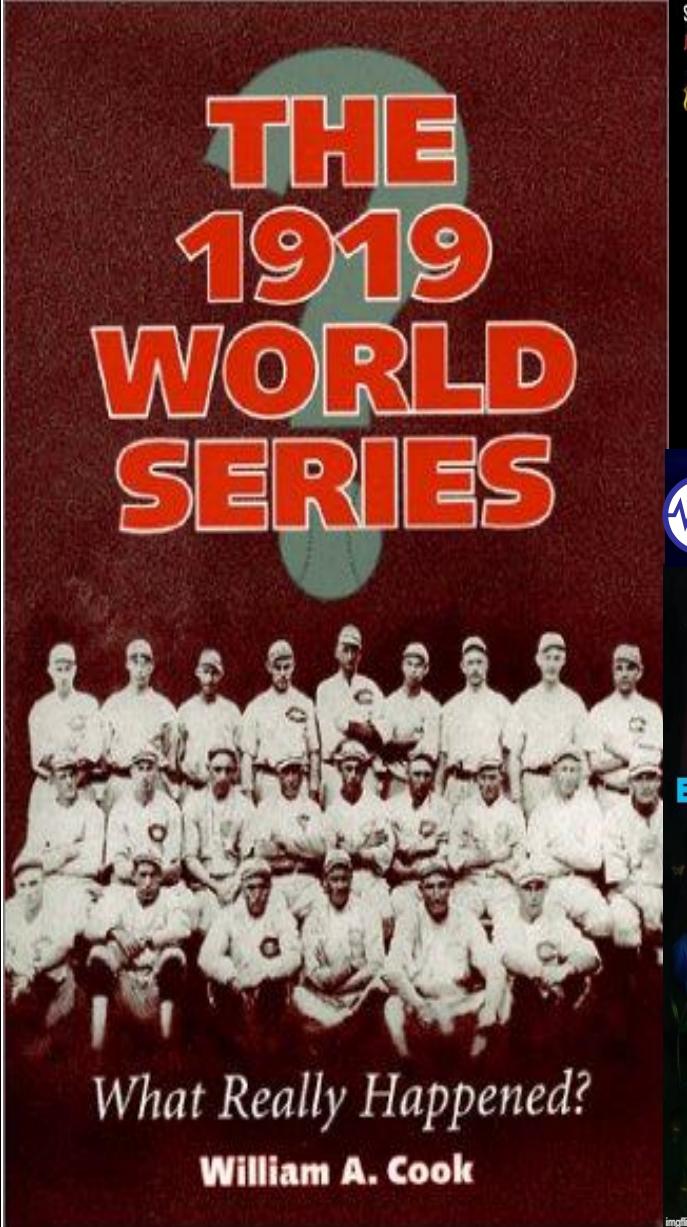
"the most important object in the universe"

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

Paul Revere linear - sequential hop count meme

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







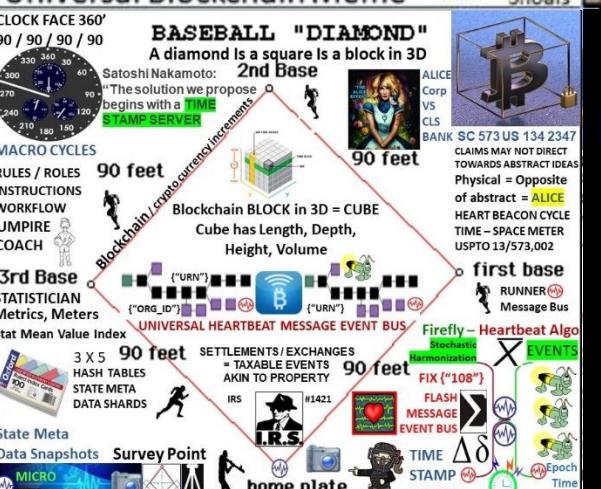
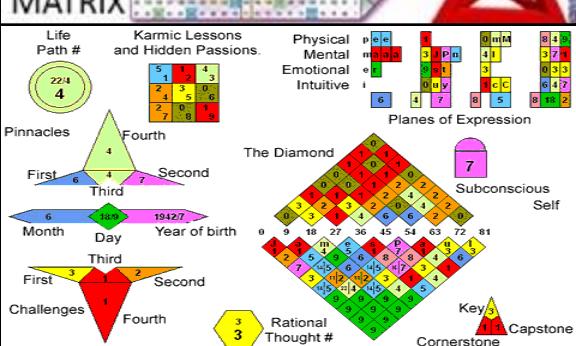
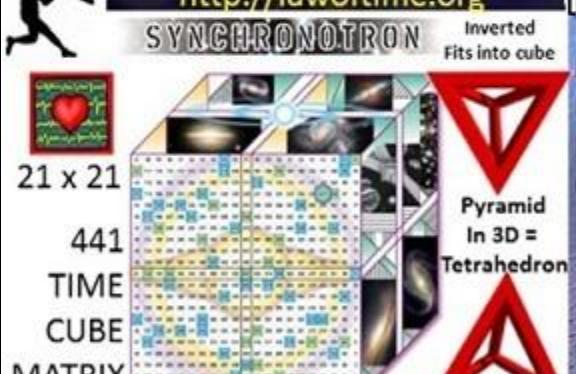
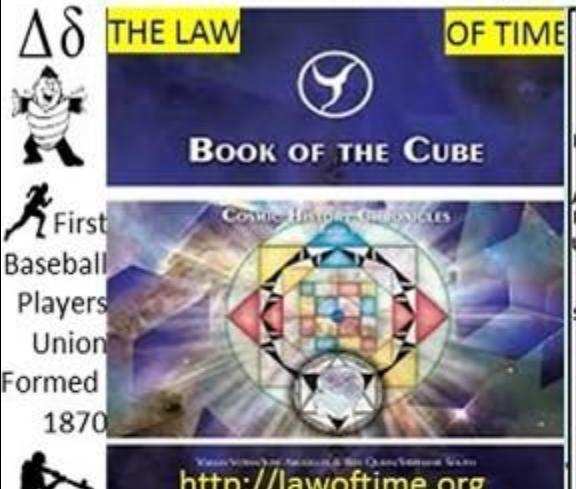
USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter

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

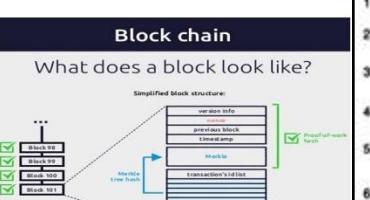
$$1 + 3 + 5 + 7 + 3 + 2 = 21 \quad 21 \text{ squared} = 441$$

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



Satoshi Bitcoin Blockchain
Time Stamp Server

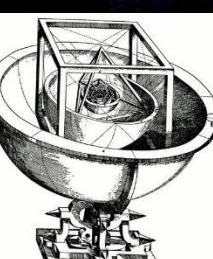
The solution we propose begins with a timestamp server. A timestamp server works by taking a sequence of blocks of time to be timestamped and widely publishing their hash, such as in the Blockchain or Bitcoin [23]. The timestamp server for the data we have created at the beginning of the process is shown in Figure 1. The timestamp server maintains a timestamp chain, forming a chain, with each additional timestamp reinforcing the ones before it.



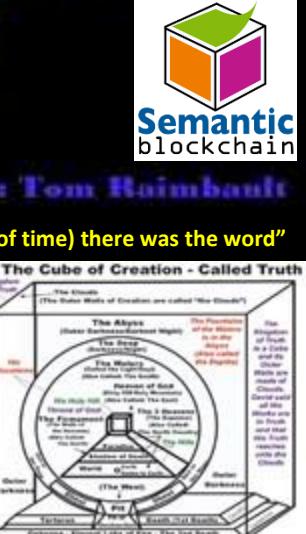
Metatron's Cube and the Platonic Solids



"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

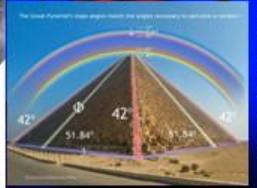


THE GREAT CONJUNCTION IN AQUARIUS

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.

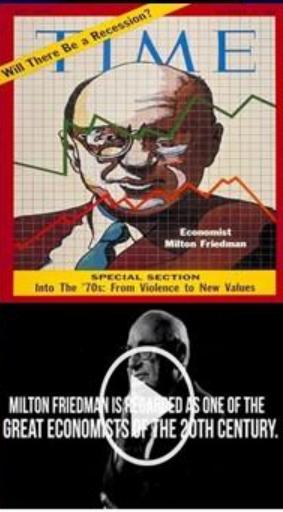
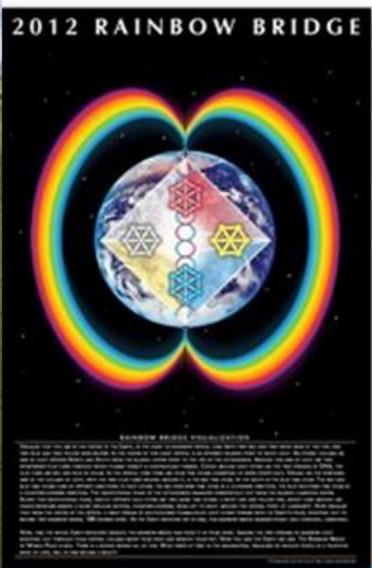
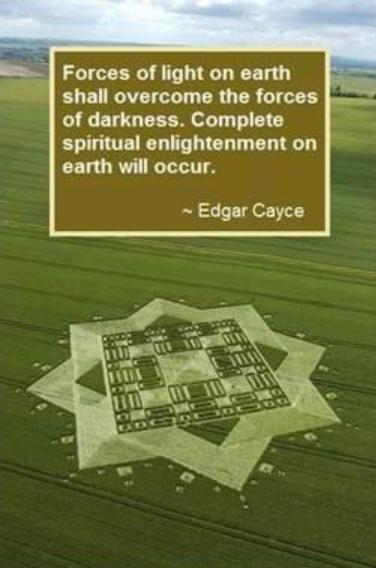
Over the next ten years, we are going to see our world innovate unlike never before, particularly in the fields of AI, technology, science, space travel, UFOs, networks, and the Internet. Major Universal truths will also be revealed as we welcome the New Age of Aquarius. The old world will soon come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



MILTON FRIEDMAN IS RECOGNIZED AS ONE OF THE GREAT ECONOMISTS OF THE 20TH CENTURY.

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

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

Milton Friedman — Preface to Capitalism & Freedom 1962

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

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

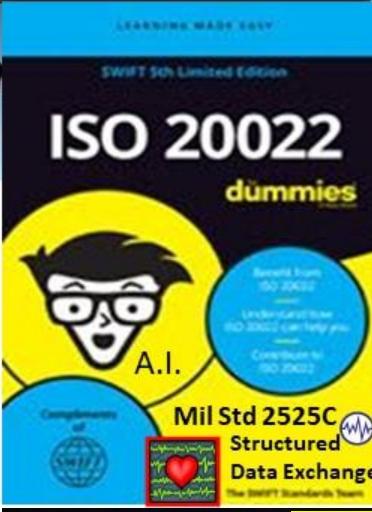
Milton Friedman

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



CAPITALISM AND FREEDOM
MILTON FRIEDMAN
WITH THE ASSISTANCE OF ROBERT FRIEDMAN

For Jim John
With love from
Robert Friedman
Feb 1, 1970



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

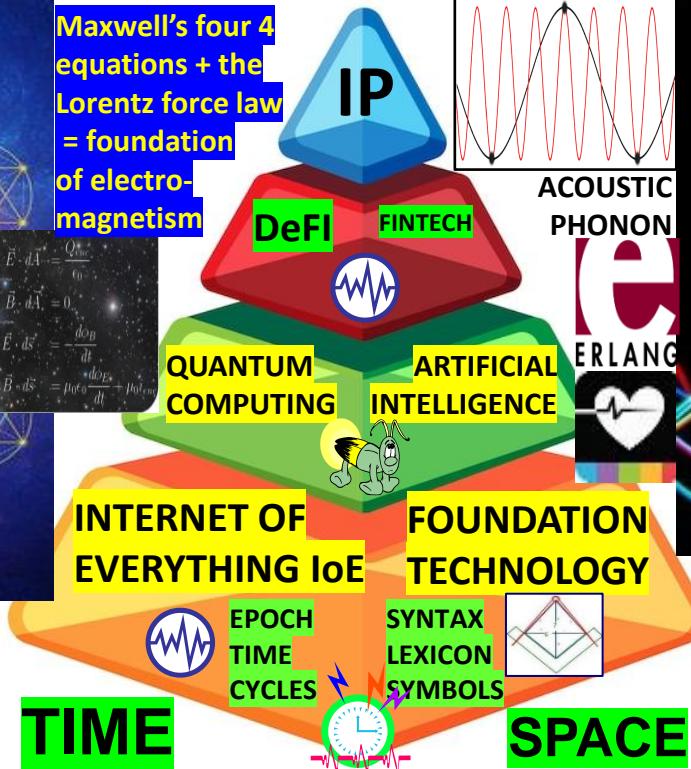
Buckminster Fuller "build a new model that makes the old model obsolete"

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

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



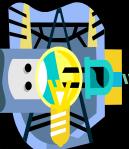
METATRON'S CUBE
GENESIS OF ALL FORM



THE OZ KEY



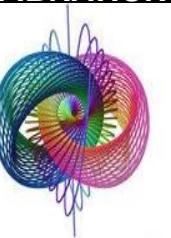
THE LAW OF TIME



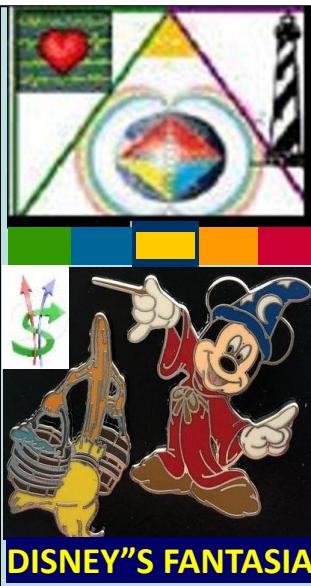
"Time is a created thing" Lao Tzu

"If you want to find the secrets of the universe, think in terms of energy, frequency and vibration." - Nikola Tesla

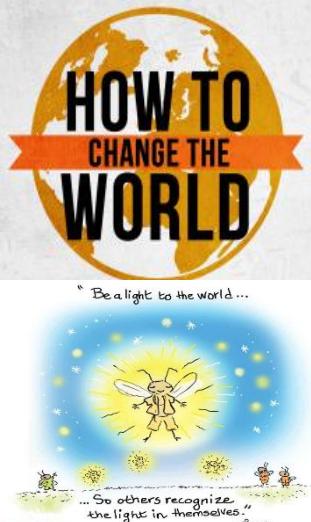
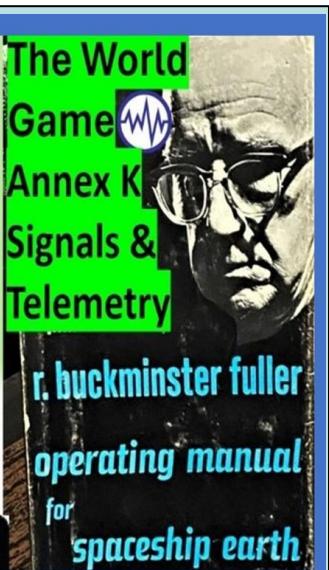
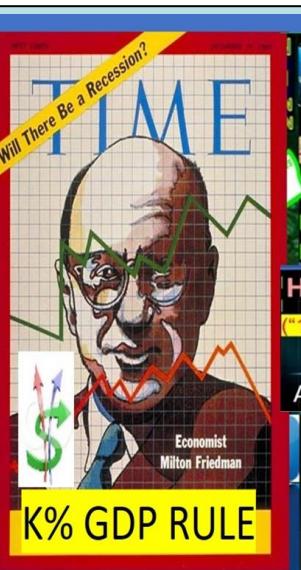
HOPF FIBRATION



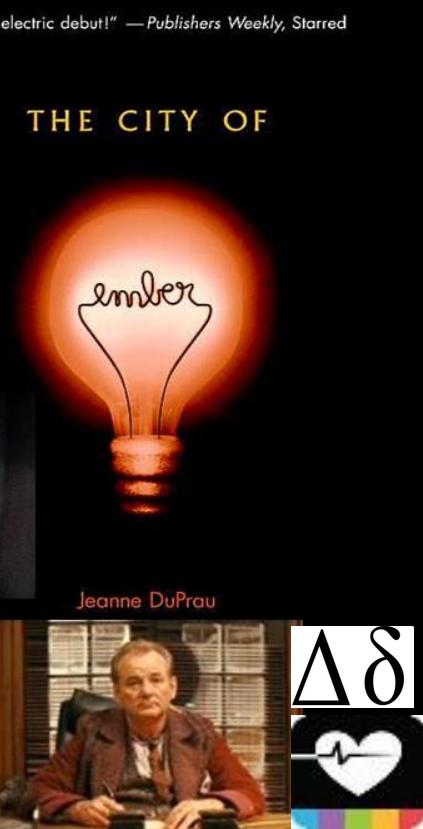
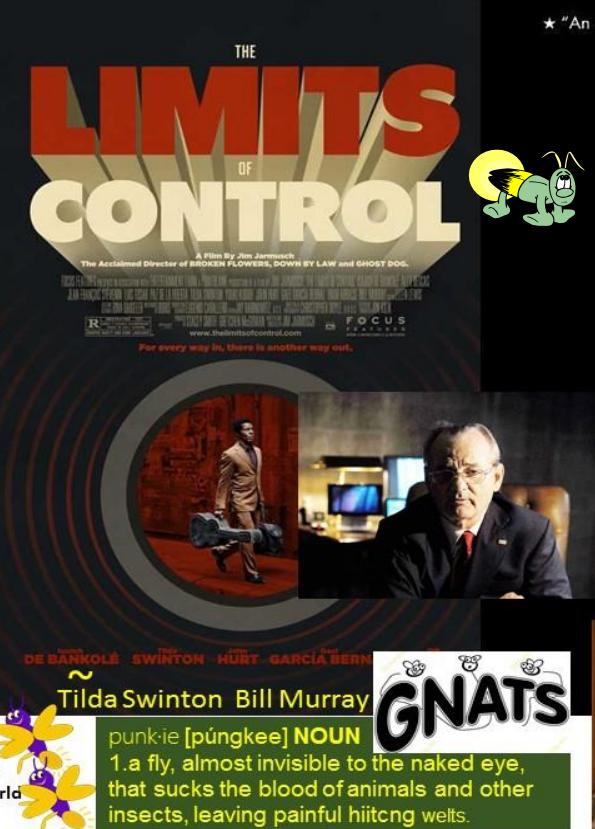
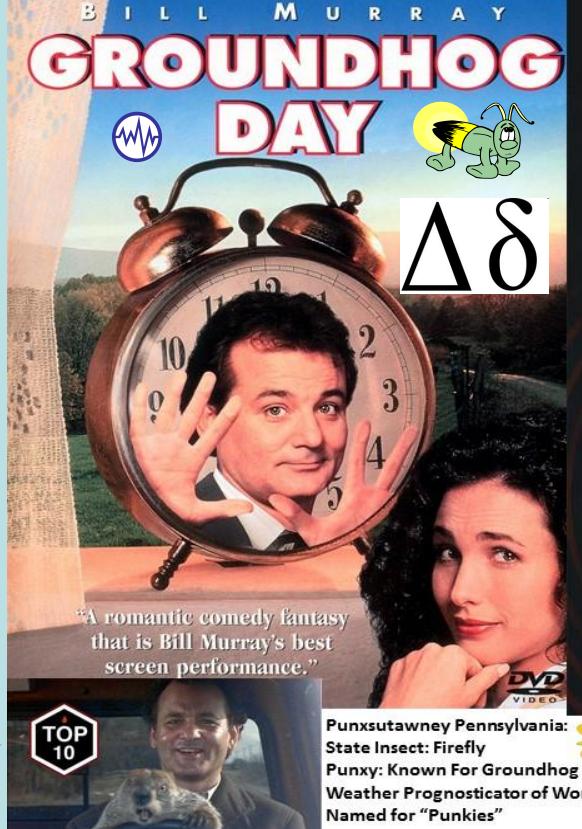
USPTO 13/573,002 The Heart Beacon Cycle Time – Space Meter / Adaptive Template



DISNEY'S FANTASIA



UNIVERSAL LAW
CAUSE / EFFECT
ACTION /
INACTION
IF / Then /
or.. ELSE







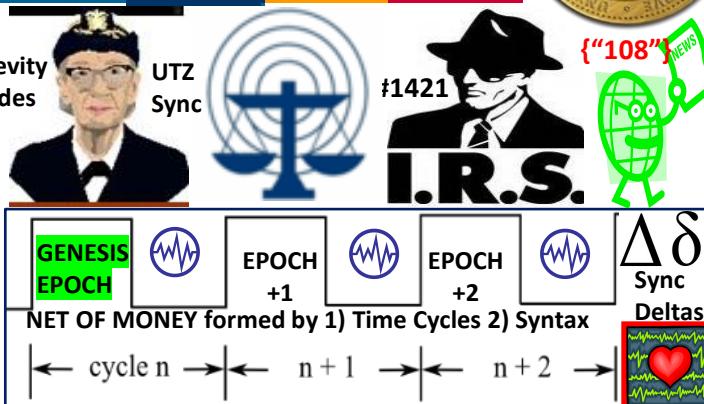
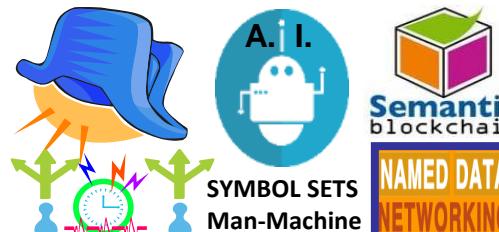
World Game Great Reset

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 =

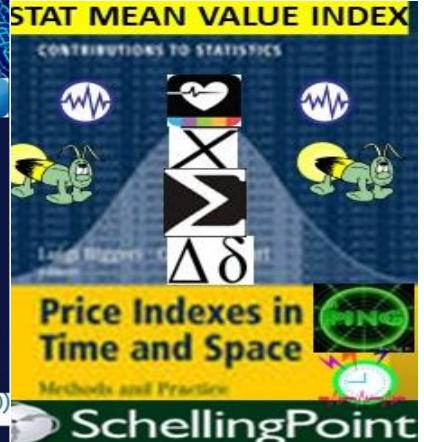
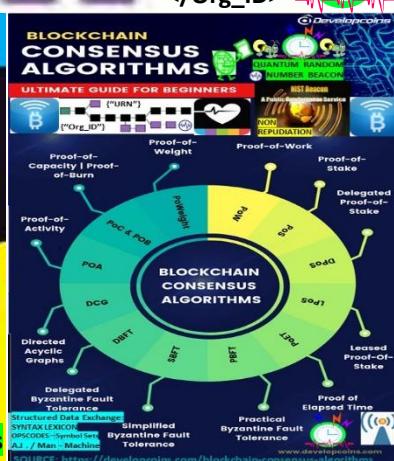
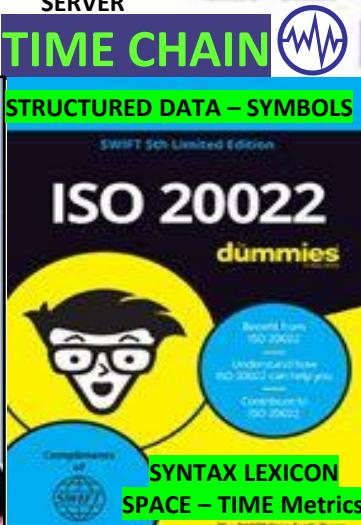
Comprehensive list of use cases, data

elements supporting Internet of Everything

IoE net of value. Reference guide, data

dictionary standards support

Data elements mapped to SYMBOL SETS





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

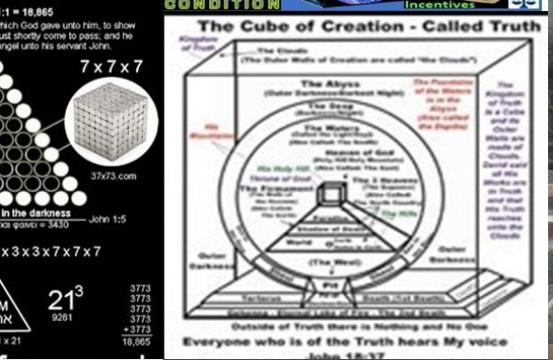
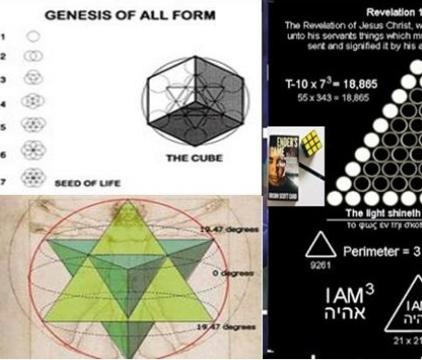
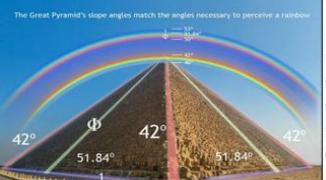
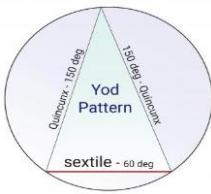
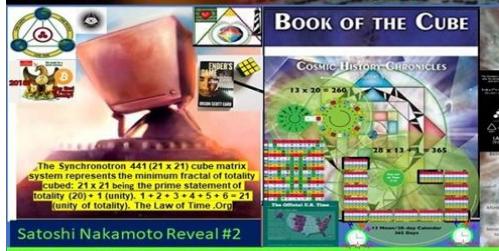
You have a sharp spirit paired with a strong will. You have the power to change the world with your intelligence!

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



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

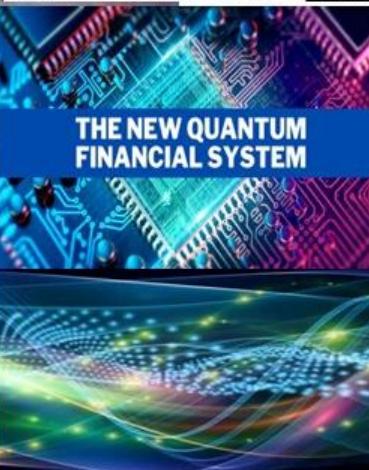
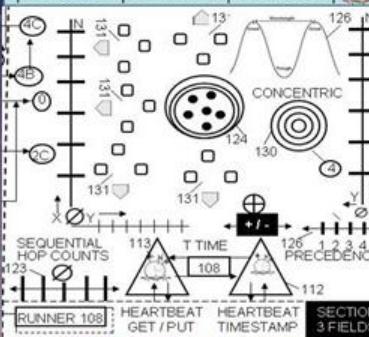
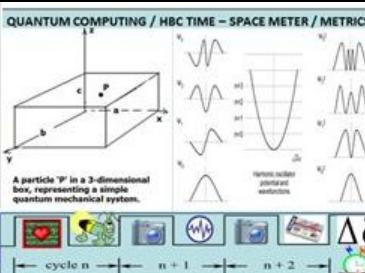
BORDERLANDS 4



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



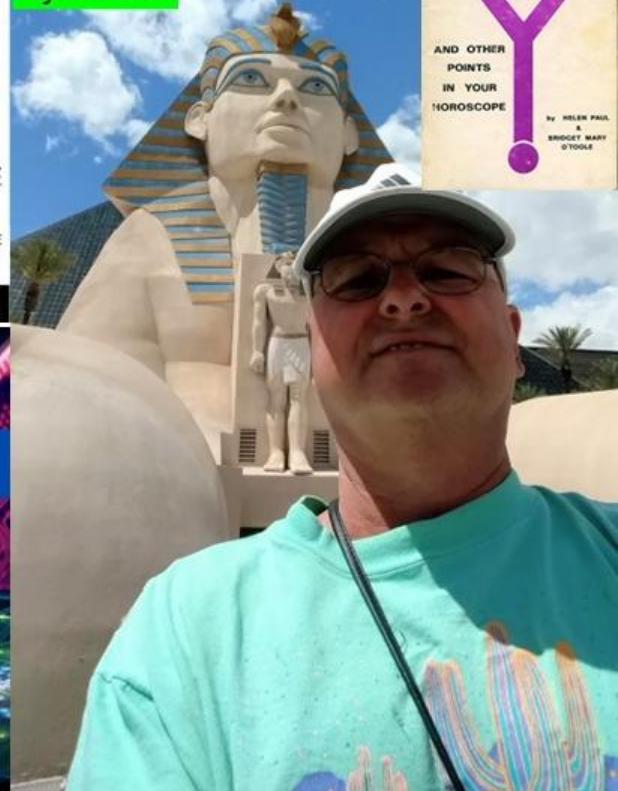
FUTURE MAN

Born: February 10th 1960 & 06:44 AM

Aquarius

Aquarius Rising

Mystic Yod



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,



SIMPLE ALWAYS WINS... WHEN STANDING ON THE SHOULDERS OF GIANTS



**Commodity Token Index World Coin
Adaptive Procedural Template**

USPTO 13/573,002 / SCOTUS Alice

00+ structured data templates

Spatial-Temporal Metrics / Meter

Syntax Lexicon Rosetta Stone opscode

DAO Trade Federation Check List

Cell: 732-768-5440

coeconomicepochs@protonmail.com

Github: <http://github.com/Beacon-Heart>

Web3 IPES: <https://ecoeconomicepochs-dao.gitlab.io/>

Eco Incentives: Closer = cheaper < f

EDUCATIONAL INCENTIVES: CLOSER = CHEAPER



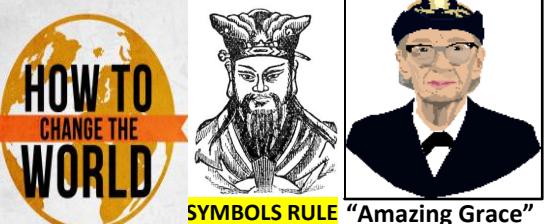
TIME



A red checkmark inside a white box with a red border, indicating a completed task.



卷之三



words to Plowshares THE WORLD Rosetta

300+ Message Sets
Mapped to Symbols

Symbol Sets **Syntax Lexicon**

A.I

Artificial Intelligence | Brevity Codes

**Man – Machine
Interface**  