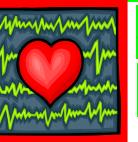


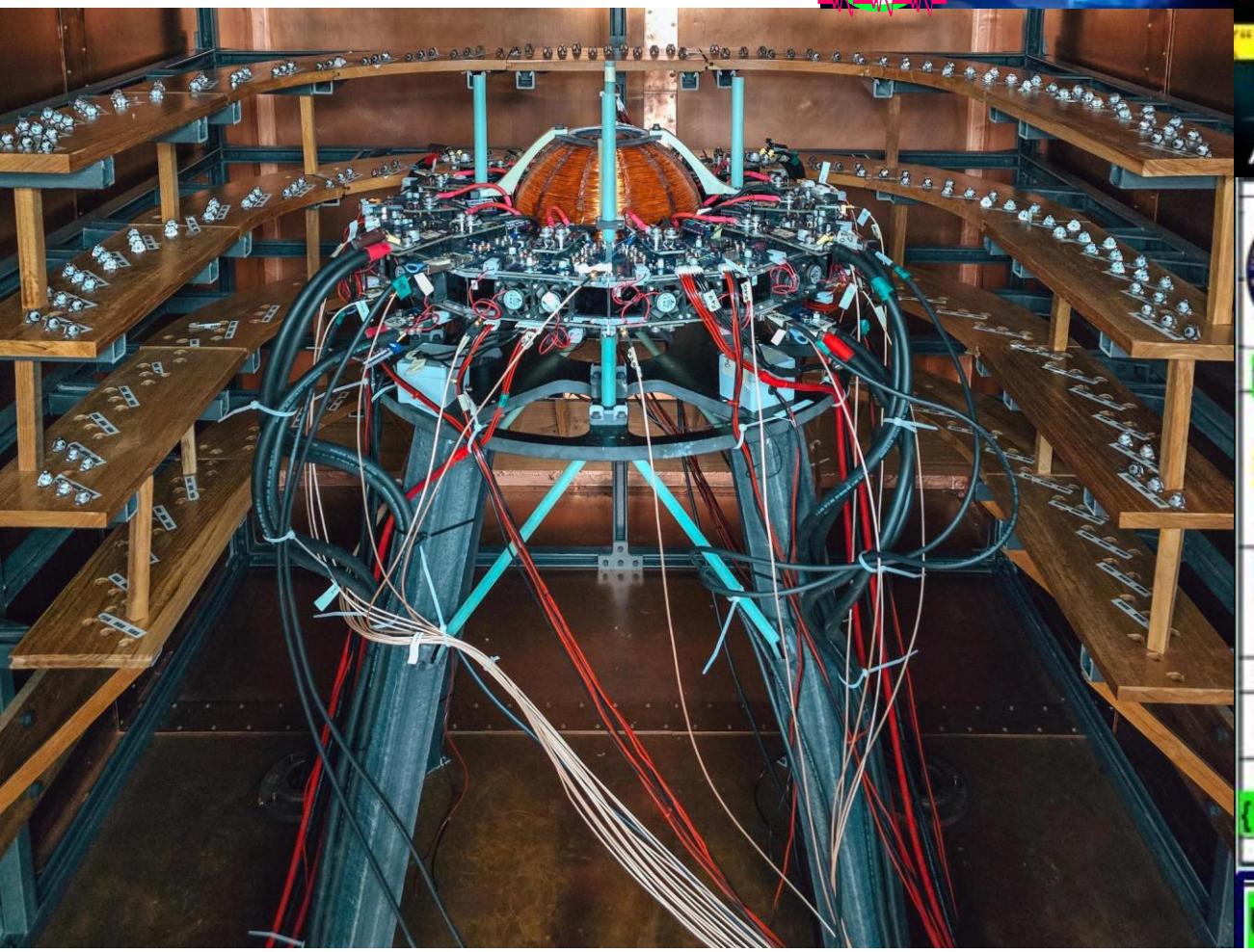
International Space Federation

ZPE Zero Point Energy Prototype
International Space Federation
<https://spacefed.com/isf-technology/>

Quantum – DeFi
System of
Federated
Systems



Eco Econ
Incentive



ALGORITHMIC REGULATION



USPTO 13/573,002

Foundation Tech: Net, Net of QFS – DeFi Financial Federated Systems



1 EARTH / 1 PEOPLE / 1 TIME

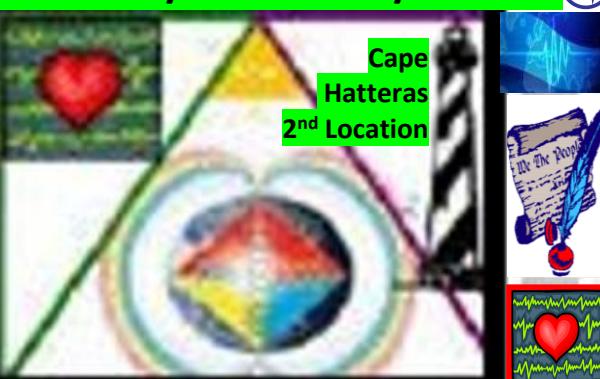
THE LAW OF TIME . org



Δ



Hopf Fibration

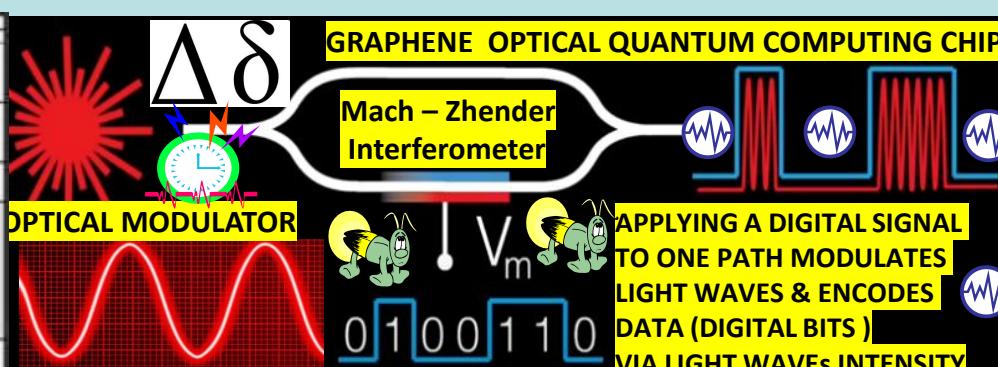
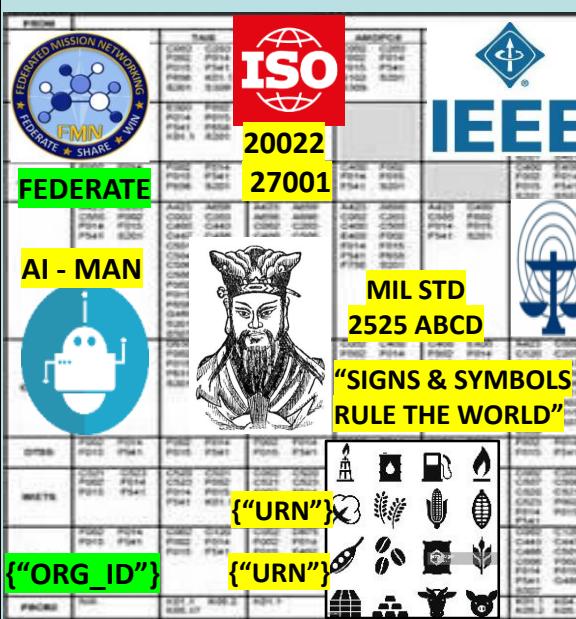


USPTO 13/573,002 THE HEART BEACON CYCLE
TIME – SPACE METER, METRICS QFS QUANTUM
FINANCIAL SYSTEM TECHNOLOGY FRAMEWORK
NET, NET OF \$\$\$ = TEMPORAL LAYERS
GENESIS EPOCH, Genesis + 1, 2, 3... N

"All is energy wave form motion" Tesla



FOUNDATION TECH = 1. EPOCH TIME CYCLES / INTERVALS 2. SYNTAX

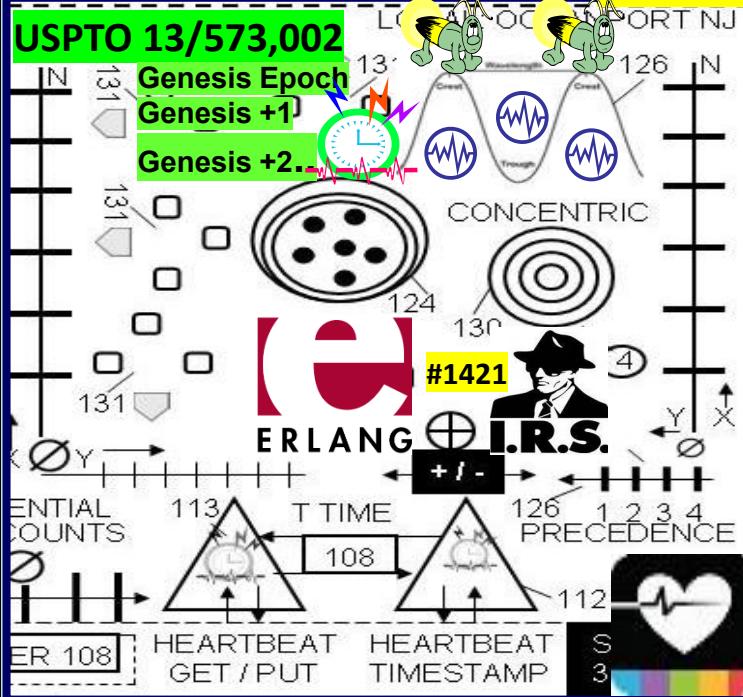


Electronic-photonic quantum chip: quantum silicon chip array of "quantum light factories"

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

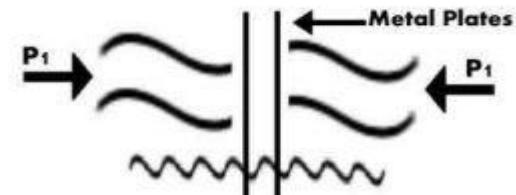


What if Zero Point Energy Is the medium and means for all wave form transmission?



ZERO POINT ENERGY

**ALL ENERGY IS REMOVED BUT
RANDOM ELECTROMAGNETIC
WAVES STILL REMAIN**



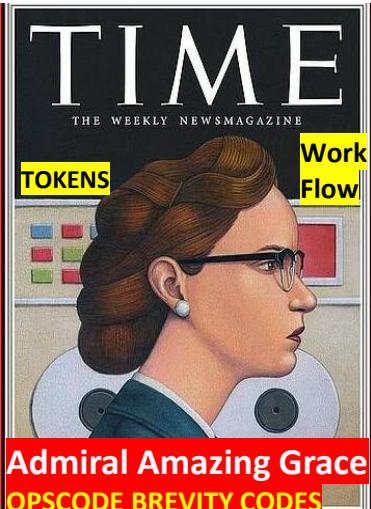
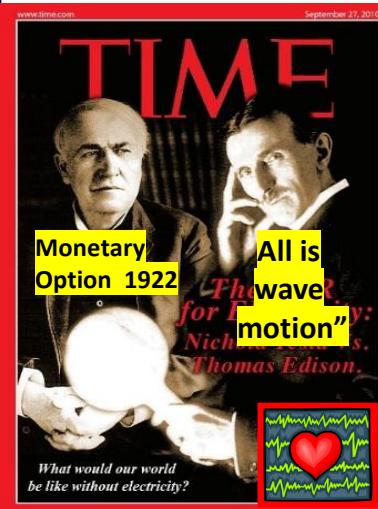
P₁ = PRESSURE FROM EXCLUDED WAVELENGTHS

ENORMOUS ENERGY DENSITY:
 10^{24} to 10^{58} JOULES/m³

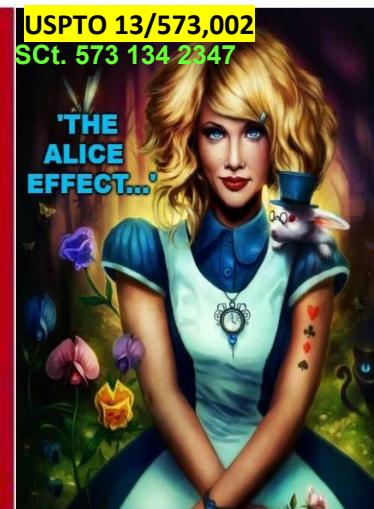
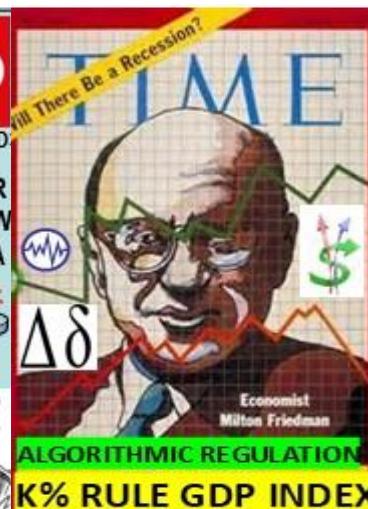
THE CASIMIR EFFECT ON METAL PLATES IN A VACUUM

QFS Quantum - DeFi system of DAO federated systems checklist:

1. Nikola Tesla was correct = "All is (energy) wave form motion"
2. Internet, net of \$\$\$ works the same for everything IoT, IoE
3. Net foundation = cannot change (wave form based) 1. Time 2. Syntax
4. DeFi IP wars escalate: **SCOTUS Alice in Wonderland**, ISO, ITU, IEEE etc.
5. Interoperability, sync, stochastic harmonization of QFS driven by wave form Vs quantum dot, particle methods (see Fermilab et al's research)
6. Simple, real will (eventually) win given rich, powerful entities all staked
7. > 1 David (s), many teams of Goliaths over the top battle royale (see #6)
8. Brevity codes mapped to symbols, symbol sets = AI – man = > TIME
9. Economist Milton Friedman correct @ K% rule, crisis = REAL **CHANGE**
10. SLA closer = cheaper given less fuel imperative, **climate**, peak oil
11. Zero Point, Over Unity, ZPE Energy from vacuum Nassim Haramein's **prototype silicon chip (crystal)** oscillations creating wave forms: see #1

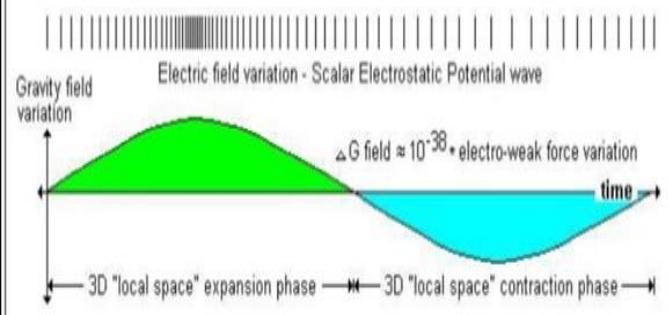


NATO	ISO
STOCK MIC CODES	</ORG_ID>
STRUCTURED DATA EXCHANGE	</URN>
TEMPLATE FORMS	R
300+ USE CASES	W
LOGIC / FILTERS	A
SYNTAX / SYMBOL	Real World Assets
LEXICON LIBRARY	A.I.



Nikola Tesla "all is wave form motion"

SCOTUS in Alice 2014 Supreme Court "has observed all inventions "embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas."



"abstract ideas = qualities, states, or relationships not physically present"

"As in nature, all is ebb and tide, all is wave motion. In all branches Of industry, alternating currents, electric wave motion will have sway"

all phenomena: electromagnetic and gravitational interactions, can be understood through the lens of wave dynamics. Electromagnetic waves form the basis of these interactions, that gravitational fields gravitational waves and quantum fields. Electromagnetic waves involve the generation of complex waveforms

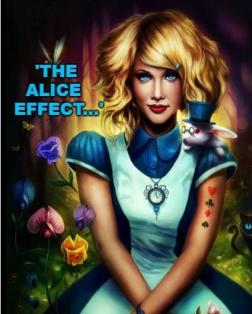
USPTO 13/573,002 The Heart Beacon Cycle Time - Space

Meter THESIS: All net, net of money, QFS are formed using:

1. Epoch time cycle temporal intervals ex: created by microchip , sound, light wave form oscillations
2. Syntax processed during epoch cycle temporal intervals

All things net, net of money, QFS, AI blockchains, hash-graphs etc., (time chains) are formed with unicast, multicast, anycast protocols, (statistically predictive) workflow logic = A.I. artificial intelligence propagated by electro-magnetic wave form motion described by nature

USPTO 13/573,002



SCOTUS 573 U.S. 208

(2014)

Alice Corp

VS CLS

Bank

SEQUENTIAL

HOP COUNTS

23

RUNNER 108

HEARTBEAT

GET / PUT

108

T TIME

112

HEARTBEAT

TIMESTAMP

113

SECTION

3 FIELDS

B2: PROCEDURAL TEMPLATE

310 311

XML

HEARTBEAT MESSAGES

STATE META DATA SNAPSHOTS

NET OPS / NET MANAGEMENT

NET MARKUP NETWORK SERVICE INTERFACE

DOT

.COM

IEC 61850

IEEE C37.118

314

315

316

NULL

317

IEEE 802.1AG HOP BY HOP DETECTION

IEEE 802.11 Hbh HOP BY HOP CONTROL

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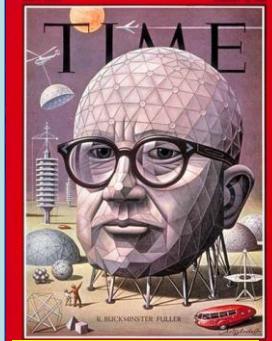
570

571

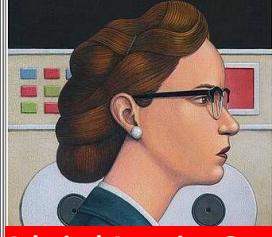
572

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

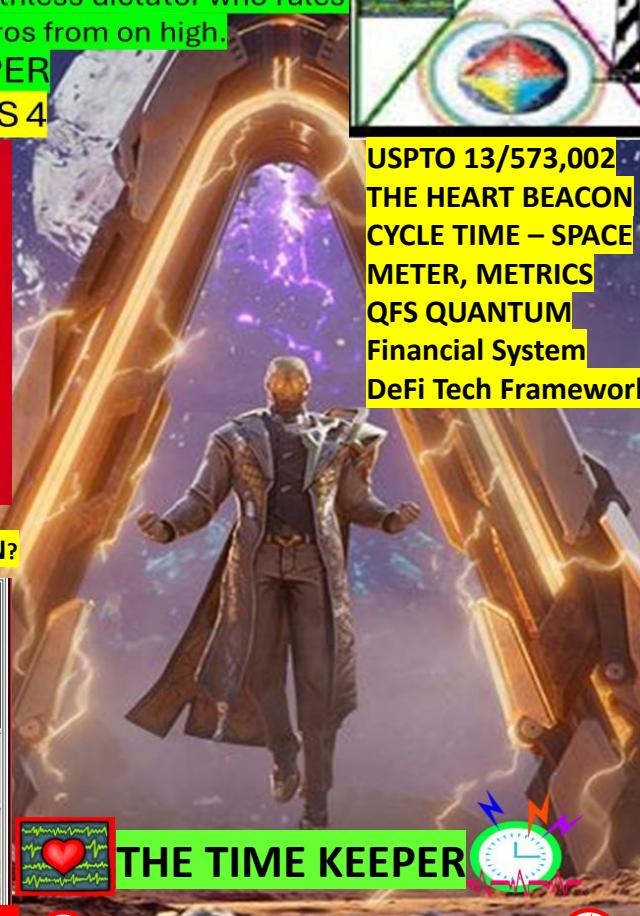
THE TIME KEEPER BORDERLANDS 4



SPACE SHIP EARTH
UTOPIA OR OBLIVION?



Admiral Amazing Grace
OPSCODE BREVITY CODES



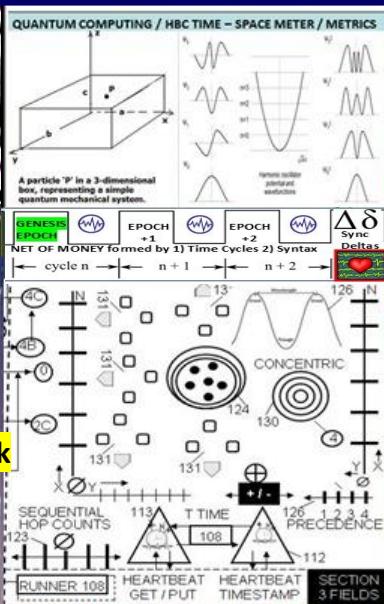
Hashed Timelock Contract (HTLC) / Epoch Sync Deltas $\Delta\delta$

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

Because abstract ideas, laws of nature, and natural phenomenon "are the basic tools of scientific and technological work" .. Supreme Court 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,



USPTO 13/573,002
THE HEART BEACON
CYCLE TIME – SPACE
METER, METRICS
QFS QUANTUM
Financial System
DeFi Tech Framework



EDISON's Monetary Option 1922

FUTURE MAN

Born: February 10th 1960 & 06:44 AM

Aquarius

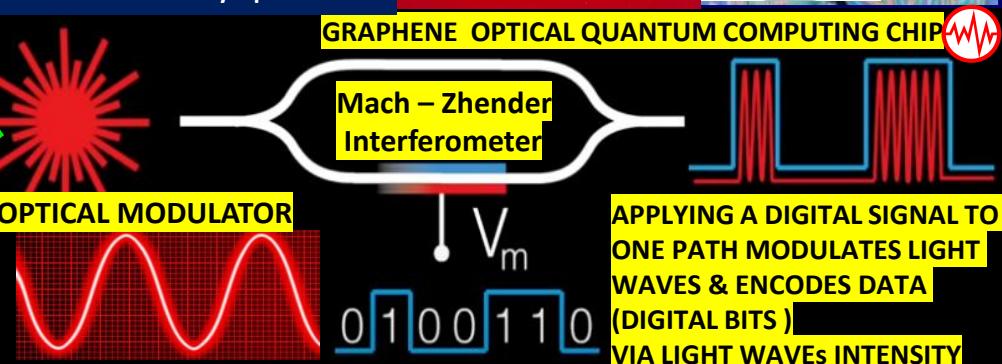
MR MAGOO

Aquarius Rising 144 Degrees

Mystic Yod



MR MAGOO X 3



APPLYING A DIGITAL SIGNAL TO
ONE PATH MODULATES LIGHT
WAVES & ENCODES DATA
(DIGITAL BITS)
VIA LIGHT WAVEs INTENSITY

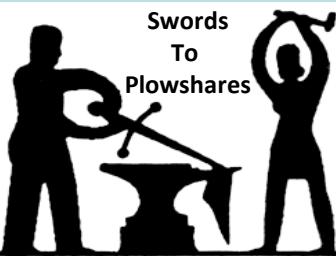
THE
YOD

AND OTHER
POINTS
IN YOUR
HOROSCOPE

by HELEN PAUL
&
BRIDGET MAYE
O'TOOLE

World Game (s) Reset

GREAT REDESIGN



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

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



$\Delta\delta$
{“URN”}
{“URN”}
{“URN”}
</URN>

Start, Stop, TTL
</Org_ID>

300 + Use Case message sets
OPSCODE BREVITY CODES
- Symbols, symbol sets

BATTLEFIELD
DIGITIZATION OOTW Operations Other than war



UTOPIA ? $\Delta\delta$ OBLIVION ?

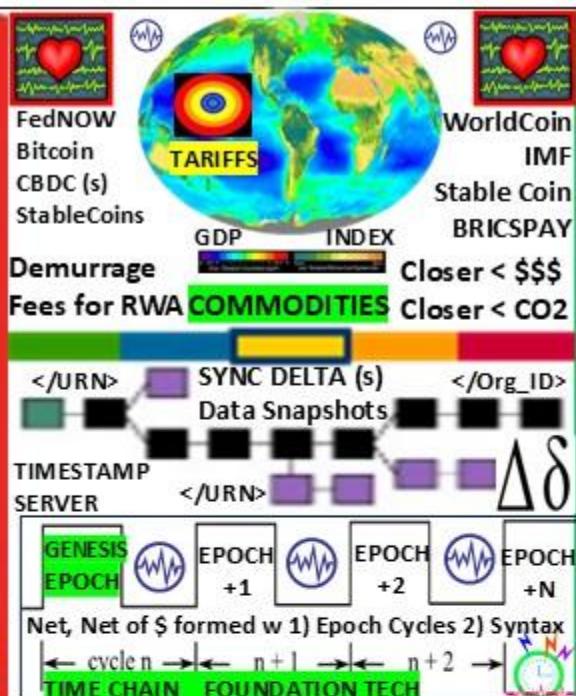
TradeFi TRC Trade Reference Currency

E \$ € ¥ currency index #20022

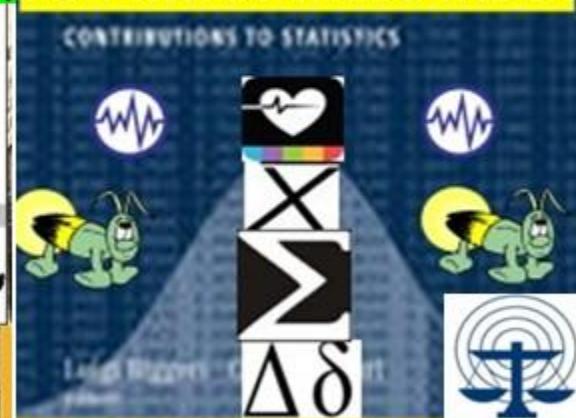
I.R.S. #1421 ISO CLOSER = CHEAPER < FUEL < CO2

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



Price Indexes in Time and Space Methods and Practice SchellingPoint



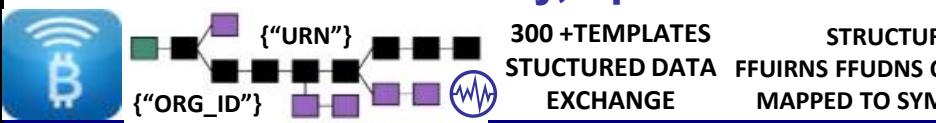
DeFi TIME- SPACE METRICS METERS Eco Econ Incentives HEARTBEAT % REAL GDP ("108") ALGORITHMIC REGULATION

Humanitarian Assistance Networked Donor System

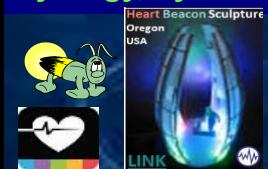
H.A.N.D.S: "Based on the need to speed up the processes of influencing an adversary, new concepts result in the adaptation of military doctrine, organization, training, material, infrastructure, interagency interaction, leadership, personnel and facilities" ... German Bundeswehr concept of "OOTW Operations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



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



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



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



Beacon Communities

Vernetzte Operationsführung



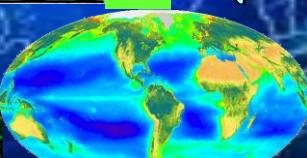
Proximity Beacons



JAEGERS



Closer < \$\$\$ < FUEL



KAIJU



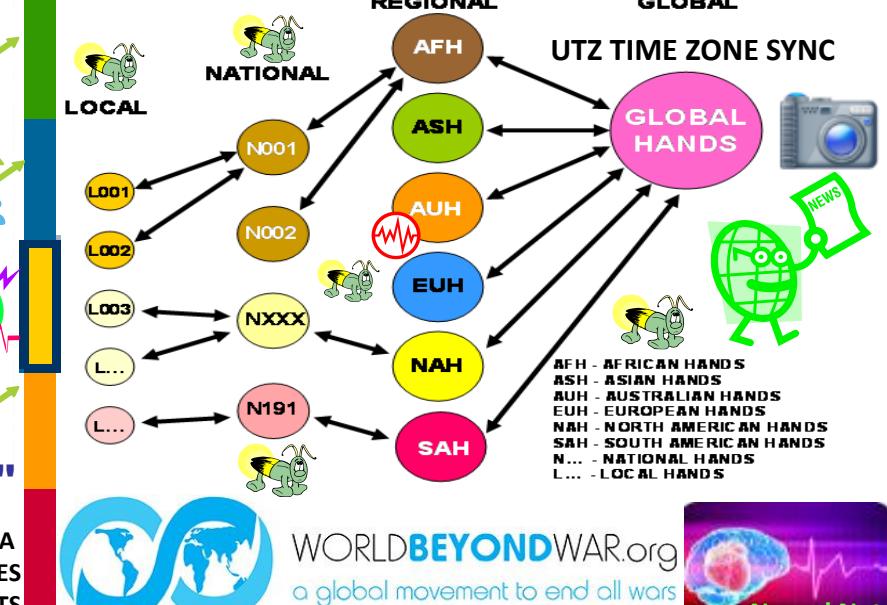
FREELY
HEARTBEAT
ALGORITHM



EVENT / ALERT Flash Heartbeat Message Bus



KAIJU



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



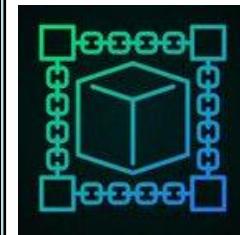
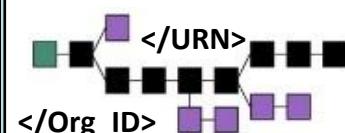
BLOCKCHAIN = ABSTRACTION

TRUTH = Blockchain Quad-lemma

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

5 five blockchain tech layers:

- Infrastructure hardware layer
- Data layer
- Network layer
- Consensus layer
- Application - Presentation



Decentralized
START

Scalable

TIME EPOCHS =
TEMPORAL LAYERS

Water drop In pond Meme
USPTO 13/573,002

Genesis Epoch
Genesis +1
Genesis +2..

TEMPORAL LAYERS



Traditional chains (BTC, ETH...)

TTL Time To Live

STOP



SECURE

TEMPORAL
CONSENSUS
UTZ Time Sync
Stochastic
harmonization

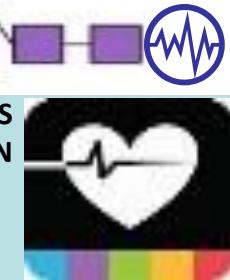
SYNTAX
CONSENSUS
Brevity Codes



GENESIS
EPOCH

QUBIT
= Notional

EPOCH 0, 1, 2, 3, 4.. N



QUANTUM CHIP

Genesis Block
+1, 2, 3, N

GENESIS
EPOCH

SYNC DELTAS
+1, 2, 3, N

"ALL IS WAVE FORM MOTION"
"Everywhere is energy spinning"

Nikola Tesla

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

1. Time epochs created by wave, chip
oscillation i.e., quartz crystal silicon chips

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

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

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

Database Flat File

"BLOCKCHAIN" = LEDGER / Database

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

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

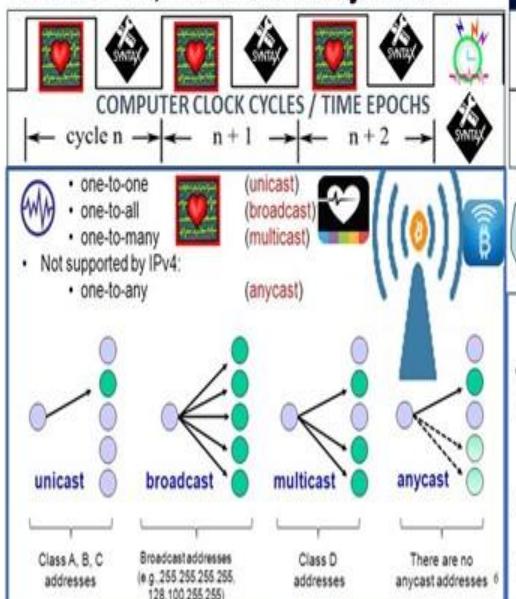
Foundation Technology Trinity:

- 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

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

Time Epochs / Syntax:

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

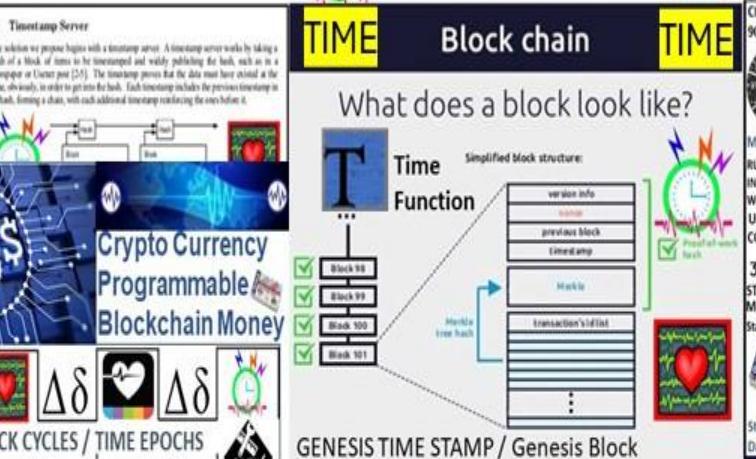
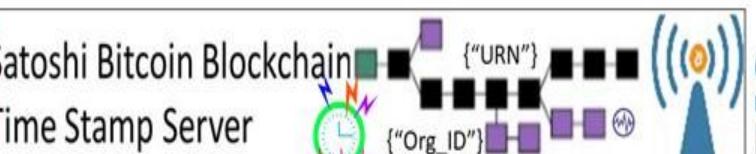


All things internet, programmable net of money are formed using:
1) Epoch Time Cycles to 2) process (not) syntax as instructions

Epoch Time Cycles / Syntax



Internet / Internet of Money building blocks



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

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

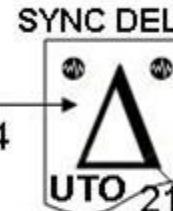
MICRO CYCLES

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



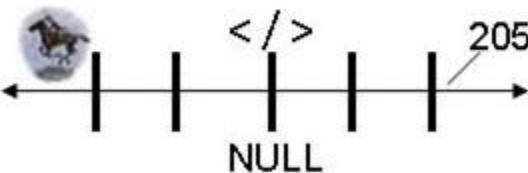
SYNC DELTA METRICS IN SLA CLAUSES AS
MOE, MOP METER IN TAX CODES, TRANCHE
CLASSES / RATINGS ARBITRAGE TRIGGERS

203

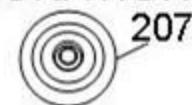
B3: BEACON TECH TYPE I: PAUL REVERE LINEAR, SEQUENTIAL HOP COUNTS



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



LENGTH, THRESHOLD, INTENSITY, DURATION



208



APPLIQUE' OVERLAYS



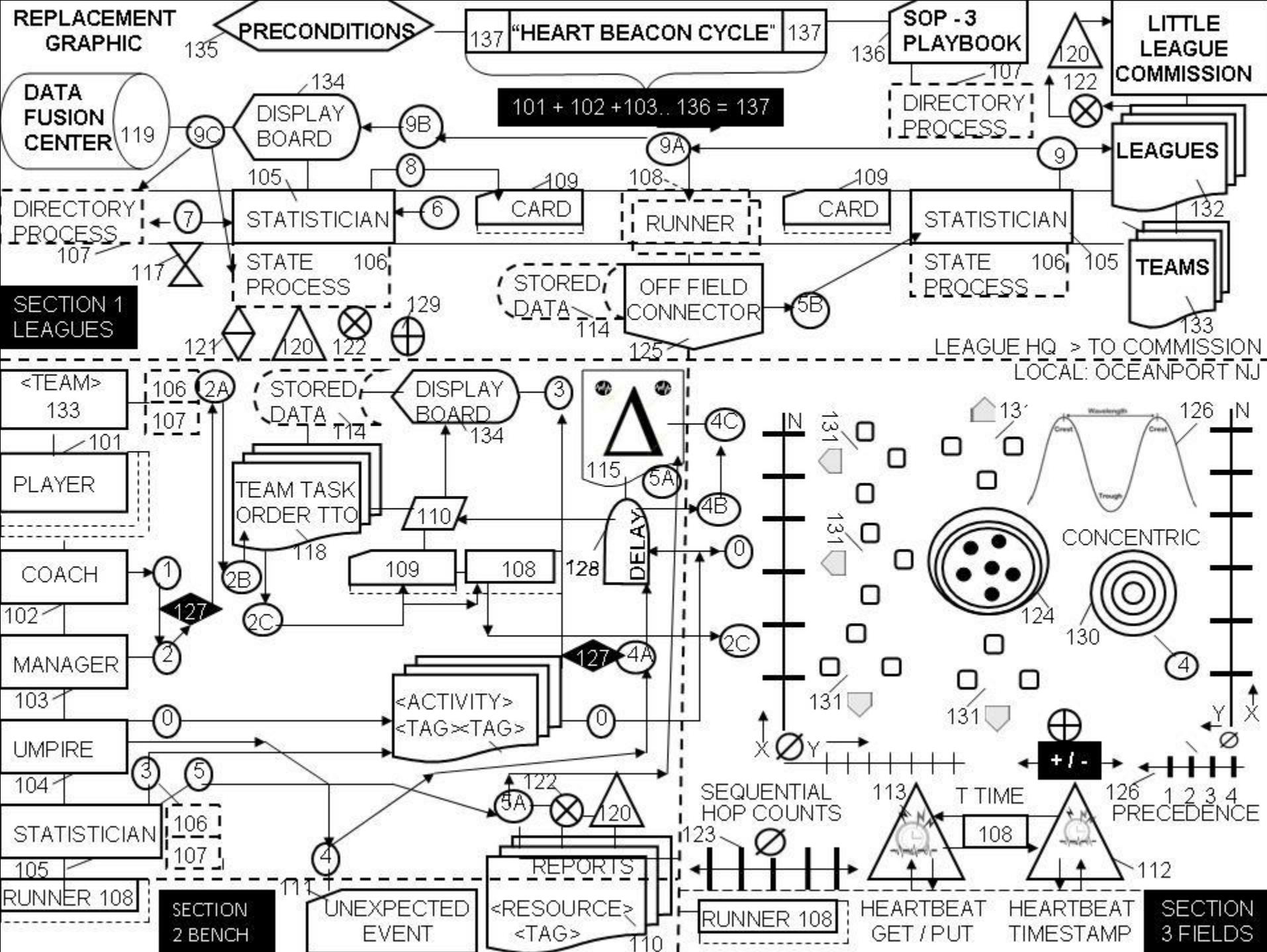
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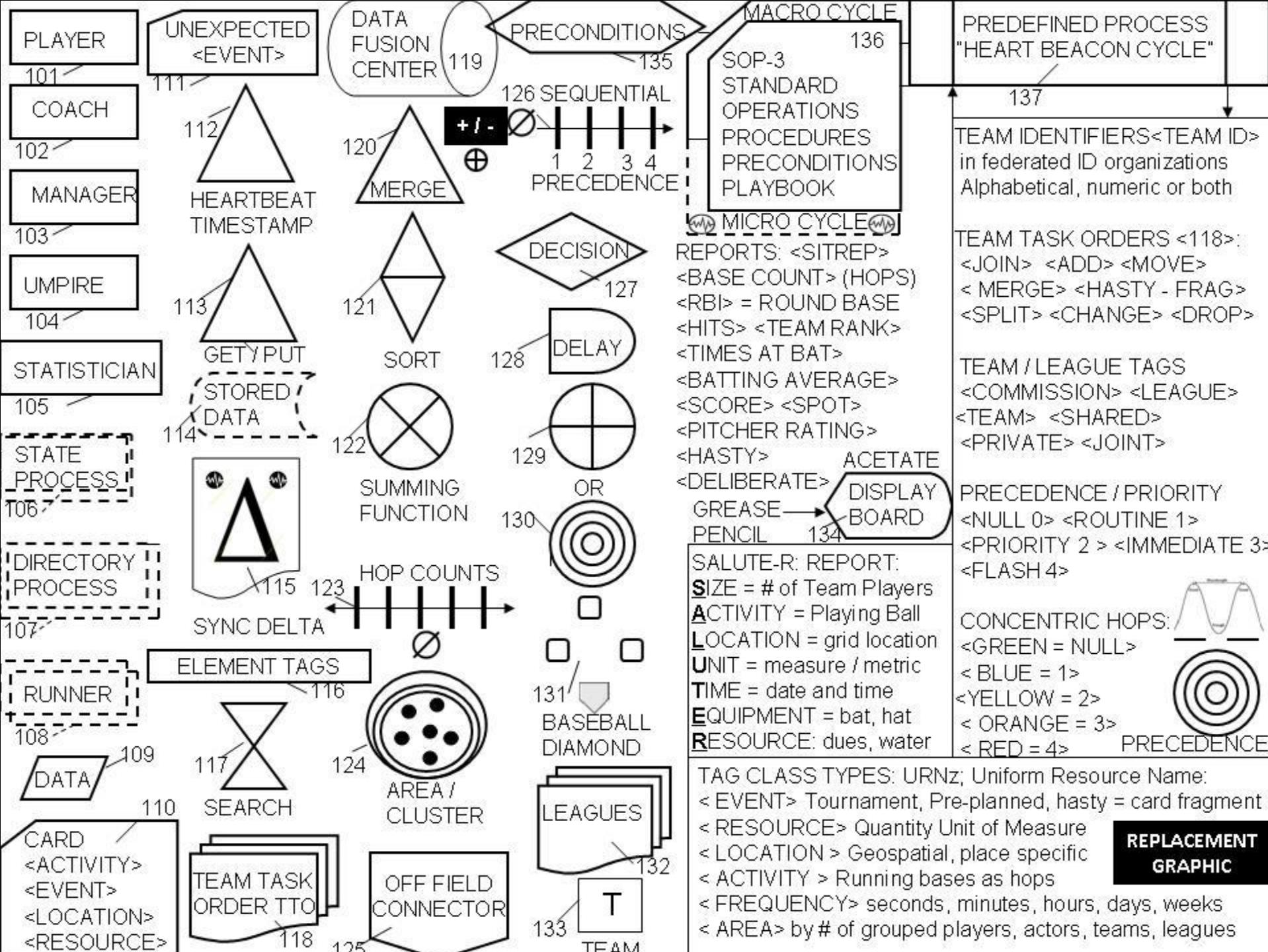
B4 BEACON TECH TYPE II: WATER DROP IN POND RADIUS, CIRCUMFERENCE GEO SPATIO-TEMPORAL

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

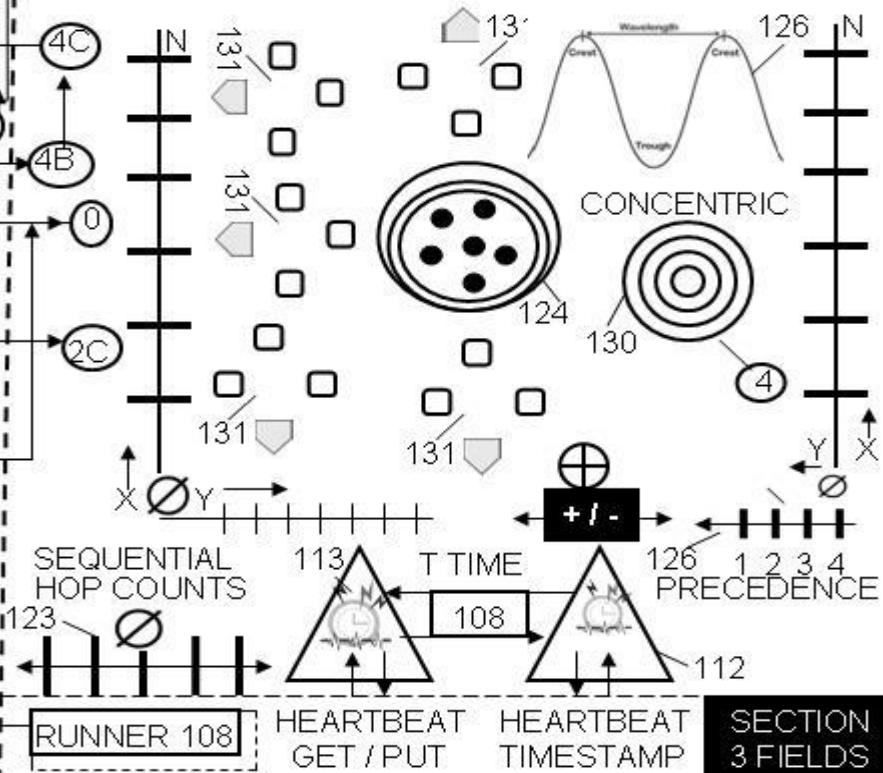
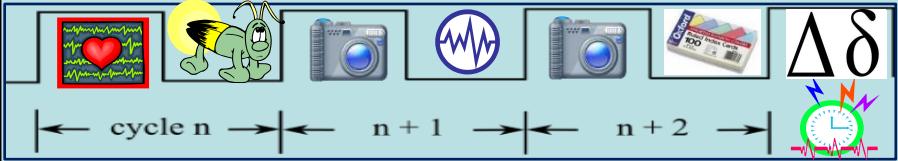
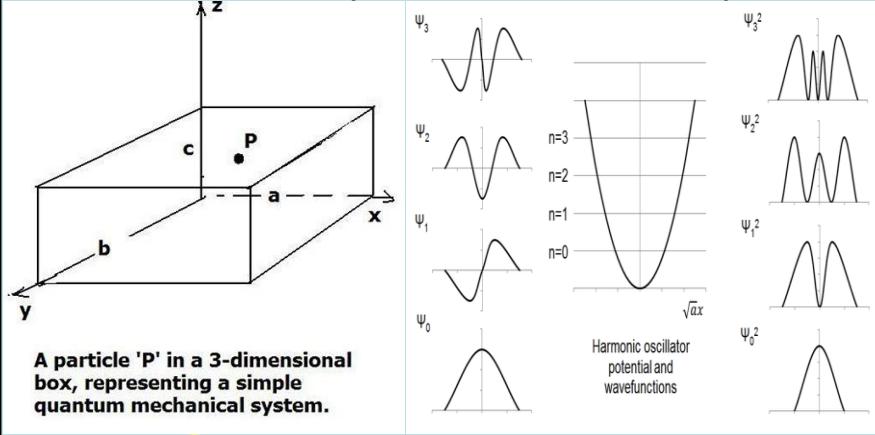
209







QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS

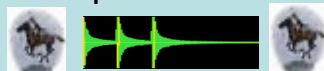


#QuantumComputing USct Alice Corp Vs CLS Bank compliant memes:
In quantum computing, a qubit (or quantum bit (sometimes qbit)) is a unit of quantum information—the quantum analogue of the classical binary bit. A qubit is a two-state quantum-mechanical system, such as the polarization of a single photon: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

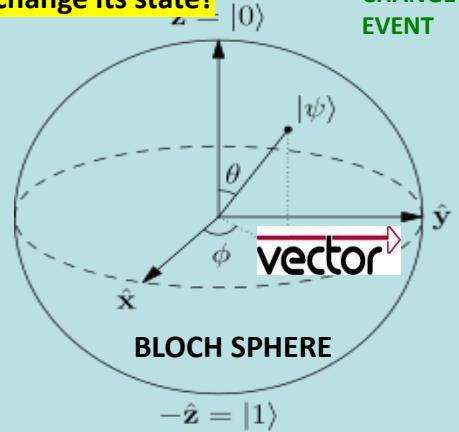
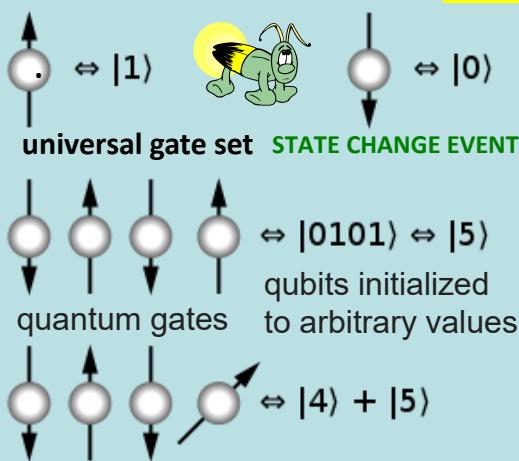
Vertical polarization vectors from a known point 0 null Sonar Hop meme



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?



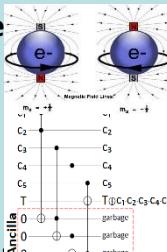
Microwave pulses like sonar ping...

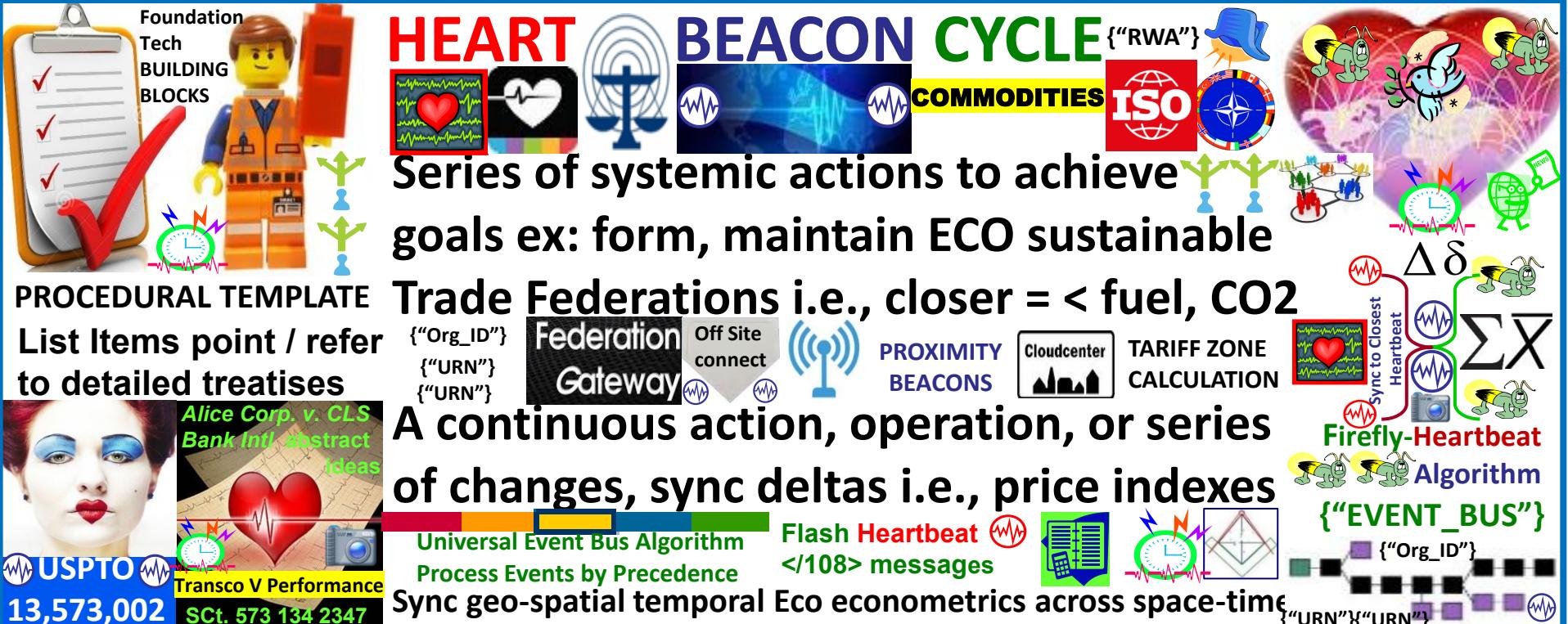
qubits can be in a superposition of all the classically allowed states

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



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





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

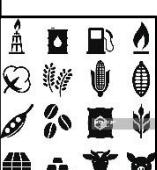
CHECKLIST: TRADE FEDERATION ECONOMIC FRAMEWORK EX:

- 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) NIST Quantum Random Number Beacon QRNB
- USPTO 13/573,002 = Spaceship Earth's Signals & Telemetry Annex





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



SYNC DELTA
DATA SNAPSHOTS

INFOCON
5 4 3 2 1
INFORMATION CONDITION

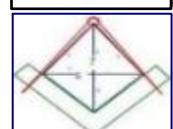
Federation
Gateway

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



HFT START, STOP, Time to LIVE

Net, Net of \$\$\$ money consists:
1) Epoch Time Cycles
2) Syntax used / not in epochs
3) Wave form motion (sound)



MEMO #1421



I.R.S.



I.R.S.

Structured Data Exchange



SYNTAX LEXICON
ROSETTA STONE

Coder's Guide lexicon.

STRUCTURED
<CONTENT>
EXCHANGE
TEMPLATES

MIL STD 2525ABC

ASSETS

ASSET TOKENS

"SYMBOLS RULE THE WORLD"

11.8 - Kinematic
11.8.1 - Pos
11.8.1.1 -
11.8.1

STRATML

XAML

BINARY XML
UBL

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

TOKENIZED ECONOMY BREVITY CODE OPSCOSE MAPPET TO SYMBOLS

Δδ INDEX REFERENCE #:

M015 STATUS :

EFFECTIVE: 14-DEC-99

PURCHASE CODES

FEDERATED PEGS

{"URN" "ASSET_CLASS"}

{"URN" "ASSET_TYPES"}

ISO 10383 – MIC

Market Identifier Codes

DAO {"URN"}

{"Org_ID"}

BLOCKTIME

ARBITRAGE

ERLANG

TIME

EQUATIONS

STOCK NDN NAMED DATA

EXCHANGE NETWORKING

MIC CODES PRECEDENCE

FILTERS PROCESSING

BLOCKTIME

ARBITRAGE

ERLANG

TIME

EQUATIONS

FROM	TO					CODE GUIDE	
	GCCS-A	TAIS	ASAS	AMDPCS	AFATDS	MCS	
ASAS	C002 C203 F002 F014 F015 F541 S201 S309	C002 C203	USMTF / XML MTF FORMATTED MESSAGE CATALOG = 300 + messages info exchange sets using common, CONSENSUS Message Text Formats MTFs. MTFs specify <CONTENT> / info agreed by group consensus presenting information in a logical, well specified unambiguous layout resulting in a highly efficient info payload to overhead ratio				
AMDPCS	TOKENS OPSCODE BREVITY CODES		F002 F014 F015 F541 S201	A.I. 			
AFATDS				INFOCON 5 4 3 2 1 INFORMATION CONDITION			
MCS	  	A423 C203 C505 F002 F014 F015 F541 S201	A423 A659 C002 C203 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F658 F756 G489 K01.1 S201 S303 S507	A423 A659 A656 A690 C002 C203 C400 C505 F002 F014 F015 F541	 Syntax Lexicon Coder's Guide	A423 C505 F014 F015 S201	M2M 

MESSAGE CATALOG

300 + Use Cases

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

Information Elements Roles

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



FFUDN: Field Format Unit Designator #

FFIRN Field Format Index Reference #

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



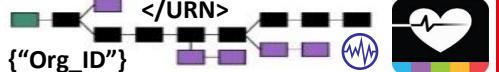
PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES

DATA		SYSTEM FUNCTIONS		PERFORMANCE	
11.4 - Classification		11.8 - Kinematics			
11.4.1 - Category		11.8.1 - Pos / Vel / Acc (PVA)			
11.4.1.1 - Confidence Level		11.8.1.1 - Acceleration			
11.4.1.2 - Estimate Type		11.8.1.1.1 - Angular			
11.4.1.2.1 - Alternative			1.1.2 - Linear		
11.4.1.2.2 - Evaluated D			2 - Estimate Type		
11.4.1.3 - Value		PURCHASE	1.2.1 - Estimated		
		CODES	1.2.2 - Observed		
			1.2.3 - Predicted		
			1.2.4 - Smooth		
SYMBOL	Friend	Neutral	Hostile		
2525C	Partner			Competitor	
11.4.1.3.4 - Substance				4 - Velocity	
11.4.1.3.5 - Surface				1.4.1 - Horizontal	
11.4.2 - Platform / Point / Feature Type				1.4.2 - Vertical	
11.4.3 - Specific Type				VA Confidence	
11.4.4 - Type Modifier				1 - Bearing Angle	
11.4.5 - Unit				2 - Bearing Angle Rate	
				3 - Covariance Matrix	



MIL STD 2525A, B, C, D



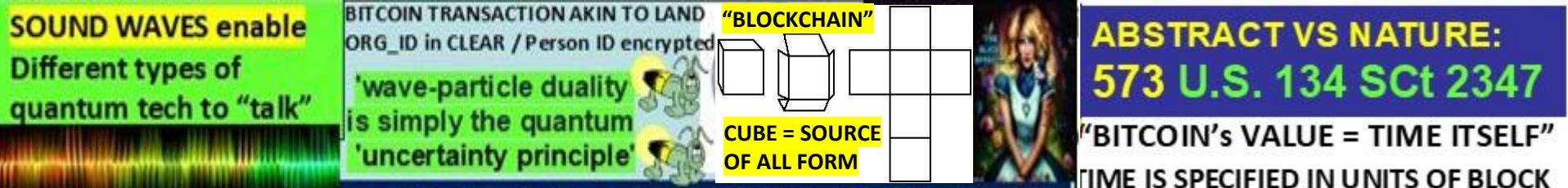
20022

SYNTAX LEXICON
ROSETTA STONE

Coder's Guide

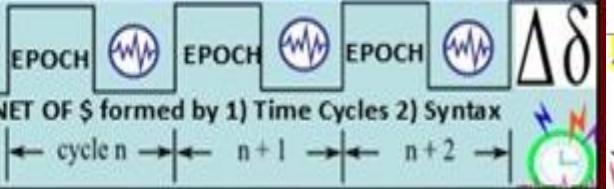
lexicon

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

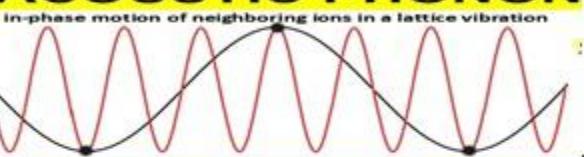
Q: IF CUBITS DO NOT EXIST, THEN ARE THEY SIMPLY A WAY TO ACHIEVE GROUP THINK FASTER ???

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

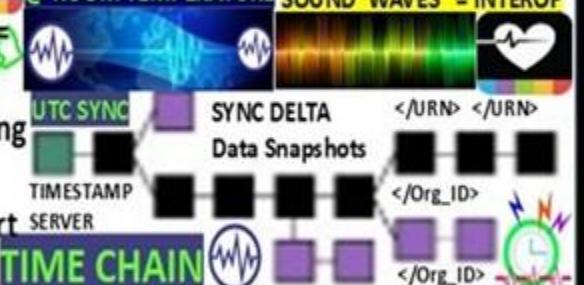
**ABSTRACT VS NATURE:
573 U.S. 134 S.Ct 2347**
"BITCOIN'S VALUE = TIME ITSELF"
TIME IS SPECIFIED IN UNITS OF BLOCK TRANSACTION CONFIRMATION TIMES"

FISHER INFORMATION FLUX FLOWS

ACOUSTIC PHONON



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



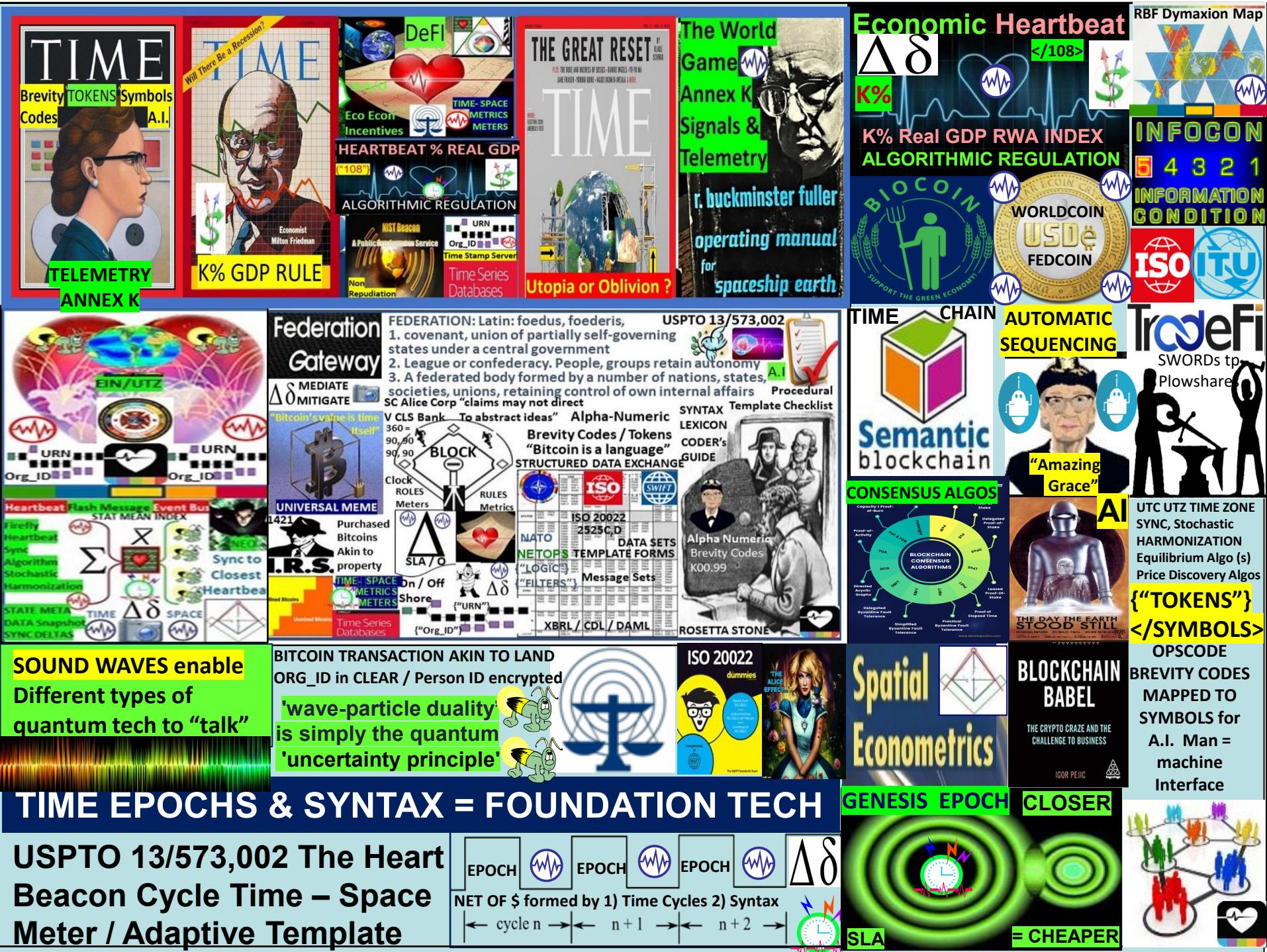
Net of \$\$\$ formed with:
1 EPOCH TIME CYCLES

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"



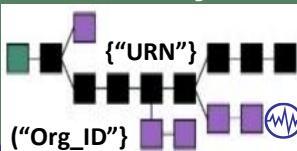
Numismatics: study of currency

Marcus Aurelius



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

THE TERRA (TRC) Trade Reference Currency



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

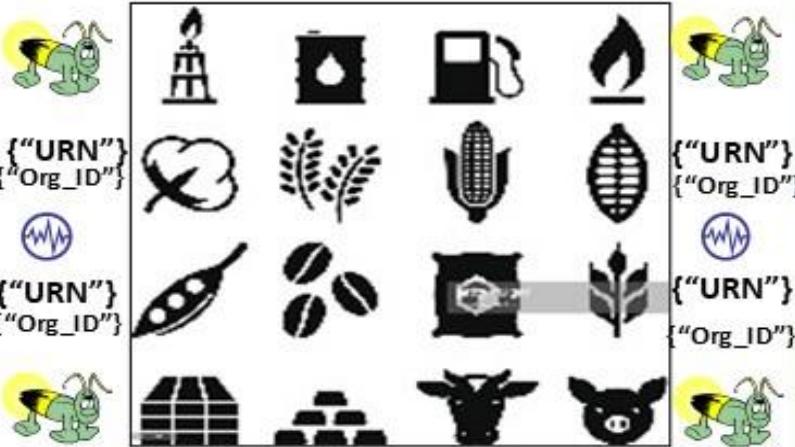


Roman Denominations

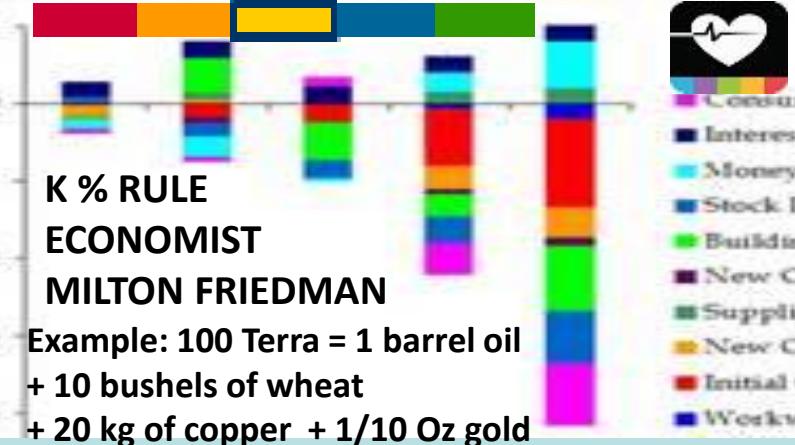


Images Courtesy Of: Roma Numismatics Ltd, Numismatica Ars Classica, Bertolami Fine Arts, Nomos, & The State Museum in Berlin

Commodities Index Basket / FIAT PRICE Discovery Algo / MEDIATION



LEADING ECONOMIC INDICATORS





Buckminster Fuller 1968 *Operating Manual for Spaceship Earth*

"we can make all of humanity successful through science's world-engulfing industrial evolution. We have the tools"



BLOCKTIME ARBITRAGE



“The Dymaxion Map reveals a One-World Island in a One-World Ocean”
which helps us to view the world as one interdependent system [of systems]
of relationships. This is what is most fundamentally at HEART when we
speak of Spaceship Earth “The planet is a [system of] system (s)”



SPACESHIP EARTH: comprehensive planetary planning  
describing new strategies intended to enable all of humanity to
live with freedom, comfort and dignity, without negatively
impacting the earth's ecosystem's regenerative ability 



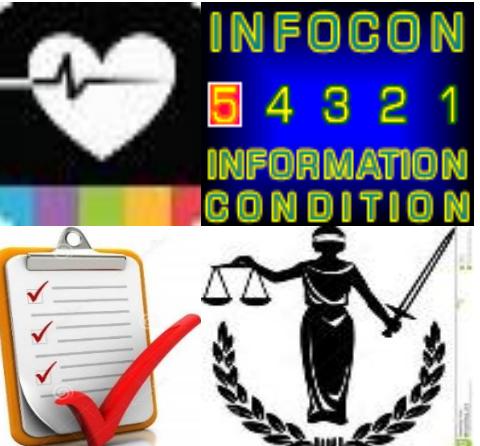
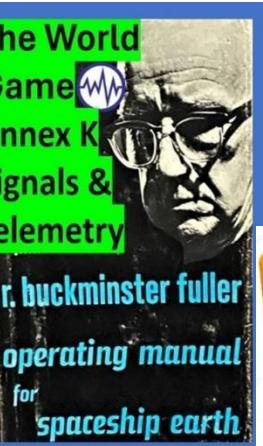
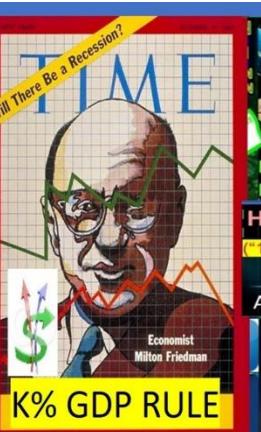
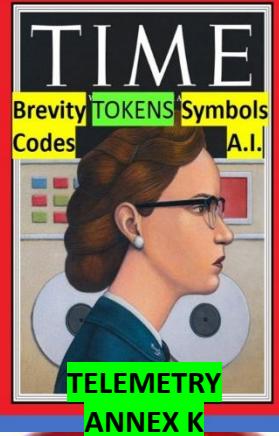
INCENTIVIZE SUSTAINABLE co-Econometrics



The Book **Spaceship Earth** relates Earth to a spaceship flying through space. Our spaceship has a finite amount of resources and cannot be resupplied.

The HEART BEACON CYCLE SIGNALING, TELEMETRY ANNEX K OPORD
BUCKMINSTER FULLER'S OPERATING MANUAL for SPACESHIP EARTH





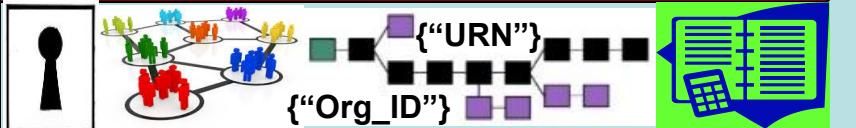
- Reuse, mod of System of systems engineering framework, Syntax Lexicon Library data elements
- STRUCTURED DATA EXCHANGE
 Reuse brevity codes mapped to 2525D symbol sets comprised of 300 + message sets for A.I. - machine Block-Time DLT arbitrage among Trade Federations </Org_ID>
 {"URN"} </URN> = COMMODITY



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

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



ECONOMIC HEARTBEAT



K %



DAO

BITNATION



FEDERATE
SHARE
WIN

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



GOVERNANCE 2.0



FEDERATION CONSENSUS
ALGORITHM / PROTOCOL
LIQUIDITY ON DEMAND



Net joins, drops, splits, merges, moves

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

Federation
Gateway



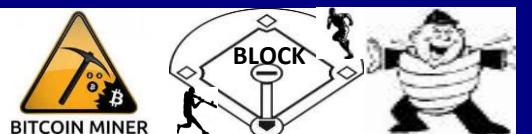
{“GLOBAL”}
{“SHARED”}
{“DOMAIN”}
{“COMMUNITY”}
{“PRIVATE”}
</ORG_ID>
{“GROUP ID”}

SYSTEMATIC

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



Bitcoin Mining Pools
MEME / METAPHOR MEDIATION



DISTRIBUTED AUTONOMOUS ORGANIZATION = DAO RAND Corp

term coined circa 1991 now in use by Blockchain tech corporations

Uniform_Resource_Name



FIREFLY FLASH HEARTBEAT MESSAGES

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

IeT DEVICE / PLATFORM
IoT SENSOR DEVICE



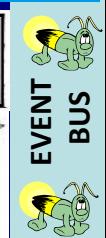
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123e4567-e89b-12d3-a456-426655440001
123e4567-e89b-12d3-a456-426655440002

STOCK EXCHANGE

MIC MARKET IDENTIFIER
CODES / BREVITY CODES



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

EVENT
TELEMETRY
BUS

Signalling, Telemetry
Codes / Brevity Codes



FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME



Net of \$\$\$ formed with:

1 EPOCH TIME CYCLES

2 {"Syntax"} "The Word"

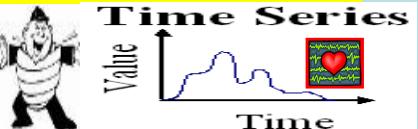
"In the Beginning" Genesis Block

"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

FROM	QCDLA	TAK	AFATOL	WEN
ARAB	P001	C001	C002	P002
	P003	P004	P005	P006
AMERIC	P007	P008	P009	P010
	P011	P012	P013	P014
AFATOL	P015	P016	P017	P018
	P019	P020	P021	P022



NATO

STOCK MIC CODES

STRUCTURED DATA EXCHANGE

TEMPLATE FORMS

300+ USE CASES

LOGIC / FILTERS

SYNTAX / SYMBOL LEXICON LIBRARY



SYNTAX LEXICON

Library

1st Compiler

R

W

A

Alpha Numeric Brevity Codes

Coder Guide Rosetta Stone



"Bitcoin is a LANGUAGE"
Digiinomics

"BITCOIN MAKES MONEY PROGRAMMABLE.
MONEY IS SIMPLY DATA"

"BITCOIN'S VALUE = TIME ITSELF"

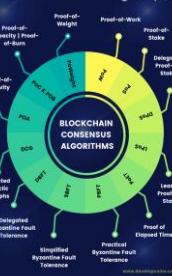
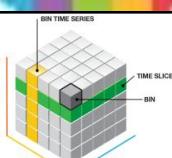
"Time is specified in units of block transaction confirmation times"



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
330 360 30 60
300 270 240 210 180 150
MACRO CYCLES
RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH

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

3rd Base

STATISTICIAN Metrics, Meters

Stat Mean Value Index

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKA TO PROPERTY

IRS #1421

90 feet

FLASH MESSAGE EVENT BUS

EVENTS

Fix "108"

TIME STAMP SERVER

TIME CYCLES

Delta

home plate

Epoch Time Cycles

Time Stamp Server

</div

Circle USDC

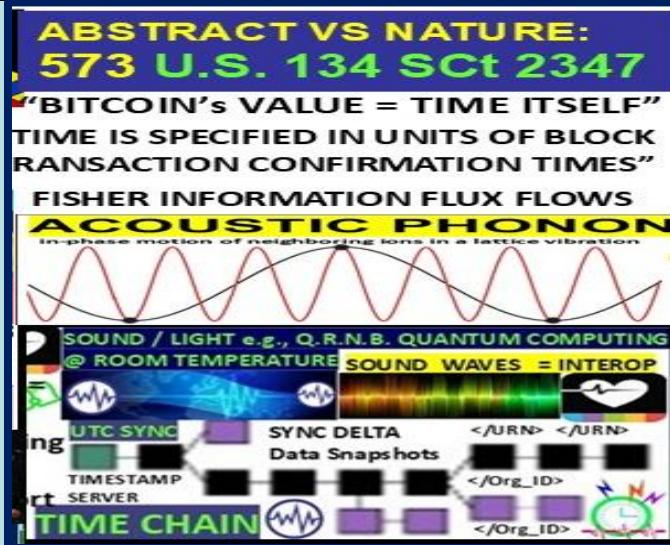
Investopedia

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

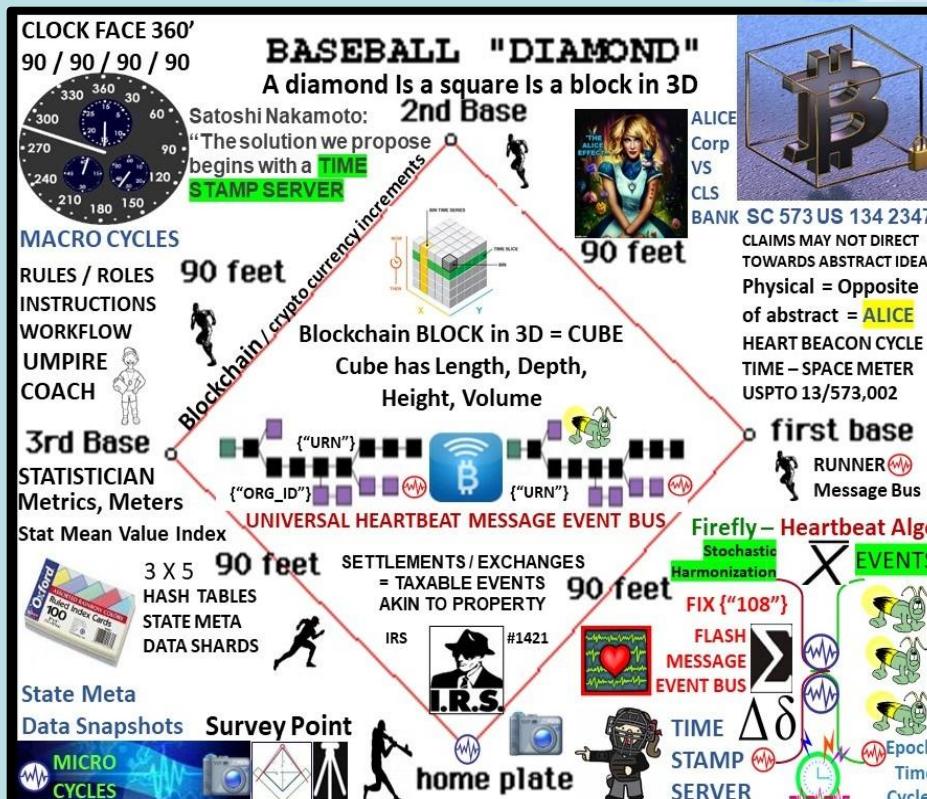
Stablecoins aims to provide an alternative to the high volatility of the most popular cryptocurrencies, Source JDSUPRA



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"

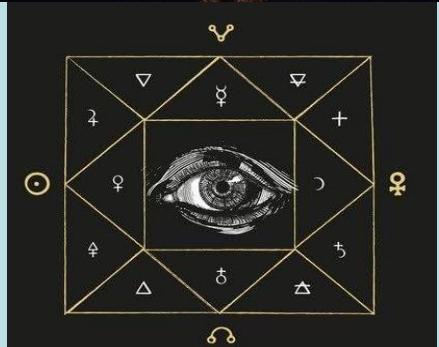


NOSTRADAMUS of FRANCE CENTURY 8: QUATRAIN 28:

"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

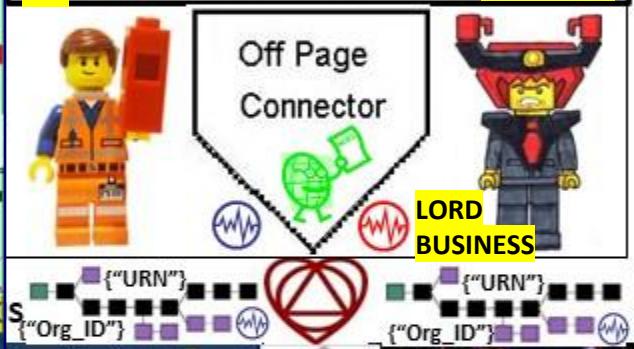
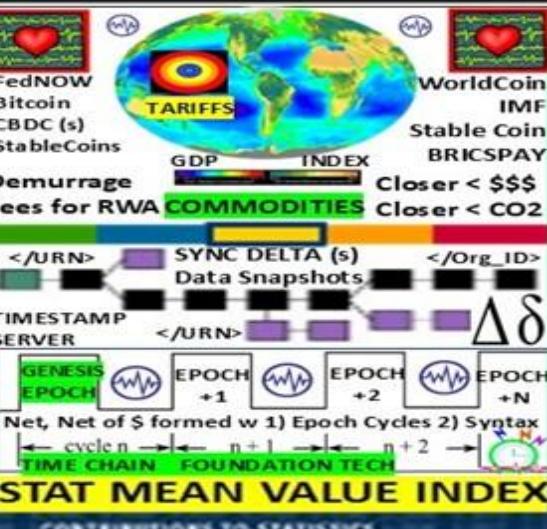
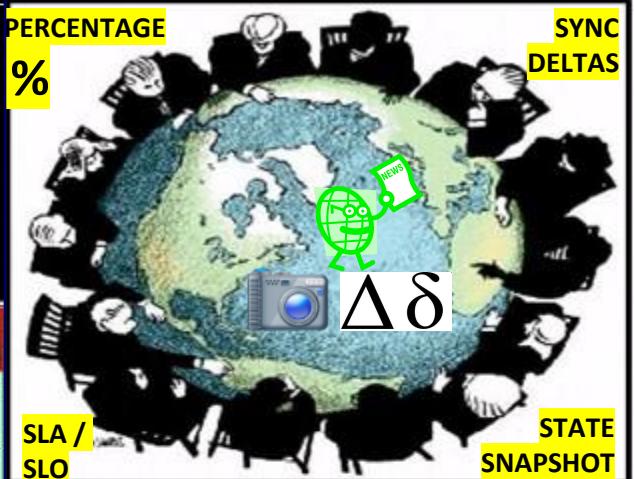
World Game (s) Fulcrum

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

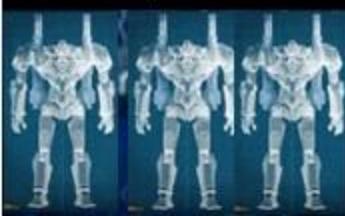
introduced by the economist Thomas Schelling in his book "The Strategy of Conflict" published in 1960.

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

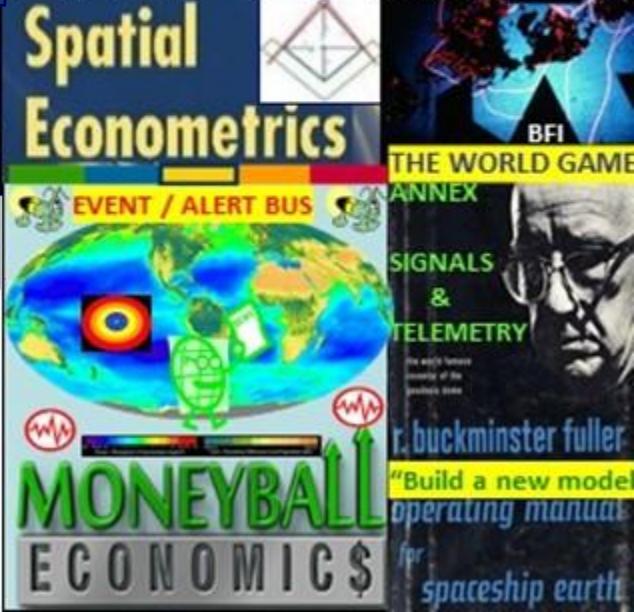
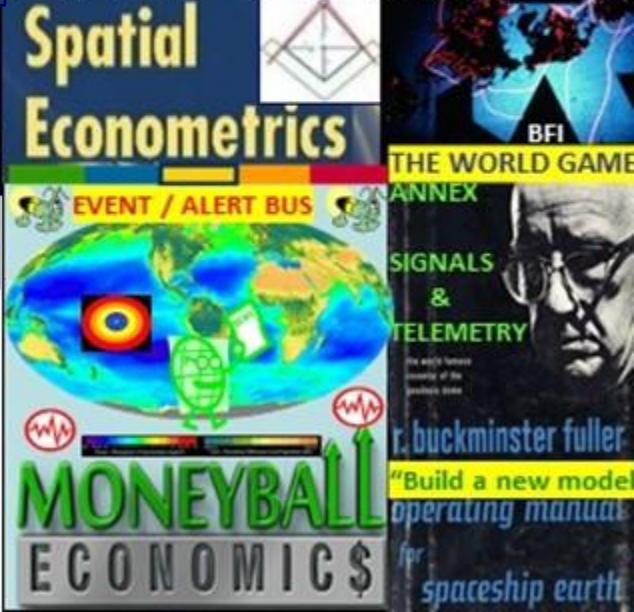
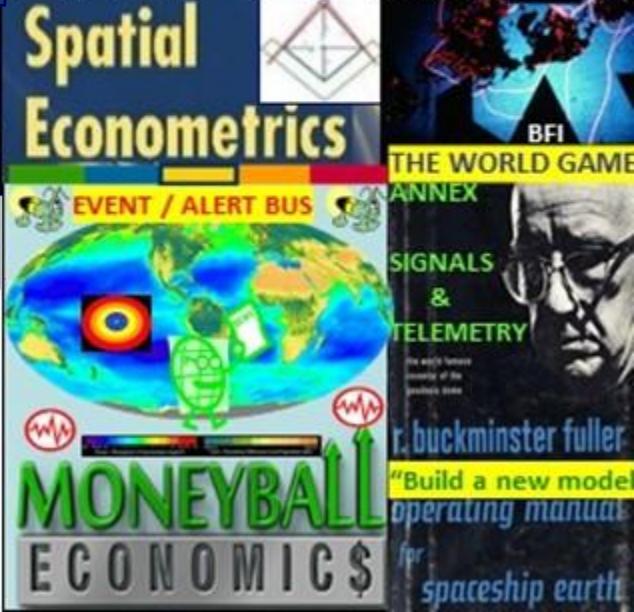
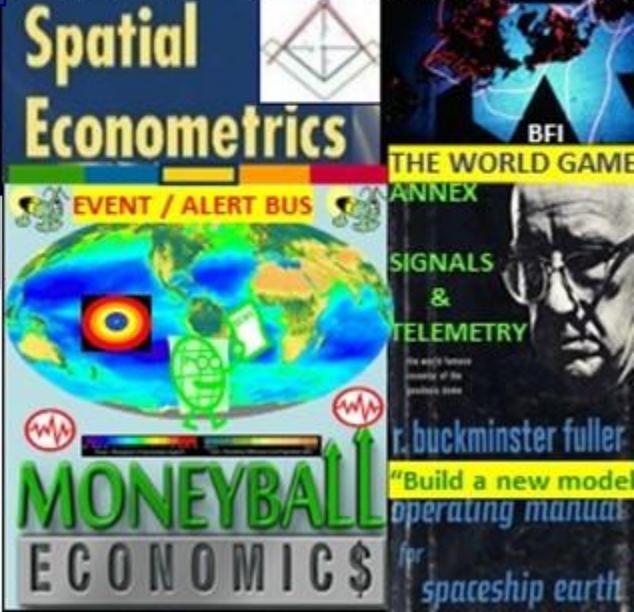


Vernetzte Operationsführung
OOTW: Operations Other Than War



JAEGER

FIREFLY
HEARTBEAT
ALGORITHM



World Game (s) Fulcrum

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

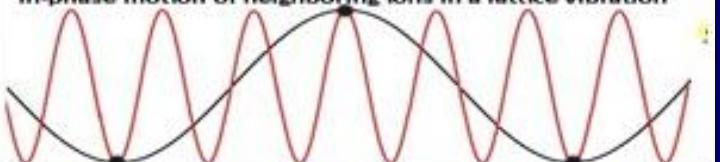
Schelling Point Conference: focuses on the intersection of **cryptocurrency** and **social good**, bringing together innovators, thought leaders, and advocates to explore how **blockchain** tech can create positive change.

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

FISHER INFORMATION FLUX FLOWS

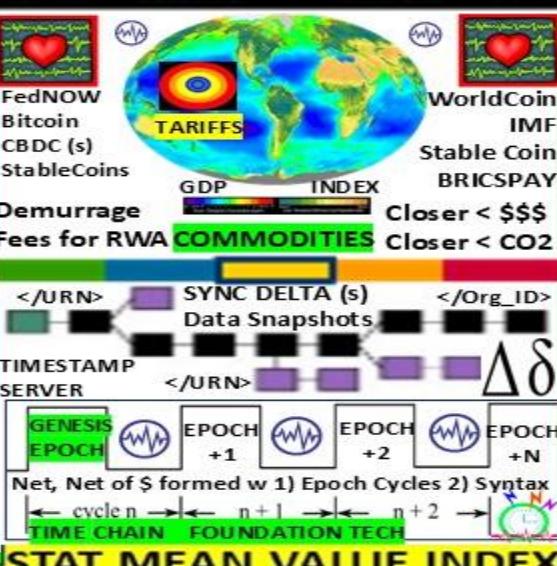
ACOUSTIC PHONON

in-phase motion of neighbouring ions in a lattice vibration



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

SOUND WAVES = INTEROP



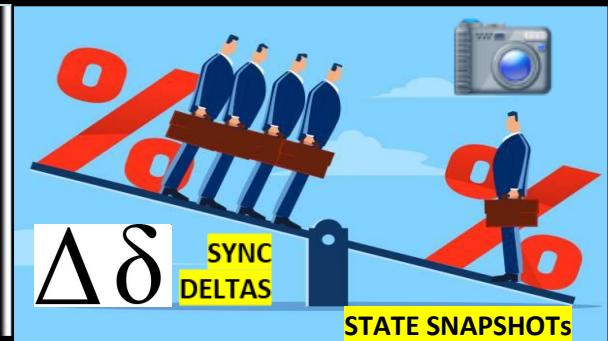
STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS



Price Indexes in Time and Space

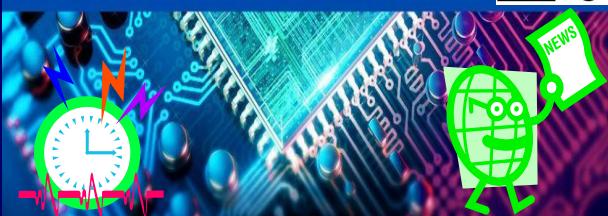
Methods and Practice
 SchellingPoint



Commodities Index Basket / FIAT
PRICE Discovery Algo / MEDIATION



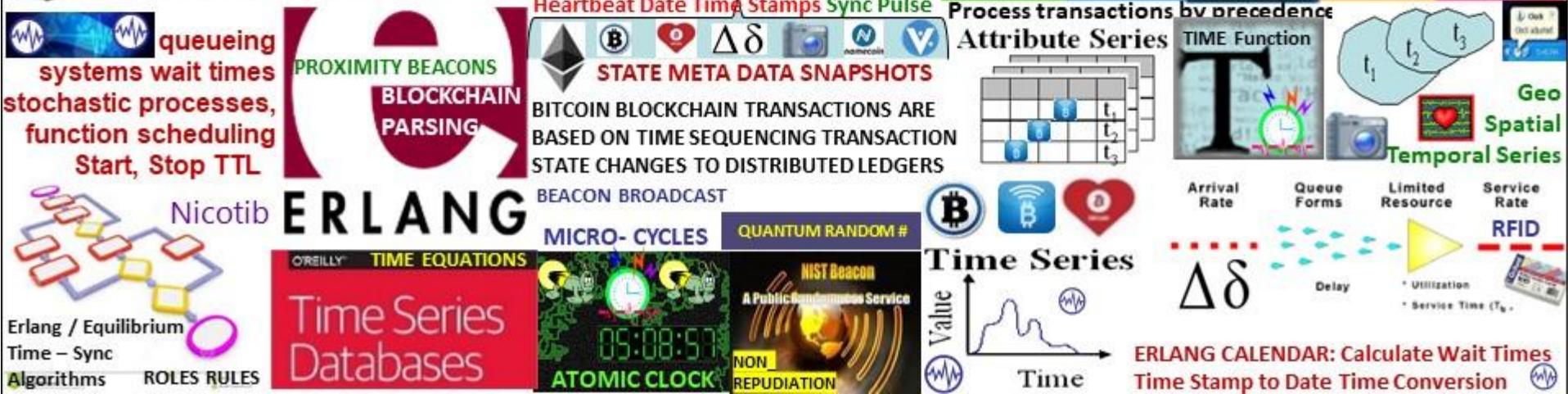
THE NEW QUANTUM FINANCIAL SYSTEM



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

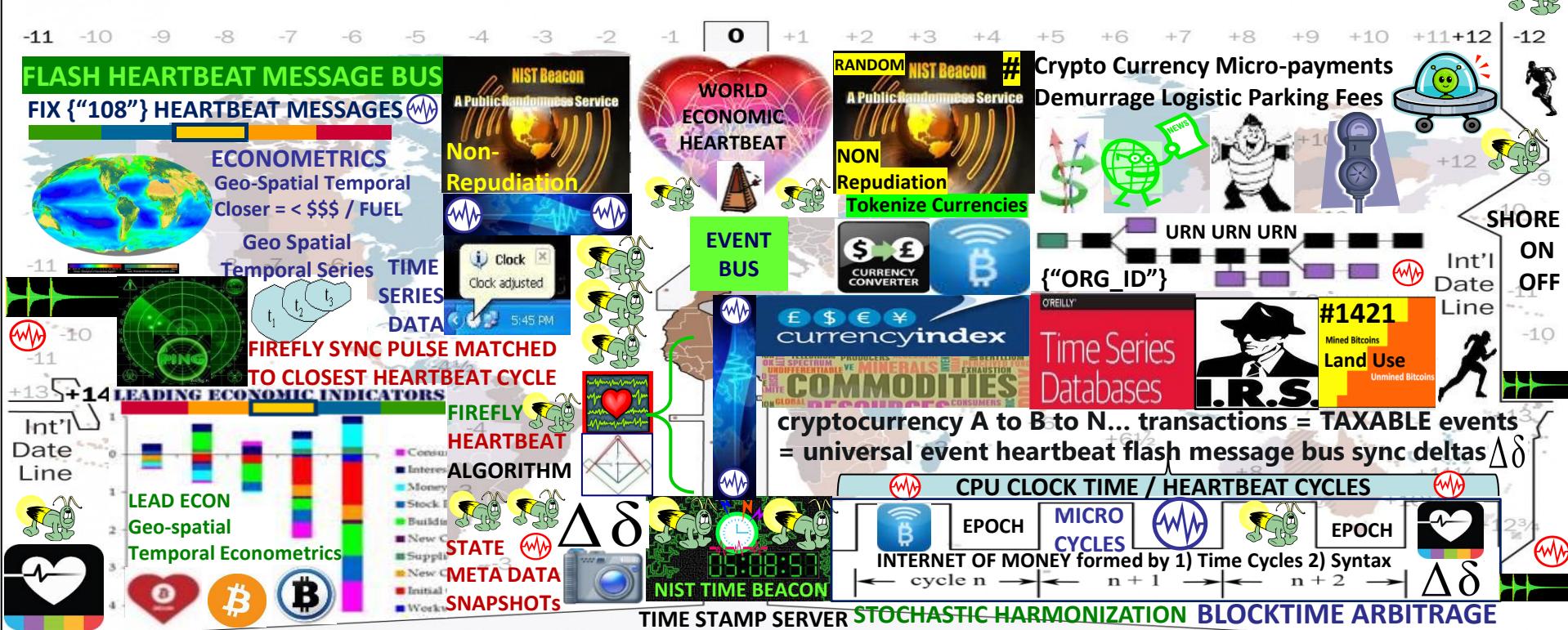


The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.





The 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)

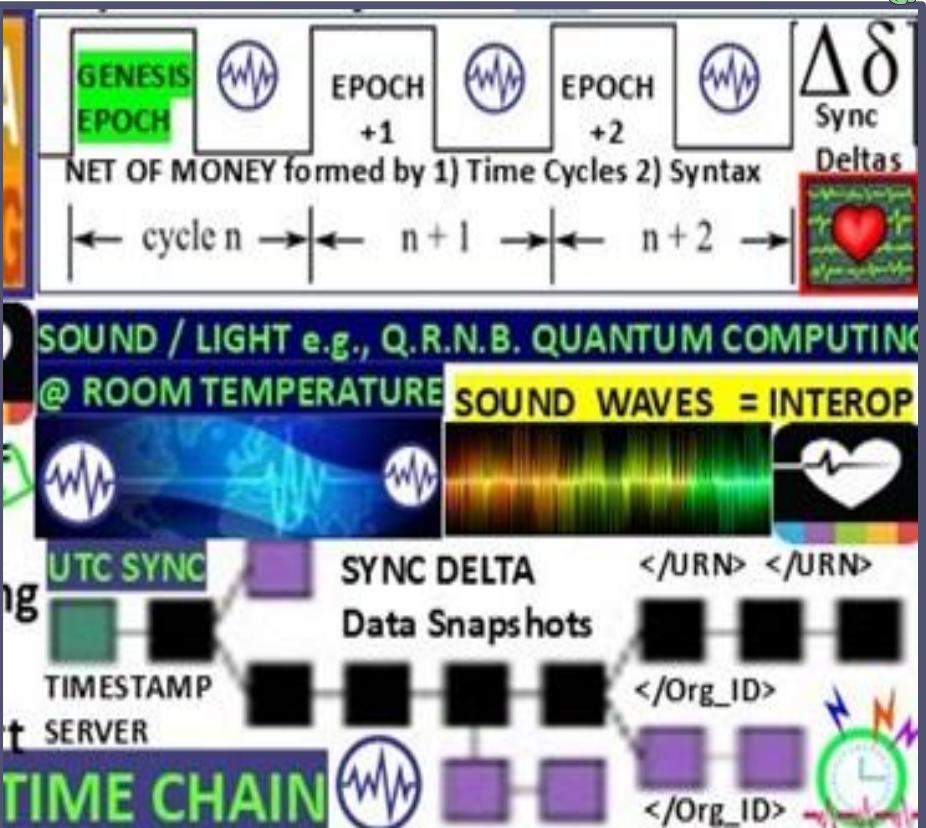
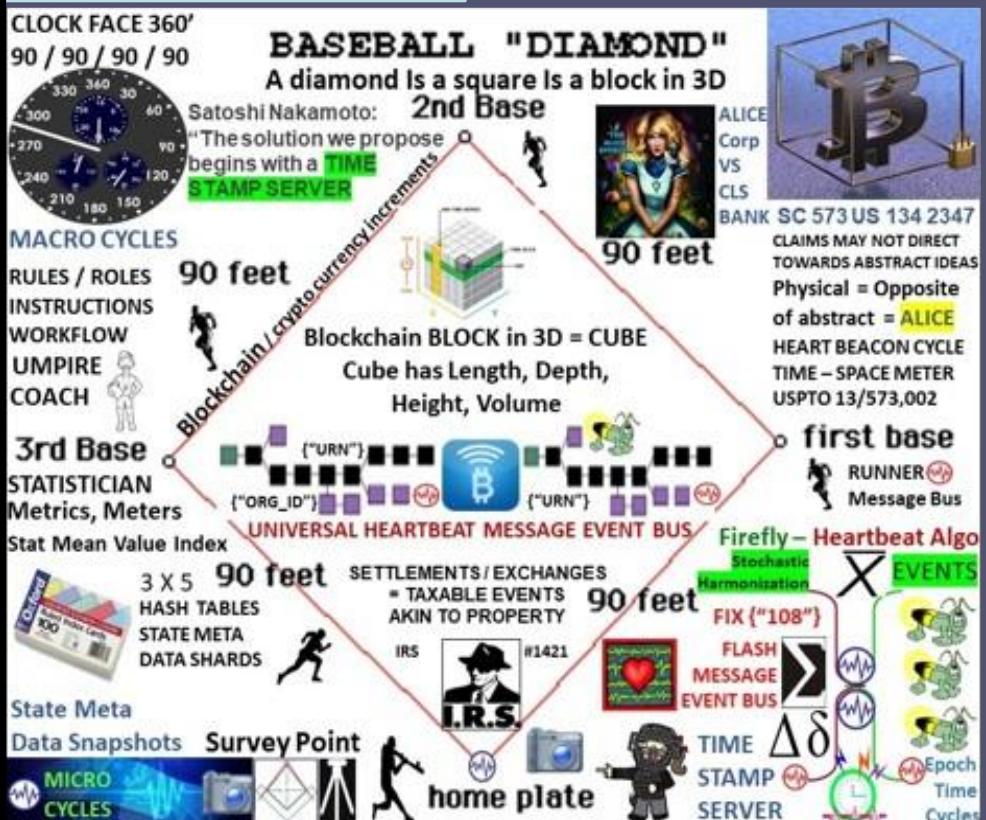
Defunct crypto exchange Mt. Gox has said that a repayment date will be set in "due course" February 7th 2014 trading halted

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



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

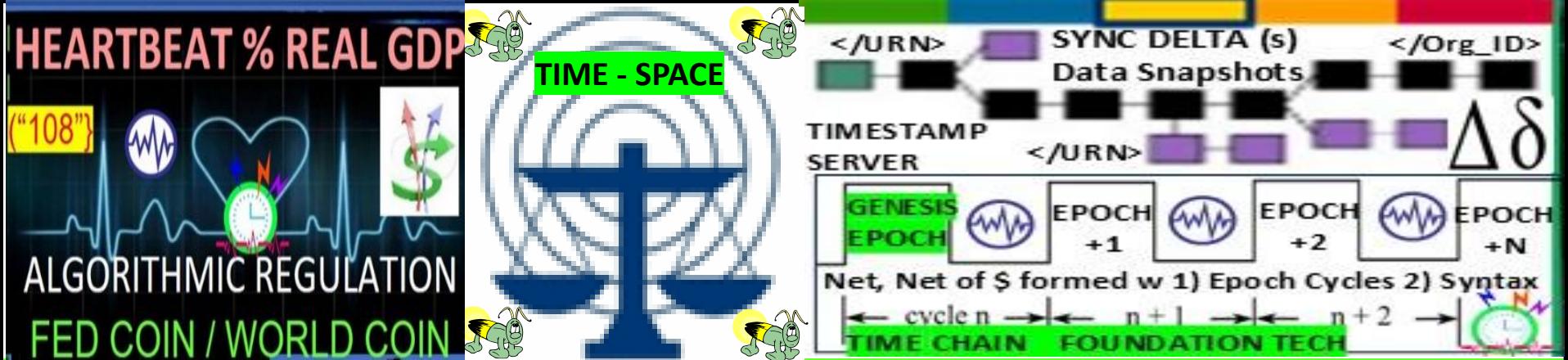
1919 BLACKSOX WORLD SERIES GAME FIXING RULING



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”





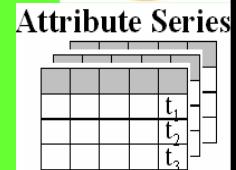
Banks, Tech firms' form teams to assert foundation tech as a legal basis for IP intellectual property claims for programmable \$\$\$ DeFI / TRADEFI

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)

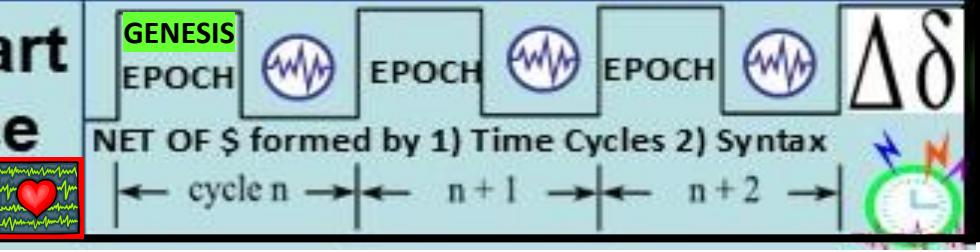


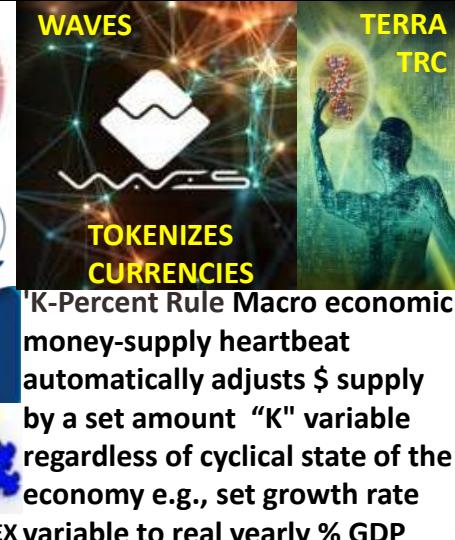
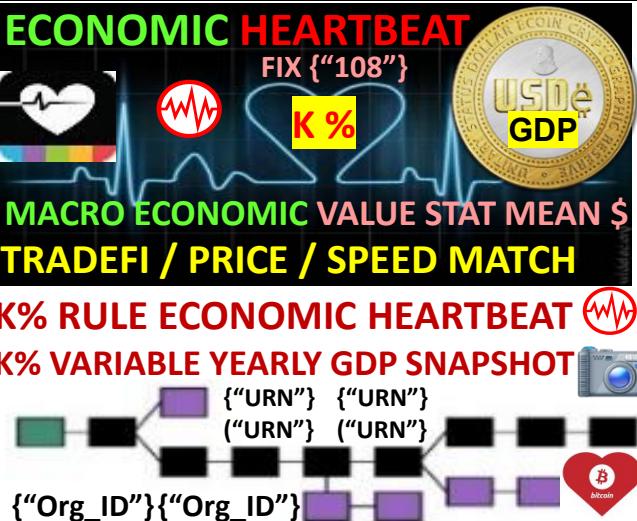
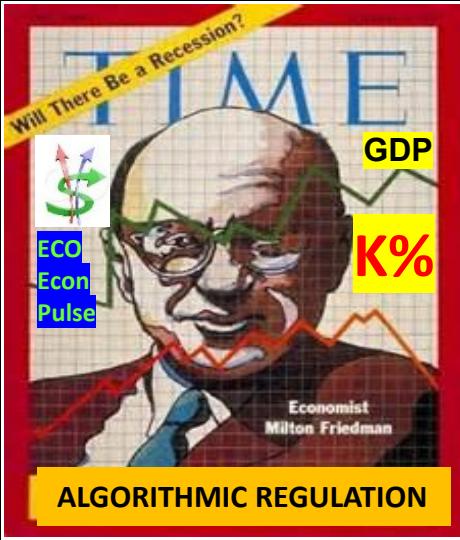
SOUND WAVES enable
Different types of quantum tech to "talk"



TIME EPOCHS & SYNTAX = FOUNDATION TECH

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

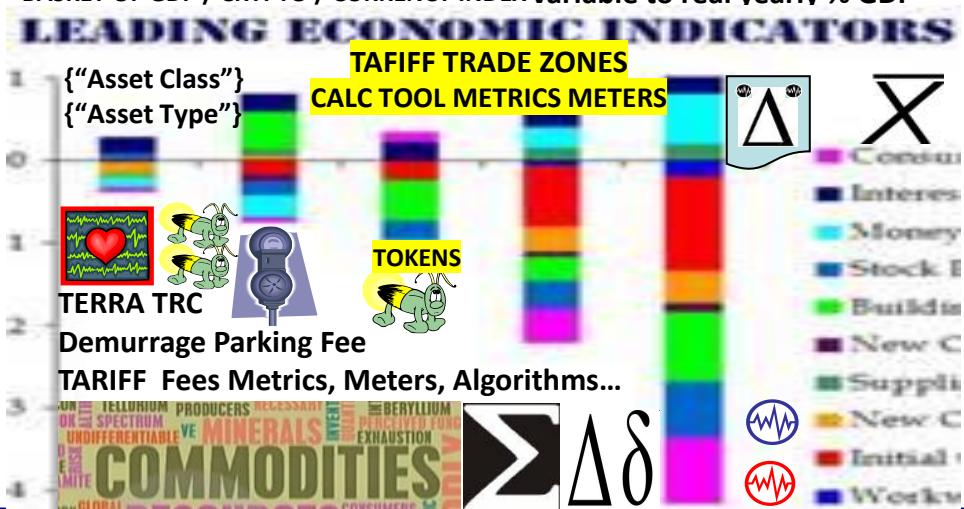
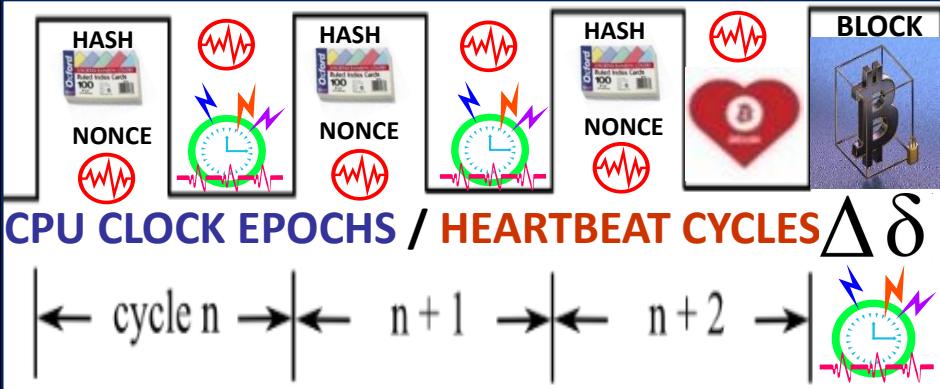




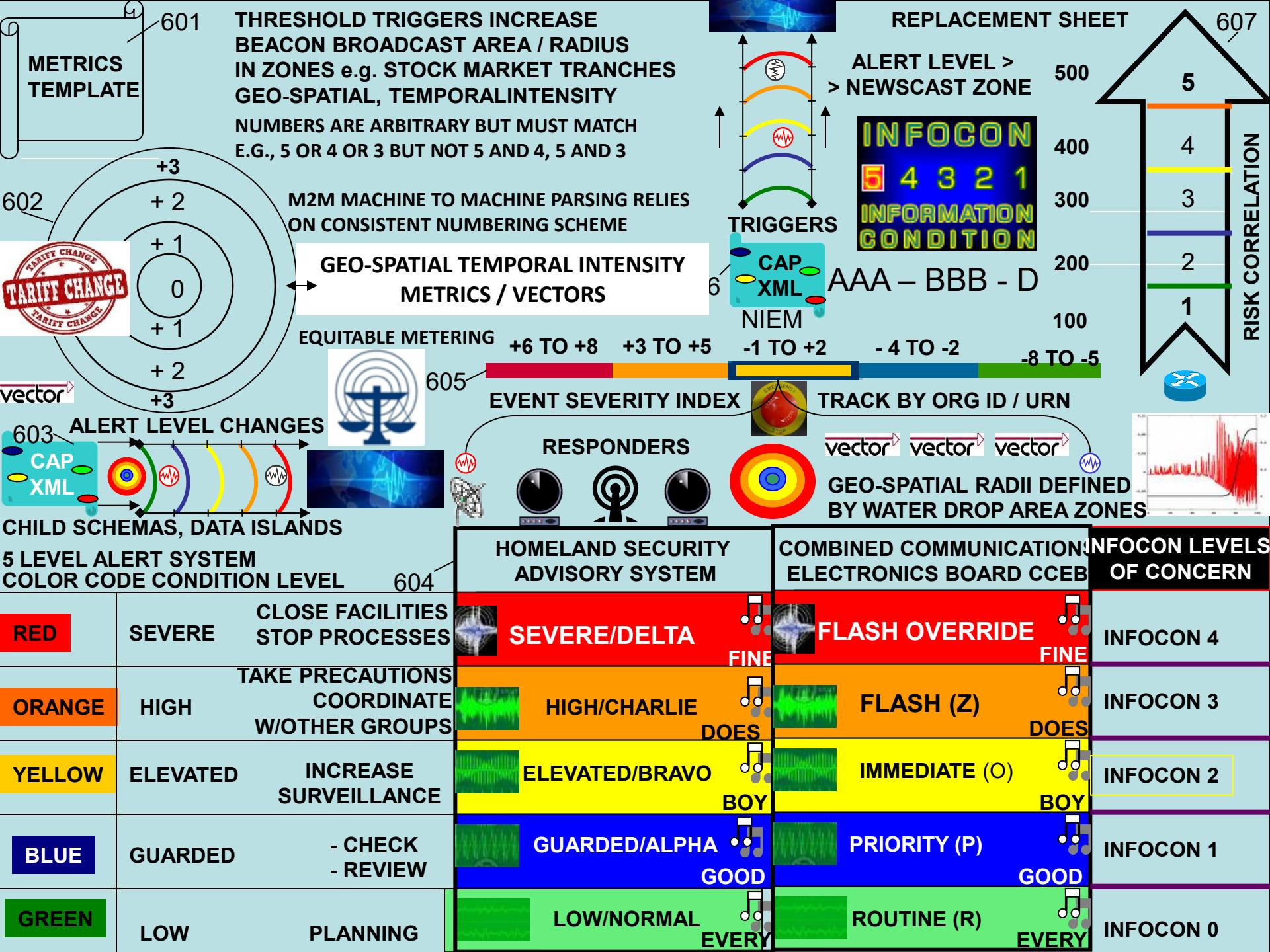
The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours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



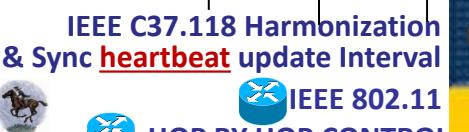
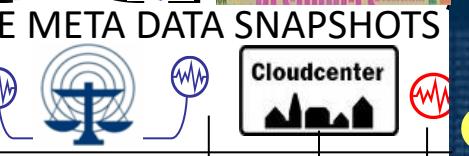
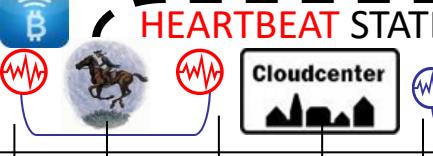
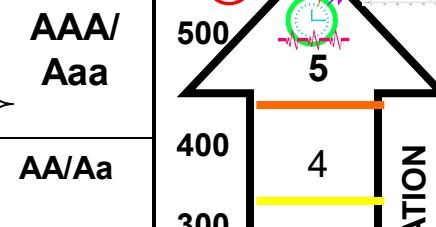
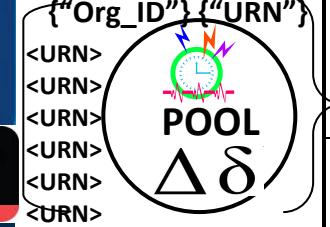
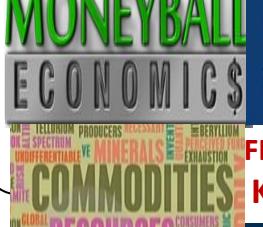
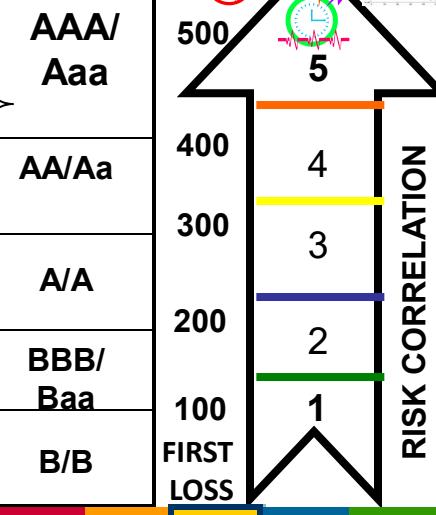


ECONOMIC HEARTBEAT



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

LAST LOSS

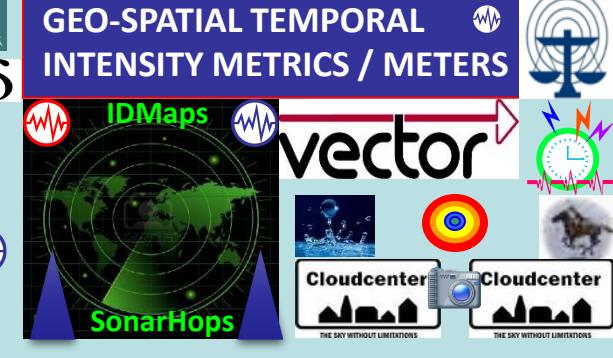
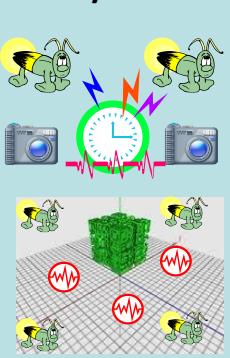




IDMaps: Global Internet Host Distance Estimation Service



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



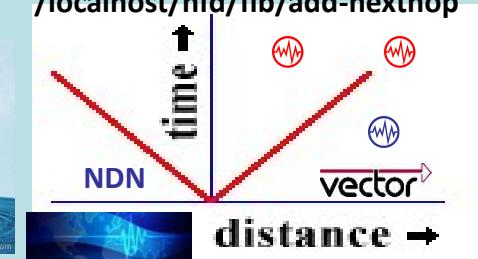
IDMaps scalable Internet-wide architecture measures, disseminates distance information



HOP COUNTS



REACHABILITY



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

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

Name Prefix
<Org_ID> Trie (NPT)



NDN NAMES

NDN NAMED DATA NETWORK RIB /
FIB Datasets event notification

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

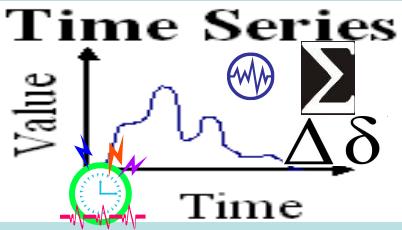
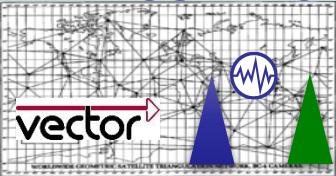


NDN INTEREST LENGTH
= DISTANCE BY HOPS

NDN
INTEREST

IS DATA
FRESH ?

TRIANGULATION



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

Datasets and Event Notification

INTEREST in <URNs>

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



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



MICRO-CYCLES



NDN INTEREST LIFETIME = TTL Time To Live

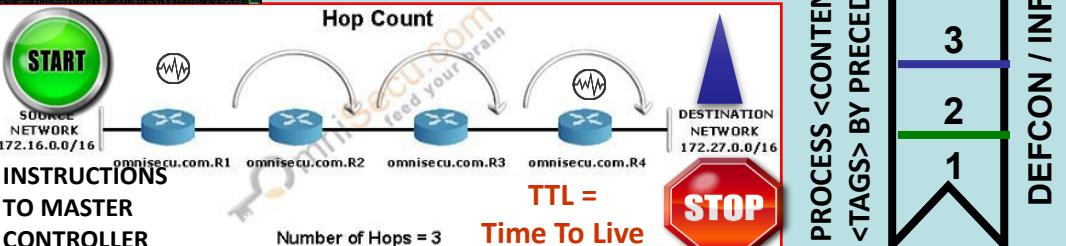
HEARTBEAT STATE META DATASNAPSHOTS

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

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



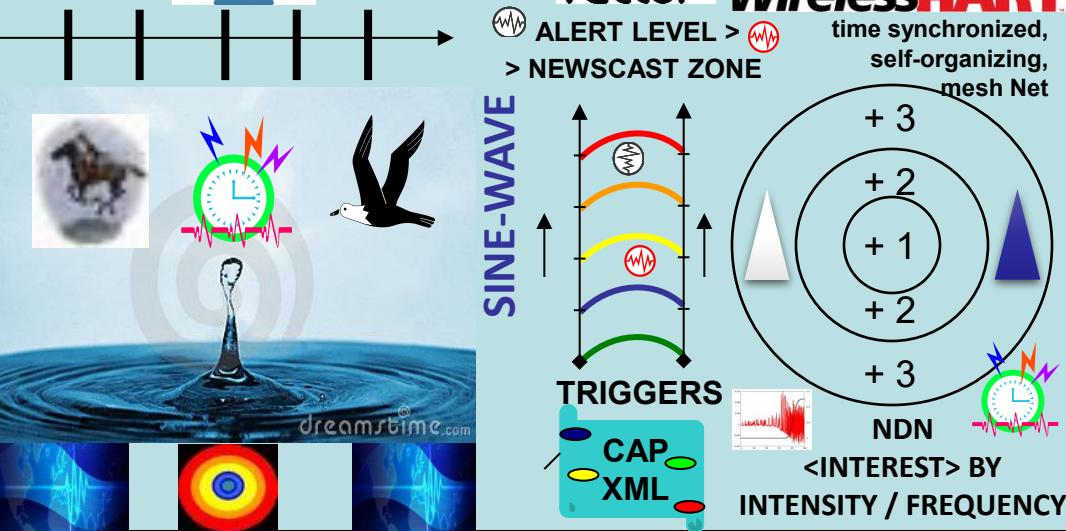
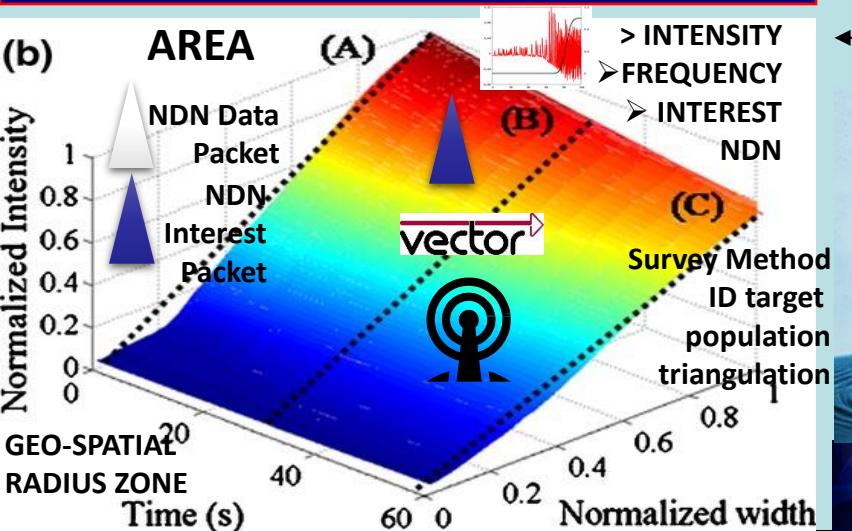
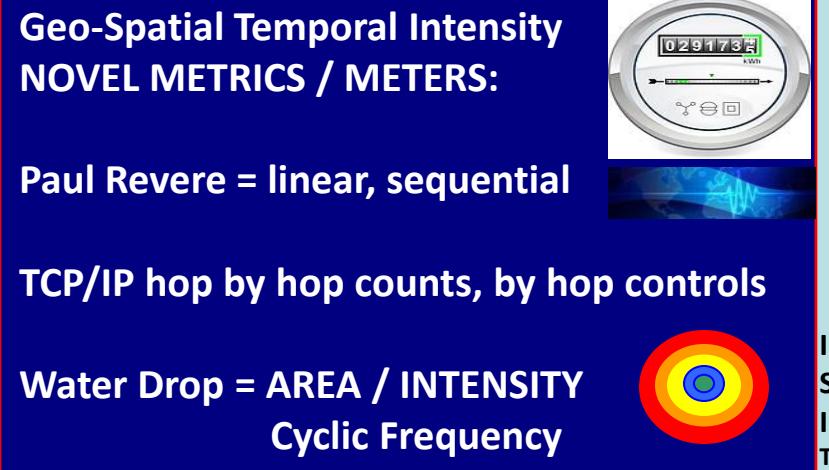
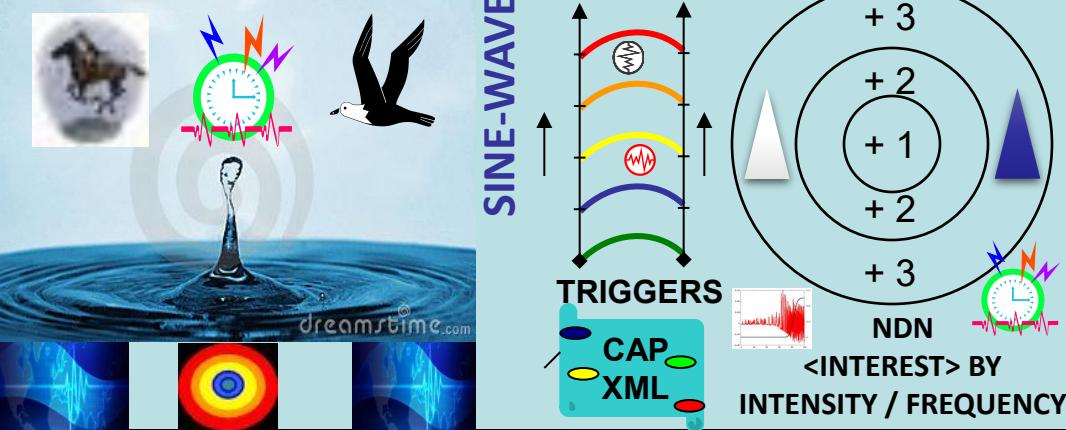
TELEMETRY TRANSPORT



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



ALERT LEVEL > NEWSCAST ZONE



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

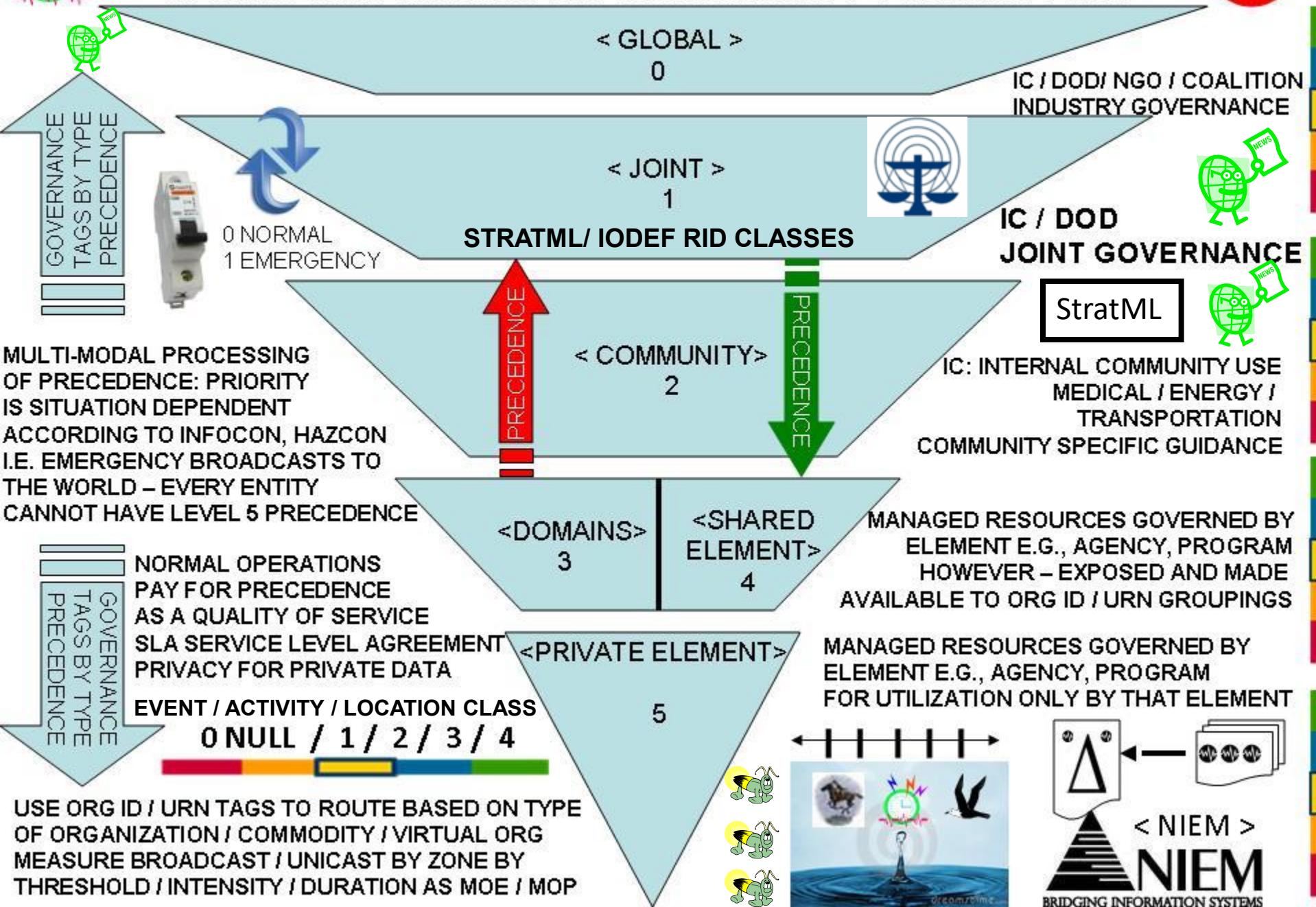
TIME STAMP BY Org_ID, URN Before FUSION CENTER

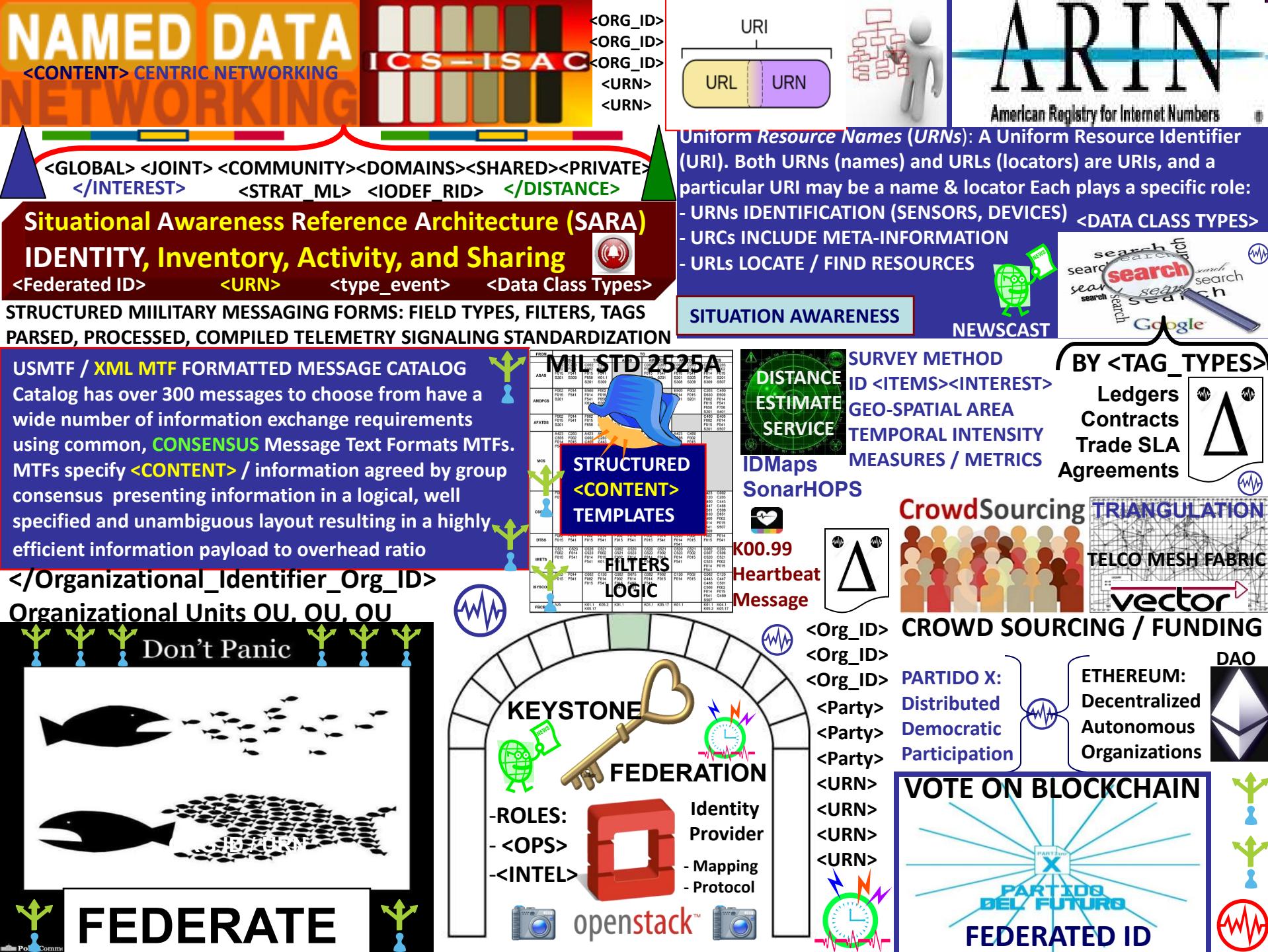
Position of a point in space relative to another point





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

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

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

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

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

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

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

FROM	GCCS-A C002 C203 F002 F014 F015 F541 S201 S309	TAIS C002 C203	ASAS C002 C203	TO AMDPCS C002 C203	AFATDS C002 C203 F014 F541 S305 S309	CODE GUIDE MCS C002 C203 E400 E502 F014 F015 F541 S201 S309 S507
ASAS	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					
AMDPACS						
AFATDS	F002 F014 F015 F541 S201					
	A423 C203 C505 F002 F014 F541 S201		A423 C203 C505 F002 C447 C486 C501 C503 C504 C505 C507 C508 C509 E400 F002 F014 F015 F541 F656 G489 G489 K01.1 S201 S303	 ASSET TOKENS Token Economy	 Syntax Lexicon Coder's Choice	 A.I.  INFOCON I 4 3 2 1 INFORMATION CONDITION
						 "SYMBOLS RULE THE WORLD"

MESSAGE CATALOG
300 + Use Cases

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

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

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



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

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

STANDARD CONSISTENT SYMBOLS



Information Elements Roles

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

STANDARDS

FUDN: Field Format Unit Designator #
FIRN Field Format Index Reference #
structured military messaging ID's
messages, message sets, data
element, symbol fields <108>
RY Form Field Position & NUMBER

PROCESS MESSAGE BY PRECEDENCE

OPERATIONAL NODES / ACTIVITIES

DATA	SYSTEM FUNCTIONS	PERFORMANCE
4 - Classification	11.8 - Kinematics	
11.4.1 - Category	11.8.1 - Vel / Acc (PVA)	
11.4.1.1 - Confidence Level	11.8.1.1 - Acceleration	
11.4.1.2 - Estimate Type	11.8.1.1.1 - Angular	
11.4.1.2.1 - Alternative	1.1.2 - Linear	
11.4.1.2.2 - Evaluated D	1.1.2.1 - Estimated Type	
11.4.1.3 - Value	PURCHASE	
	CODES	

YMBOL	Friend	Neutral	Hostile
2525C	Partner		Competitor
11.4.1.3.5 - Surface			+ Velocity
11.4.2 - Platform / Point / Feature		Type	- Horizontal
11.4.3 - Specific Type			- Vertical
11.4.4 - Type Modifier			- Constant
			- Bearing Angle
			- Bearing Angle Rate

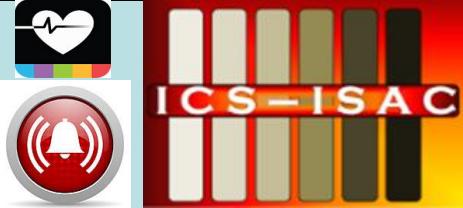


syntax code language parsed,
processed during silicon chip
generated epoch time cycles
forms all things internet, net of
money. state meta data sync delta
heartbeat snapshots during
epoch temporal micro-cycles

Situational Awareness Reference Architecture (SARA)

Identity, Inventory, Activity, and Sharing

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



Industrial Control System
Information Sharing and
Analysis Center

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

<ELEMENTS>

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

STRATEGIC
MARKUP

StratML

LANGUAGE

INVENTORY: Uniform Resource Name <URN>



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



GEO-SPATIAL TEMPORAL INTENSITY METRICS
UNIFIED EVENT / ALERT TRIGGER / THRESHOLDS

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

CONTENT LEXICON
ROSETTA STONE

NDN



<INTEREST>



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

A V A L A N C H E

SHARING:

COMMON <TAGS>

<Organizational_ID>

Resource Names <URN>

<Time_Stamps>

<State-Meta_Data>

<DATA_CLASS_TYPE>

<Heartbeat_snapshots>

NDN

<INTEREST>



<INTEREST>

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

MCS

CBICS

DTBS

METS

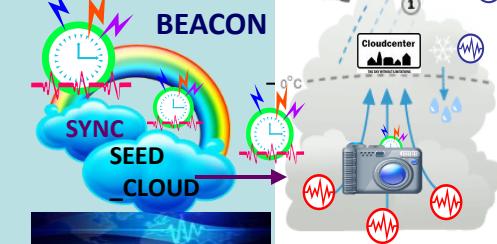
ISYCON

FBCE

STRUCTURED
<CONTENT>
TEMPLATES



NIST RANDOMNESS BEACON



INBOUND SHARING / MICRO-CYCLES

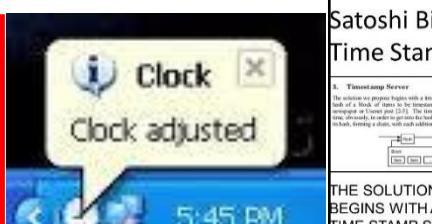
USMTF / XML MTF FORMATTED MESSAGE CATALOG

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



NAMED DATA
NETWORKING
<Content> Centric

<TAG>
LIBRARY

Interface Name	HEARTBEAT Administration Interface [SCOP]					
Documentation URL	http://scop.sourceforge.net/ http://linuxvirtualserver.org/software/index.html					
API Information	 <p>#leT</p> <p>#Big_Data</p> <p>Cloudcenter THE SKY WITHOUT LIMITATIONS</p> <p>Cloudcenter THE SKY WITHOUT LIMITATIONS</p>					
Programmable Money World Computer / Blockchain	Functionality Areas	Idea	Cloud Interface Management configuration, start, stop cloud services, edit configuration (heartbeat messages)	API Operation Count	LOCATE <CONTENT> IDMAPS / SonarHOPS	Cloudcenter THE SKY WITHOUT LIMITATIONS
NIST TIME BEACON	Web service access type Network Effects / A.I.	Cloudcenter THE SKY WITHOUT LIMITATIONS	Web application, front end to [network, device, system, blockchain] heartbeat	LANGUAGE / PLATFORM BINDINGS	PHP Java Erlang...	Cloudcenter THE SKY WITHOUT LIMITATIONS
Interface Characteristics	<p>SCOP is a web application, PHP based front-end to heartbeat, IP Virtual Server ipvs and Idirectord [e.g., check interval @ 5 seconds]</p> <p>SCOP can start/stop services, view/ edit configuration files e.g., heartbeat message state management snapshots, backups, take a service online/offline, add/ remove virtual/real servers, services etc.</p>					
<p>"The external environment could update <u>resources</u> at random... One solution is a heartbeat: defining a default lease duration delaying updates until the next cycle"</p> <p>QubitCoin Interval: Every 30 Seconds</p>	 <p>THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER</p>	<p>Satoshi Bitcoin Blockchain Time Stamp Server</p> <p>Block chain</p> <p>What does a block look like?</p> <p>Block structure:</p> <ul style="list-style-type: none"> version info previous block timestamp merkle transaction's id list <p>Header: Contains version information (version info), previous block of and timestamp, Merkle root hash, transaction's id list.</p> <p>Transactions: A list of transactions.</p>	<p>Epoch Time Cycles E0 E1 E2 E3...</p> <p>E1 E2 En</p> <p>MICRO CYCLES MACRO CYCLES</p>			

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

HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

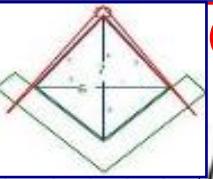
SC ALICE CORP VS CLS BANK: “claims may not direct towards abstract ideas”

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

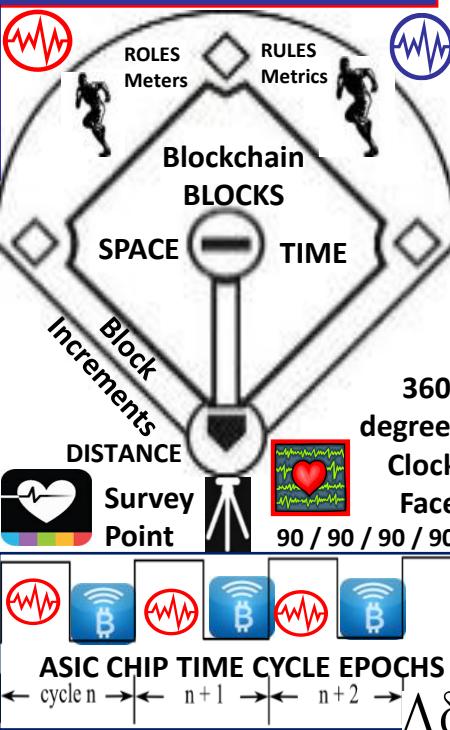
$\Delta\delta$

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”

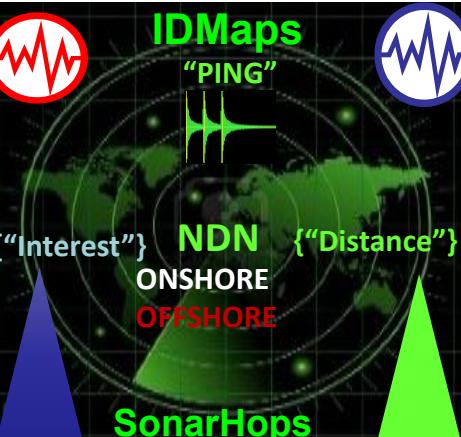
Coin never travel, but simply switch owners”

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

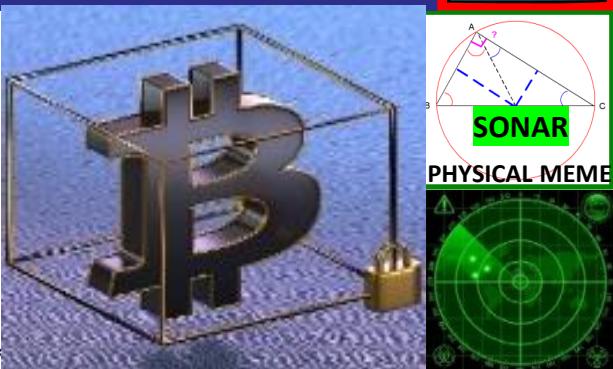
Step 4: Issuing Org of Record adjudicates w buyer



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

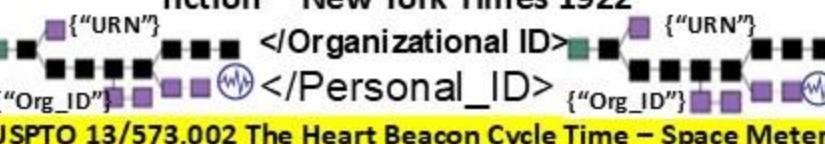


Edison's Monetary Option
Cambridge University Press 2009

"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



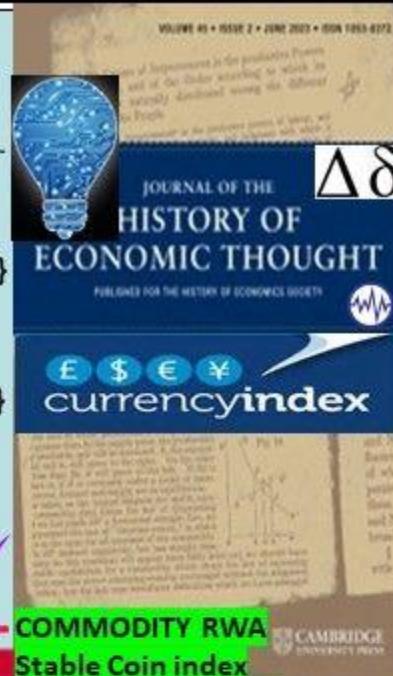
Tokenization of Physical Assets Enables Economy Of Everything



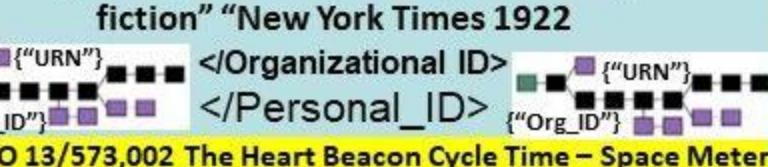
ALGORITHMIC STABLE COIN COMMODITY INDEX CURRENCY PROGRAMMABLE \$\$\$

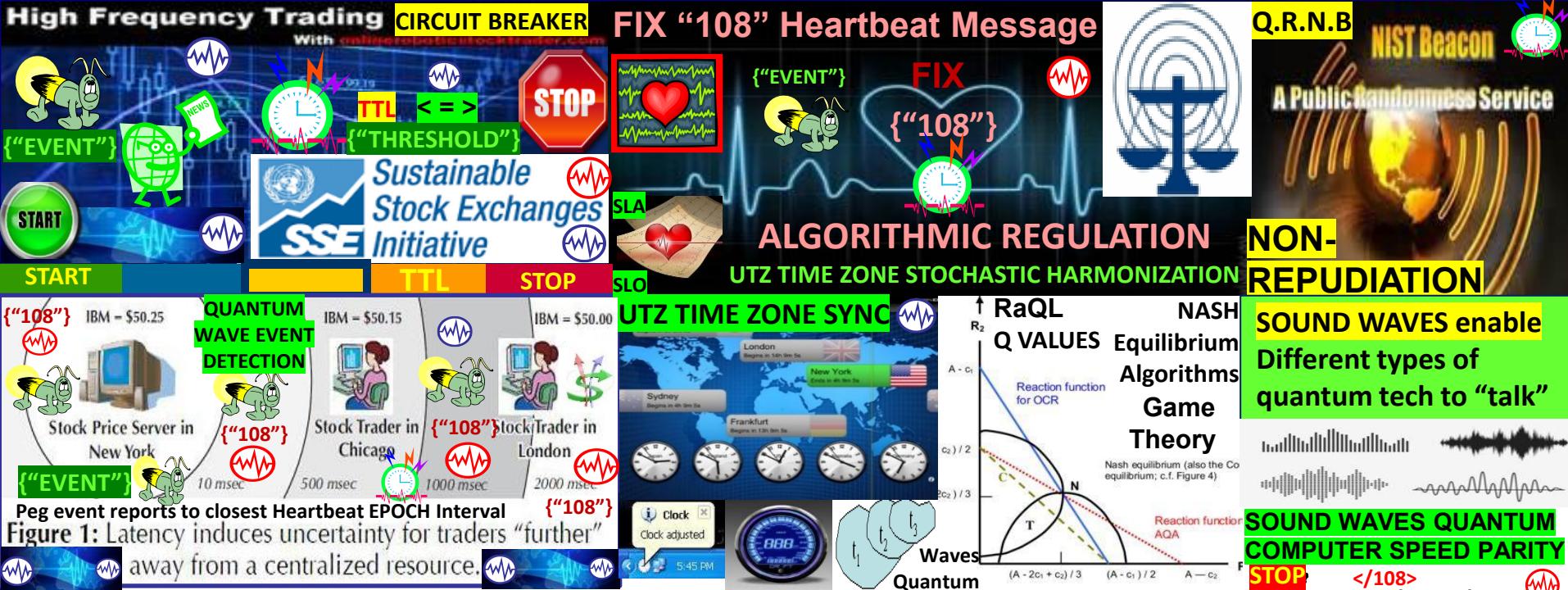


FIREFLY – HEARTBEAT ALGORITHM CHINA: nature-inspired metaheuristic optimization algorithm developed by Xin-She Yang based on the flashing behavior of fireflies (Yang, 2008), adapted to solve continuous optimization problems (Lukasik and Žak) 2010, 2013

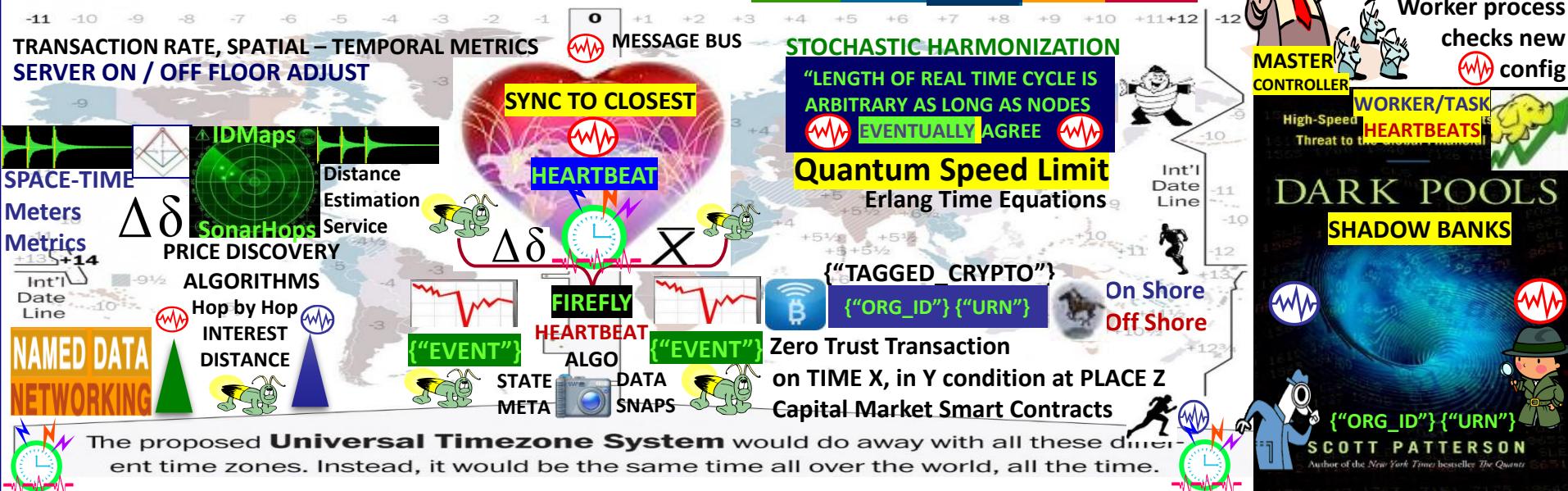


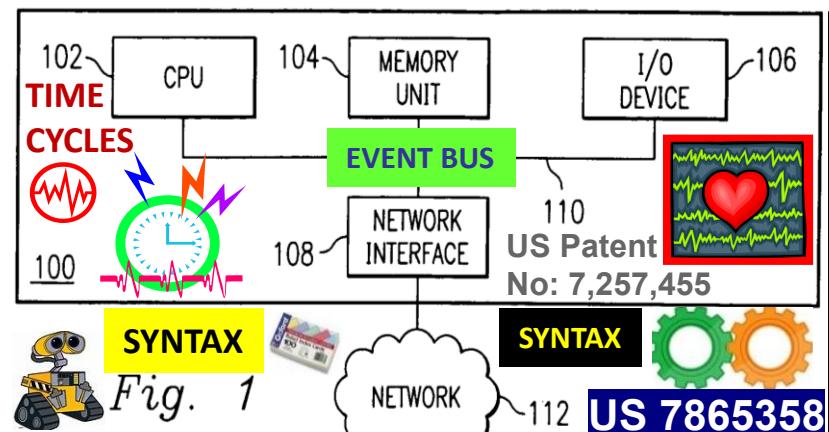
"Thomas Edison publicly introduced his latest invention: a new type of money, a crop index commodity-backed currency that he believed was the long-term solution to America's monetary woes. "I want to cast the variable out of money. This gold money is not good enough. It's a





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



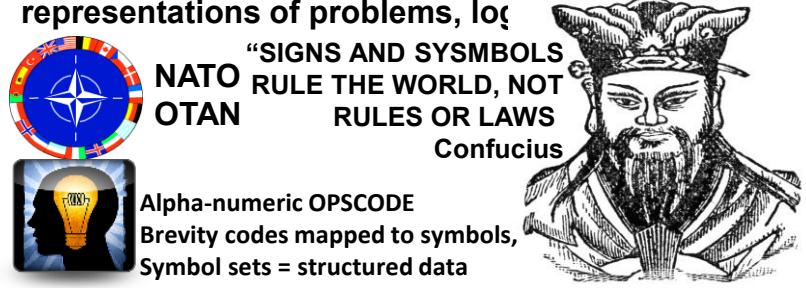


Machine-based system for transforming data from a source form to a target form, a tool is provided for sharing information established in developing a transformation model. The shared information may relate to rules for mapping source collection terms to standardized terms, rules for ordering or **SYNTAX**,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

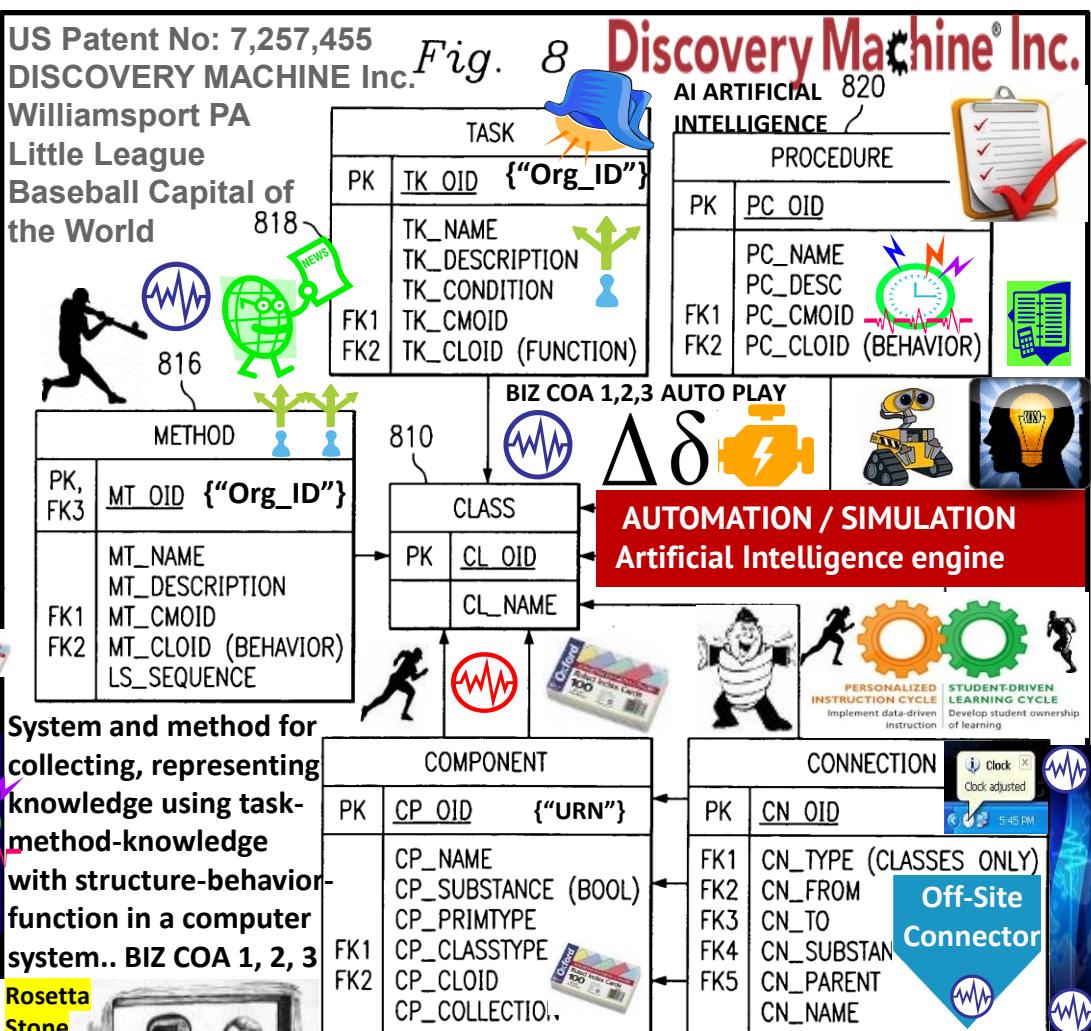
US 7865358 CLAIM 1. method converting textual data from source form to target forms, where target form differs from source form's linguistics, syntax

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

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



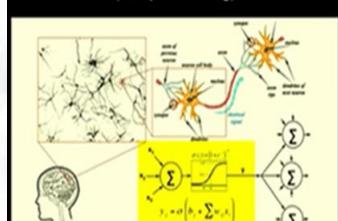
Alpha-numeric OPSCODE
Brevity codes mapped to symbols,
Symbol sets = structured data



Neuro-Symbolic AI

Symbolic (human-readable) representations

Symbolic AI

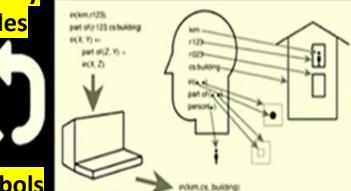


Breaking the world into symbols (rather than

Brevity



Symbols



Incorporate common sense reasoning and
knowledge to handle uncertainty

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

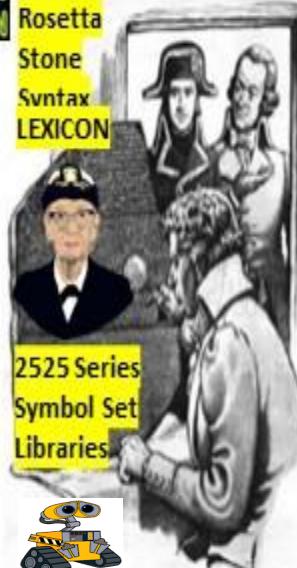
This claim implies both that human thinking is a kind of symbol manipulation (because a symbol system is necessary for intelligence) and that machines can be intelligent (because a symbol system is sufficient for intelligence).[3] The idea has philosophical roots in Hobbes (who claimed reasoning was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



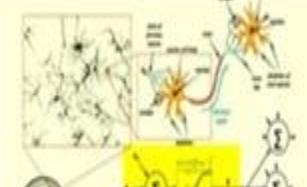
FRT CP CLOUD

ABC A OPS CODE BREVITY CODES

Neuro-Symbolic AI

Symbolic (human-readable)
representations

Neural Networks
(Deep Learning)



Symbolic AI

Brevity
Codes

Symbol
Symbol

Incorporate common sense reasoning and



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



Confucius

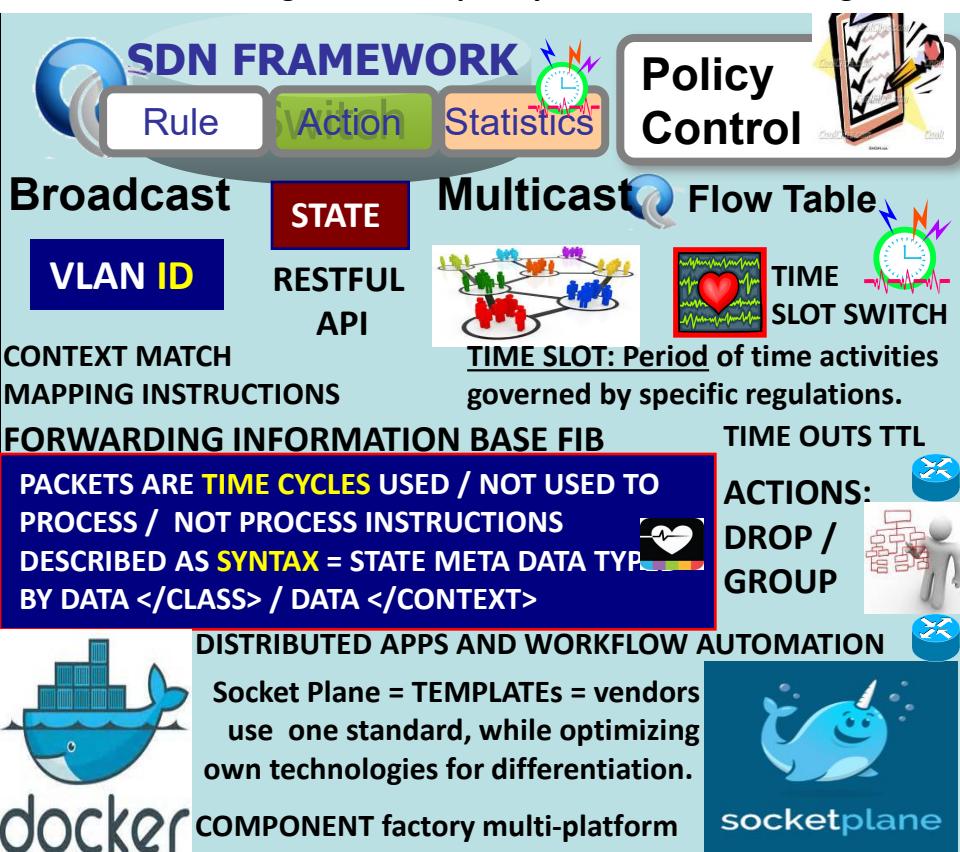
Alpha-numeric OPS CODE

Brevity codes mapped to symbols,
Symbol sets = structured data



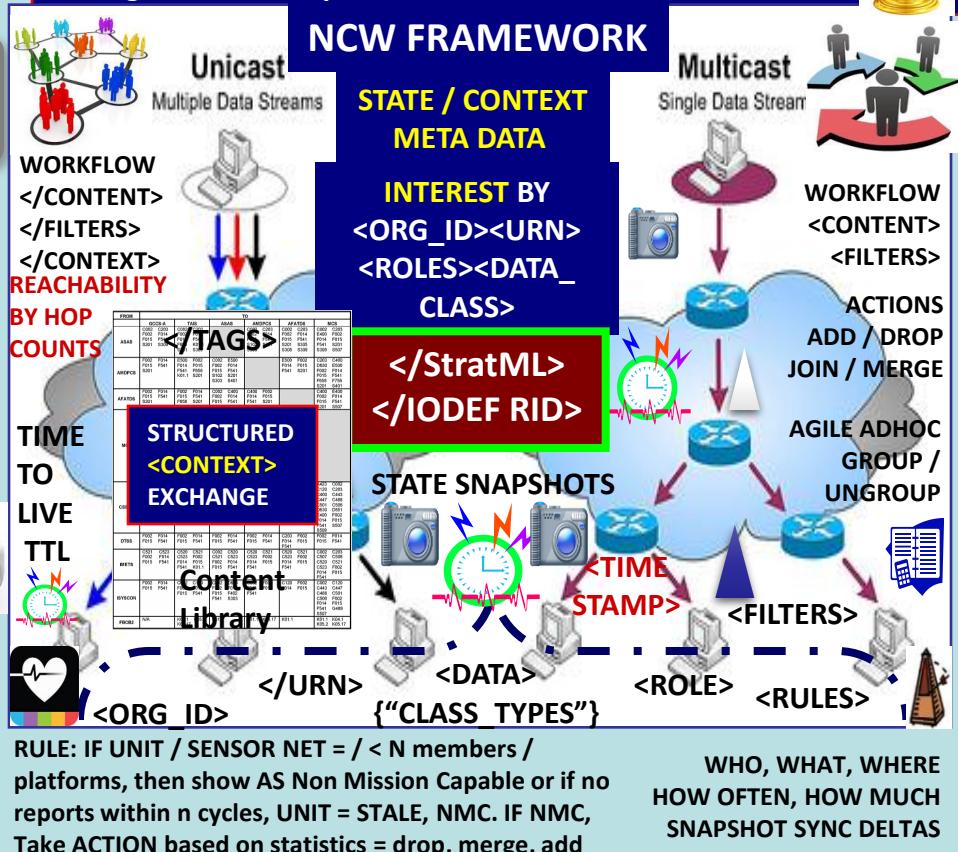
- SDN is a *framework* to allow network administrators to *automatically* and dynamically manage and control a *large number* of network devices, *services*, topology, traffic paths, and packet handling (quality of

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

Time Series

DISTANCE
INFO SERVICE

IDMaps
SonarHops

WATER DROP IN POND MEME IS
SONAR NAVY METAPHOR / MEME

NDN </INTEREST>
NDN {"DISTANCE"}

NAMED DATA
NETWORKING

IEEE C37.118
Harmonization
& Sync heartbeat
update Interval

CLOSER SOURCE
CHEAPER RATE

Energy Attenuates over Distances



TIME / DISTANCE SERVICE LEVEL
AGREEMENT SLA / O Operations

HOP BY HOP CONTROL

Unused Resources / Unmet Needs



vector



UNUSED RESOURCES
UNMET NEEDS



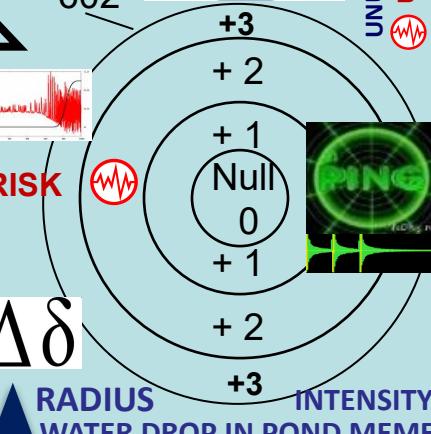
TIME-SPACE BEACON
INFOCON



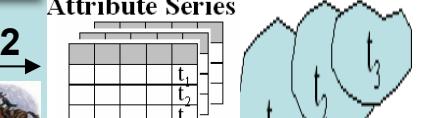
INFORMATION
CONDITION



602



RADIUS
WATER DROP IN POND MEME



Attribute Series
INTEREST
DISTANCE
Temporal Series



Geo Spatial

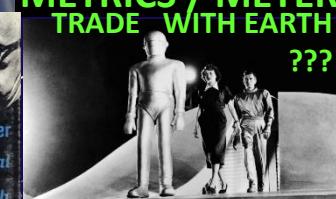
Micro Grids Closer - Cheaper
BLOCKCHAIN
MICROGRIDS



Spatial
Econometrics

METRICS / METERS
TRADE WITH EARTH

???



Spaceship
Earth
Signals &
Telemetry
Annex

ASTEROID BELTS =
RARE MINERALS

MOON =
HELIUM 3
Universal Language
offered by deity to humans as
confirmation of the truth"



MAIN
ASTEROID
BELT

MARS
MERCURY
VENUS
EARTH

Alpha
Numeric
Brevity
Codes

Farther = More Cost
➤ Fuel, Resources

STOCHASTIC
HARMONIZATION

Service Level Agreements

TROJAN
ASTEROIDS
FIREFLY-HEARTBEAT
ALGORITHM
UNIVERSAL
EVENT MESSAGE BUS

ERLANG
TIME- SPACE METRICS

JUPITER

43 22 13 0 1.5 2.7 5.2
Light minutes Astronomical units

X SUM

ANDERSON
INSTITUTE

FIREFLY – HEARTBEAT ALGORITHM MESSAGE EVENT BUS

EPOCH / TIME CYCLES / INTERVALS

cycle n n + 1 n + 2



EPOCH / TIME CYCLES / INTERVALS

cycle n n + 1 n + 2

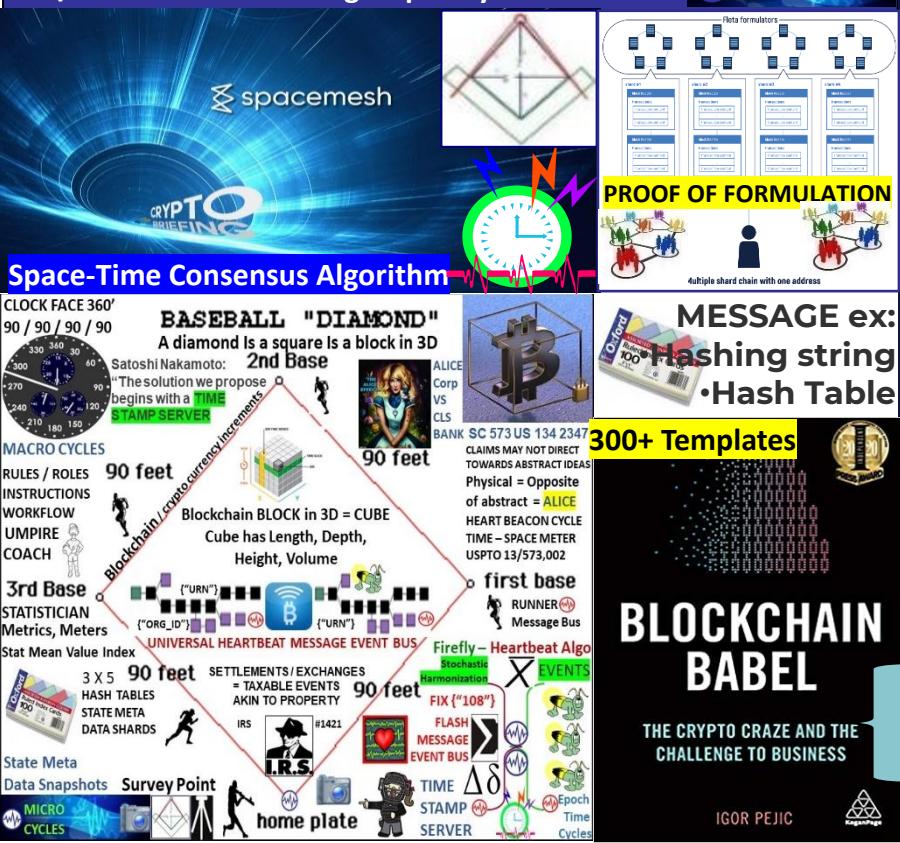
cycle n n + 1 n + 2

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>

Blockchain 
Interoperability
Protocol BIP 
 "share any type of data PROTOCOL
 as long as it's encoded **in BYTES**"

ISC

INTER BLOCKCHAIN
COMMUNICATION



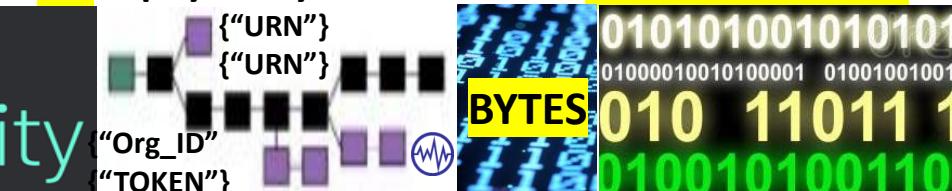
BYTE: unit of data equal to eight bits

BIT: a unit / group of 8 bits as

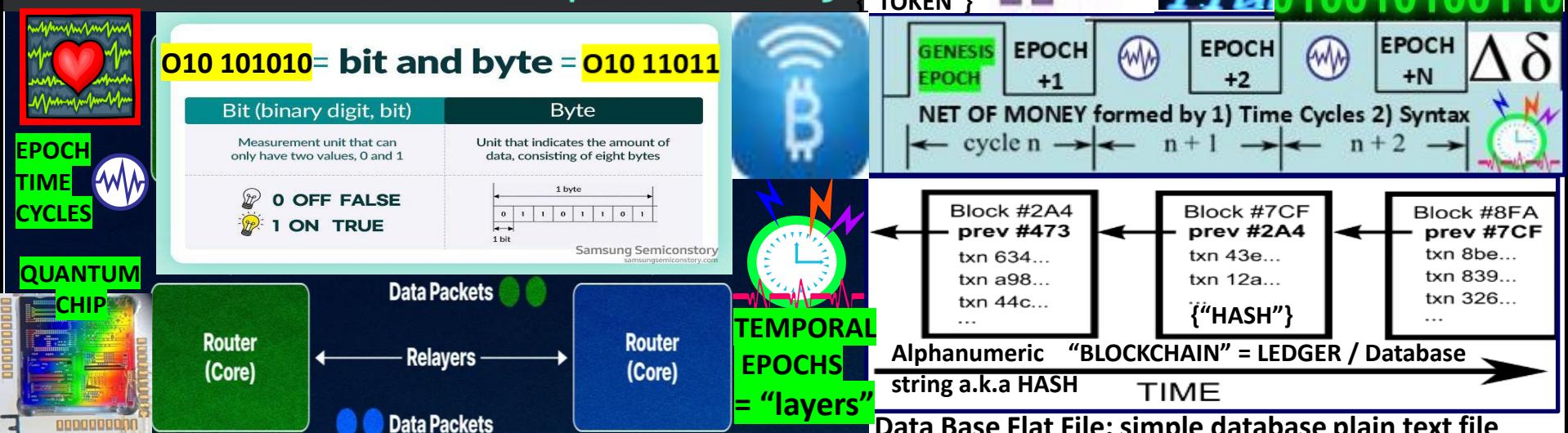
alphanumeric characters i.e., TOKENS

BIT: logical state with two possible values: "1" or "0",
TRUE / FALSE, YES / NO, ON / OFF, or +/-

"A **BIT** is physically created with a **TWO STATE** device



The Complete Guide to Crosschain Interoperability



Data Base Flat File: simple database plain text file
format = tabular structure, each line represents a record, fields 'delimited' with commas, tabs..

TIMESTAMP SERVER: "Satoshi Nakamoto" concept established chronological order of transactions in a decentralized network. Uses cryptographic hashing & timestamps to create an immutable chain of blocks

ERC 3643 T-REX permissioned tokens = OPSCODE BREVITY CODES = USPTO 13/573,002

ERC3643 protocol: open-source suite of smart contracts issuance, management, transfer of permissioned tokens. Decentralized identity framework, **ONCHAINID**, users meeting conditions become token holders, even on permissionless blockchains.

ERC 3643, Asset Tokenization: Code name T-REX
PROTOCOL standard for permissioned tokens:
The ERC3643 protocol is an open-source suite of **smart contracts** that enables the issuance, management, and transfer of permissioned tokens. Its built-in **decentralized identity framework**, **ONCHAINID**, ensures only users meeting pre-defined conditions can become token holders, even on permissionless blockchains, for RWA Real World Assets, Securities, E-Money, Loyalty programs

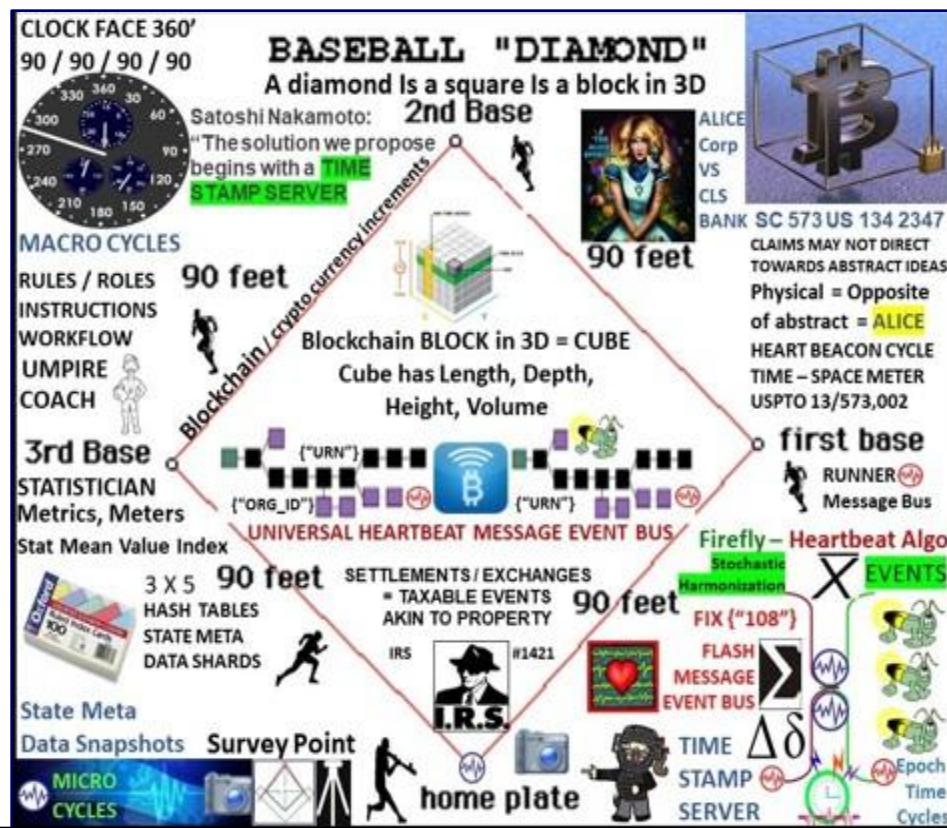
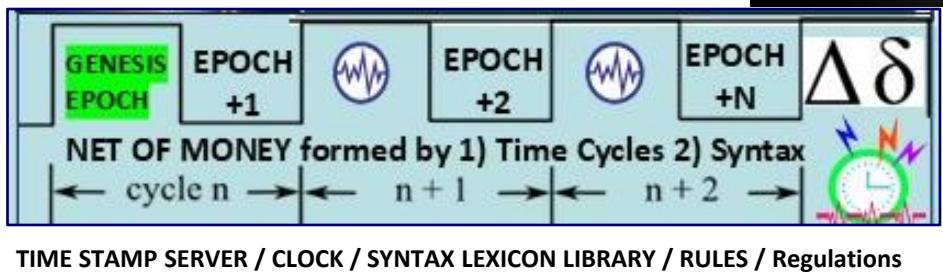
Token Type: Utility and Governance Token

Token Name: T-REX

Smart Contract Address

Token Category: RWA, tokenization: Blockchains

Website: <https://t-rex.network/>



ISO 27001: Information Security Management System

ISO 27002: Code of Conduct Best Practices

- CONFIDENTIALITY Not available, disclosed to authorized people, entities or processes
- INTEGRITY: Information is complete, accurate and protected from corruption
- AVAILABILITY: Information is accessible, usable when authorized



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

</RESOURCE> {"URN"}
{"Asset_Class"} </URN>
STOCK EXCHANGE
MIC MARKET IDENTIFIER
CODES / BREVITY CODES

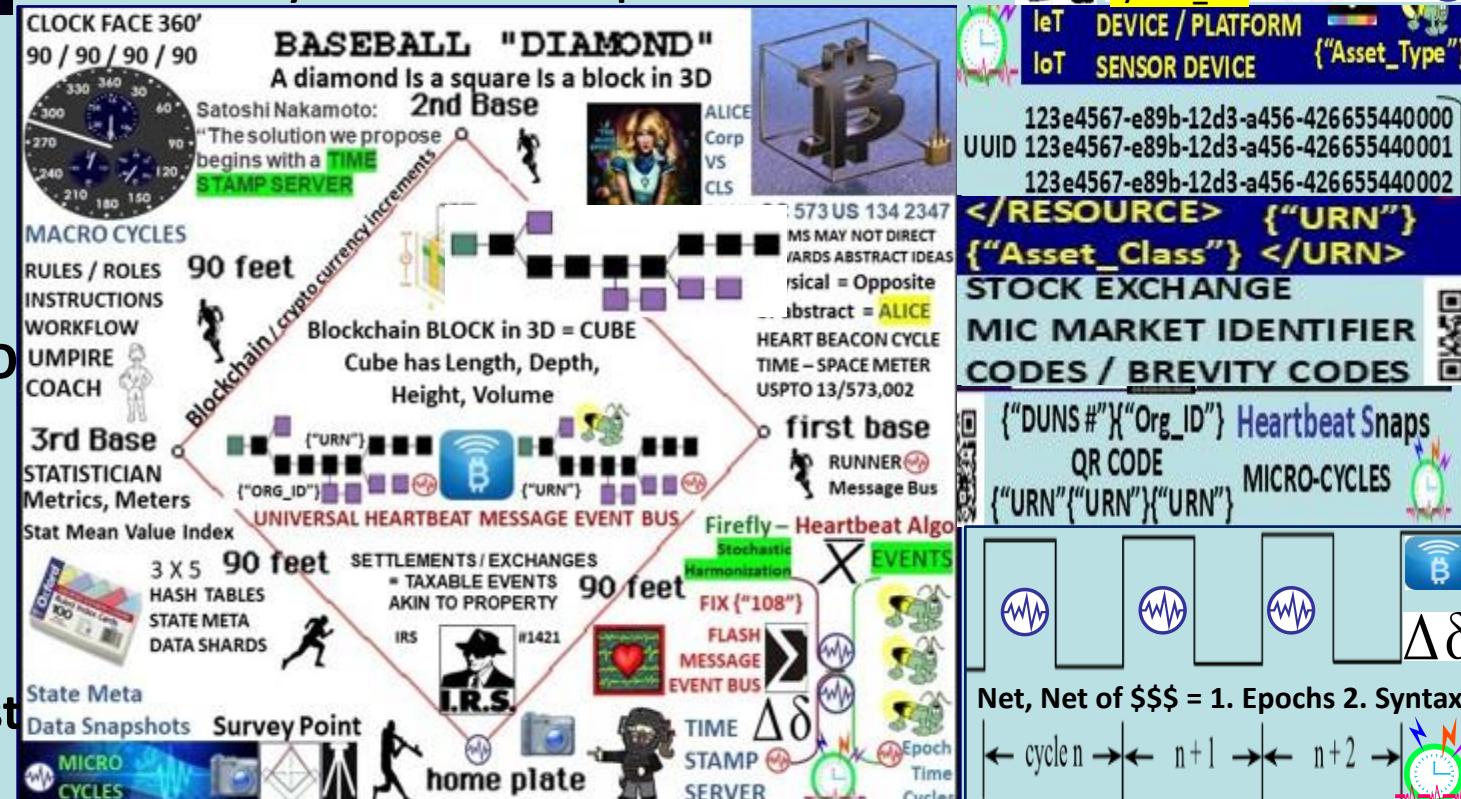
{"DUNS #"}{"Org_ID"} Heartbeat Snaps
QR CODE
{"URN"} {"URN"} {"URN"} MICRO-CYCLES

Net, Net of \$\$\$ = 1. Epochs 2. Syntax
← cycle n → ← n+1 → ← n+2 →

$\Delta\delta$

Epoch Time Cycles

AVAILABILITY: By roles when rules permit access are met



INTEGRITY: events, Messages, alerts.. Time stamp server with “blockchain” Immutability rules In effect across DAO

CONFIDENTIALITY
Organizational ID
Xmit {"Org_ID"} with individual's ID available on request granted by group

STABLE PROTOCOL THREE MAIN TYPES:

DeFi-Native: Cap Labs, Elixir, Level

Collateralized Debt Positions: Ducat, Felix

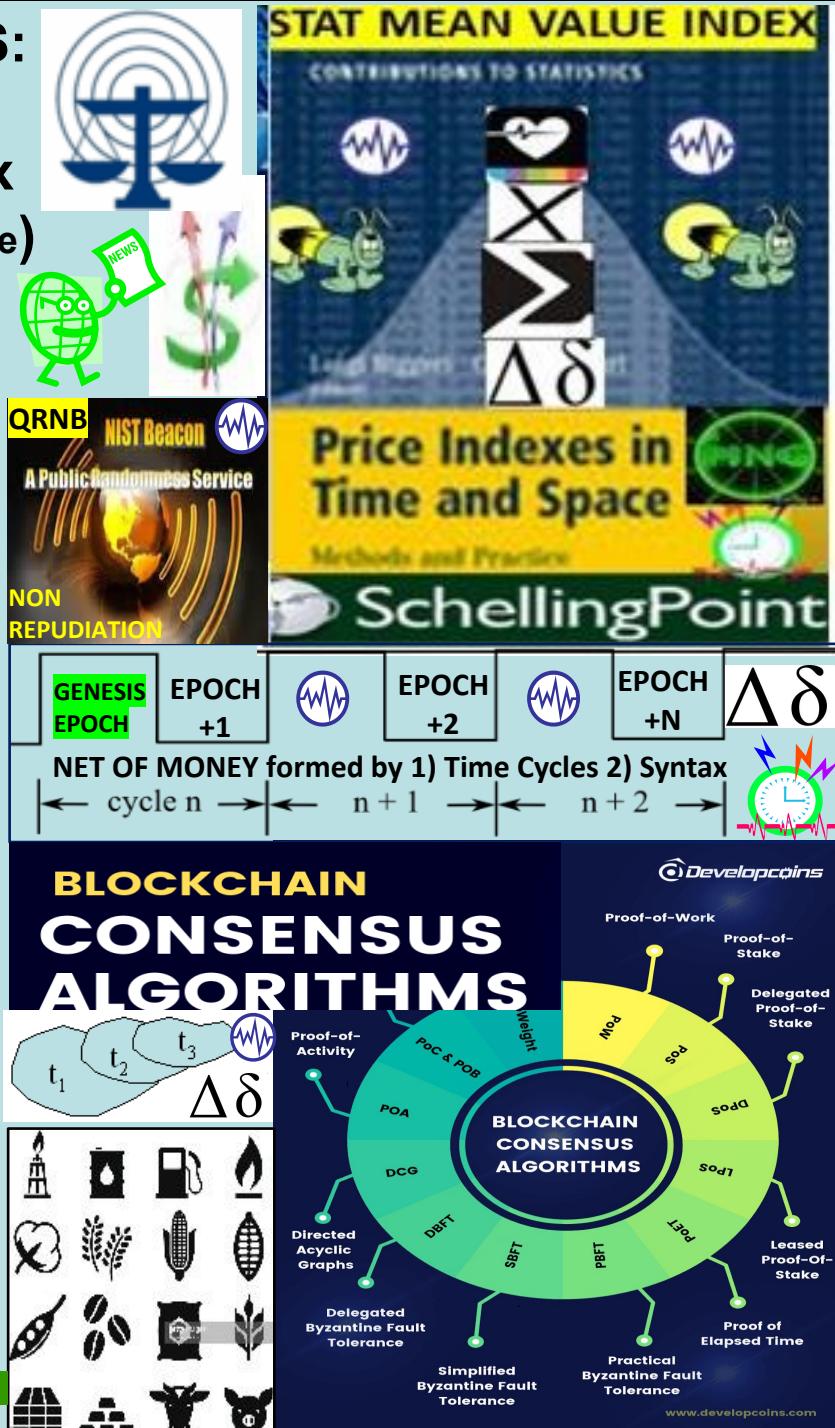
RWA-Backed:, EAnzen, Superstatethena (UStb update)

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

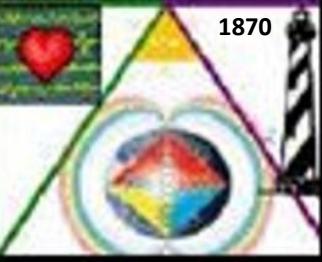
2) Collateralized Debt Positions (CDPs)

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



Satoshi Nakamoto

Craig WRIGHT

a.k.a.

Satoshi Nakamoto

**“THE VALUE OF
BITCOIN IS
TIME ITSELF”**

**Wright Brother’s 1st Flight
Cape Hatteras Outer Banks**

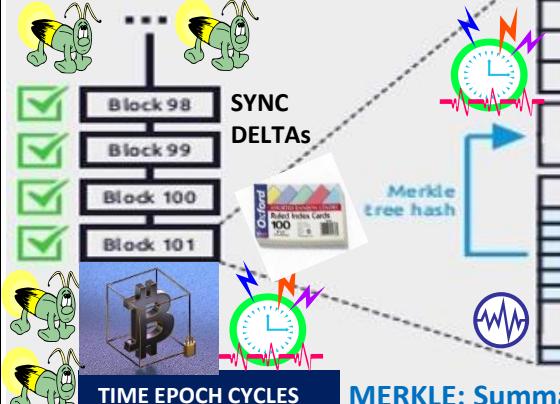
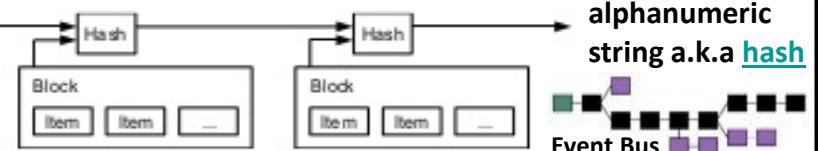
Satoshi Nakamoto Bitcoin Paper

“THE SOLUTION WE PROPOSE BEGINS WITH A TIME STAMP SERVER”

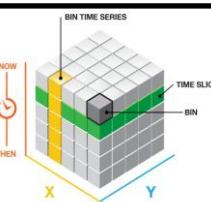
3. Timestamp Server

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
90 120

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

Event Bus

Time 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 / crypto currency increments

Blockchain BLOCK in 3D = CUBE

Cube has Length, Depth,

Height, Volume

first base

RUNNER Message Bus

Firefly – Heartbeat Algo

EVENTS

Fix {“108”}

FLASH MESSAGE EVENT BUS

TIME Δδ

Epoch

Time Cycles

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 VS CLS

BANK SC 573 US 134 2347

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

first base

RUNNER Message Bus

Firefly – Heartbeat Algo

EVENTS

Fix {“108”}

FLASH MESSAGE EVENT BUS

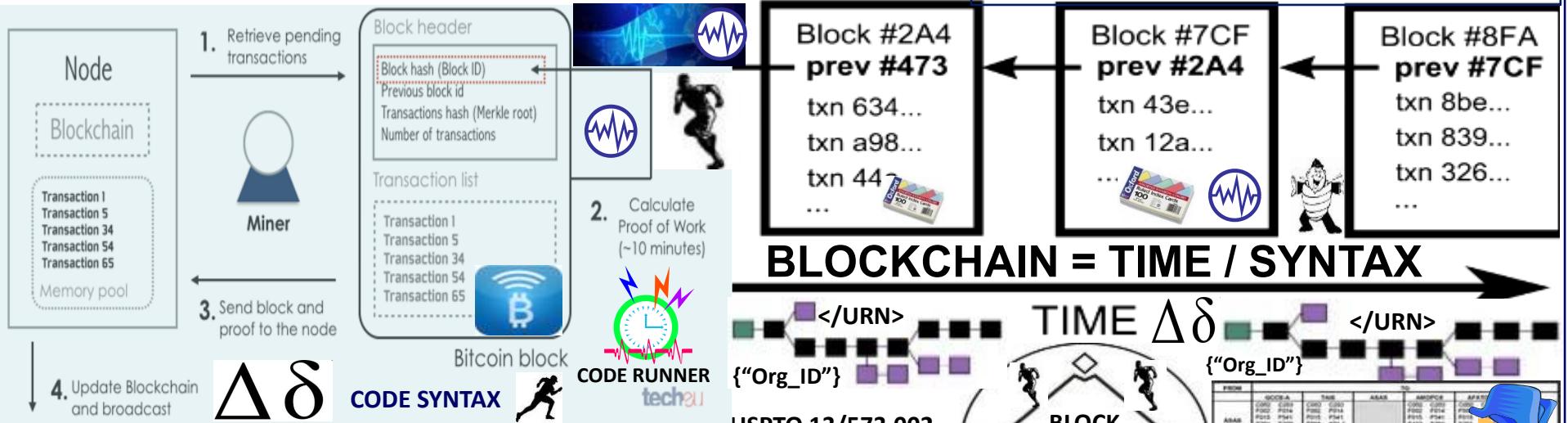
TIME Δδ

Epoch

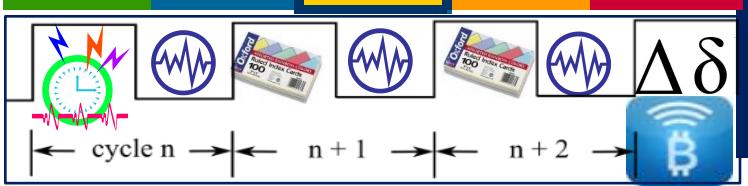
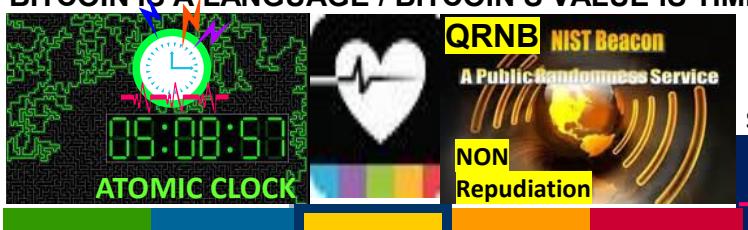
Time Cycles



Alice Corp. v. CLS Bank International, 573 U.S. 134 S.Ct 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.

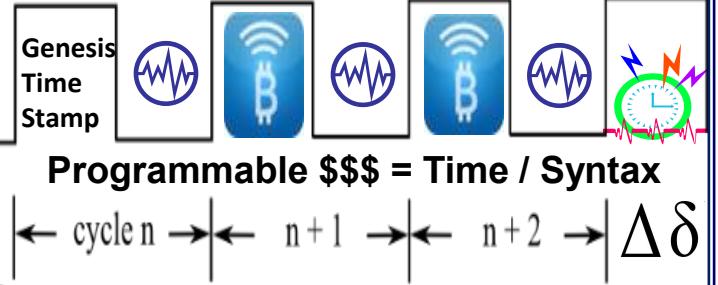


"BITCOIN IS A LANGUAGE / BITCOIN'S VALUE IS TIME ITSELF"



TIME EPOCH CYCLES

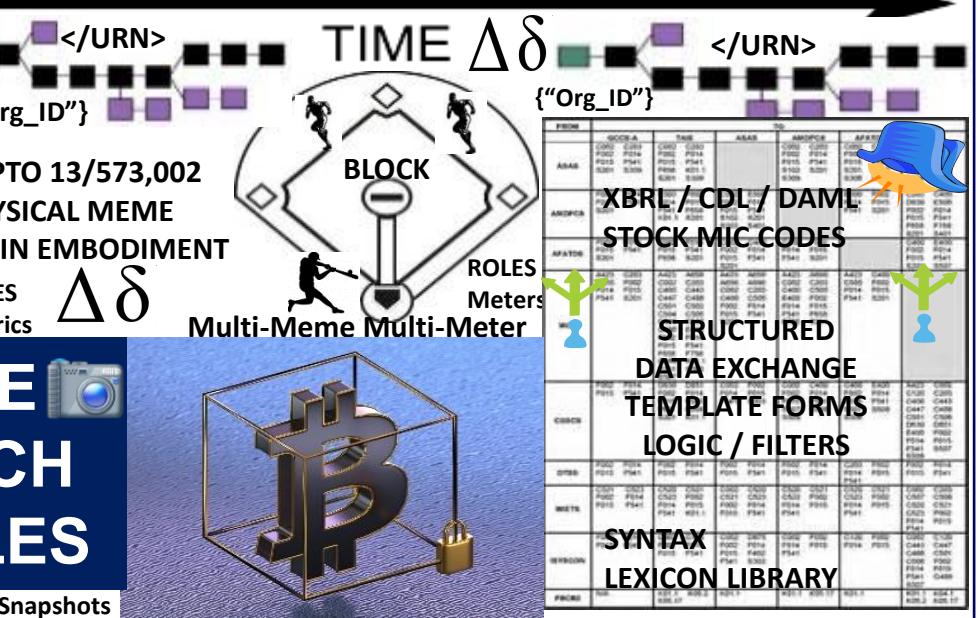
State Meta Data Snapshots



Programmable \$\$\$ = Time / Syntax



BLOCKCHAIN = TIME / SYNTAX

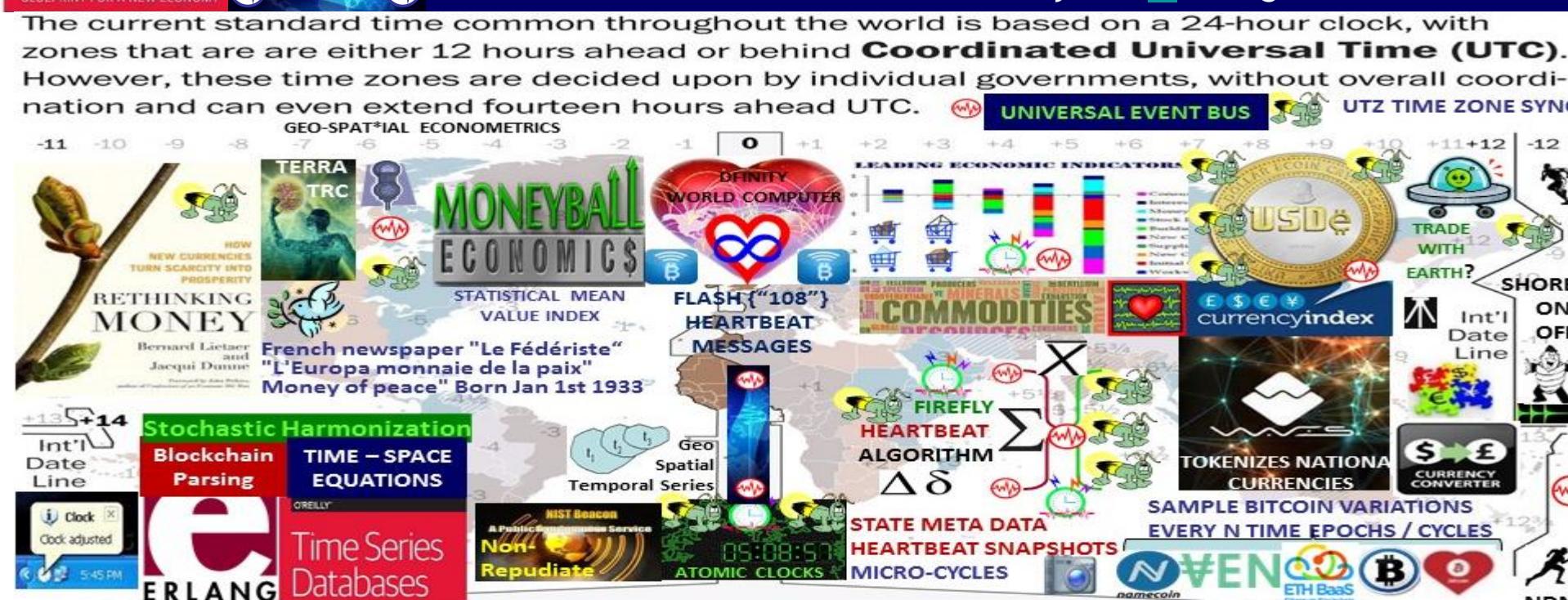




The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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

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

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



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



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



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



Functional Sequential Erlang

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

SORTING ALGO'S

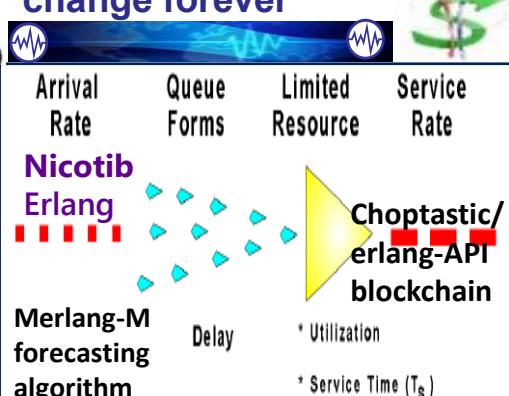
[Ericsson Open Money For Society Patent App](#)



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

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

"When money is open, the way we send, spend and receive money will change forever"



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



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

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

Mnesia database ("Organization_ID") Global name resolution

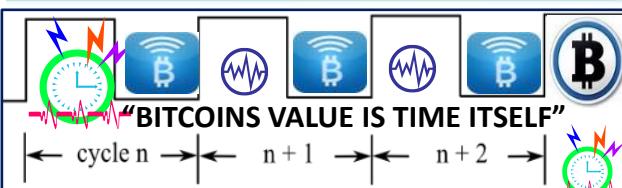
FROM	TO/CC-A	THREE	ADAM	ARMY	AFATOS	WIC
XBRL	/ CDL / DAML					
ALPHA	NUMERIC					
BREVITY	CODES					
AZURE	BLETCHLEY					
STRUCTURED						
MILITARY	MESSAGE					
TEMPLATE	FORMS					
LOGIC	/ FILTERS					



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

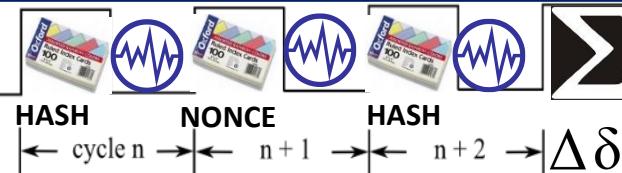


THROTTLE equivalent to difficulty. State
•target = maximum value of 8 bytes Snap
Shots

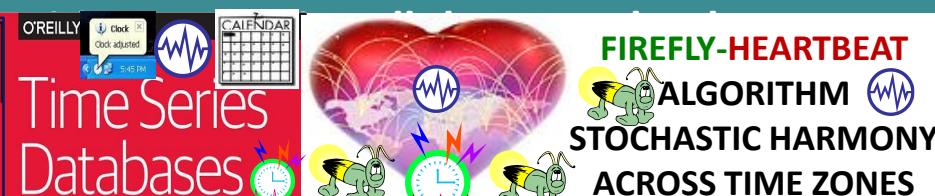
NONCE increments from 0..N until the target is met.



GUESS stores the guess
Effectively, it begins at infinity.



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



300+Message Templates

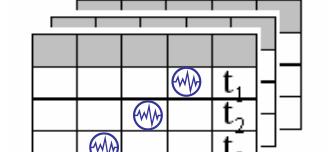
FORM	FORMAT								
OCTOB	00001	00002	00003	00004	00005	00006	00007	00008	00009
ABAB	00001	00002	00003	00004	00005	00006	00007	00008	00009
ANANDA	00001	00002	00003	00004	00005	00006	00007	00008	00009
COSCB	00001	00002	00003	00004	00005	00006	00007	00008	00009
DPRB	00001	00002	00003	00004	00005	00006	00007	00008	00009
METH	00001	00002	00003	00004	00005	00006	00007	00008	00009
PERSON	00001	00002	00003	00004	00005	00006	00007	00008	00009
PROM	00001	00002	00003	00004	00005	00006	00007	00008	00009

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**



- 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**

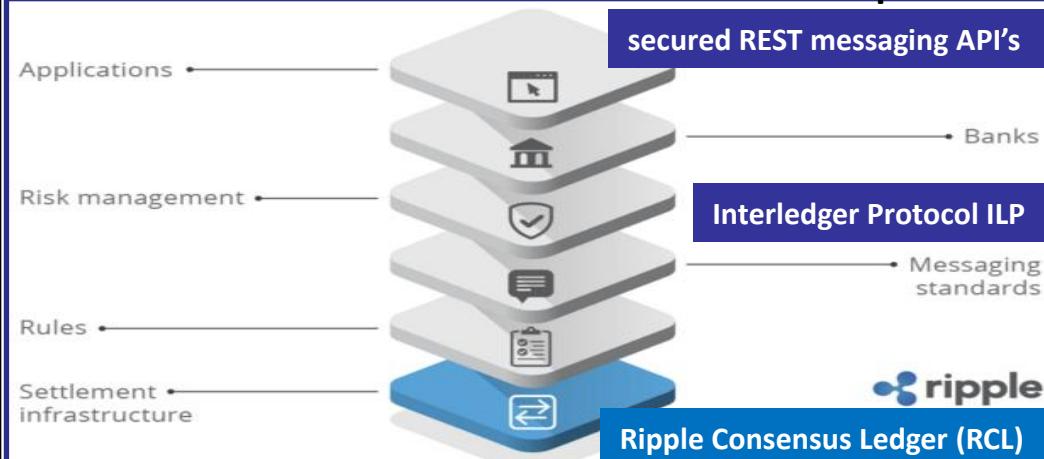
each retaining control of internal affairs

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

LIQUIDITY, ORGANIZATIONAL INTEGRITY OF TRADE FEDERATIONS

Neutral transaction protocol

secured REST messaging API's



Interledger Protocol ILP

ripple

Ripple Consensus Ledger (RCL)

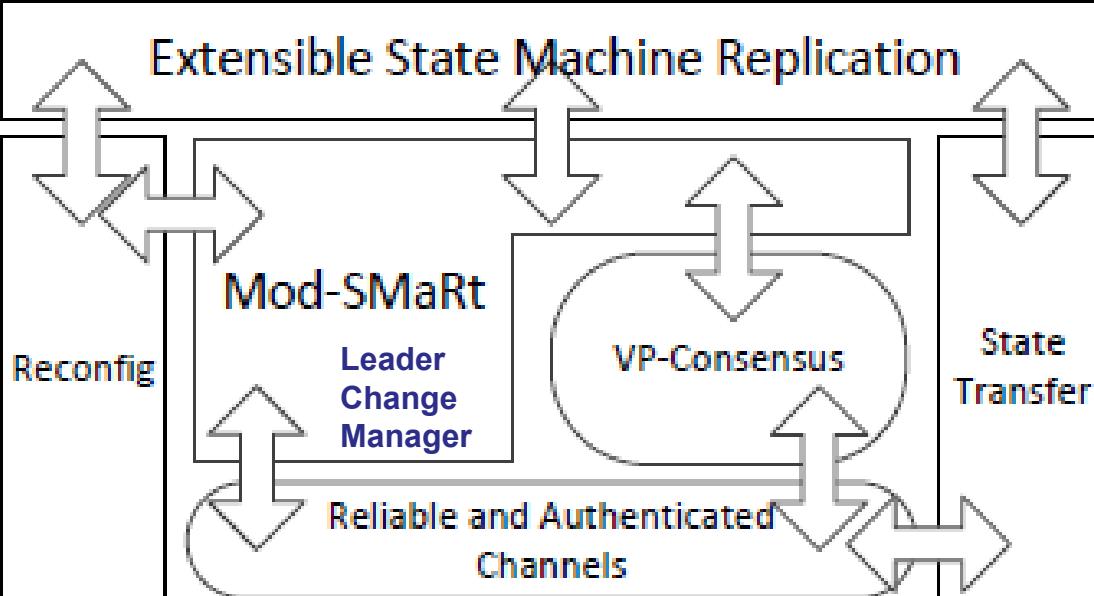
LOCKED QUOTED ACCEPT / DENY In Progress SUCCEEDED
{"108"} HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS

MATCH EVENT REPORTS TO CLOSEST HEARTBEAT CYCLE FLASH HEARTBEAT MESSAGES {"108"}
HASH NONCE FIREFLY-HEARTBEAT ALGORITHM MICRO-CYCLE STATE META DATA SNAPSHOTS STOCHASTIC HARMONIZATION ACROSS UTZ TIME ZONES



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.

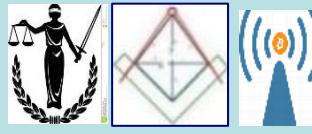
BFT-SMaRT needs an eventually synchronous system

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



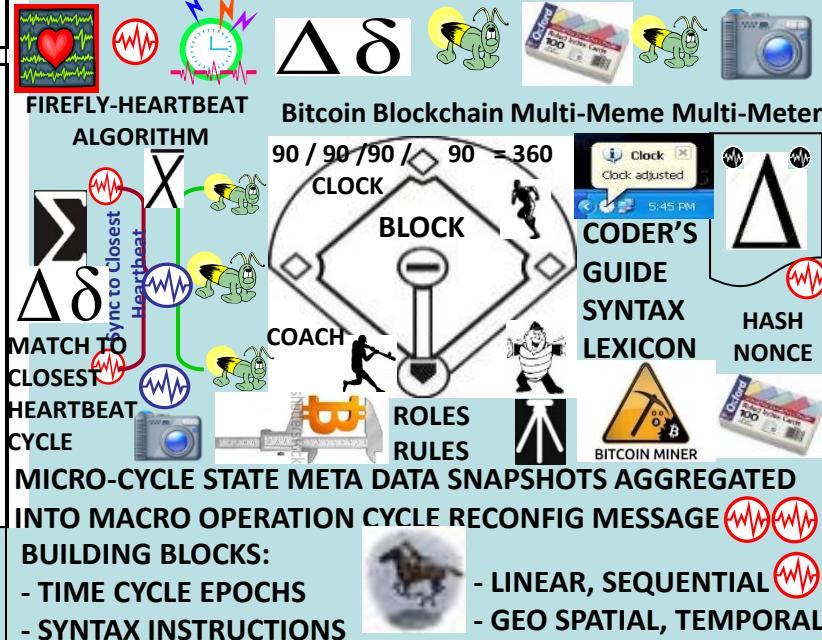
DERIVED FROM BATTLEFIELD DIGITIZATION DISTRIBUTED AUTONOMOUS ORGANIZATION DAO SYSTEM OF SYSTEMS

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

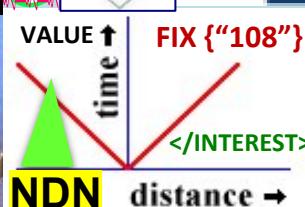
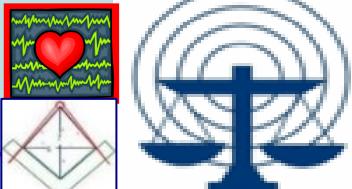


The Volumetric Weight is often referred to as dimensional weight

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

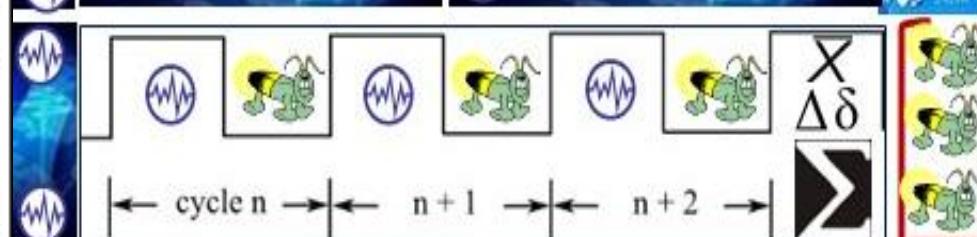
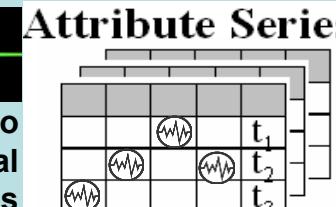
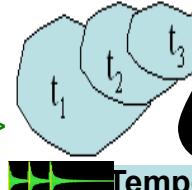


On the Filecoin blockchain, for example, the amount of IPFS data that a user is storing is used as the weighted value.



NDN

distance →



FIREFLY – INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM

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



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



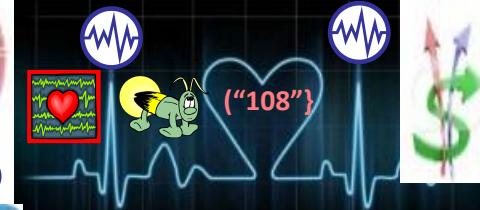
- Creates an online store for users to sell goods for Bitcoin
- Connects these stores directly to each other on a global network
- Users browse individual stores, search for products across whole network
- A buyer directly connects, purchases good from the merchant using Bitcoin
- Bitcoin payments via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

OPENBAZAAR.ORG
BLOCKCHAIN ARBITRAGE



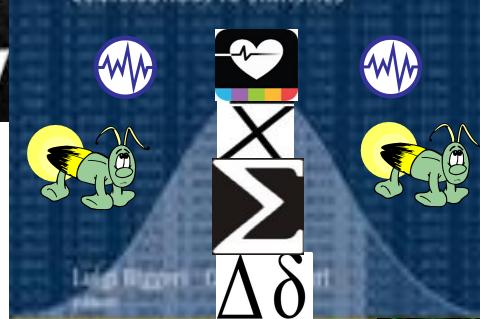
SLA CLOSER = < \$ CLOSER = < CO2

COMMODITIES
ECONOMIC HEARTBEAT



STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS



Price Indexes in Time and Space Methods and Practice

SchellingPoint

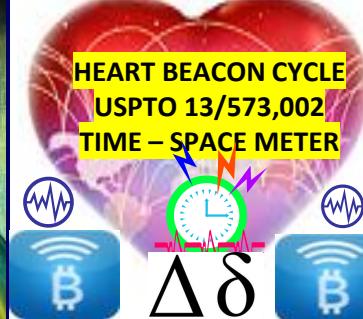
OpenBazaar is a different approach to online commerce. OpenBazaar connects buyers and sellers directly. Because there is no one in the middle of your transactions there are no fees, no restrictions, no accounts to create, and you only reveal personal information you choose.

PROJECT PHILOSOPHY: *MAKE TRADE FREE*

Mission: *shift trade to a decentralized platform*



Demurrage TERRATRC TRADE
Fees REFERENCE CURRENCY
“Money of Peace”



Federation

ORG ID

Gateway

FIREFLY – HEARTBEAT ALGO

SYNC EVENTS

UTZ SYNC

TO CLOSEST HB CYCLE

PING

SchellingPoint

•VALUES:



Demurrage TERRATRC TRADE
Fees REFERENCE CURRENCY
“Money of Peace”

Free, open markets: Commodity / Currency Index

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



HASH Values
Nonce Values

</Org_ID>



COMMODITIES

PRODUCERS CONSUMERS

RESOURCES

REAL WORLD ASSETS

RWA

STAT MEAN VALUE INDEX

Bitcoin: OpenBazaar transactional currency



NIST Beacon

A Public Randomness Service

Non-

Repudiation



Cryptographic Security

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

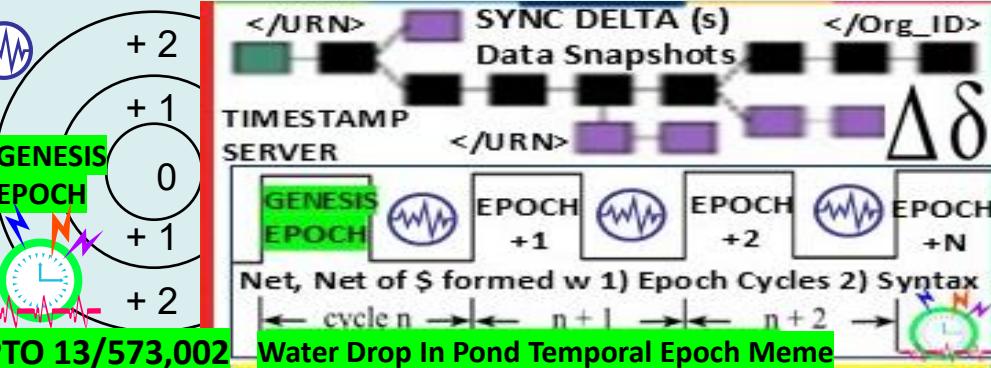
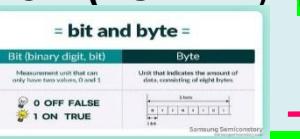
DON: DECENTRALIZED ORACLE NETWORKS Explicit Staking



Cross-Chain Token (CCT) standard DON Transaction-Execution Framework (DON-TEF)

Chainlink CCIP:Arbitrary Messaging, Token

Transfers: data encoded as BYTES 0101010
in smart contracts on different blockchains

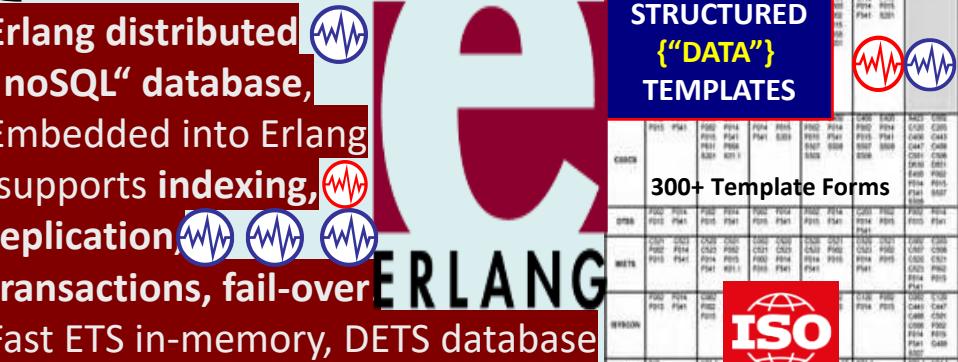
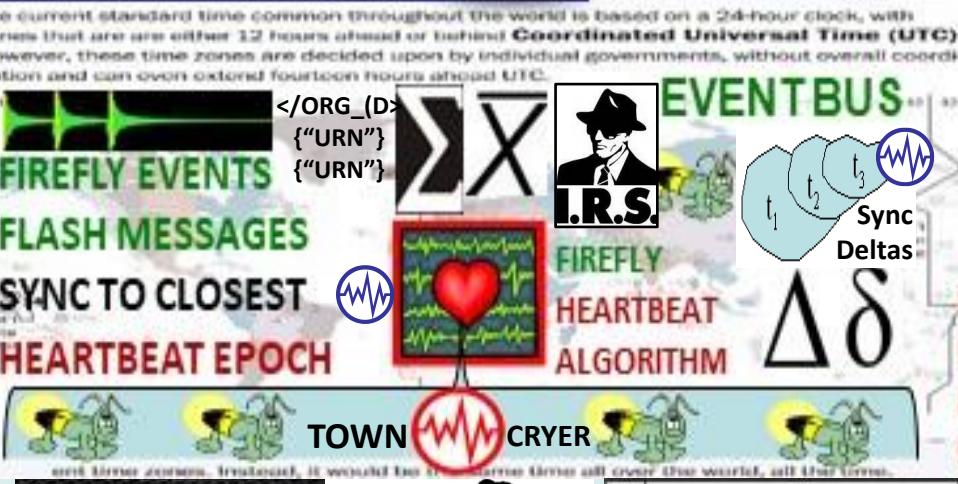


Explicit staking in Chainlink 2.0 oracle reports reflect the STATE of real-world events outside a blockchain (off-chain)



- Transaction-Execution Framework (TEF) [Section 6]: Decentralized Oracle Network framework for layer-2 systems that implements oracle support and FSS Fair Sequencing Services.
- Town Crier [Section 3.6.2]: An oracle technology uses a trusted execution environment (TEE) to enforce integrity, confidentiality on oracle data and computation. TOWN CRIER has capabilities that subsume those of DECO, but requires trust in a TEE: execution environment for applications, often with special-purpose hardware support. Syncing verification: SCA may verify the correctness of state updates when exec syncs, e.g., SNARKs attached to rollups.
- Guard rails: SCA may include provisions to protect against corruption or failures in exec. (See Section 7 for more details.)

Chainlink's explicit staking model: SUPER LINEAR STAKING where malicious actors are required to have a budget much larger than the combined deposits of all DON-TEF nodes



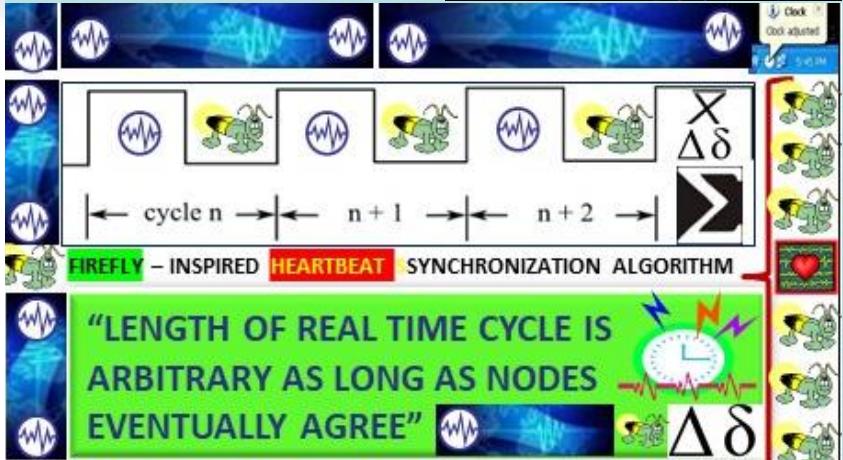
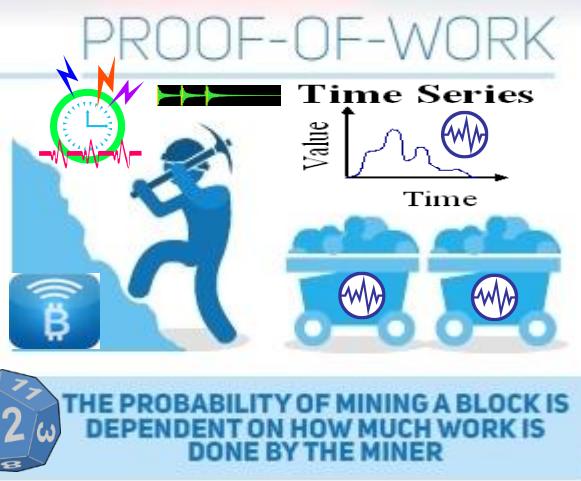
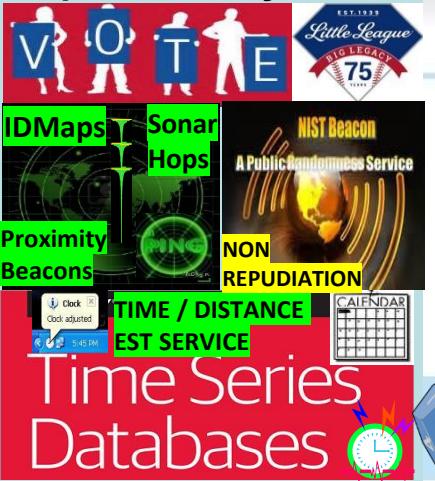


Adaptive
Procedural
Checklist

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

Example of Proof-of-Activity (PoA)

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



PROOF-OF-WORK

HEART BEACON CYCLE 13/573,002



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



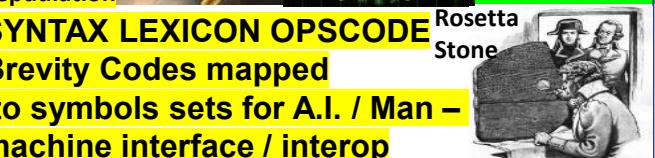
INFOCON
5 4 3 2 1
INFORMATION CONDITION



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 **UTZ SYNC** **STOCHASTIC HARMONIZATION**

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

#DeFi All Market Orders (“108”) Search (“108”)

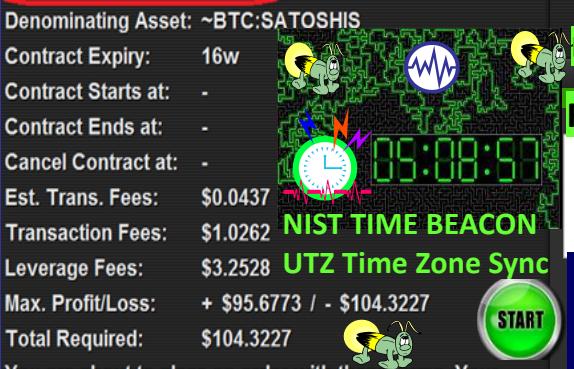
Pay: (“TAGGED”) CRYPTO

Switch » INTC

Expiry: 16w Advanced

Collateral (“Org_ID”) Notional (“URN”) Expiry (“Tagged_Bitcoins”)

Pay: (“Org_ID”) Expiry: (“URN”)



Heartbeat Flash Messages Precedence Processing

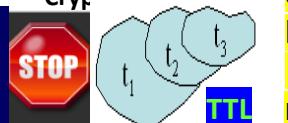
Collateral Notional Expiry

FIREFLY HEARTBEAT ALGO EVENT MSG BUS

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

(“Org_ID”)
(“Tagged”) (“URN”)

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



SYNTAX LEXICON OPSCODE

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



Proof of Authority



{"GROUP ID"}
{"Org_ID"}

Not pay to play, Node identity is kept as stake

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



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

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

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

Federation
Gateway



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

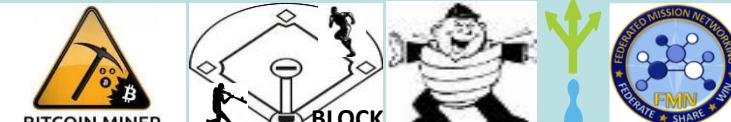
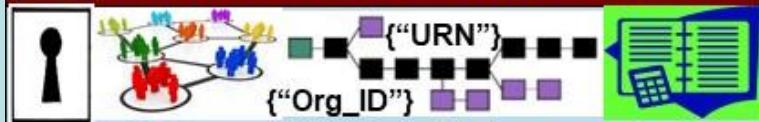
Net joins, drops, splits, merges, moves

Agile, adhoc NETOPS Vs acquisition preserves the CHANNEL

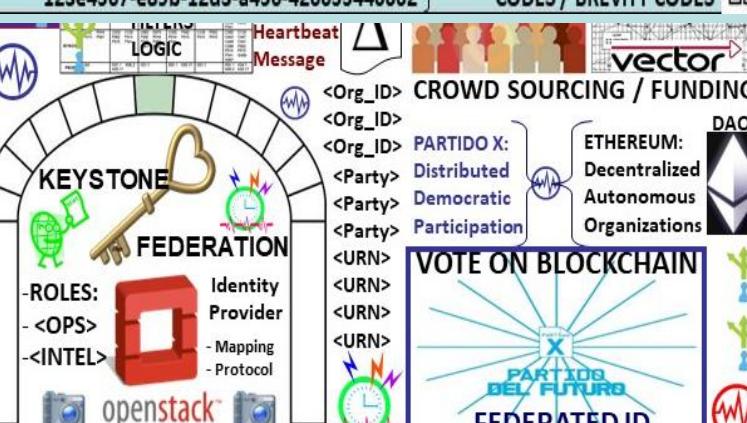
DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



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

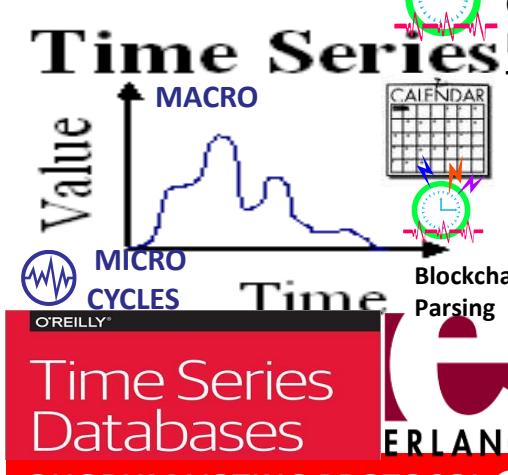


SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

"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



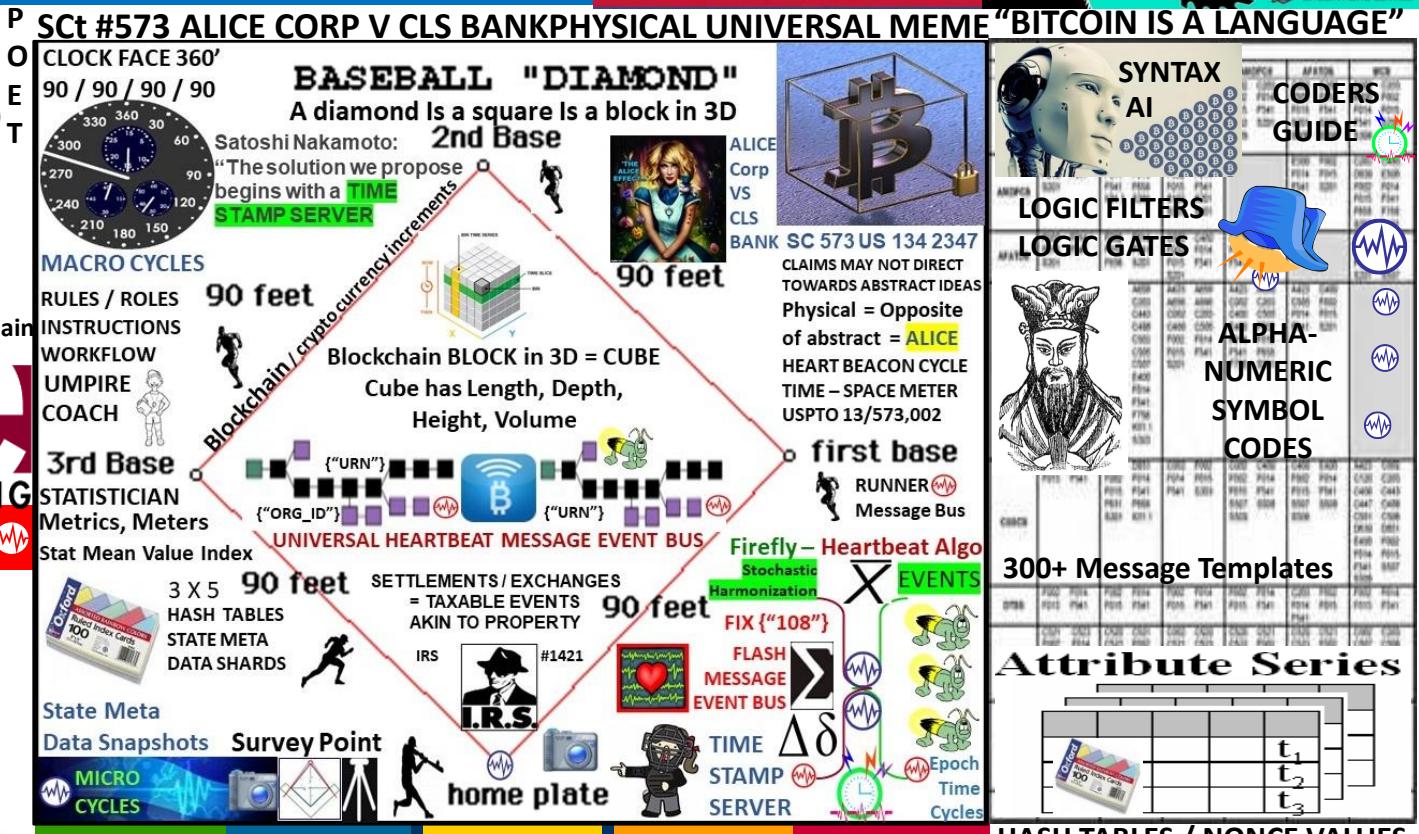
Voting Based Selection: stake size & block generators selected by votes

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

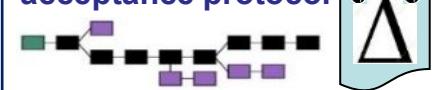


Robert's Rules quorum = minimum # of voting members who must be present at meetings to conduct business of the group

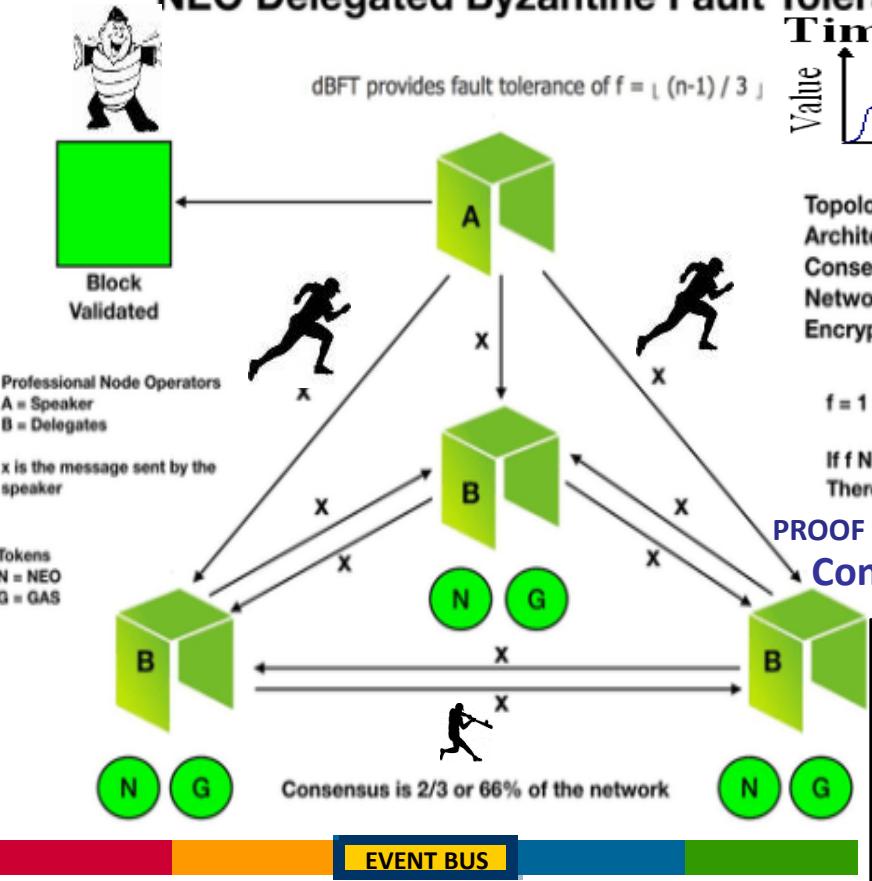
TOURNAMENT LEAGUE BOARD



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

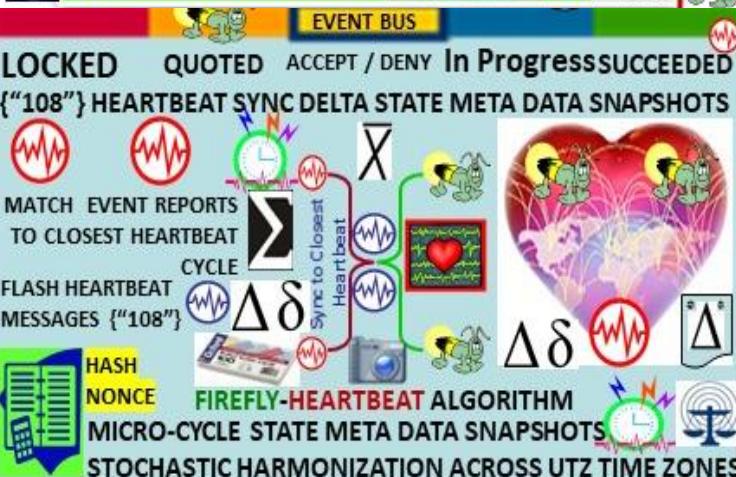
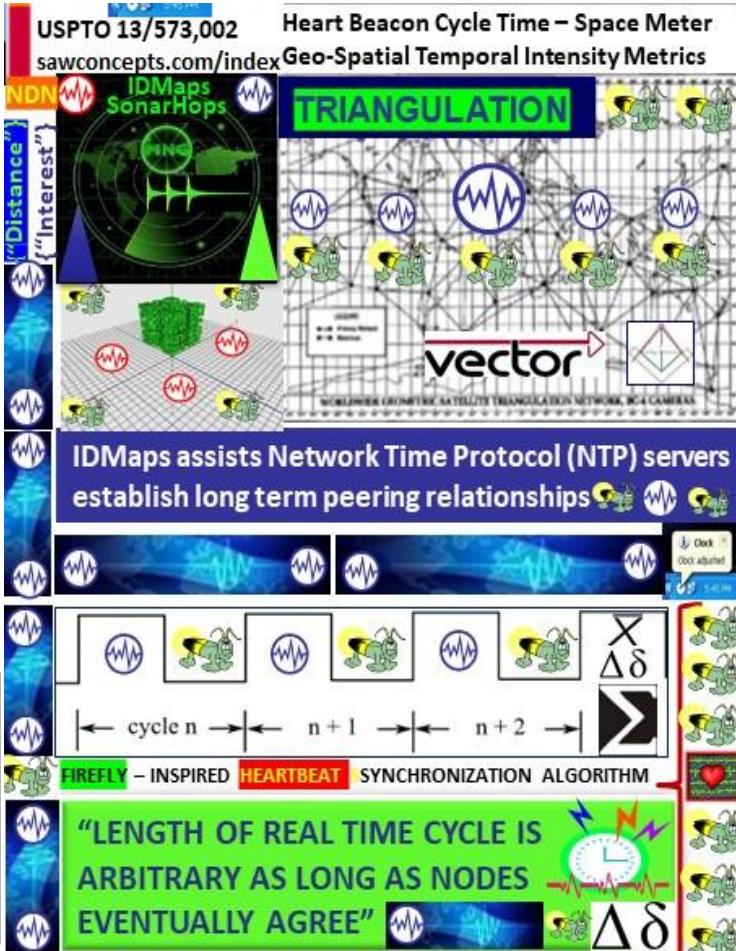


NEO Delegated Byzantine Fault Tolerance (dBFT)



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"



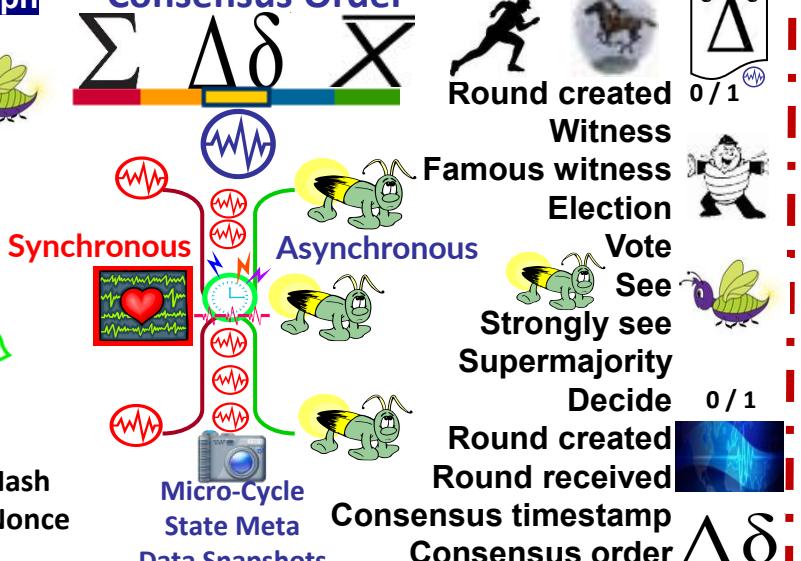
DAG "Directed Acyclic Graph" large number of blocks arrive at the same time. DAG system reaches consensus leveraging "Gossip"... information spread by a computer calling up other computers at random, sharing everything it knows

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

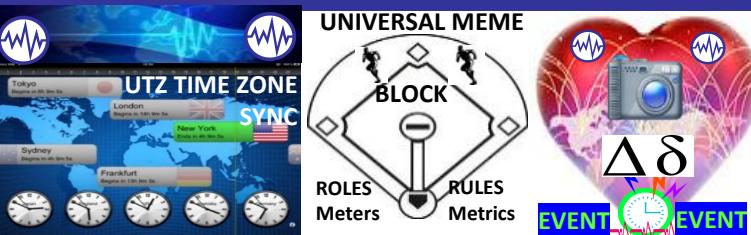
DAG finite directed graph
= no directed cycles

$$\Sigma \Delta\delta X$$

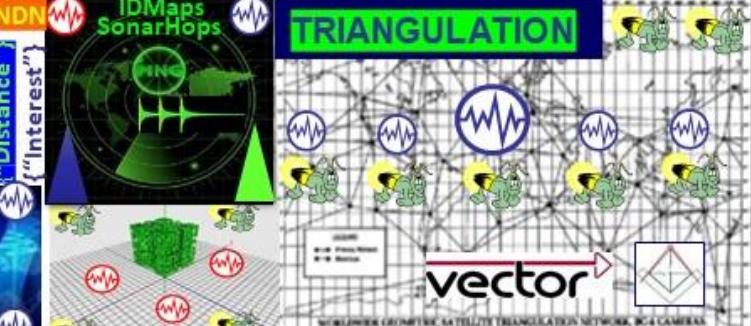
Hashgraph Member Event Transaction Consensus Order Timestamp Gossip protocol Self-parent Other-parent Graph Hash Hashgraph



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

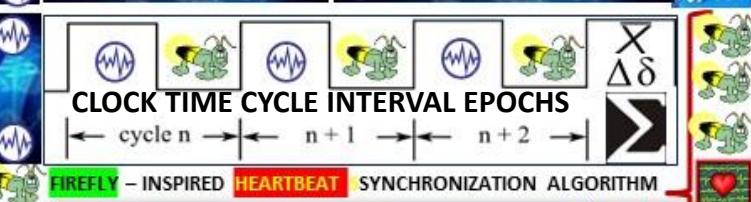


UTZ TIME ZONE SYNC
Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics



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.

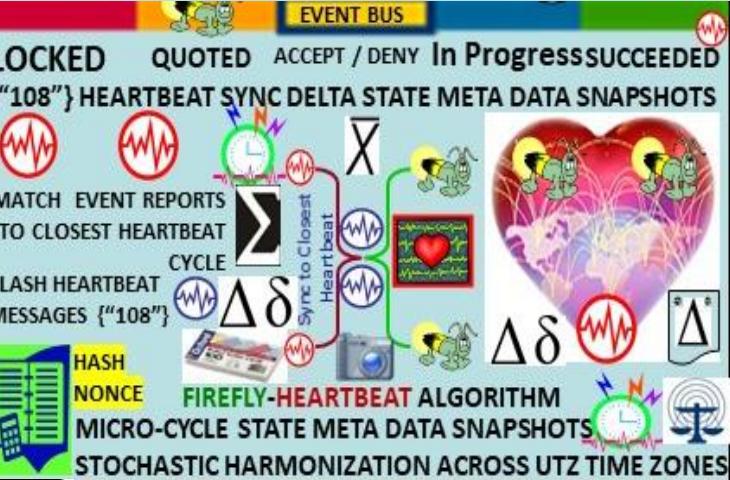
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describe the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining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

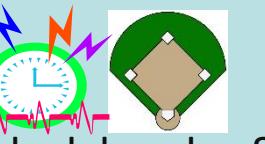
TAG	SLA/O	Token Award
{"Org_ID"} ActiveID	[UFO2_ACTIVEID]	</EVENT>
IF1_Heartbeat (IF-Node1)	[UFO2_HEARTBEAT:#]	</EVENT>
IF2_Heartbeat (IF-Node2)	[UFO2_HEARTBEAT:#]	</EVENT>
{"UUID"} IF1_DeviceStatus (IF-Node1)	[UFO2_DEVICESTAT:#]	</EVENT>
{"UUID"} IF2_DeviceStatus (IF-Node2)	[UFO2_DEVICESTAT:#]	</EVENT>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

Proof of Capacity PoC



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

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



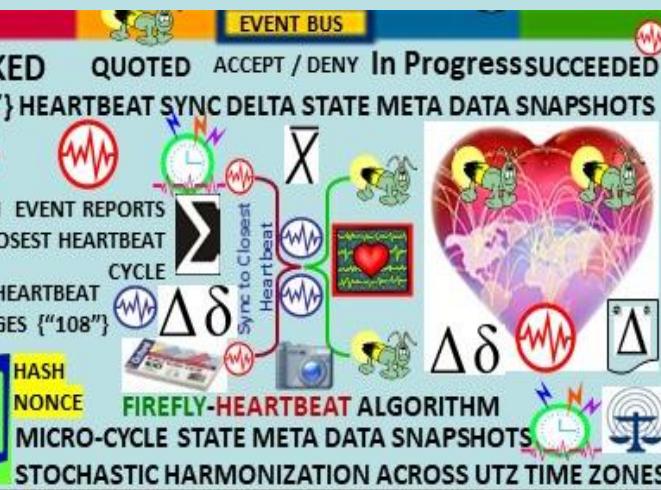
Instead of repeatedly altering the numbers in the block header & repeated hashing for the solution value as in a PoW system, PoC works by storing a list of possible solutions on the mining device's hard drive before mining activity starts



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

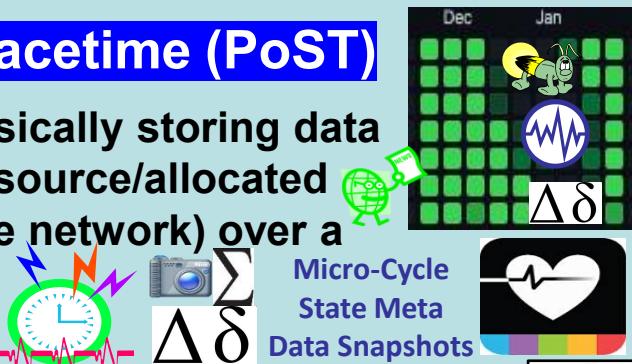


Analogy: if lottery rewards are based on matching the most numbers on the winning ticket, then a player with a longer list of possible solutions will have better chances of winning. Additionally, the player is allowed to keep using the lottery ticket block numbers again and again repeatedly.



PoST Proof-of-Spacetime (PoST)

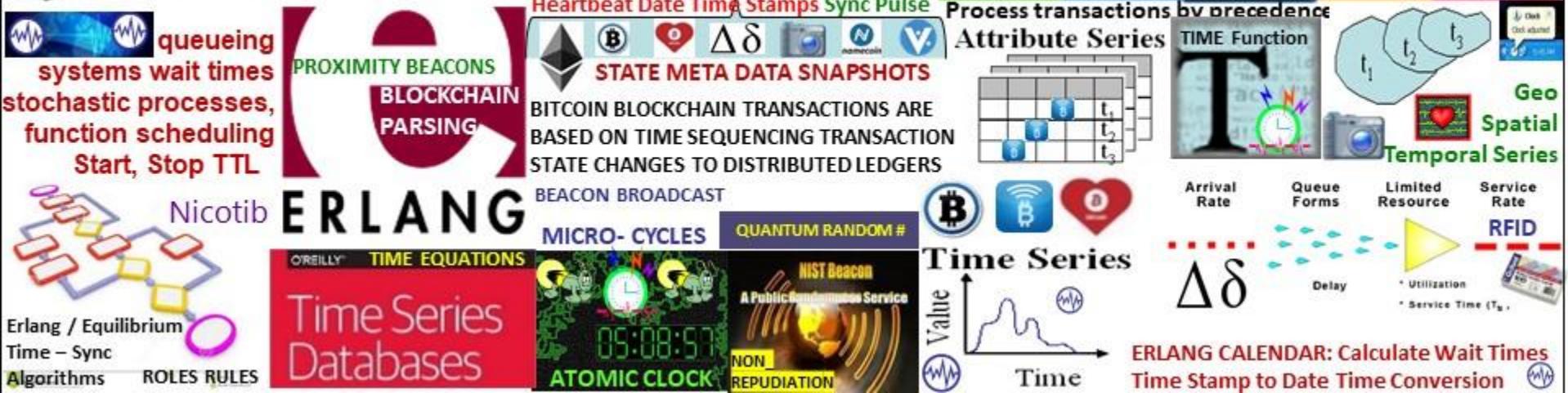
PoST shows that physically storing data (spent "spacetime" resource/allocated storage capacity to the network) over a certain period of time.



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



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



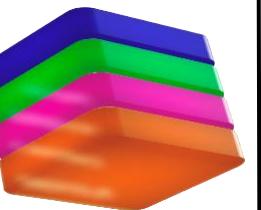


PROTON A CHAIN Virtual Machine

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

Consecutive Successes := 0

while not decided:

ask k random people preference

if >= α give the same response:

preference := response with >=

α

if preference == old preference:

consecutiveSuccesses++

else:

consecutiveSuccesses = 1

else:

consecutiveSuccesses = 0

if consecutiveSuccesses > β:
decide(preference)

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

Delegated Proof
of Stake {"Org_ID"}



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



DAG Acyclic Graph Parameters:

n: number of participants

k (sample size): between 1 and n

α (quorum size): between 1 and k

β (decision threshold): >= 1

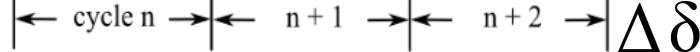
ALL THINGS NET, NET OF \$\$\$

1) EPOCH TIME INTERVALS

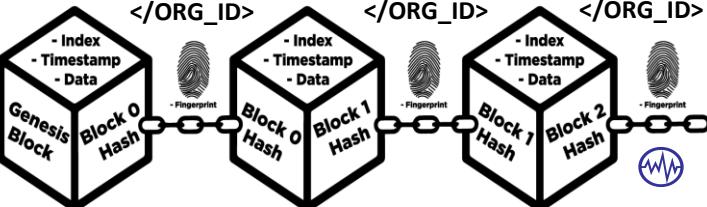
2) SYNTAX (not) used in epochs



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>



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



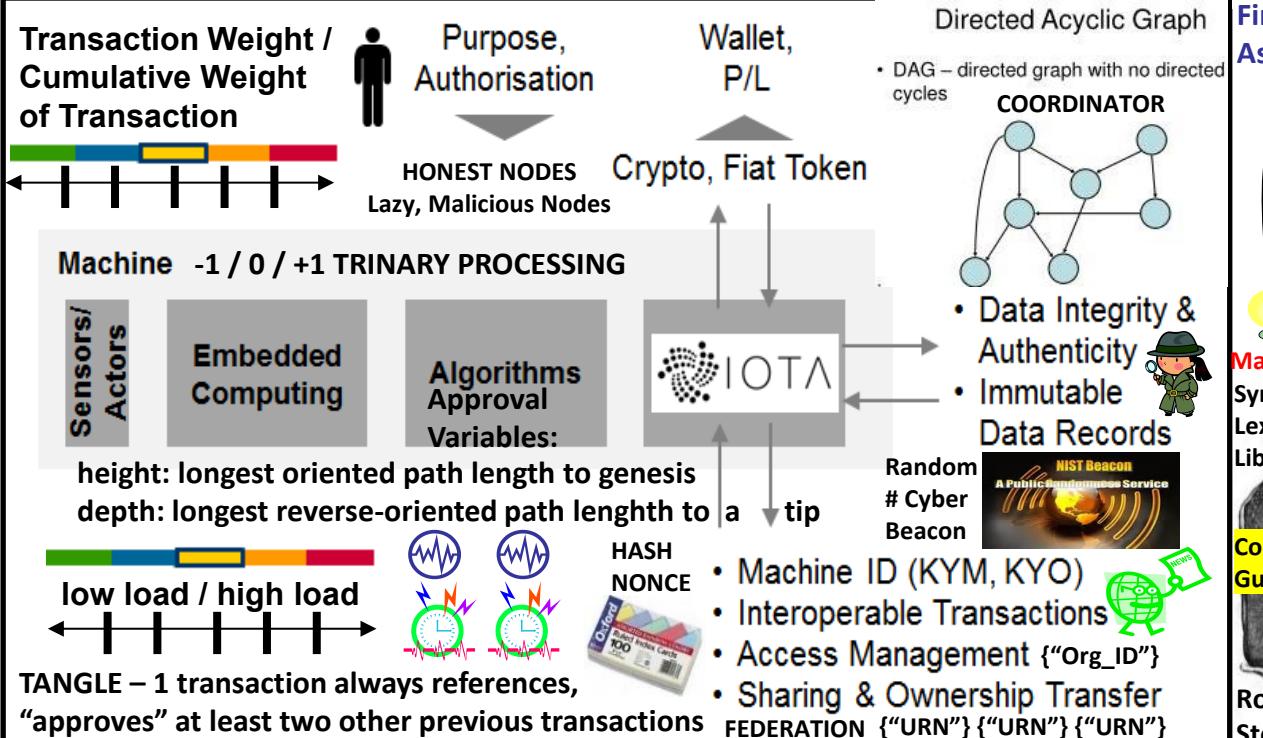


OTA: Internet Of Things IOT distributed ledger
with microtransactions without fees

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

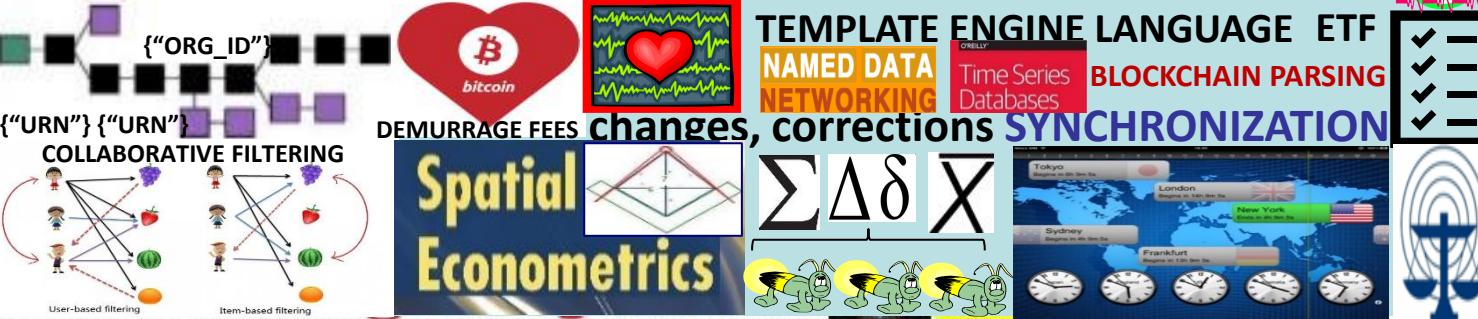




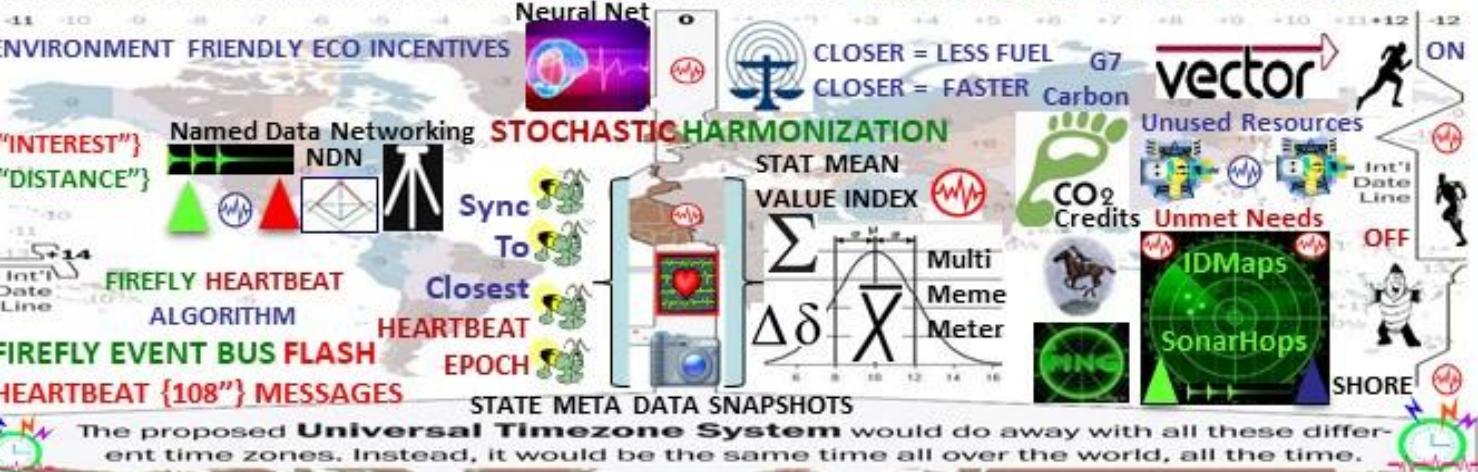
EGaaS

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



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



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 HTXO 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

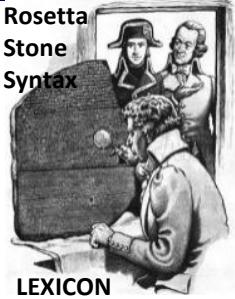
Blockchain middleware: identity and operations management, data, intelligence services like analytics and machine learning. New middleware works with existing Azure services, like Active Directory and Key Vault

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.

EVENT BUS

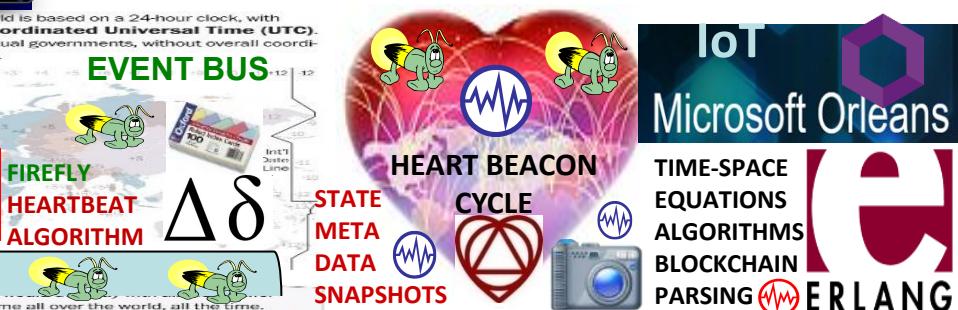
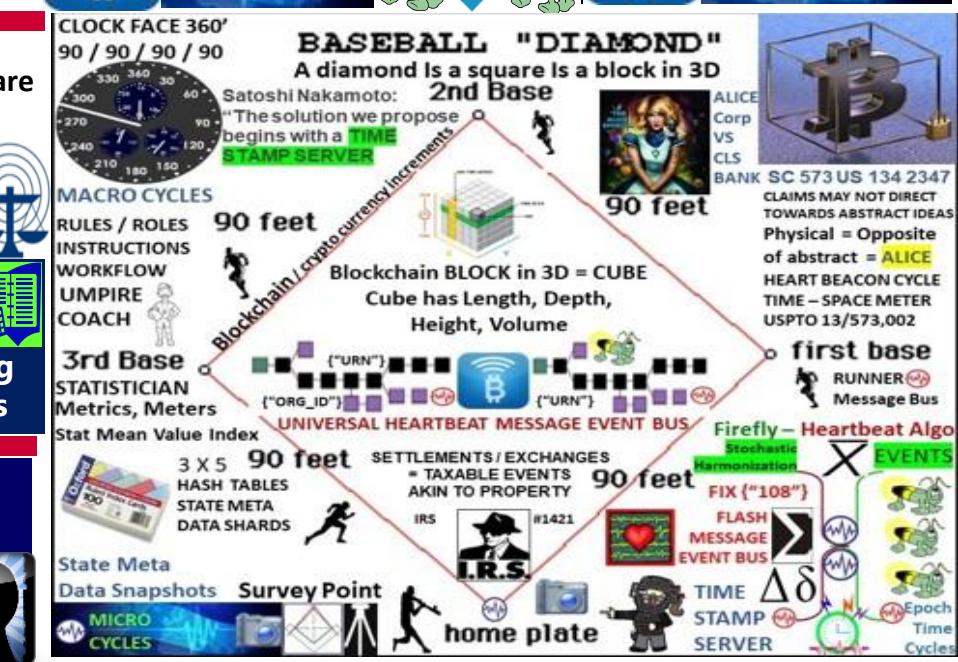
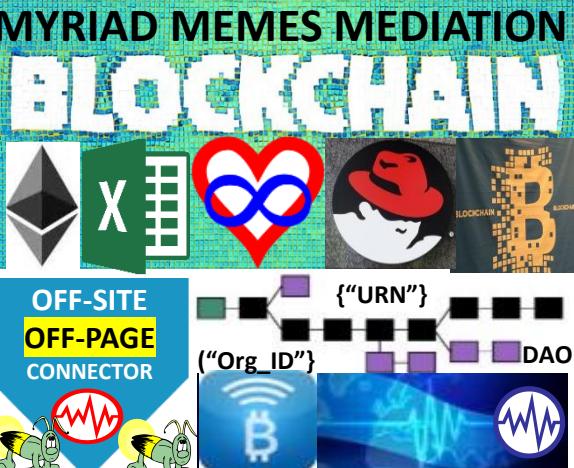
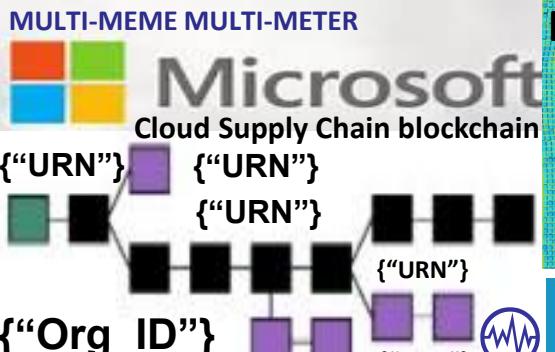
A horizontal collage of event-related images. From left to right, it includes: a green firefly with the text 'FIREFLY EVENTS' above it; a black megaphone with the text 'FLASH MESSAGES' below it; a white banner with the text 'FLASH MESSAGES' in blue and red; a yellow sun-like shape with a bee; and a gift card for 'Oscar's Family Liquor' with a value of '\$100'.

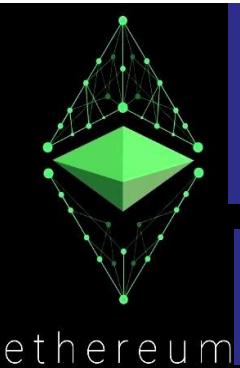
A screenshot of a mobile application interface. At the top, there's a header with the word "FLASH MESSAGES" in large, bold, black letters. Below that, another header says "SYNC TO CLOSEST". The main screen features a red heart icon with a yellow ECG line running through it. To the right of the heart, the word "FIREFLY" is written in green, all-caps letters. In the bottom right corner of the screen, there's a small, partially visible image of a person wearing a helmet and goggles, possibly a biker or skier.

SYNC TO CLOSEST HEARTBEAT EPOCH

A cartoon illustration featuring four bees with black wings and yellow bodies flying across a red background. In the center is a red heart rate monitor (ECG) strip showing a regular rhythm. The bees are positioned above the strip, appearing to fly from left to right.

ent time zones. Instead, it would be the same time all over the world, all the time.





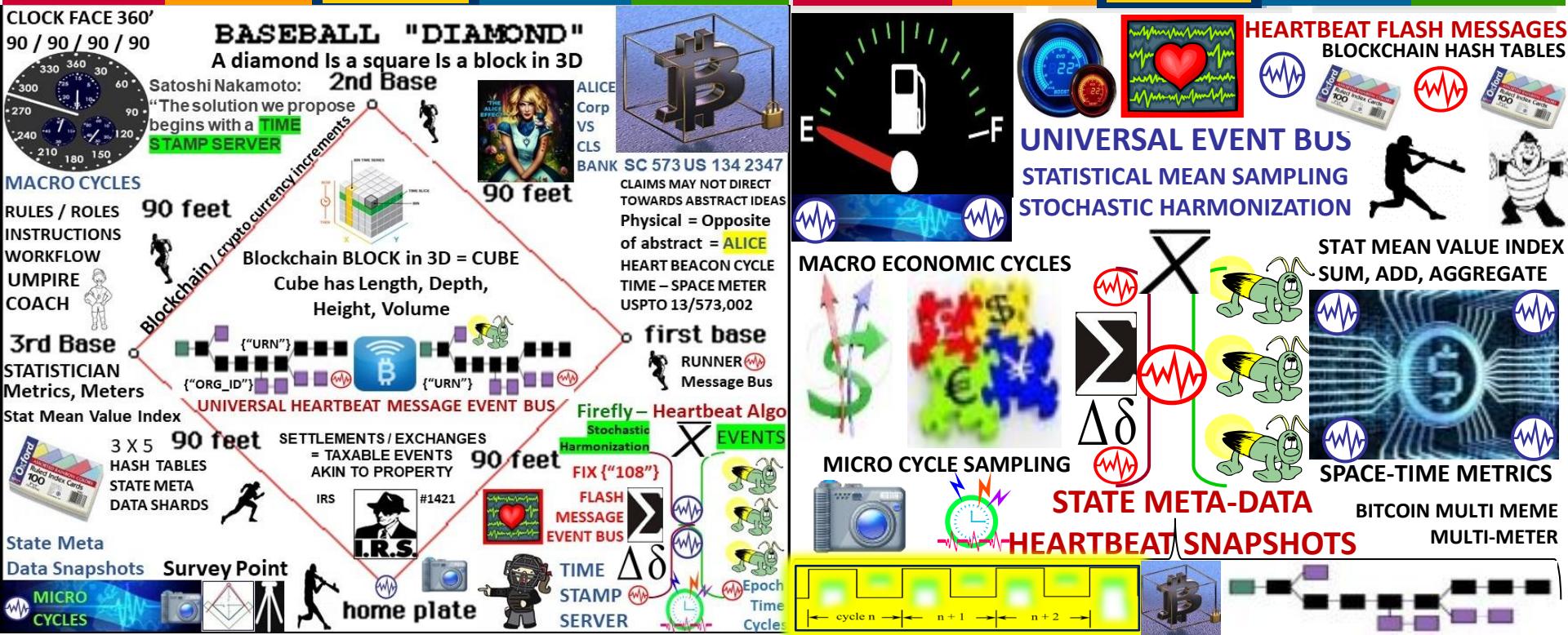
ETHER: Compensate Resource Contribution

Gas: price to
Run contract
transactions

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



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



D F I N I T Y



RANDOM # BEACON



NIST Beacon
A Public Randomness Service



Each process has mining identity

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

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

FIREFLY-HEARTBEAT FLASH Msg EVENT BUS



GROUP Signature is random number

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

HYPER GEOMETRIC PROBABILITY CALCULATOR

CONSENSUS / RANDOM BEACON

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



3 x 5 HASH TABLES STATE META DATA SHARDS

3 x 5 INDEX CARDS

QUANTUM RANDOM #

3 x 5

INDEX CARD="SHARD"

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

Threshold Relay Chain techniques

Probabilistic Slot Protocol (PSP) When Gh is selected, members start stopwatches

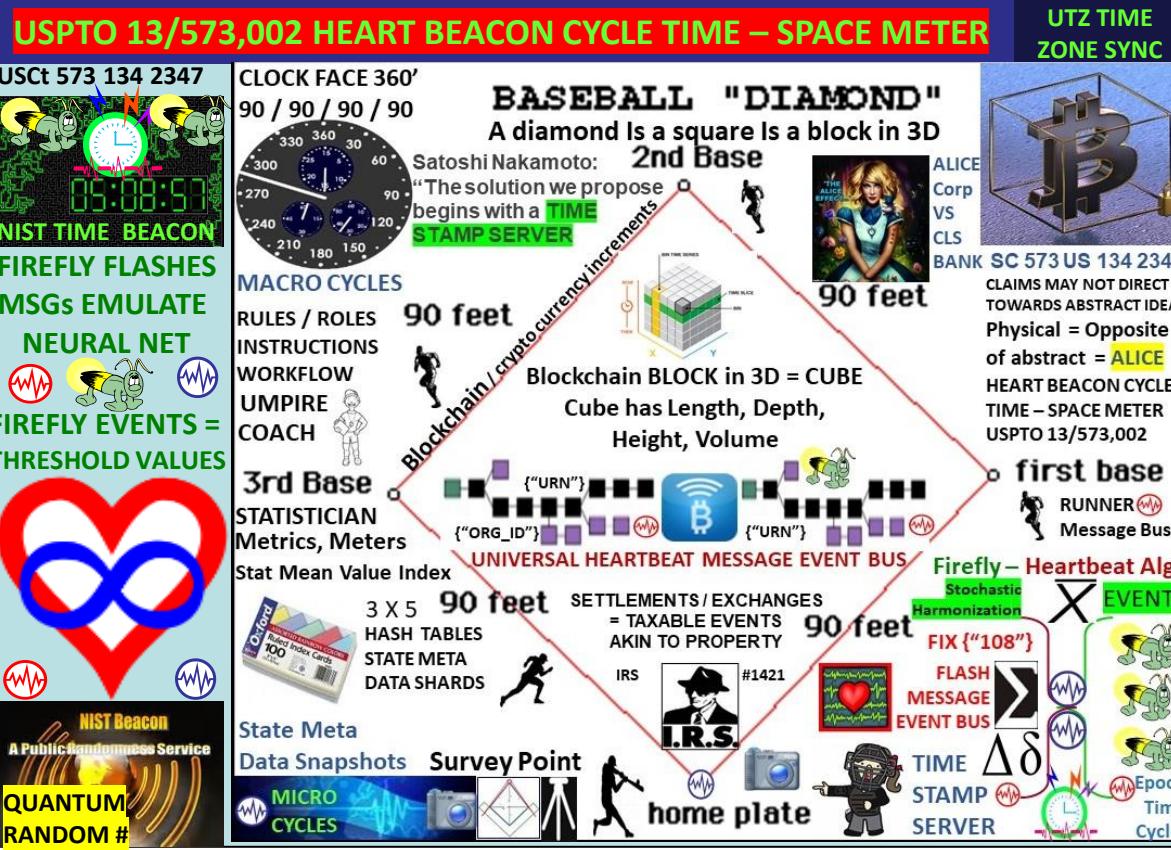
Choosing Leaders Randomness selects priority list block forgers at height h

Short Term Convergence Correct processes build on highest scoring chain

Threshold Timestamping group signs blocks at h until next group appends another.

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

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



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

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

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

ALICE Corp VS CLS BANK SC 573 US 134 2347

CLAIMS MAY NOT DIRECT TOWARDS ABSTRACT IDEAS

Physical = Opposite of abstract = ALICE

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

first base
RUNNER Message Bus

EVENTS

Fix "108"

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

home plate

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY

IRS #1421

State Meta Data Snapshots Survey Point

MICRO CYCLES

Time Stamp Server

Firefly – Heartbeat Algo

Stochastic Harmonization

Fix "108"

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles



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

ERLANG API FOR BLOCKCHAIN



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

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

CROSS – CHAIN ATOMIC SWAPS

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



Aeons: energy for applications implemented on the platform.

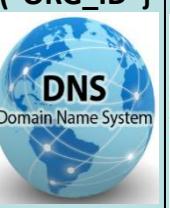
ACCOUNTS & IDENTITY: æternity's accounts are permission-less, but allow customization via schema.org's semantic web scheme. Create & own (**federated group**) / individual identities on the æternity network



("ORG_ID")

("ORG_ID")

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



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

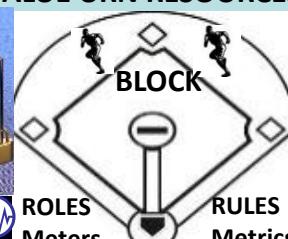
AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS



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

TOKENS REPRESENT REAL WORLD VALUE URN RESOURCES

ETHEREUM USES GAS GUAGE MEME INDICATING THRESHOLD MET / NOT MET



BLOCK
ROLES Meters
RULES Metrics



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



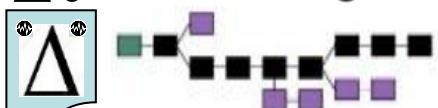
Federation Gateway
("ORG_ID")



HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$ Shared Ledger



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

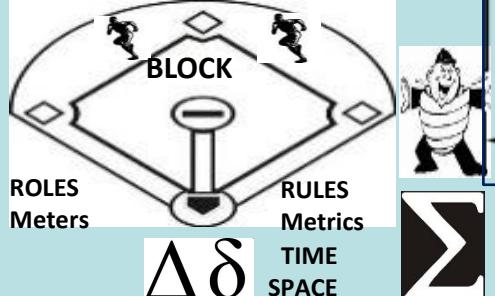
FEDERATION
Federation Gateway

METRICS ("Organization ID")
METERS

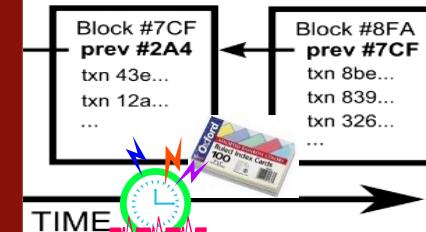
RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE



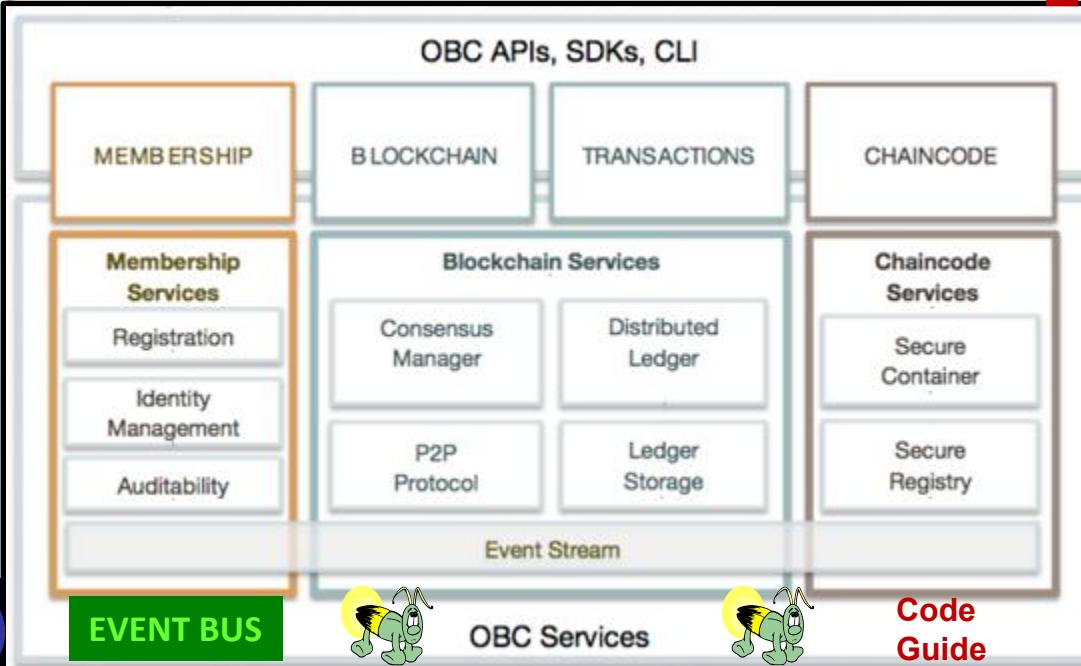
BLOCKTIME ARBITRAGE



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



Alpha-Numerics



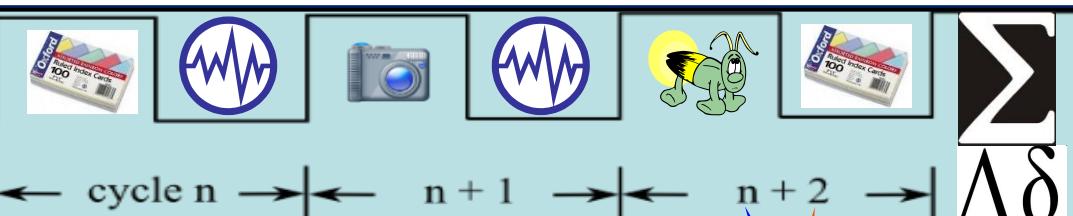
ROSETTA STONE

XBR / CDL / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

SYNTAX
SYMBOL LIBRARY

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



MICRO-MACRO CYCLE SCHEDULE



FFIRNS
FFUDNS

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



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

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

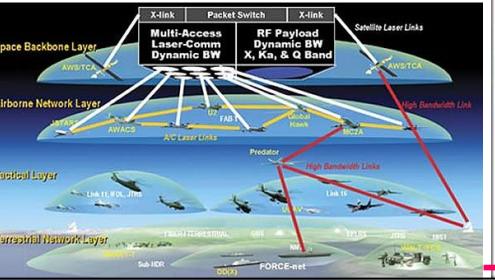
[LINK](http://bitcoinist.net/how-dash-dao-work/) <http://bitcoinist.net/how-dash-dao-work/>

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

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

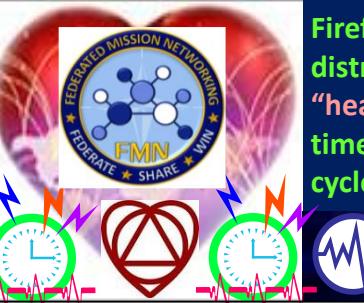
InstantX: To solve the problem of lag time in transactions, Masternodes are able to instantly lock transactions receive payments for their service to the network.

DAO: RAND THINK TANK TERM COINED + / - 2001



STOCHASTIC HARMONIZATION FIREFLY-HEARTBEAT EVENT BUS

HEART BEACON CYCLE = IMPROVEMENT TO NETWORK CENTRIC WARFARE



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

STATE: stored data at a given instant in time

STATE CHANNELS: blockchain interactions

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



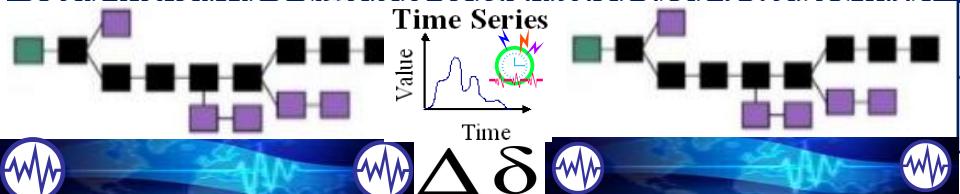
1. Part of the blockchain state is locked via multisignature or smart contract convention, so that a specific set of participants must completely agree with each other to update it.



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

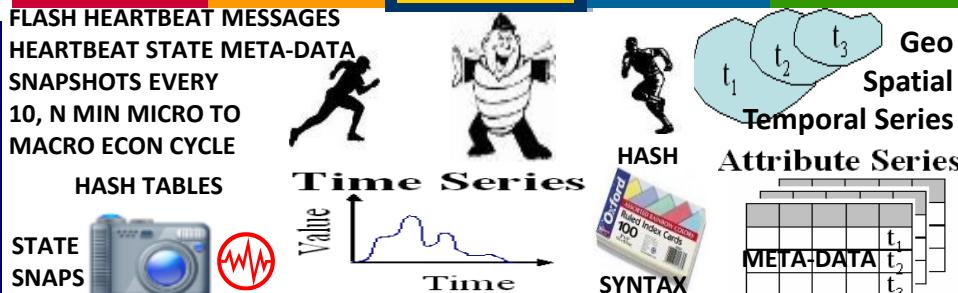
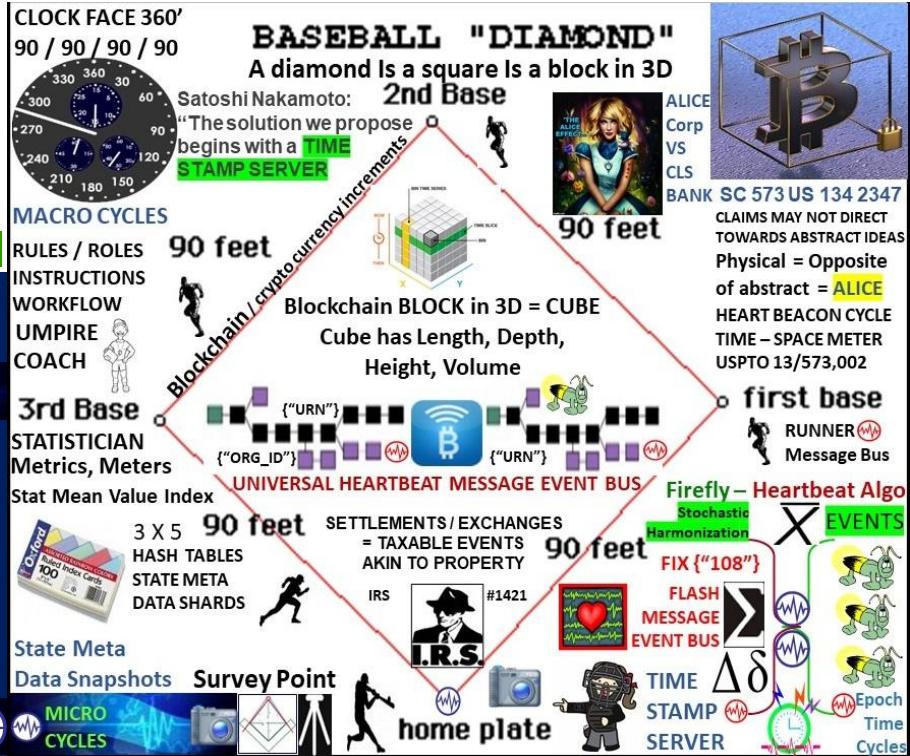


3. Finally, participants submit the state back to the blockchain, which closes the state channel.



$\Delta \delta$

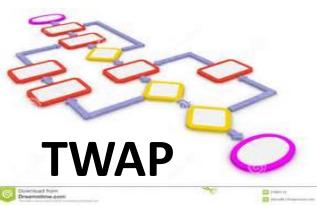
NEW UPDATES OVERWRITE THE PREVIOUS: simplest way is to have any unlocking attempt start a timer, during which any *newer* update can replace the old update (restarting the timer). When the timer completes, the channel is closed and the state adjusted to reflect the last update received. The length of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



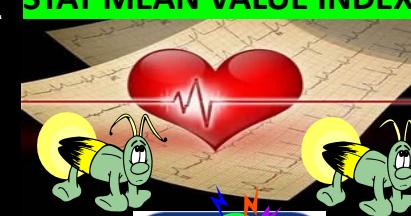
Firefly - Heartbeat synchronization: nodes in a distributed system generate periodic, local "heartbeat" events approximately at the same time with a goal of all nodes starting / ending cycles at the same time eventually = HB CYCLE

TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

TWAP GOAL: provide a Time Weighted Average Price Benchmark

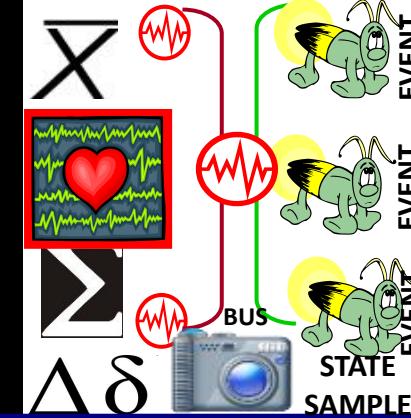


FIREFLY HEARTBEAT ALGO
STAT MEAN VALUE INDEX



EPOCH TIMES

STATE META
DATA SNAPSHOTS



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



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



VWAP is price multiplied by number of bitcoins traded, then divided by the total number of bitcoins traded during a time period. The time-weighted average price algorithm is matched to closest HB

Firefly Heartbeat Sync nodes strive to sync in a distributed system. Nodes emit periodic "heartbeat" events at approximately the same time. There is no need to sync during a cycle as long as the cycle length is bounded & nodes eventually agree. HBC's improvement is stipulating a clock cycle value e.g., 5, 10, 15..



Autonomous Device Coordination Framework



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

FEDERATION
AGREEMENTS
PROCEDURAL
TEMPLATE

FEDERATION

<UUID><ORG_ID><URN>

LDAP DIRECTORY

Physical proximity

Social proximity

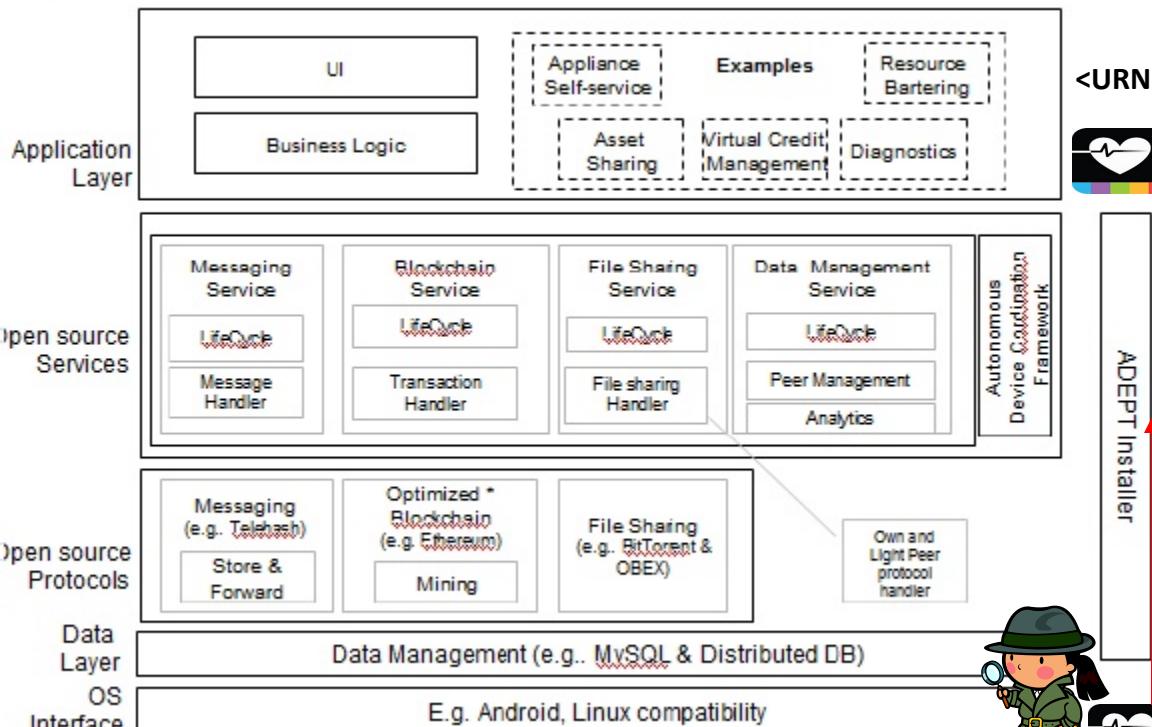
Temporal proximity

Agreements

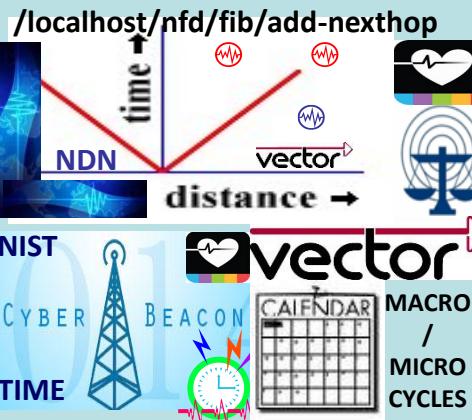
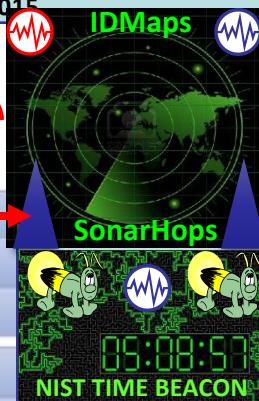
Payments

Barter

ADEPT Standard Peer Architecture – Logical View



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

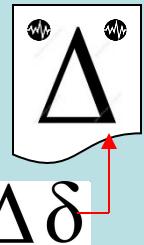


PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS
<URN> DESCRIBES COMMODITIES ETC BY UNIFORM RESOURCE NAME BY </INTEREST>>

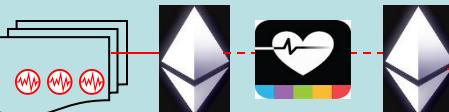


ASSET SHARING WITHIN FEDERATION

BUSINESS LOGIC = WORKFLOW <XML_Wf>



FILE SHARING = CYCLIC SYNC DELTA LEDGER / DOCUMENT REFRESH



OPEN SOURCE = HBC = PROTOCOL AGNOSTIC

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



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

Key Features:

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



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

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

All rates time-stamped in UTC.



Ability to look up by time-stamp.

Ability to look up by block-height.

Asset Classes: Digital Currencies

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

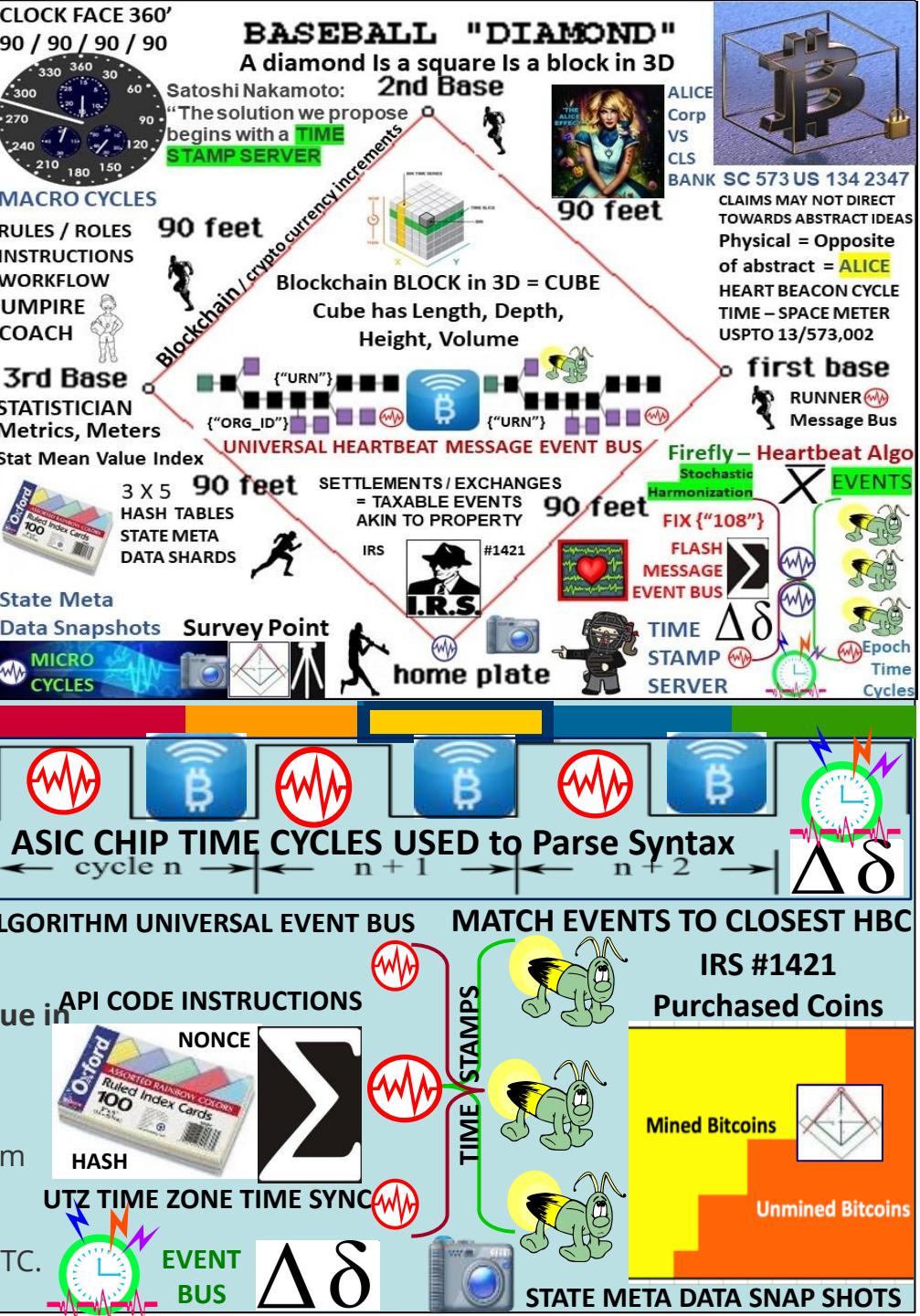
Transaction ID, Block ID, time-stamp, BWAP per block, Value in USD. BTC per transaction, bitcoin transaction fees per transaction.

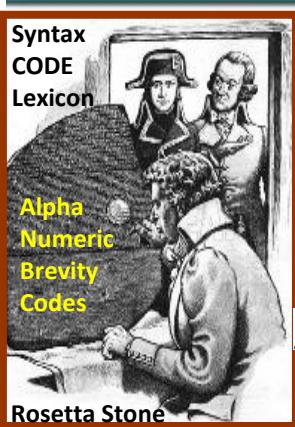
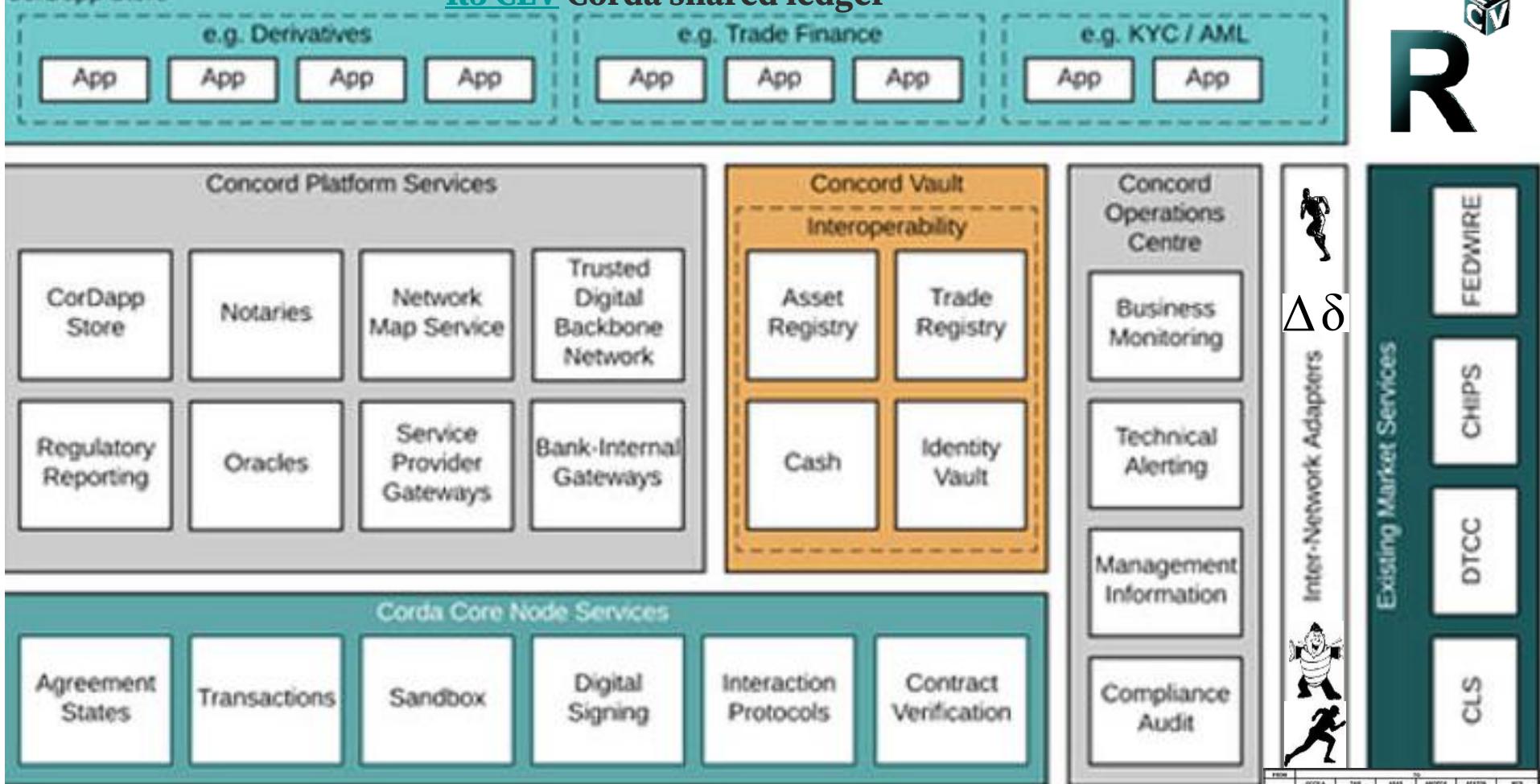
"Blocks are a measure of time":

The Bitcoin Blockchain 'B-WAP'

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

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





UNIVERSAL EVENT BUS



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

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

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



XBRIL / CDE / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS



300+
Use Case Templates

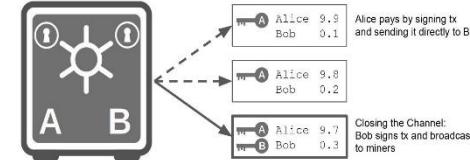


PROJECT LIGHTING

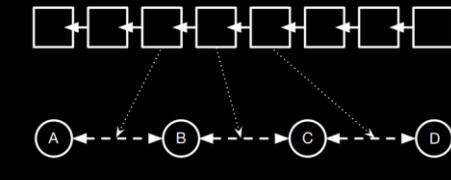
transactions sent over / off chain micropayment channels

Micropayment Channels

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



LIGHTNING



Millions of Transactions. Milliseconds of Delay.

Hashed TIME LOCK contracts component for global consensus

OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/ Random # BEACON



Payment channels multi-hop hub spoke model like internet routing

FIREFLY – HEARTBEAT ALGORITHM



FIREFLY – HEARTBEAT

CLOCK FACE 360'
90 / 90 / 90 / 90



MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW



3rd Base

STATISTICIAN
Metrics, Meters

Stat Mean Value Index



3 X 5 HASH TABLES
STATE META
DATA SHARDS

State Meta

Data Snapshots

Survey Point

MICRO CYCLES



home plate

Server nodes, miners
only keep recent blocks



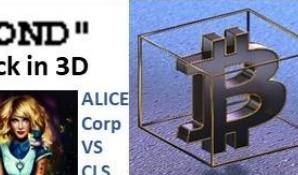
ADJACENT FIELDS
SEPARATE CHANNELS



EVENT REPORTING ACROSS TIME-SPACE



MESSAGE EVENT BUS



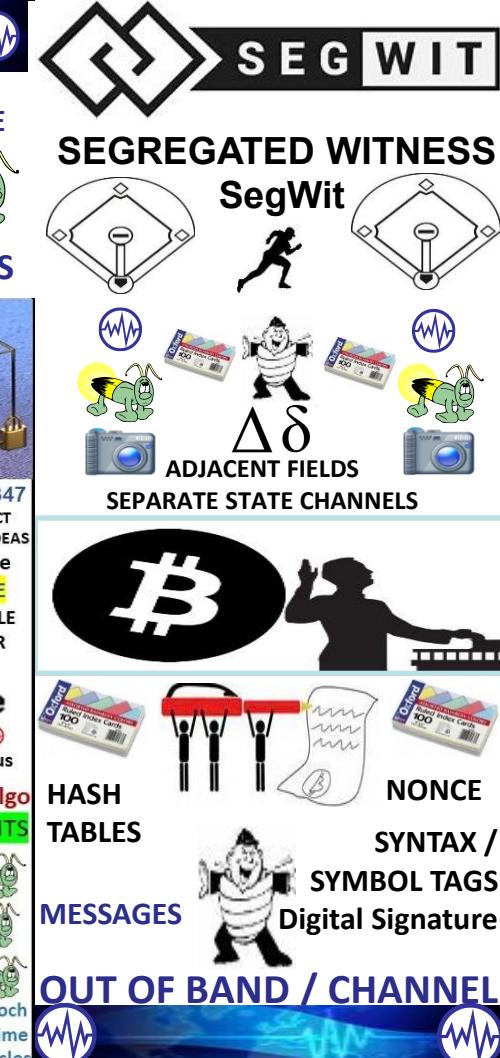
CLAIMS MAY NOT DIRECT TOWARDS ABSTRACT IDEAS
Physical = Opposite of abstract = ALICE
HEART BEACON CYCLE
TIME – SPACE METER
USPTO 13/573,002

first base
RUNNER Message Bus

Firefly – Heartbeat Algo
Stochastic Harmonization

FIX {"108"}
FLASH MESSAGE EVENT BUS

TIME STAMP SERVER
 $\Delta\delta$
Epoch Time Cycles



Segregated witness = Separated signatures

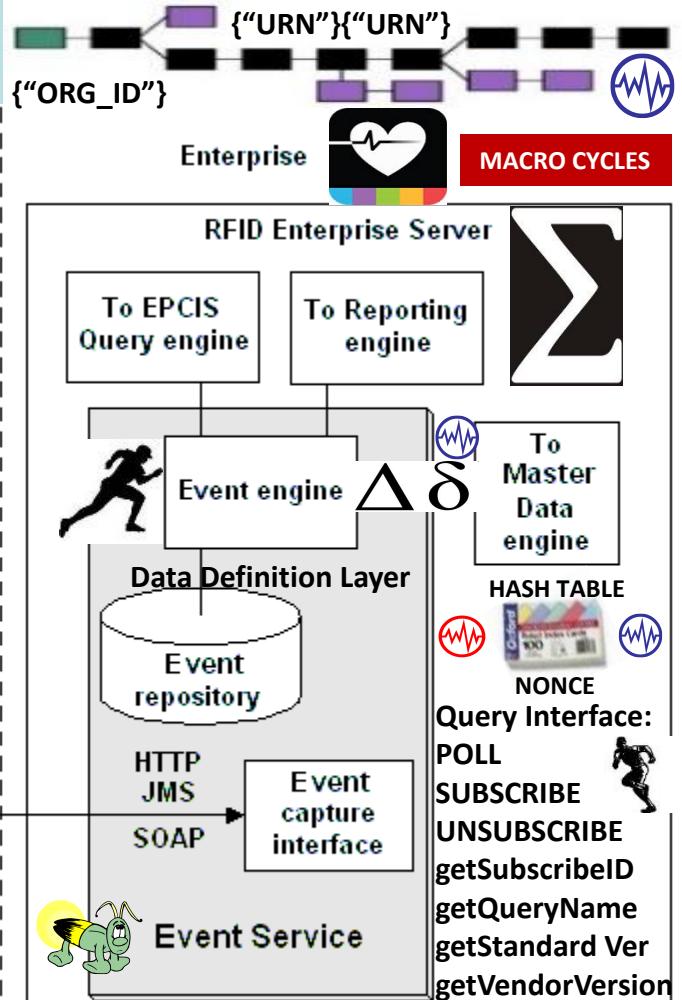
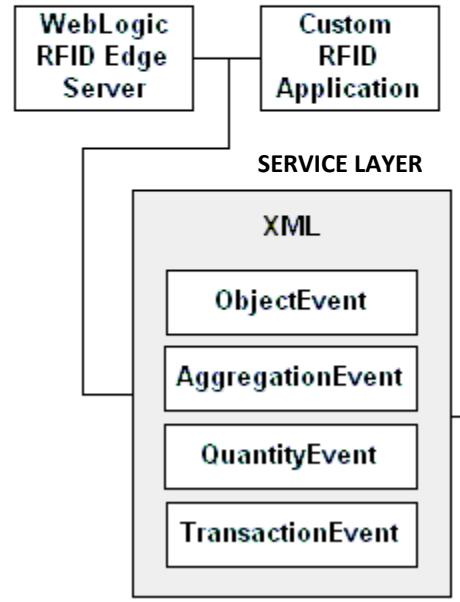
- signatures are cryptographic proofs also known as witnesses
 - moving signatures out of transactions
 - keeping a separate repository of the signatures
 - making them optional in propagation and storage
 - signature are the biggest part of transactions
 - can be implemented as a soft-fork vs a hard-fork

Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data



EPCIS DATA MODEL



Core Business Vocabulary (CBV)

What identifiers of object(s) or entities / subject of the event
 When date time when event took place, local time zone in effect
 Where location identifier where event occurred, identifier of location where object(s) are expected to be following the event
 Why Information about the business context, including:
 a Identifier that indicates the business step taking place

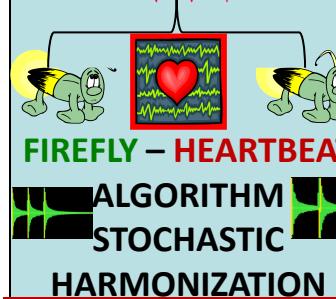
MICRO CYCLES



CLOSER IS CHEAPER
CLOSER IS FASTER



$\Delta\delta$



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

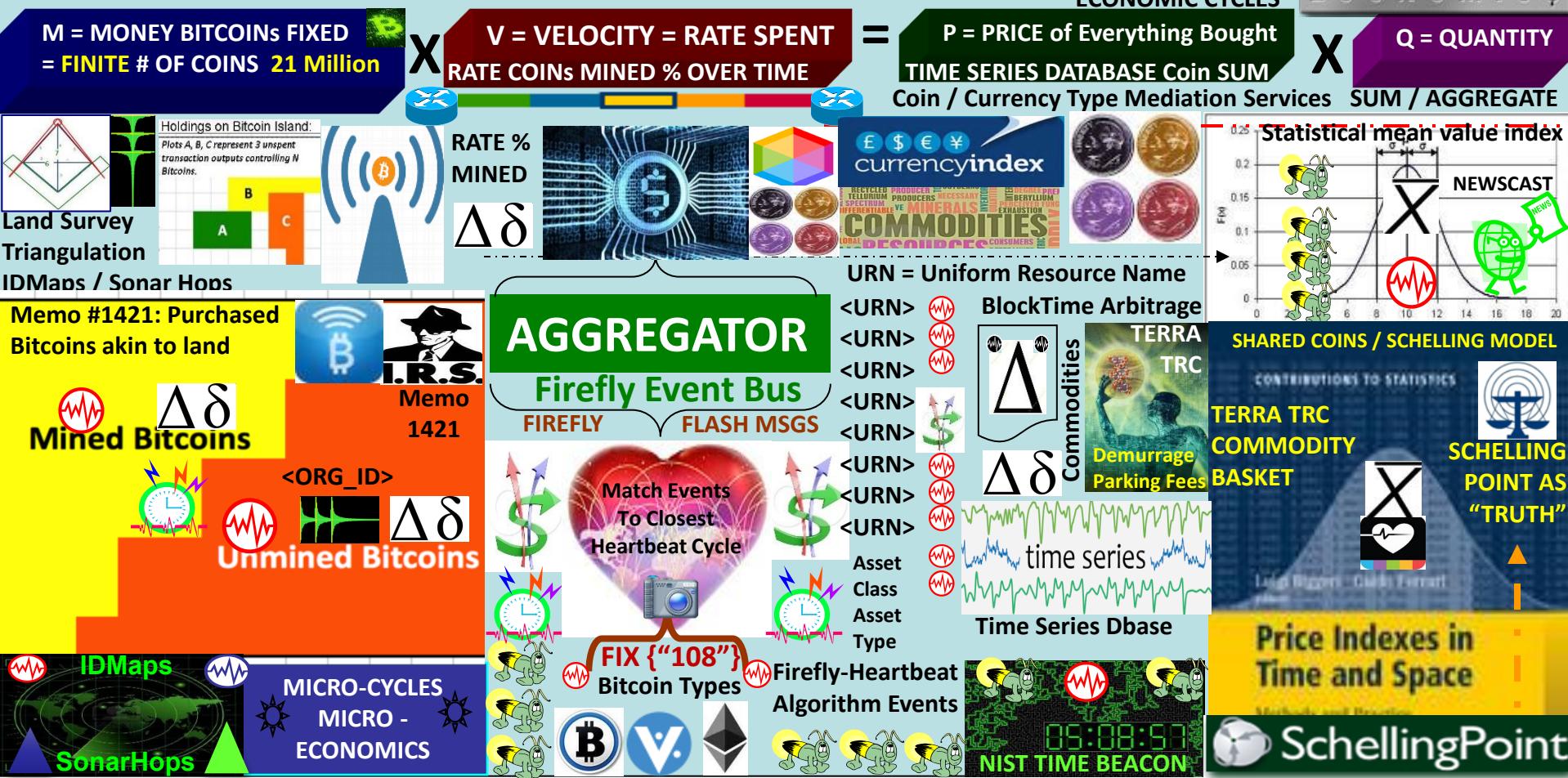
STRUCTURED DATA EXCHANGE /
STRUCTURED MILITARY MESSAGES

FROM	F002	F003	F004	T001	F005	F006	F007	F008	F009	F010	F011	F012	F013	F014	F015	F016	F017	F018	F019	F020	F021	F022	F023	F024	F025	F026	F027	F028	F029	F030	F031	F032	F033	F034	F035	F036	F037	F038	F039	F040	F041	F042	F043	F044	F045	F046	F047	F048	F049	F050	F051	F052	F053	F054	F055	F056	F057	F058	F059	F060	F061	F062	F063	F064	F065	F066	F067	F068	F069	F070	F071	F072	F073	F074	F075	F076	F077	F078	F079	F080	F081	F082	F083	F084	F085	F086	F087	F088	F089	F090	F091	F092	F093	F094	F095	F096	F097	F098	F099	F099	F100	F101	F102	F103	F104	F105	F106	F107	F108	F109	F110	F111	F112	F113	F114	F115	F116	F117	F118	F119	F120	F121	F122	F123	F124	F125	F126	F127	F128	F129	F130	F131	F132	F133	F134	F135	F136	F137	F138	F139	F140	F141	F142	F143	F144	F145	F146	F147	F148	F149	F150	F151	F152	F153	F154	F155	F156	F157	F158	F159	F160	F161	F162	F163	F164	F165	F166	F167	F168	F169	F170	F171	F172	F173	F174	F175	F176	F177	F178	F179	F180	F181	F182	F183	F184	F185	F186	F187	F188	F189	F190	F191	F192	F193	F194	F195	F196	F197	F198	F199	F199	F200	F201	F202	F203	F204	F205	F206	F207	F208	F209	F210	F211	F212	F213	F214	F215	F216	F217	F218	F219	F220	F221	F222	F223	F224	F225	F226	F227	F228	F229	F229	F230	F231	F232	F233	F234	F235	F236	F237	F238	F239	F240	F241	F242	F243	F244	F245	F246	F247	F248	F249	F250	F251	F252	F253	F254	F255	F256	F257	F258	F259	F260	F261	F262	F263	F264	F265	F266	F267	F268	F269	F270	F271	F272	F273	F274	F275	F276	F277	F278	F279	F280	F281	F282	F283	F284	F285	F286	F287	F288	F289	F290	F291	F292	F293	F294	F295	F296	F297	F298	F299	F299	F300	F301	F302	F303	F304	F305	F306	F307	F308	F309	F310	F311	F312	F313	F314	F315	F316	F317	F318	F319	F320	F321	F322	F323	F324	F325	F326	F327	F328	F329	F329	F330	F331	F332	F333	F334	F335	F336	F337	F338	F339	F340	F341	F342	F343	F344	F345	F346	F347	F348	F349	F350	F351	F352	F353	F354	F355	F356	F357	F358	F359	F360	F361	F362	F363	F364	F365	F366	F367	F368	F369	F370	F371	F372	F373	F374	F375	F376	F377	F378	F379	F379	F380	F381	F382	F383	F384	F385	F386	F387	F388	F389	F390	F391	F392	F393	F394	F395	F396	F397	F398	F399	F399	F400	F401	F402	F403	F404	F405	F406	F407	F408	F409	F410	F411	F412	F413	F414	F415	F416	F417	F418	F419	F420	F421	F422	F423	F424	F425	F426	F427	F428	F429	F429	F430	F431	F432	F433	F434	F435	F436	F437	F438	F439	F440	F441	F442	F443	F444	F445	F446	F447	F448	F449	F450	F451	F452	F453	F454	F455	F456	F457	F458	F459	F460	F461	F462	F463	F464	F465	F466	F467	F468	F469	F470	F471	F472	F473	F474	F475	F476	F477	F478	F479	F479	F480	F481	F482	F483	F484	F485	F486	F487	F488	F489	F490	F491	F492	F493	F494	F495	F496	F497	F498	F499	F499	F500	F501	F502	F503	F504	F505	F506	F507	F508	F509	F510	F511	F512	F513	F514	F515	F516	F517	F518	F519	F519	F520	F521	F522	F523	F524	F525	F526	F527	F528	F529	F529	F530	F531	F532	F533	F534	F535	F536	F537	F538	F539	F540	F541	F542	F543	F544	F545	F546	F547	F548	F549	F550	F551	F552	F553	F554	F555	F556	F557	F558	F559	F559	F560	F561	F562	F563	F564	F565	F566	F567	F568	F569	F570	F571	F572	F573	F574	F575	F576	F577	F578	F579	F579	F580	F581	F582	F583	F584	F585	F586	F587	F588	F589	F590	F591	F592	F593	F594	F595	F596	F597	F598	F599	F599	F600	F601	F602	F603	F604	F605	F606	F607	F608	F609	F610	F611	F612	F613	F614	F615	F616	F617	F618	F619	F619	F620	F621	F622	F623	F624	F625	F626	F627	F628	F629	F629	F630	F631	F632	F633	F634	F635	F636	F637	F638	F639	F640	F641	F642	F643	F644	F645	F646	F647	F648	F649	F650	F651	F652	F653	F654	F655	F656	F657	F658	F659	F659	F660	F661	F662	F663	F664	F665	F666	F667	F668	F669	F670	F671	F672	F673	F674	F675	F676	F677	F678	F679	F679	F680	F681	F682	F683	F684	F685	F686	F687	F688	F689	F690	F691	F692	F693	F694	F695	F696	F697	F698	F699	F699	F700	F701	F702	F703	F704	F705	F706	F707	F708	F709	F710	F711	F712	F713	F714	F715	F716	F717	F718	F719	F719	F720	F721	F722	F723	F724	F725	F726	F727	F728	F729	F729	F730	F731	F732	F733	F734	F735	F736	F737	F738	F739	F740	F741	F742	F743	F744	F745	F746	F747	F748	F749	F750	F751	F752	F753	F754	F755	F756	F757	F758	F759	F759	F760	F761	F762	F763	F764	F765	F766	F767	F768	F769	F769	F770	F771	F772	F773	F774	F775	F776	F777	F778	F779	F779	F780	F781	F782	F783	F784	F785	F786	F787	F788	F789	F789	F790	F791	F792	F793	F794	F795	F796	F797	F798	F799	F799	F800	F801	F802	F803	F804	F805	F806	F807	F808	F809	F810	F811	F812	F813	F814	F815	F816	F817	F818	F819	F819	F820	F821	F822	F823	F824	F825	F826	F827	F828	F829	F829	F830	F831	F832	F833	F834	F835	F836	F837	F838	F839	F840	F841	F842	F843	F844	F845	F846	F847	F848	F849	F850	F851	F852	F853	F854	F855	F856	F857	F858	F859	F859	F860	F861	F862	F863	F864	F865	F866	F867	F868	F869	F869	F870	F871	F872	F873	F874	F875	F876	F877	F878	F879	F879	F880	F881	F882	F883	F884	F885	F886	F887	F888	F889	F889	F890	F891	F892	F893	F894	F895	F896	F897	F898	F899	F899	F900	F901	F902	F903	F904	F905	F906	F907	F908	F909	F910	F911	F912	F913	F914	F915	F916	F917	F918	F919	F919	F920	F921	F922	F923	F924	F925	F926	F927	F928	F929	F929	F930	F931	F932	F933	F934	F935	F936	F937	F938	F939	F940	F941	F942	F943	F944	F945	F946	F947	F948	F949	F950	F951	F952	F953	F954	F955	F956	F957	F958	F959	F959	F960	F961	F962	F963	F964	F965	F966	F967	F968	F969	F969	F970	F971	F972	F973	F974	F975	F976	F977	F978	F979	F979	F980	F981	F982	F983	F984	F985	F986	F987	F988	F989	F989	F990	F991	F992	F993	F994	F995	F996	F997	F998	F999	F999	F1000	F1001	F1002	F1003	F1004	F1005	F1006	F1007	F1008	F1009	F1010	F1011	F1012	F1013	F1014	F1015	F1016	F1017	F1018	F1019	F1019	F1020	F1021	F1022	F1023	F1024	F1025	F1026	F1027	F1028	F1029	F1029	F1030	F1031	F1032	F1033	F1034	F1035	F1036	F1037	F1038	F1039	F1040	F1041	F1042	F1043	F1044	F1045	F1046	F1047	F1048	F1049	F1050	F1051	F1052	F1053	F1054	F1055	F1056	F1057	F1058	F1059	F1059	F1060	F1061	F1062	F1063	F1064	F1065	F1066	F1067	F1068	F1069	F1069	F1070	F1071	F1072	F1073	F1074	F1075	F1076	F1077	F1078	F1079	F1079	F1080	F1081	F1082	F1083	F1084	F1085	F1086	F1087	F1088	F1089	F1089	F1090	F1091	F1092	F1093	F1094	F1095	F1096	F1097	F1098	F1099	F1099	F1100	F1101	F1102	F1103	F1104	F1105	F1106	F1107	F1108	F1109	F1109	F1110	F1111	F1112	F1113	F1114	F1115	F1116	F1117	F1118	F1119	F1119	F1120	F1121	F1122	F1123	F1124	F1125	F1126	F1127	F1128	F1129	F1129	F1130	F1131	F1132	F1133	F1134	F1135	F1136	F1137	F1138	F1139	F1140	F1141	F1142	F1143	F1144	F1145	F1146	F1147	F1148	F1149	F1150	F1151	F1152	F1153	F1154	F1155	F1156	F1157	F1158	F1159	F1159	F1160	F1161	F1162	F1163	F1164	F1165	F1166	F1167	F1168	F1169	F1169	F1170	F1171	F1172	F1173	F1174	F1175	F1176	F1177	F1178	F1179	F1179	F1180	F1181	F1182	F1183	F1184	F1185	F1186	F1187	F1188	F1189	F1189	F1190	F1191	F1192	F1193	F1194	F1195	F1196	F1197	F1198	F1199	F1199	F1200	F1201	F1202	F1203	F1204	F1205	F1206	F1207	F1208	F1209	F1210	F1211	F1212	F1213	F1214	F1215	F1216	F1217	F1218	F1219	F1219	F1220	F1221	F1222	F1223	F1224	F1225	F1226	F1227	F1228	F1229	F1229	F1230	F1231	F1232	F1233	F1234	F1235	F1236	F1237	F1238	F1239	F1240	F1241	F1242	F1243	F1244	F1245	F1246	F1247	F1248	F1249	F1249	F1250	F1251	F1252	F1253	F1254	F1255	F1256	F1257	F1258	F1259	F1259	F1260	F1261	F1262

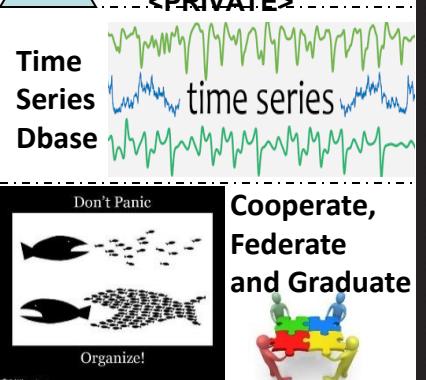
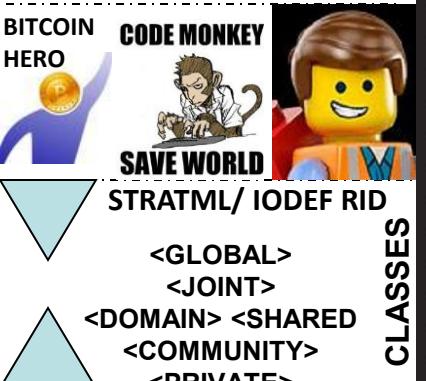
How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

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

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



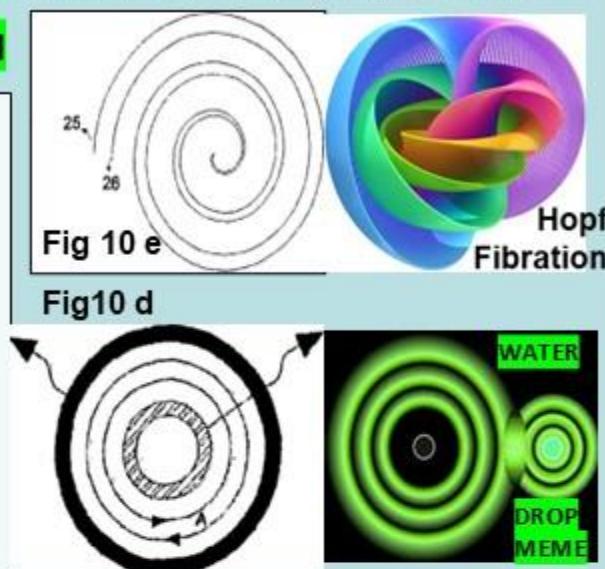
CHALLENGING BUT ACHIEVABLE TASKS





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





TESLA Harmonic Sphere Flux Resonator

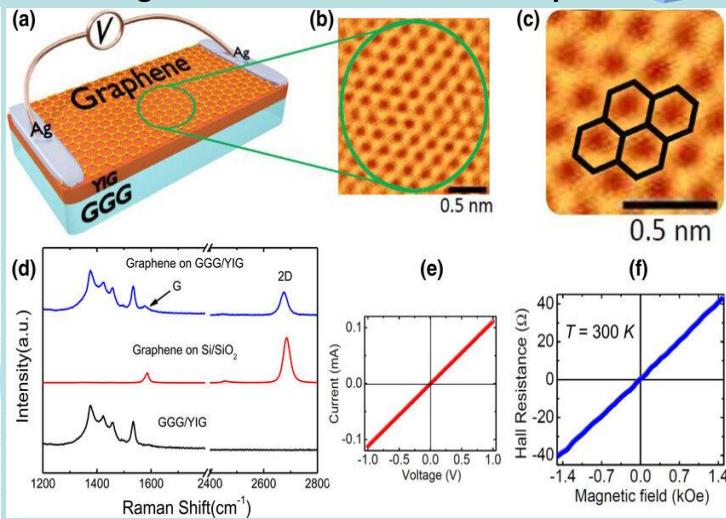
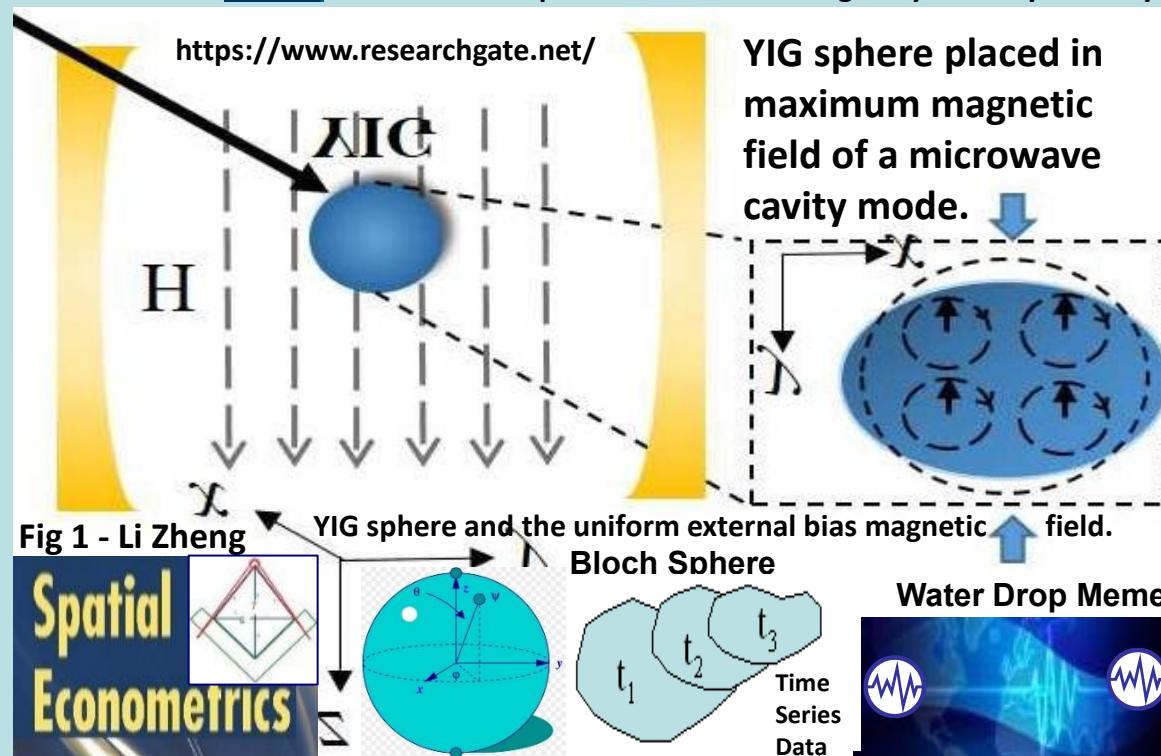
ENERGY / DATA

"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]



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



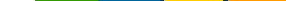
The Variance of...

the partial derivative w.r.t. ϑ of...

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

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



USPTO 13/573,002 Time – Space Meter  Metrics

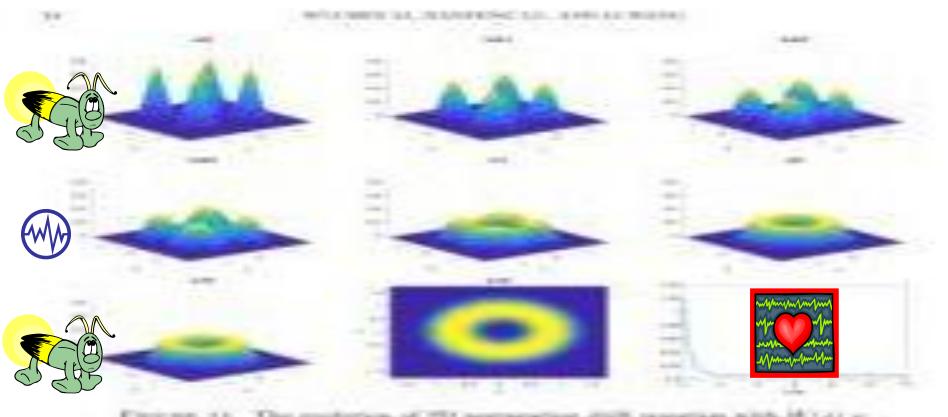
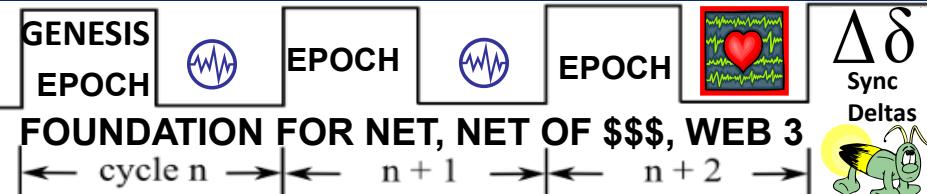


Figure 3.6. The evolution of 2D1 superposition with equation with $\delta t_{\text{cav}} = \delta t_{\text{cav}}^{\text{cav}} + \delta t_{\text{cav}}^{\text{ext}}$ and $\delta t_{\text{cav}}^{\text{cav}} = -\frac{1}{2} \ln(2) \tau$. The steady state is a standing profile with major and minor radius $R_0 = \frac{1}{2}$, $R_0 = \sqrt{\frac{3}{2}}$. Our computation domain is $[-1.5, 2.0]^2$, and mesh size are $\Delta x = \Delta y = 0.1$, $N = 64$. Discretized loss parameter is $\alpha^{(0)} = 3.23 \times 10^{-3}$, and $\beta = 100$ is used to represent the losses.

$$\partial_{\theta} \phi = \nabla \cdot \left[\rho \nabla \left(\frac{1}{2} \delta D(\rho) \phi + \Phi(\rho) \right) \right]$$

width, 1.7×10^{-10} nm, and maximal coordination, consisting of four Cations. In this case, two sites are involved in coordination and therefore its stoichiometry is unpaired, Fe^{2+} . As seen in Fig. 12, the density of complexes has the regularities given in Table 12, very regularly. So the last two entries point, without consequence of the studied state (unpaired) to the next mentioned with the lowest stoichiometry and otherwise a paired state.



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



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

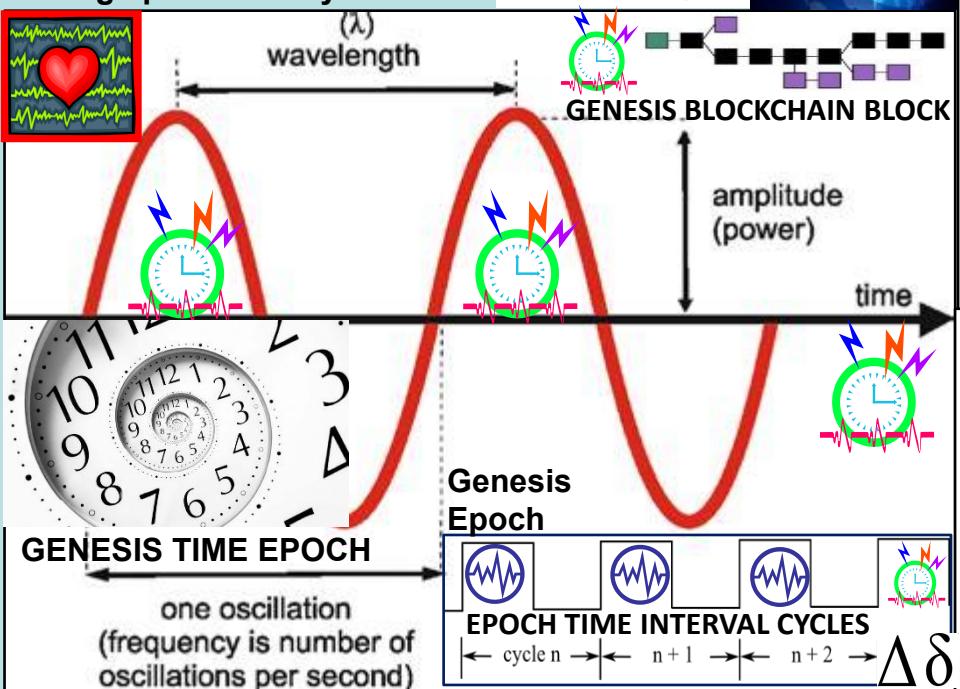
THESES: All things net, net of programmable \$\$\$ are formed using:

ENERGY / DATA WAVE METRICS / METERS

BELL STATE QUANTUM COMPUTING

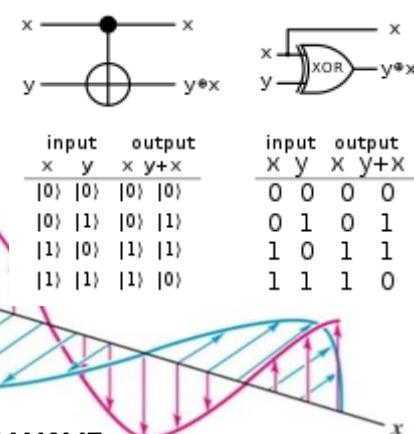
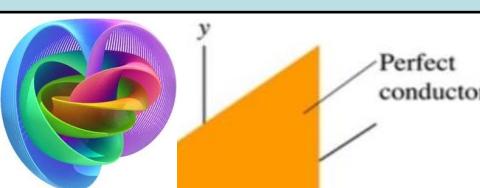
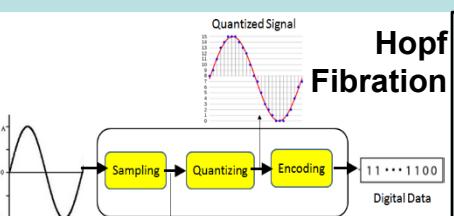
1) Time epochs created by quartz crystal silicon chips

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



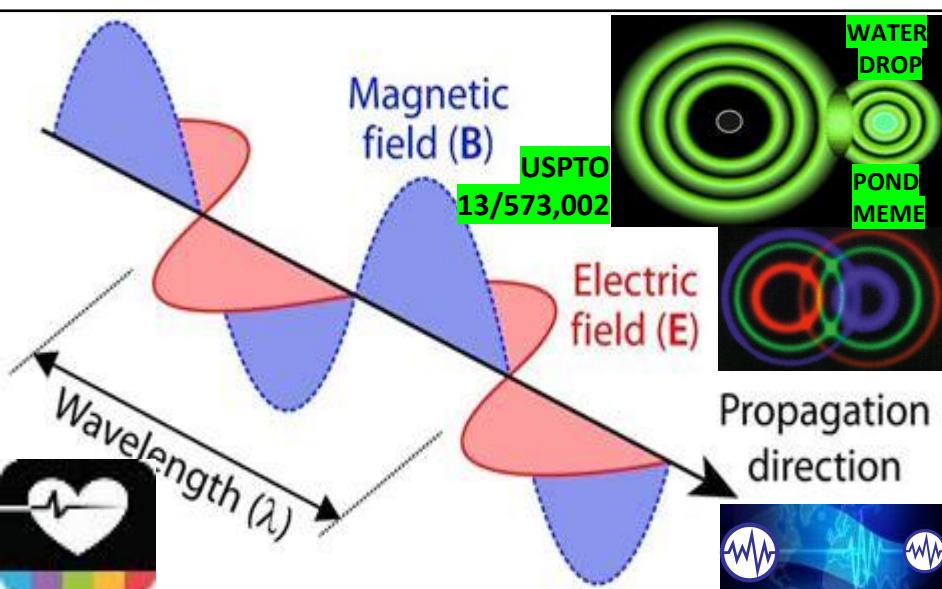
Quantum Computing Vibrations encode, process data like quantum computers. A simple mechanical system built from aluminum rods uses vibrations to encode information, mimicking quantum computing in a non-quantum system. "Light is made from photons, the quantum of light. mechanical vibrations or sound waves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

[Link: https://phys.org/news/2018-06-quantum_1.html](https://phys.org/news/2018-06-quantum_1.html)



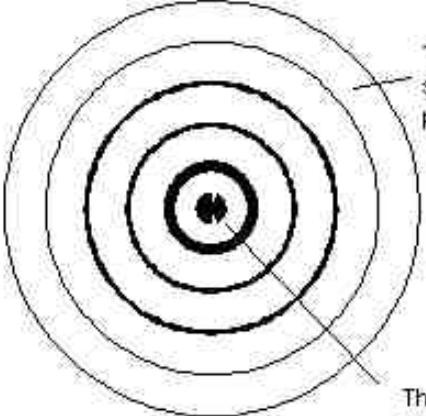
STANDING ELECTRO- MAGNETIC WAVE

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



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

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



Paul Revere Linear, sequential meme

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

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

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

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

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

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

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

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

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

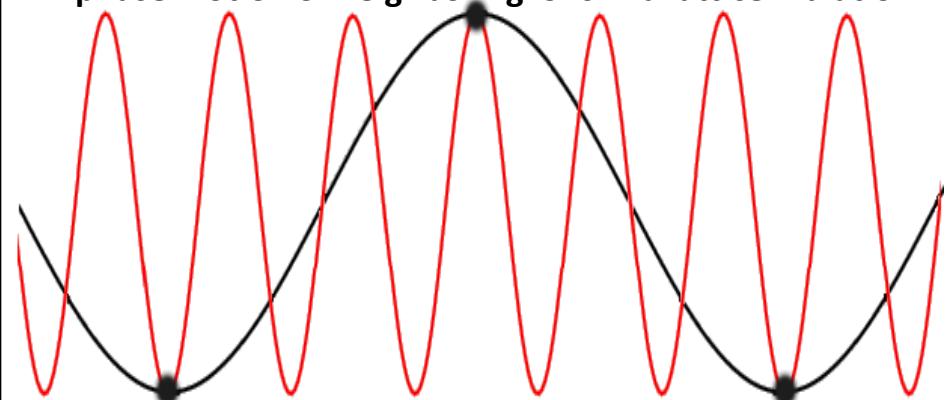


"Simplicity is the ultimate sophistication".
(Leonardo da Vinci)

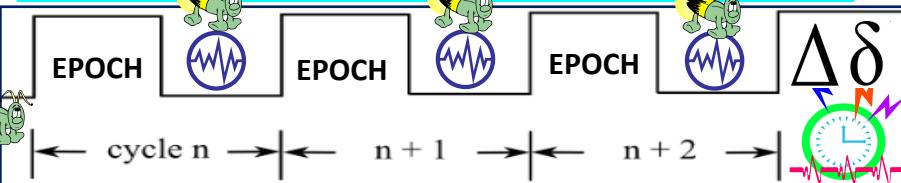
ACOUSTIC PHONON

USPTO 13/573,002

in-phase motion of neighboring ions in a lattice vibration

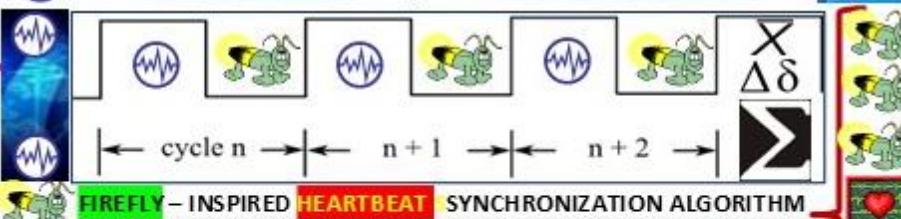
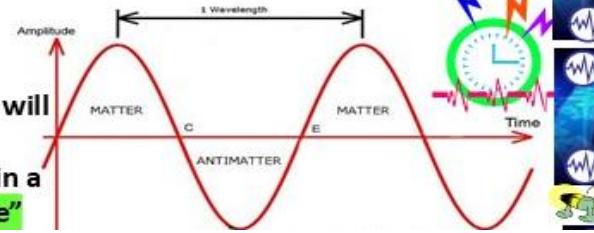


Phonons: A phonon is a quantum of the lattice vibration, the collective motion of atoms constituting a crystal. There are two types of phonons: optical and acoustic. The optical phonon has high-frequency oscillation in the THz range and the unit cell center of mass does not move. It undergoes a dipole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



"nodes eventually agree" stochastic harmonization temporal sync

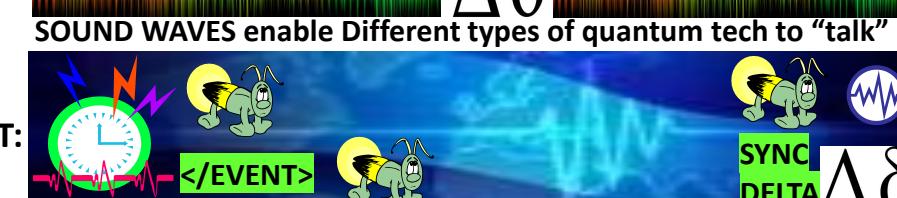
"Similarly, the electromagnetic force will also be found to vary continuously and retain a TIME-AVERAGED value"



FIREFLY - INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM

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

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

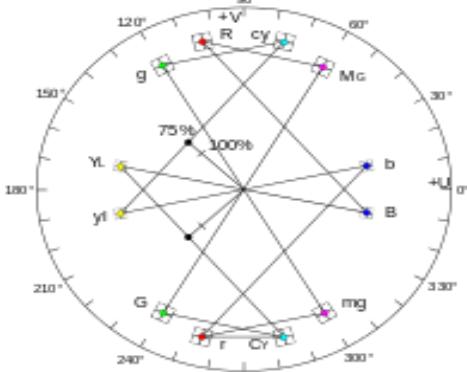
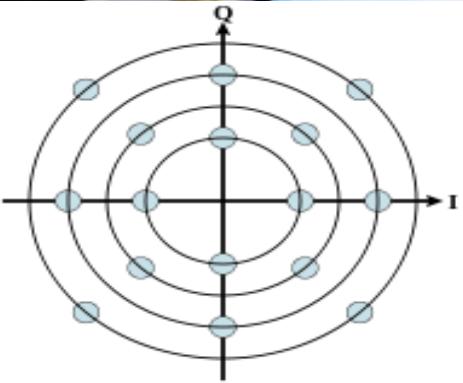


</EVENT>

SYNC DELTA $\Delta\delta$



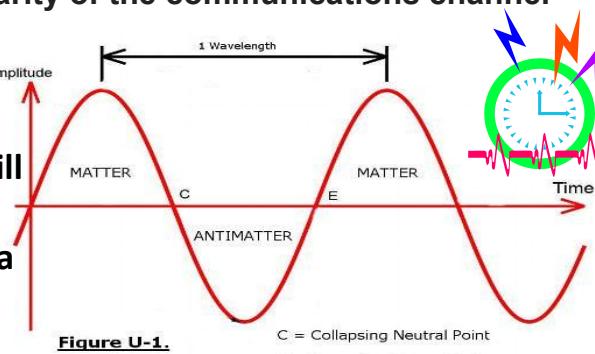
www.RLighthouse.com



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”

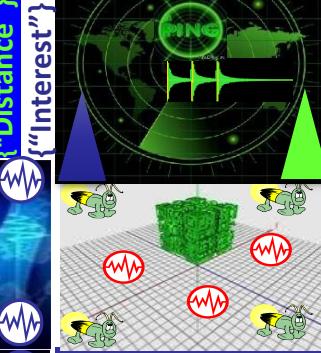


Sine wave of our blinking universe. The 4 fundamental forces will all be found to vary continuously when sampled at 2x the blinking frequency, per Nyquist-Shannon theory

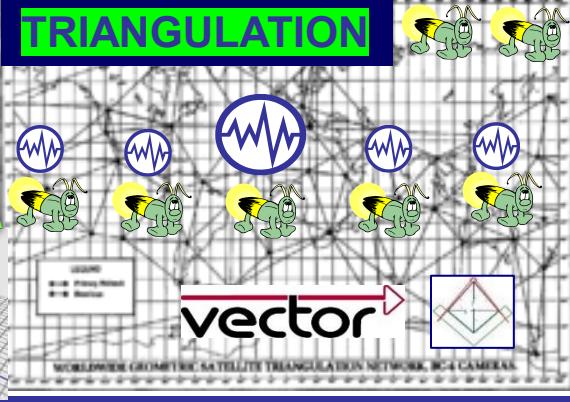


USPTO 13/573,002
sawconcepts.com/index

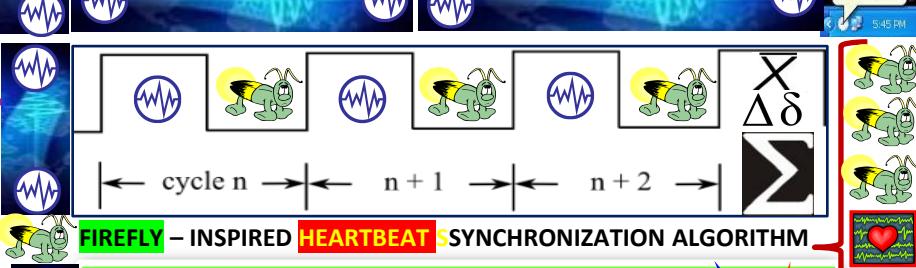
NDN {“Distance”} {“Interest”}
IDMaps SonarHops



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



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



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





Three ideas combined

HOW TRUTHCOIN WORKS:

1) Tradable Reputation

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

2) SVD Cross-Validation

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



3) Strategic Use of TIME

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

2. A kind of ‘Future Wikipedia’

	Wikipedia	Truthcoin
Focus	Outcomes of <i>past</i> events. Consensus on known facts.	Outcomes of <i>future</i> events. <i>Future</i> consensus on <i>knowable</i> facts.

3. A software protocol

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

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



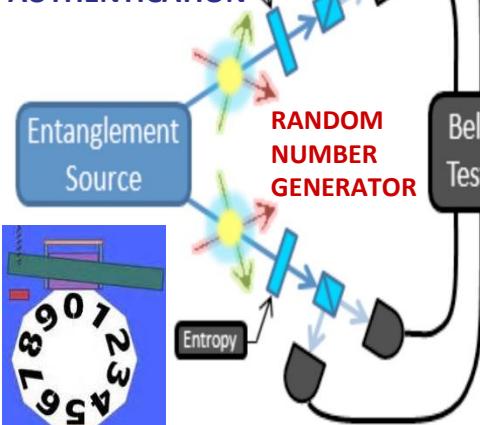
NIST QUANTUM ENCRYPTION RANDOMIZATION BEACON

UNPREDICTABLE SAMPLING

SECURE AUTHENTICATION

SECURE MULTI

PARTY /
AUTHENTICATION



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 between any IP address pair State Snap Shots

Time / Distance Metrics



PROXIMITY

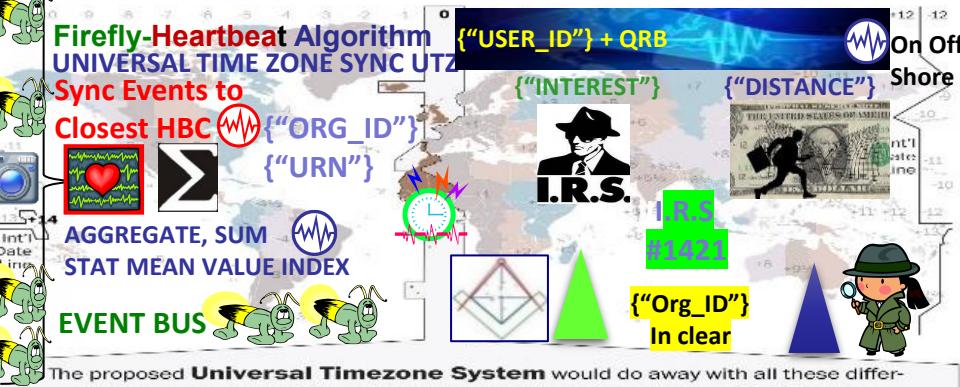
OFFSHORE BEACONS ONSHORE



NDN

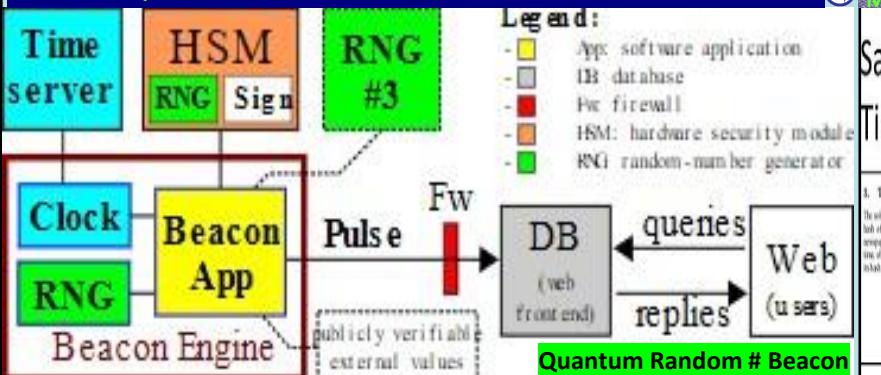
</interest></distance>

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



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

NIST Quantum Random Number Beacon



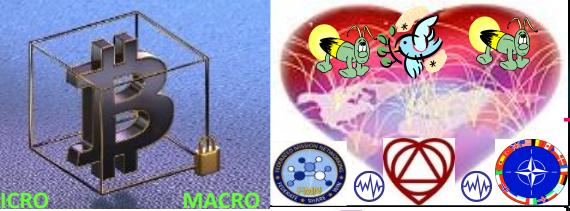
"The external environment could update resources at random..."

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

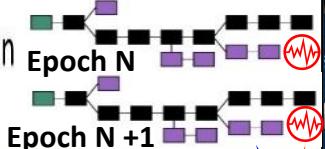
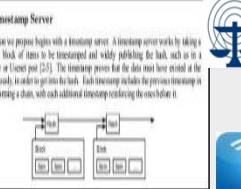


QubitCoin Interval: Every 30 Seconds

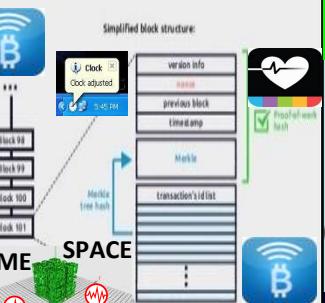
The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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



Satoshi Bitcoin Blockchain Time Stamp Server



What does a block look like?



ALGORITHMIC REGULATION HEARTBEAT SYNC DELTAS



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

Epoch Time Cycles

E0 E1 E2 E3...



ROSETTA
STONE
BREVITY
CODES



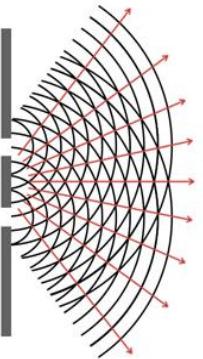
SYNTAX LEXICON

Double-Slit Experiment

Screen with two slits

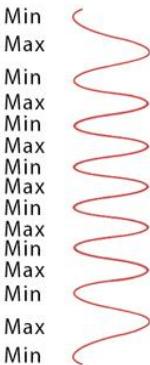
PARTICLE ?

Sodium lamp



Screen

WAVE ?



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

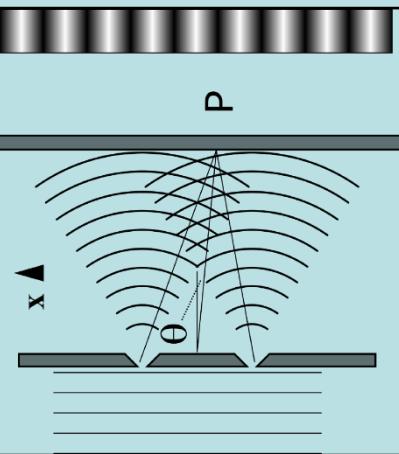
Interference of light waves due to two tiny slits and arrows indicate direction of wave propagation

Alternating bright and dark fringes due to interference of light waves

Intensity of the fringes shows the maxima and minima

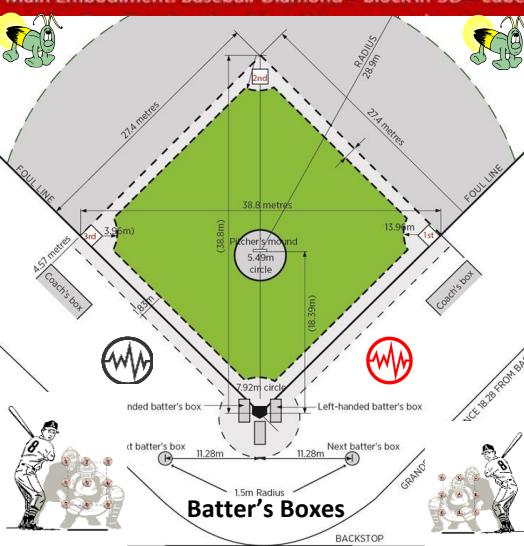
Science Facts

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



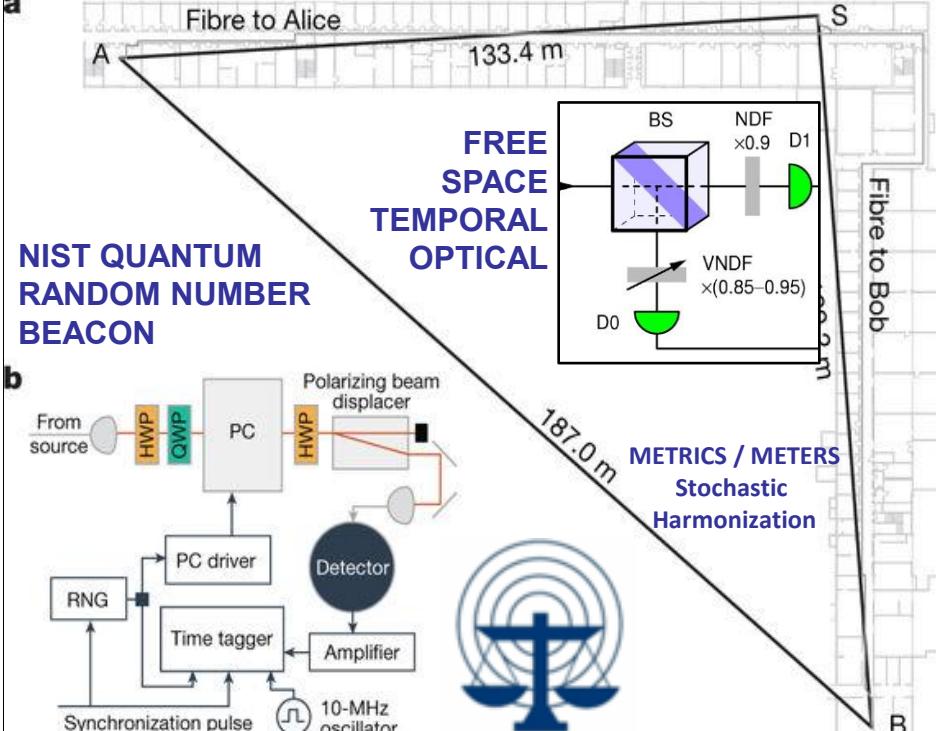
USPTO APPLICATION 13/573 002

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

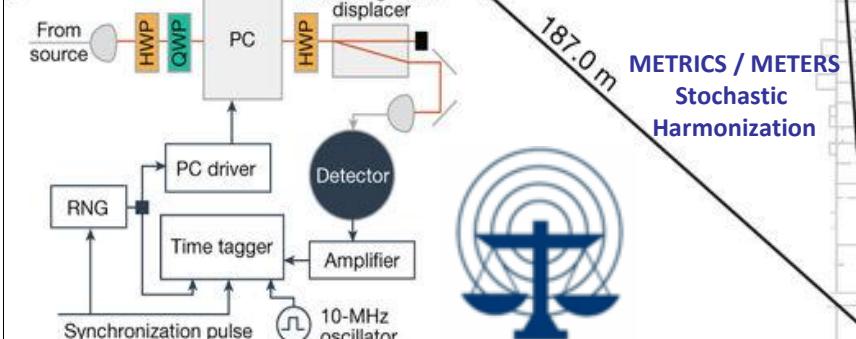


SCOTUS ALICE RULING: "Claims may not direct towards abstract ideas" / Physical = opposite of abstract

a



b



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

State Meta

Data Snapshots

Survey Point

MICRO CYCLES

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



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



ALICE Corp VS CLS BANK SC 573 US 134 2347

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

first base
RUNNER
Message Bus

Firefly – Heartbeat Algo

X EVENTS

Fix {"108"}

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

Microcycles

Microcycles

Microcycles

Microcycles

The Hopf Fibration

Edmund Harriss

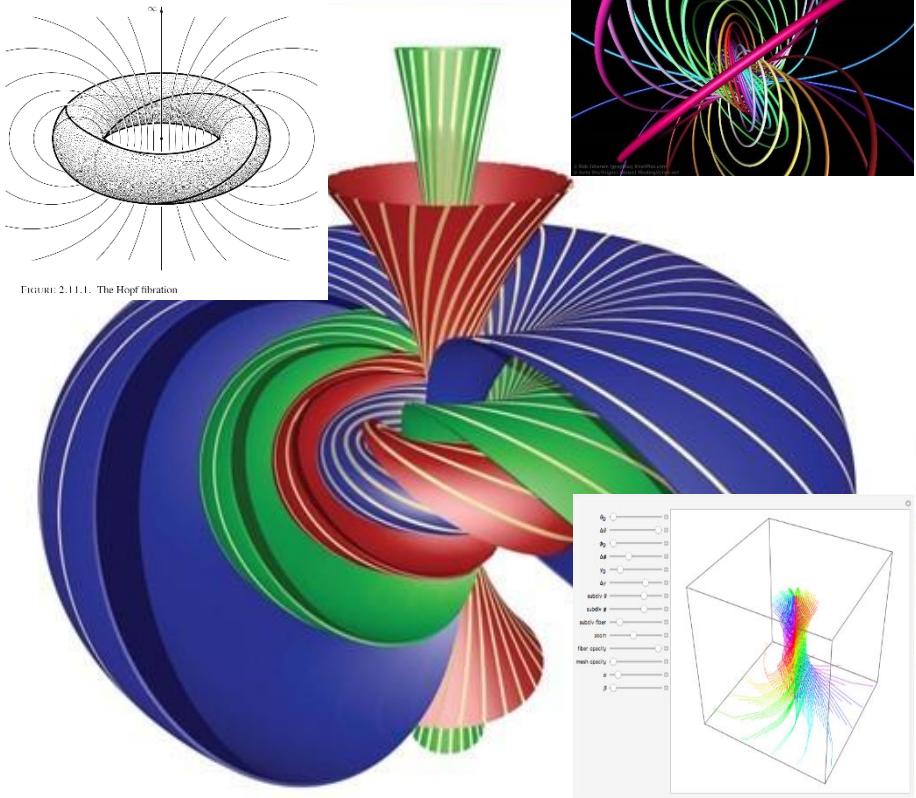
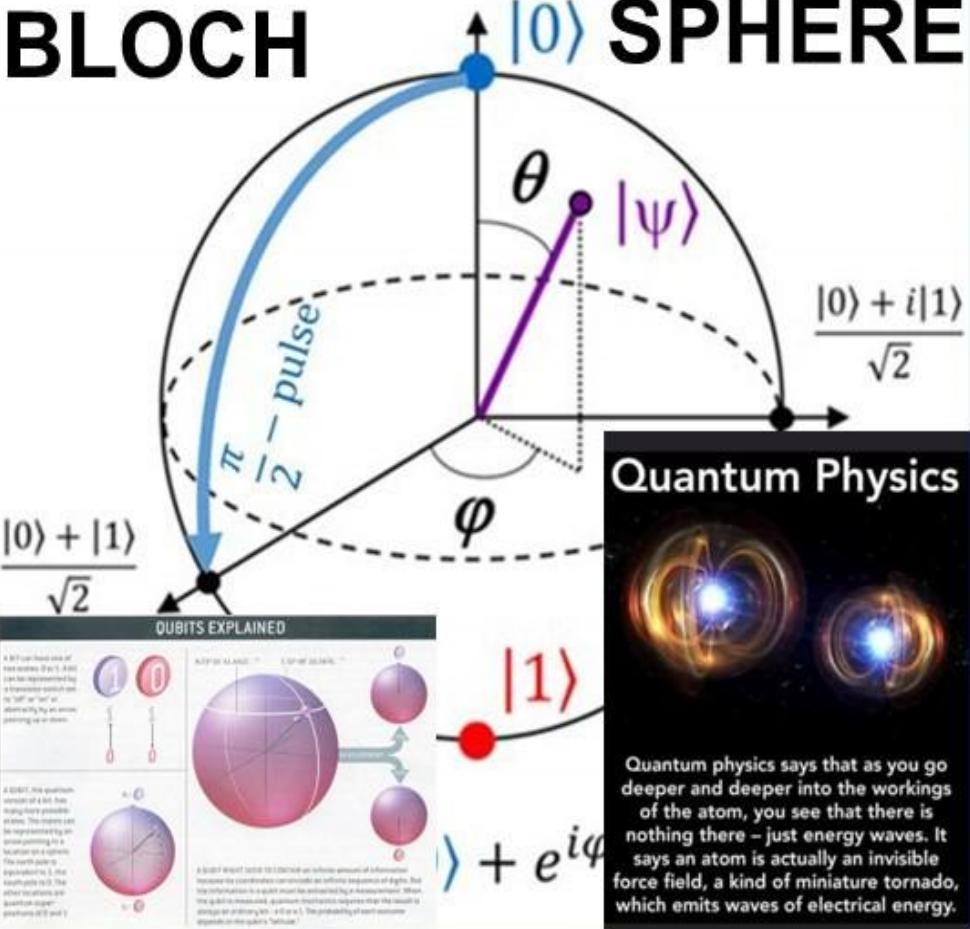


FIGURE 2.11.1. The Hopf fibration

BLOCH SPHERE



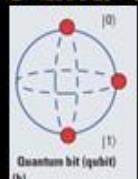
Hopf Fibration / #Bloch sphere

"the most important object in the universe"

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

Paul Revere linear - sequential hop count meme

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





THE 1919 WORLD SERIES

What Really Happened?

William A. Cook



**TROLLS
ARE DRAGGING
DOWN AMERICAN
INNOVATORS.**

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

Application Developers Alliance

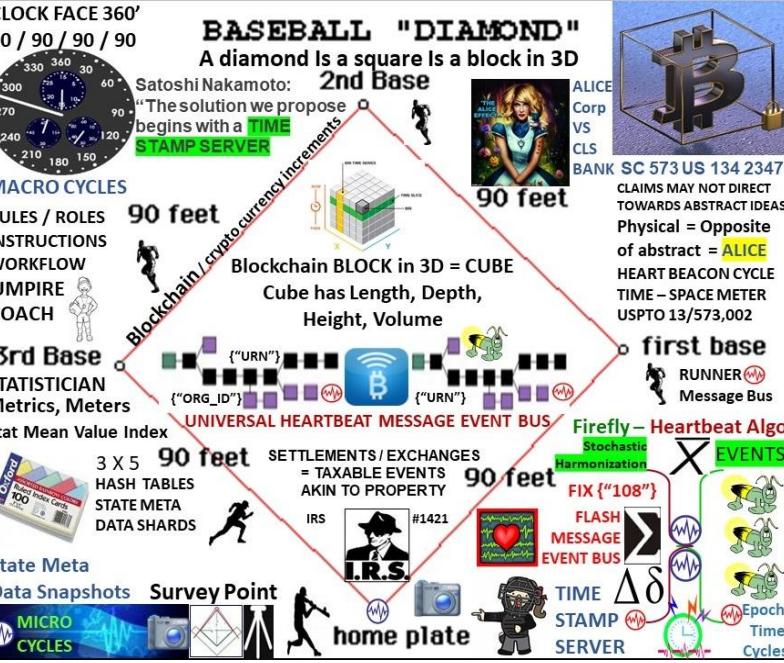


RULING: “claims may not direct towards abstract ideas”



USPTO SCREEN CAPTURES SUSPENDED PAIR RULES

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





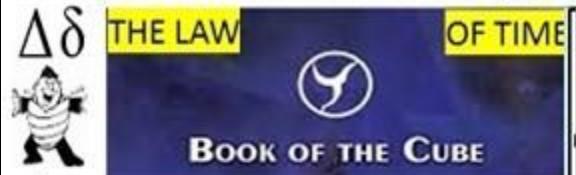
USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter

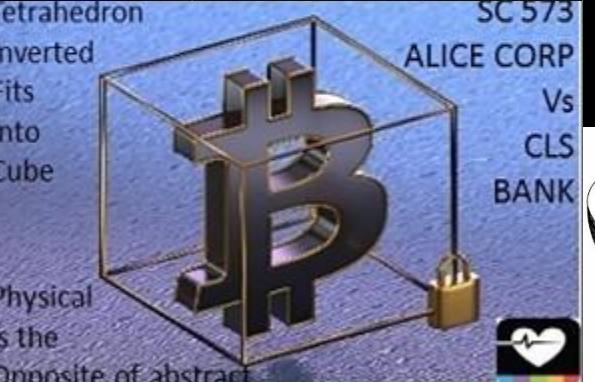
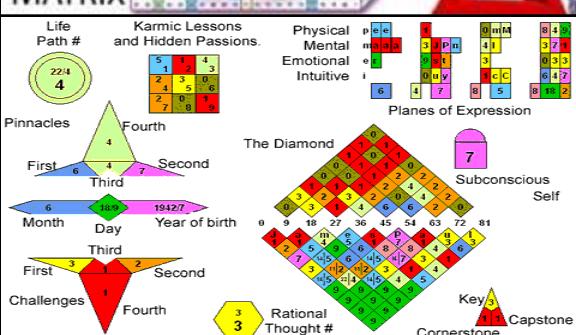
Main Embodiment: Baseball Diamond = block in 3D = cube

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

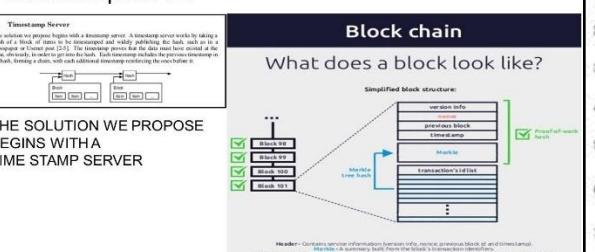
"We can synchronize ourselves in time for a common purpose" Universal Blockchain Meme



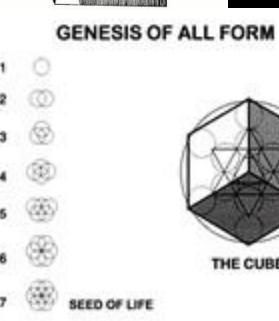
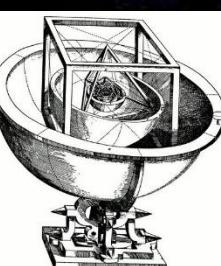
First
Baseball
Players
Union
Formed
1870



Satoshi Bitcoin Blockchain Time Stamp Server

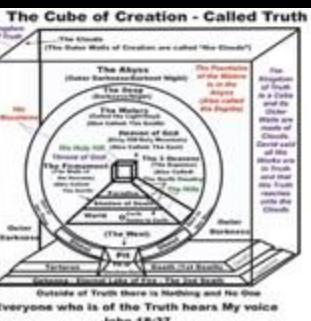


Metatron's Cube and the Platonic Solids



by: Tom Rimbault

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





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

-Buckminster Fuller

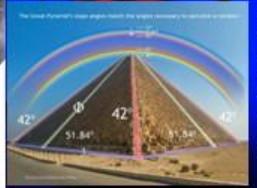


THE GREAT CONJUNCTION IN AQUARIUS

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

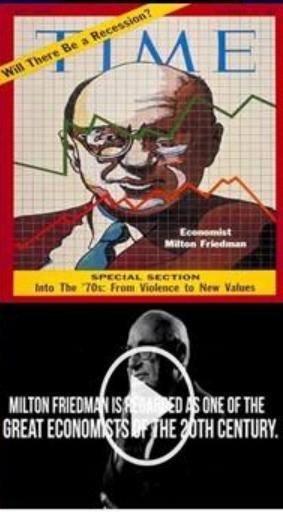
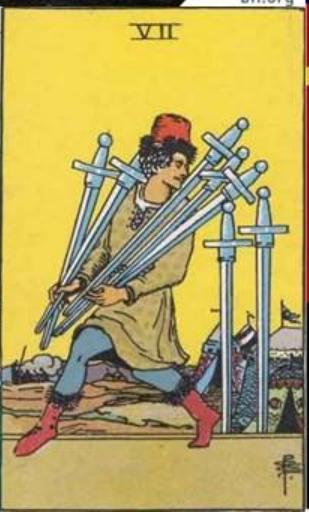
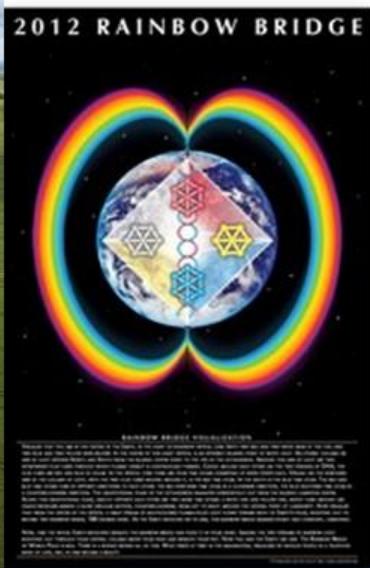
Over the next ten years, we are going to see our world innovate unlike never before, particularly in the fields of AI, technology, science, space travel, UFOs, networks, and the Internet. Major Universal truths will also be revealed as we welcome the New Age of Aquarius. The old world will soon come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

photo by werner du plessis



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

~ Edgar Cayce



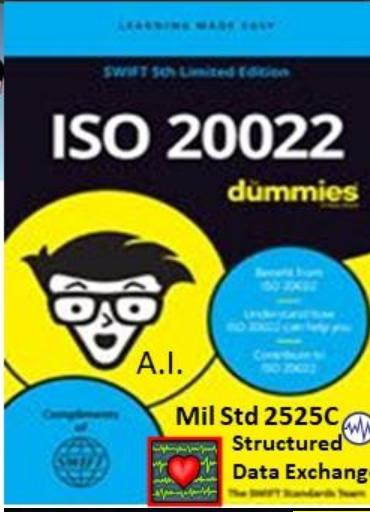
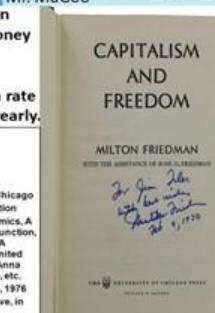
"ONLY A CRISIS—ACTUAL OR PERCEIVED—PRODUCES REAL CHANGE. WHEN THAT CRISIS OCCURS, THE ACTIONS THAT ARE TAKEN DEPEND ON THE IDEAS THAT ARE LYING AROUND."

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

Milton Friedman — Preface to Capitalism & Freedom 1962

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

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



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

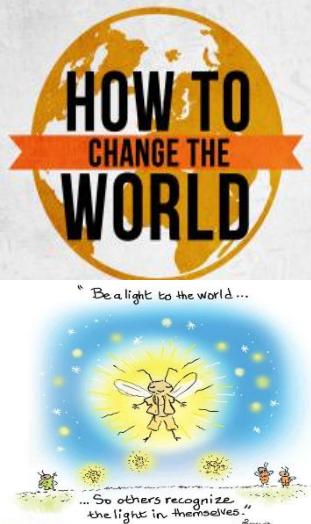
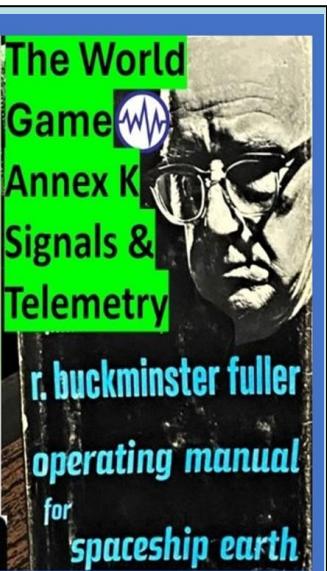
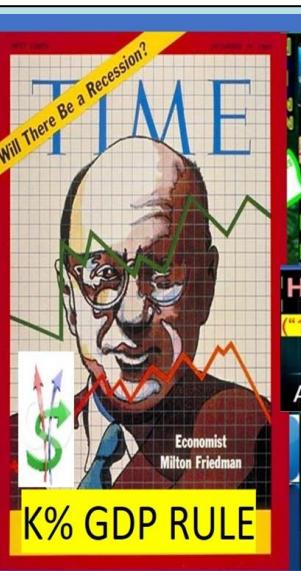
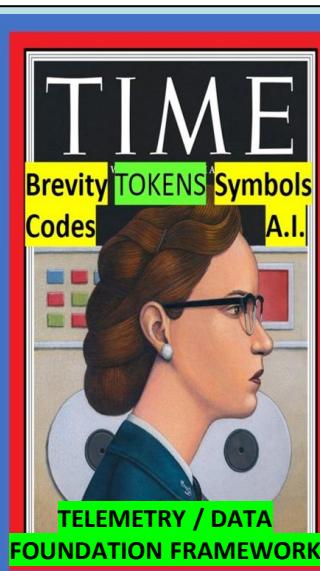
Buckminster Fuller "build a new model that makes the old model obsolete"

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

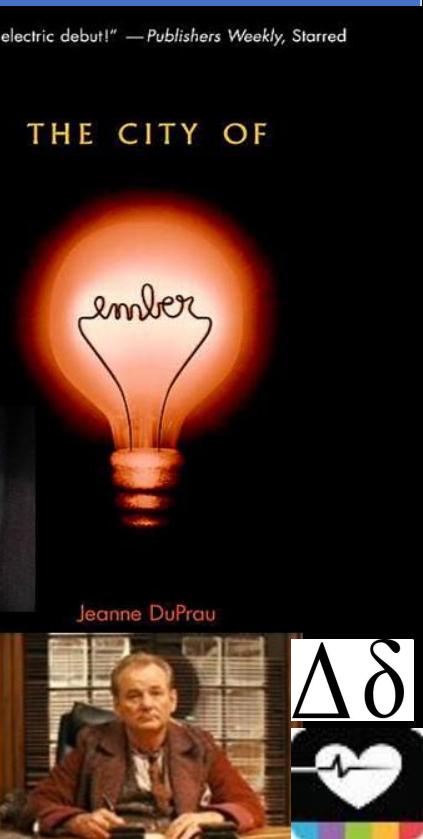
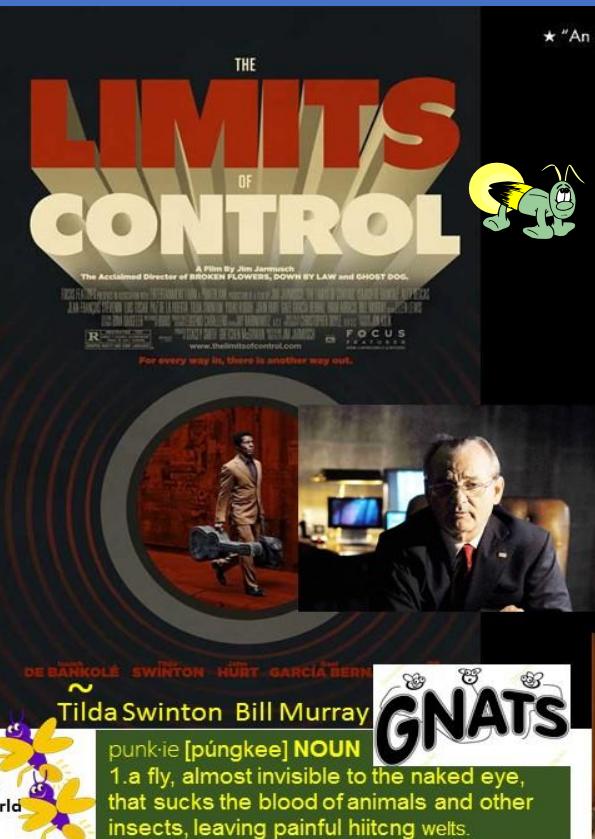
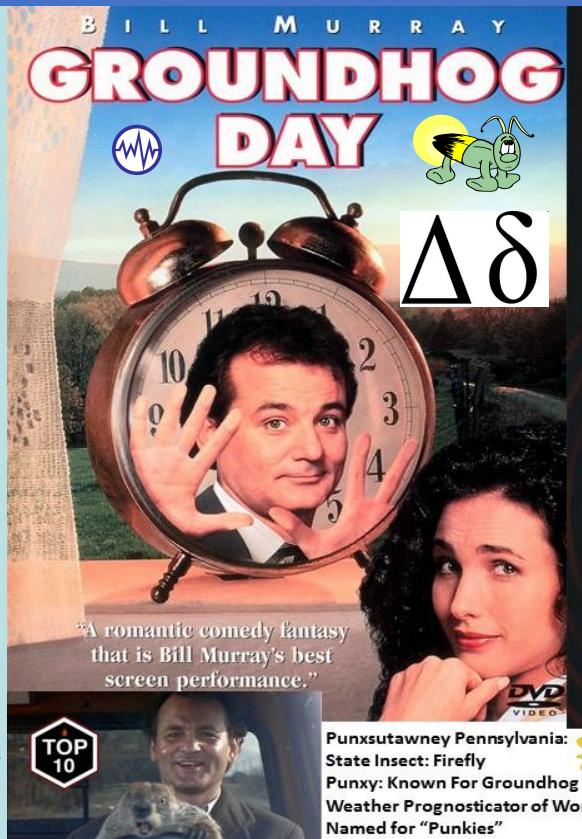
#algorithmic #stablecoin #buckminster #fuller #cryptocurrency #Milton #Friedman



DISNEY'S FANTASIA



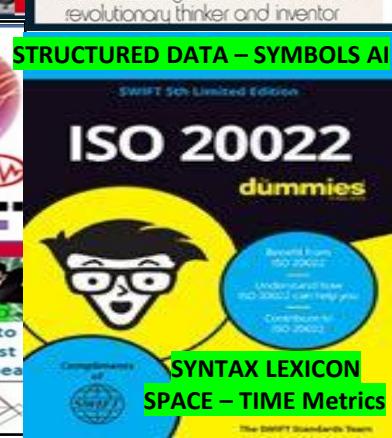
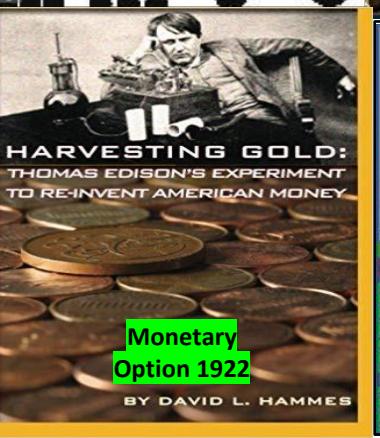
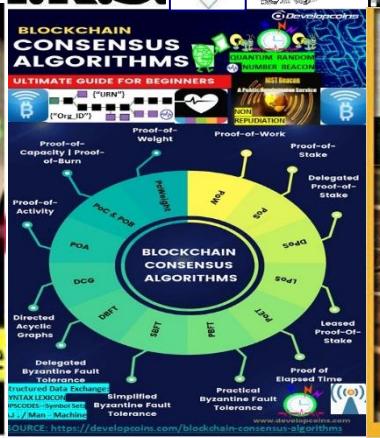
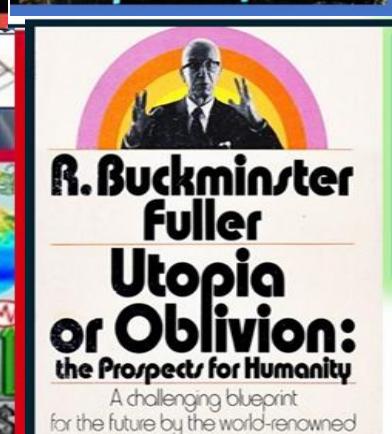
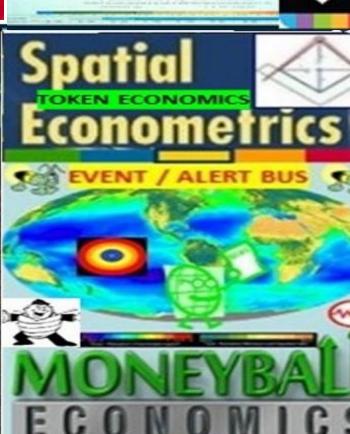
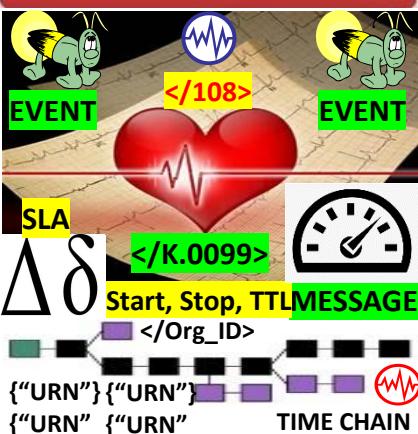
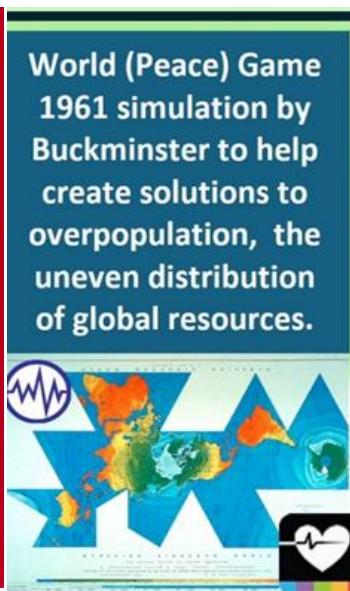
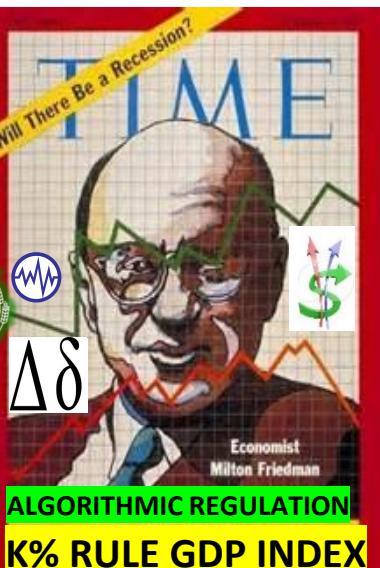
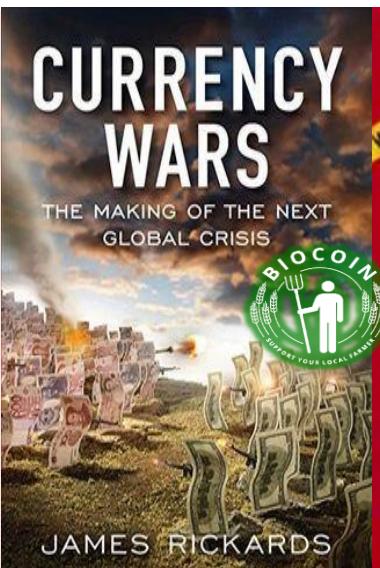
UNIVERSAL LAW CAUSE / EFFECT ACTION / INACTION IF / Then / or.. ELSE
heart icon
colorful bar
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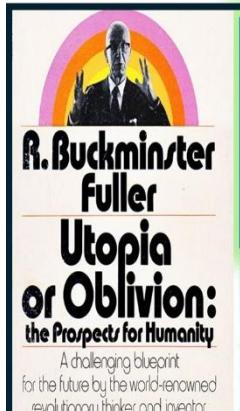


DE BANKOLE SWINTON HURT GARCIA BERN
~ Tilda Swinton Bill Murray
Punkie [pungkee] NOUN
1. a fly, almost invisible to the naked eye, that sucks the blood of animals and other insects, leaving painful hictng welts.



GNATS





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



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

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



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

MYSTIC YOD



“Claims may not direct towards abstract ideas”

Bloomberg Law:

Crypto Lawsuit Deluge

Has Big Firms Scrambling to Keep Up



Satoshi Nakamoto Reveal #2

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



Wayward Son

