

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



FIREFLY-HEARTBEAT ALGORITHM

DeFI

Eco Econ Incentive

TIME - SPACE METRICS METERS

HEARTBEAT % REAL GDP

"108"

ALGORITHMIC REGULATION

Gravity field variation
Electric field variation - Scalar Electrostatic Potential wave
 ΔG field $\approx 10^{-38}$ electro-weak force variation
Bytes: 01010101
3D "local space" expansion phase — 3D "local space" contraction phase

SCOTUS ALICE 2014

SCOTUS Alice
SCT. 573 134 2347

USPTO

13/573,002

Battlefield Digitization
Net Enabled Operations
Swords to Plowshare
"Last, Least among you"
Federate and graduate

THE LAW OF TIME . org

THE YOD

THE ALICE EFFECT...

SCOTUS Alice in Wonderland 2014

1 EARTH / 1 PEOPLE / 1 TIME

Cape Hatteras 2nd Location

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

Hopf Fibration

All is energy wave form motion Tesla

Sound waves (Fermilab)... key To quantum system Sync, Stochastic harmonization

Blockchain DLT Qubit...

LAYERS = abstractions not SCOTUS ALICE COMPLIANT

ALL NET, NET OF \$\$\$ ARTIFACTS CREATED WITH:

1. Epoch Time Cycles 2 Syntax

>1 DAVIDs

>1 Goliaths

>1 TEAMS

FUTURE MAN

Born: February 10th 1960 & 06:44 AM

Aquarius

Aquarius Rising

Mystic Yod

THE "SCRIBE"

SCOTUS ALICE RULING 2014

DISRUPTOR IN CHIEF

"FATHER OF DEFI"

FINANCIAL NOSTRADAMUS

REGGIE MIDDLETON

US11196566

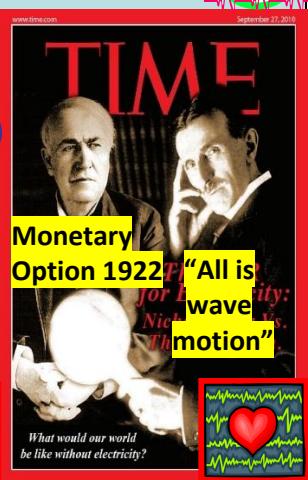
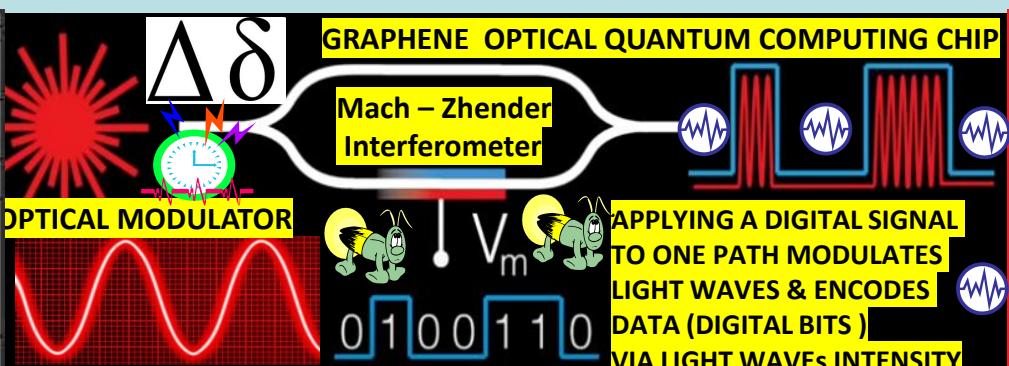
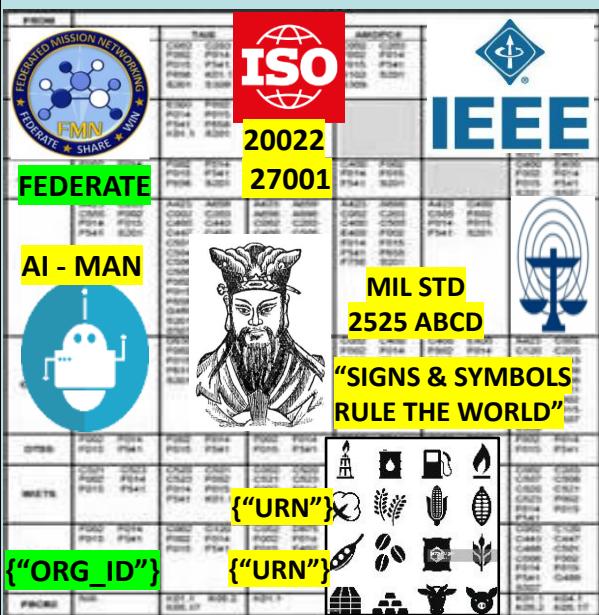
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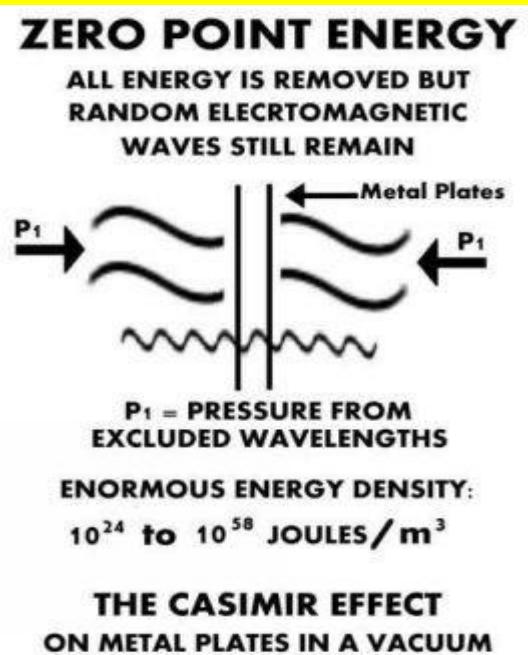
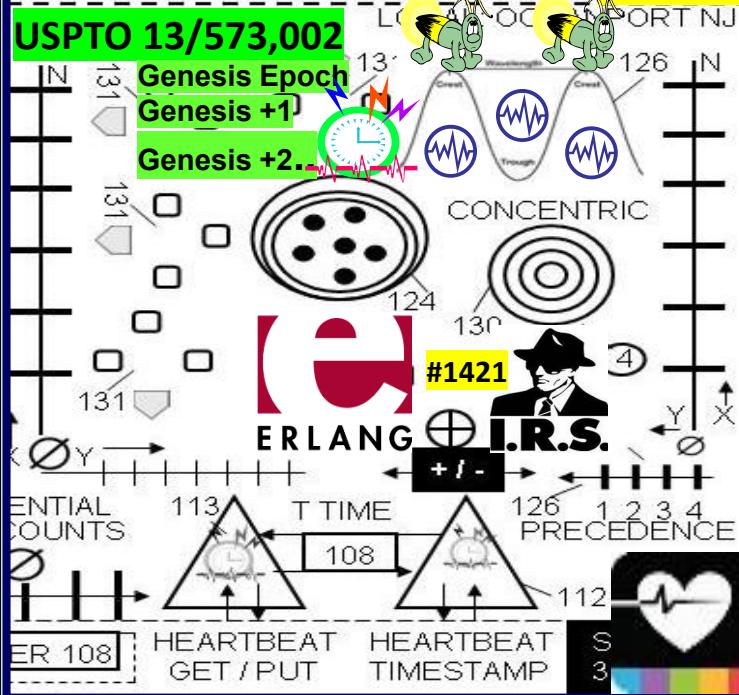
david_gol fotosearch.com

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



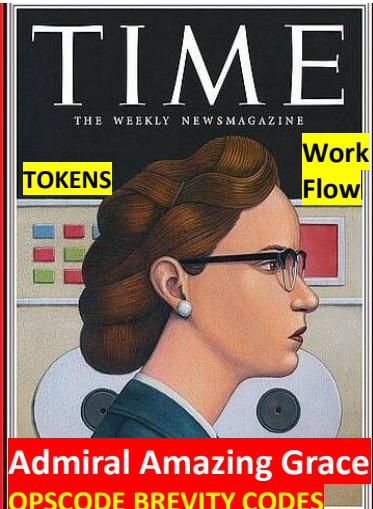
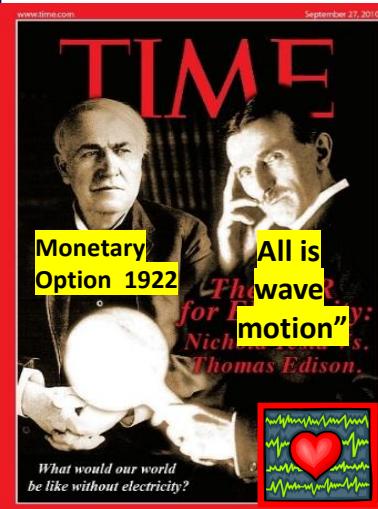
Electronic-photonic quantum chip: quantum silicon chip array of "quantum light factories"

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

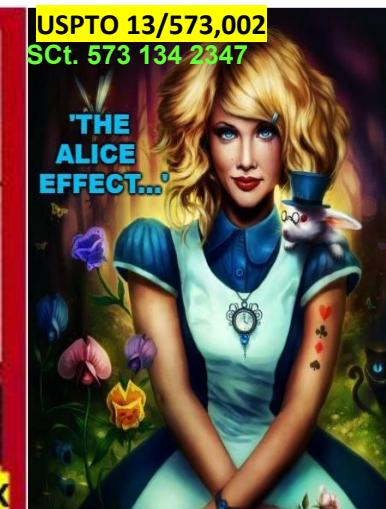
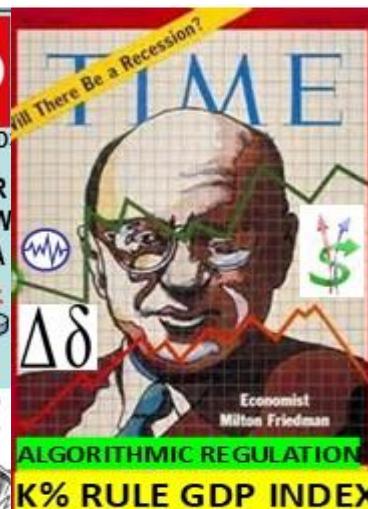


QFS Quantum - DeFi system of DAO federated systems checklist:

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

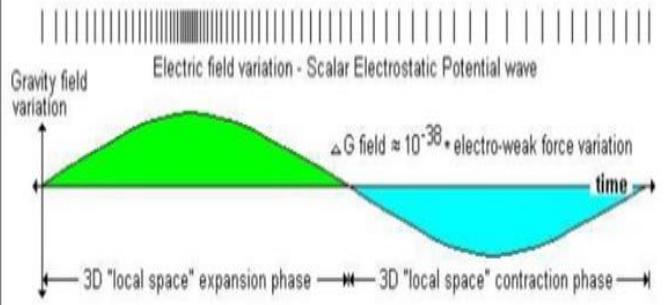


NATO	ISO
STOCK MIC CODES	</ORG_ID>
STRUCTURED DATA EXCHANGE	</URN>
TEMPLATE FORMS	R
300+ USE CASES	W
LOGIC / FILTERS	A
SYNTAX / SYMBOL	Real World Assets
LEXICON LIBRARY	A.I.



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

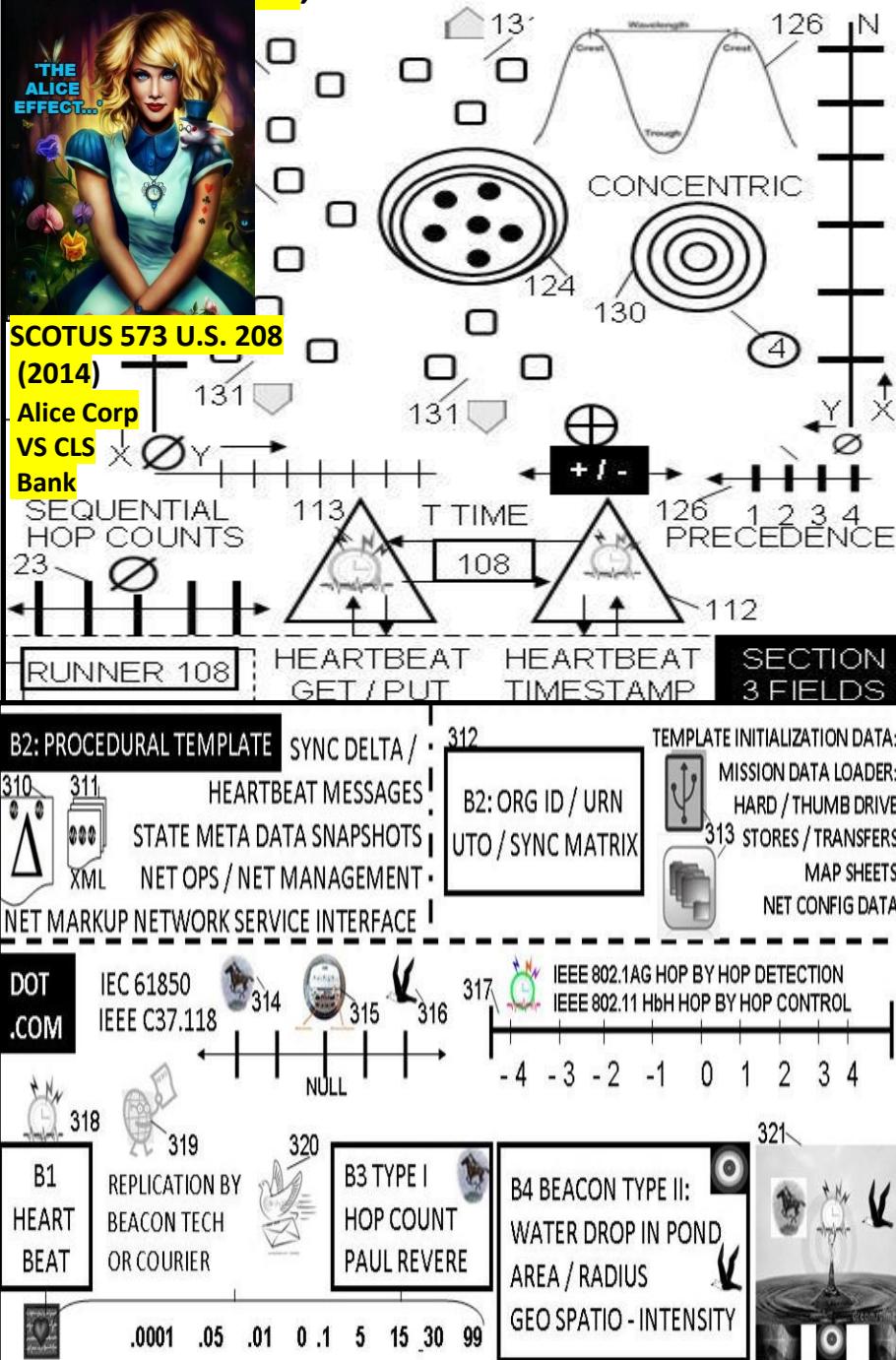
USPTO 13/573,002 The Heart Beacon Cycle Time - Space

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

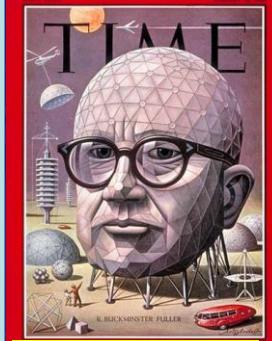
All things net, net of money, QFS, AI blockchains, hash-graphs etc., (time chains) are formed with unicast, multicast, anycast protocols, (statistically predictive) workflow logic = A.I. artificial intelligence propagated by electro-magnetic wave form motion described by nature

USPTO 13/573,002

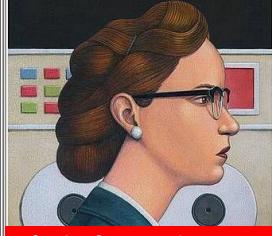


Timekeeper is the primary antagonist in Borderlands 4, a ruthless dictator who rules over the planet Kairos from on high.

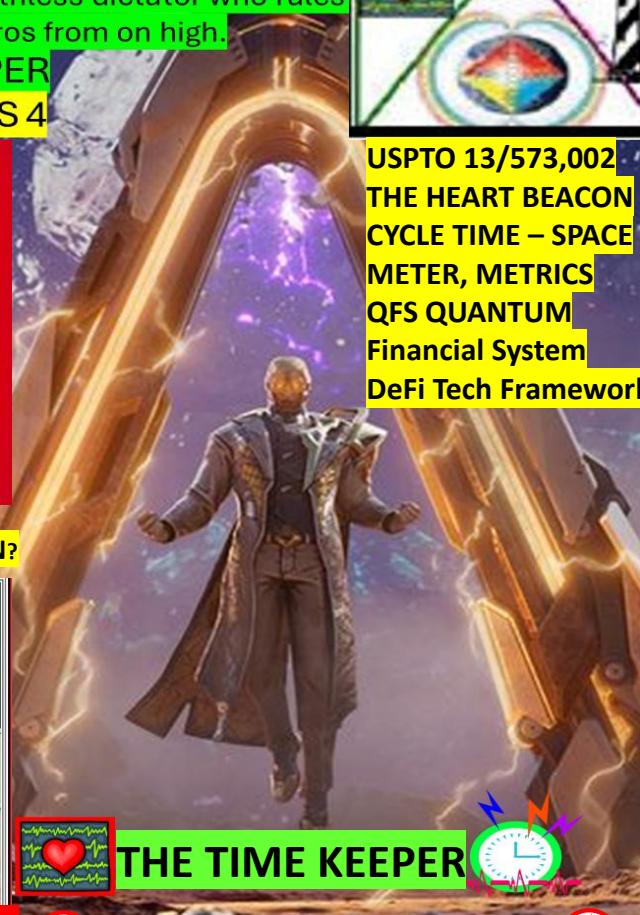
THE TIME KEEPER BORDERLANDS 4



SPACE SHIP EARTH
UTOPIA OR OBLIVION?



Admiral Amazing Grace
OPSCODE BREVITY CODES



THE TIME KEEPER

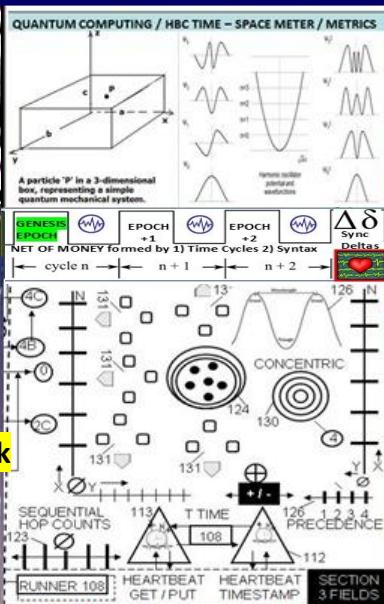
Hashed Timelock Contract (HTLC) / Epoch Sync Deltas $\Delta\delta$

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

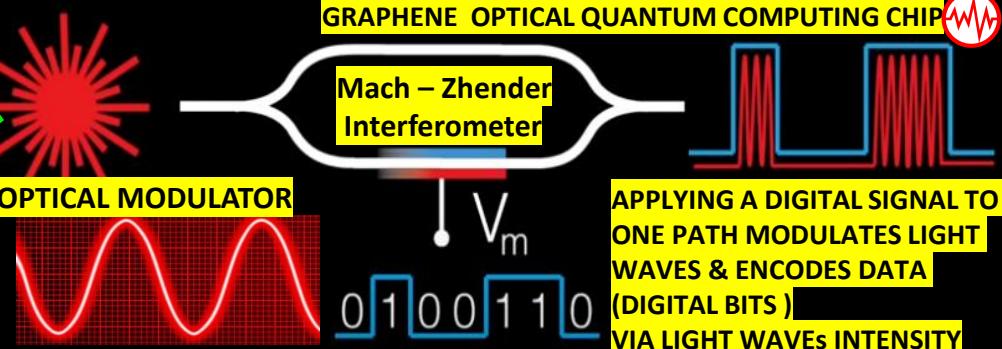
Because abstract ideas, laws of nature, and natural phenomenon "are the basic tools of scientific and technological work" .. Supreme Court Alice Corp., 573 U.S. at 216, 110 USPQ2d at 1980; Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. 66, 71, 101 USPQ2d 1961,



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

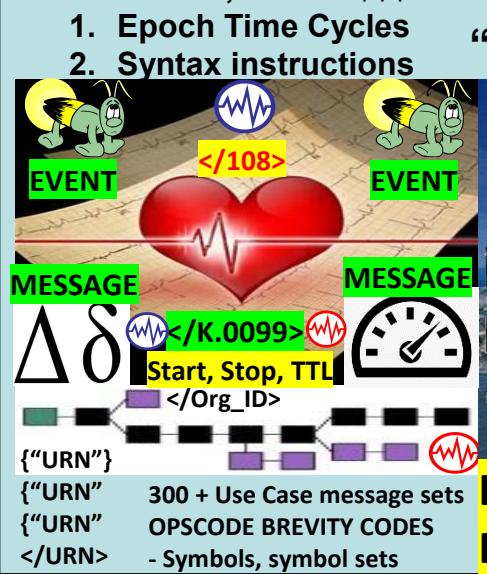
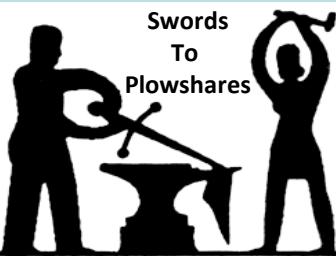


EDISON's Monetary Option 1922



World Game (s) Reset

GREAT REDESIGN





UTOPIA ? $\Delta\delta$ OBLIVION ?

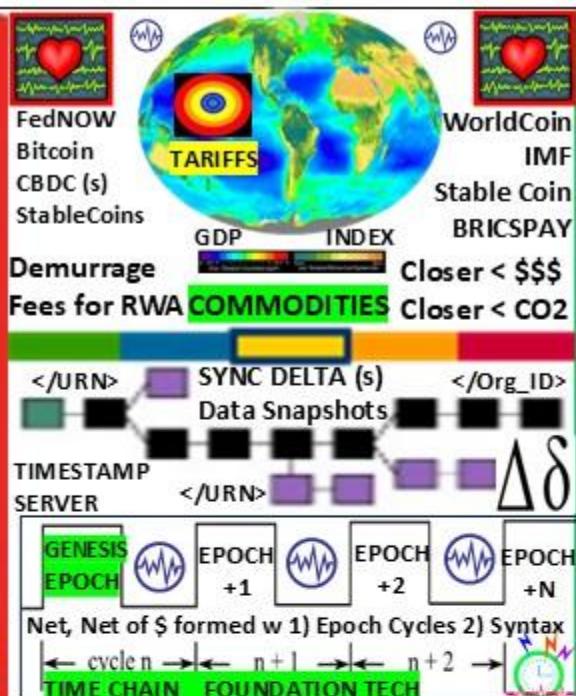
TradeFi TRC Trade Reference Currency

E \$ € ¥ currency index #20022

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

BLOCKCHAIN CONSENSUS ALGORITHMS HARVESTING GOLD: THOMAS EDISON'S EXPERIMENT TO RE-INVENT AMERICAN MONEY.

Monetary Option 1922 BY DAVID L. HAMMES



STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS

Price Indexes in Time and Space Methods and Practice SchellingPoint



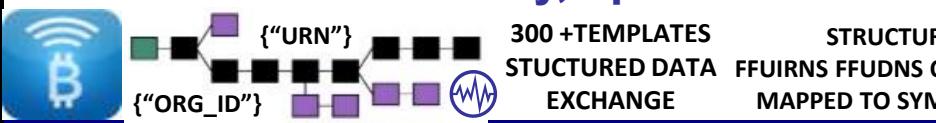
DeFI DeFi TIME- SPACE METRICS METERS Eco Econ Incentives HEARTBEAT % REAL GDP ("108") ALGORITHMIC REGULATION

Humanitarian Assistance Networked Donor System

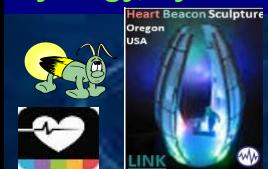
H.A.N.D.S: "Based on the need to speed up the processes of influencing an adversary, new concepts result in the adaptation of military doctrine, organization, training, material, infrastructure, interagency interaction, leadership, personnel and facilities" ... German Bundeswehr concept of "OOTW Operations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



OPERATIONS
OTHER
THAN
WAR



Beacon Communities

Vernetzte Operationsführung



LINK



Proximity Beacons

JAEGERS



Closer < \$\$\$ < FUEL



OUTER BANKS

FREELY
HEARTBEAT
ALGORITHM



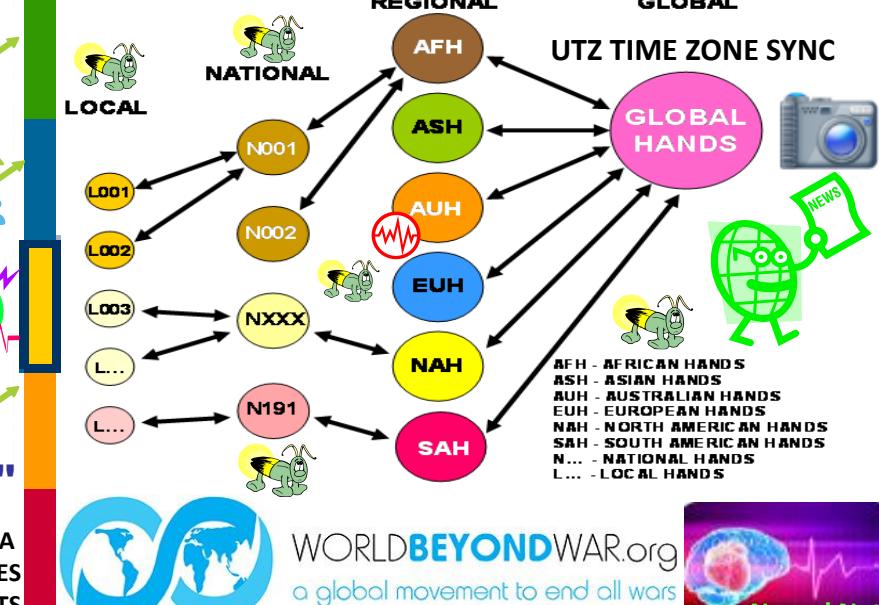
EVENT / ALERT Flash Heartbeat Message Bus



KAIJU



SYSTEM
Of
SYSTEMS



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



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



Neural Net

DAN MILLMAN



OFF SHORE
OUTER BANKS



KAIJU

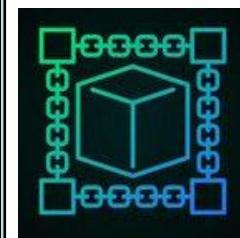
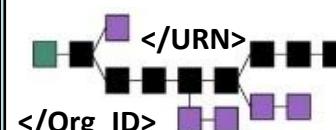
BLOCKCHAIN = ABSTRACTION

TRUTH = Blockchain Quad-lemma

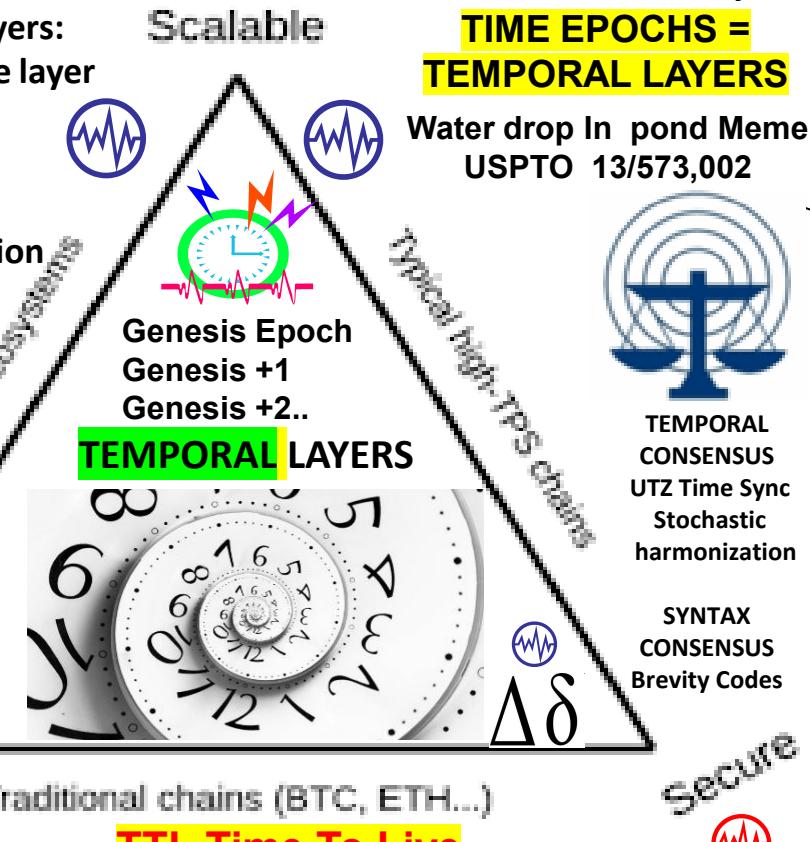
No Layers L0, L1, L2...
only GENESIS EPOCH,
Epoch time cycles,
intervals, cycles

5 five blockchain tech layers:

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



Decentralized
START

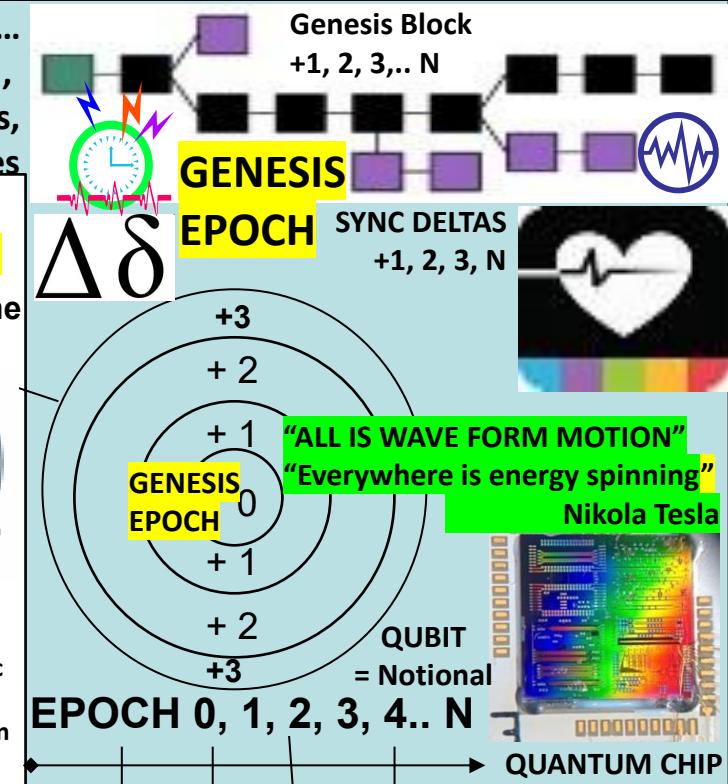


Blockchain = series of hashed blocks carrying transactional records. The first block of the blockchain is the **Genesis block**. After that, every new block added to the blockchain is linked to the Genesis block through a (temporal) iterative process.

Database Flat File
“BLOCKCHAIN” = LEDGER / Database

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

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



THESIS: All things 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..

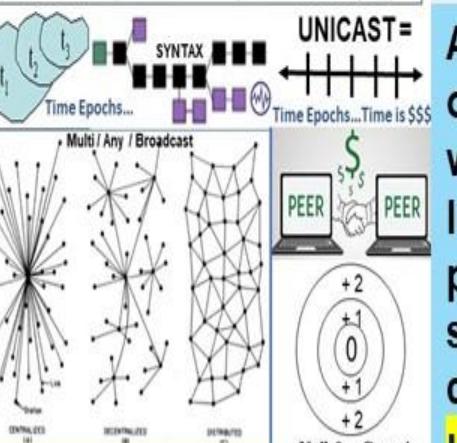
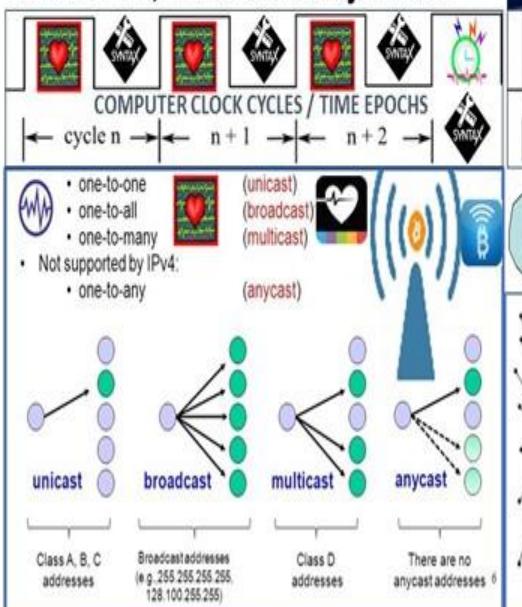
Foundation Technology Trinity:

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

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

Time Epochs / Syntax:

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

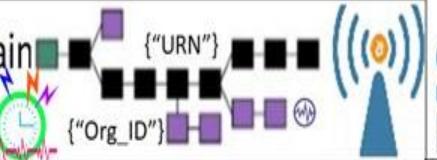


All things internet, programmable net of money are formed using:
 1) Epoch Time Cycles to 2) process (not) syntax as instructions

Epoch Time Cycles / Syntax

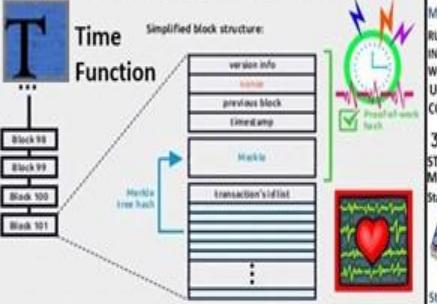
Internet / Internet of Money building blocks

Satoshi Bitcoin Blockchain
Time Stamp Server



TIME Block chain TIME

What does a block look like?



GENESIS TIME STAMP / Genesis Block

Header (Contains service information (version info, nonce, previous block id and timestamp))

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

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

Semantic blockchain

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

2nd Base
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

Universal HEARTBEAT MESSAGE EVENT BUS

90 feet

SETTLEMENTS / EXCHANGES + TAXABLE EVENTS AGREE TO PROPERTY

IRS #421 FLASH MESSAGE EVENT BUS

State Meta Data Snapshots Survey Point

90 feet

FIX ("10B") MICRO CYCLES

FLASH MESSAGE EVENT BUS

TIME Δδ STAMP SERVER

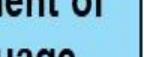
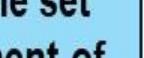
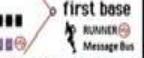
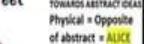
Sync

Sync

Sync

Sync

OPSCODE
Brevity
Codes
Mapped
To
Symbol Sets
AI



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



217

MACRO CYCLES



CLOUD COMPUTING

.0001

MICRO CYCLES
216

218

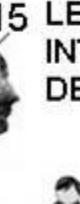
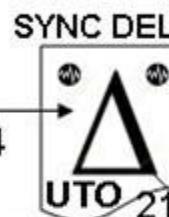
219

202 FEDERATED GROUP JOINS, MERGE, ADDS, DROPS

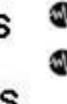
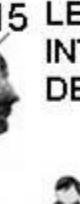
B2: BUILDING BLOCK 2: ADAPTIVE, CYCLIC, ITERATIVE PROCEDURAL TEMPLATES: XML ARTIFACTS i.e. UNIT TASK ORDER & K00.99 HEARTBEAT SYNC DELTA MESSAGES / STATE META DATA SNAPSHOTS IN NETWORK EXECUTION MANAGEMENT MARKUP OF SERVICE INTERFACE ARTIFACTS



214



LEADER'S INTENT DECISIONS

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

LEADER'S INTENT DECISIONS



210

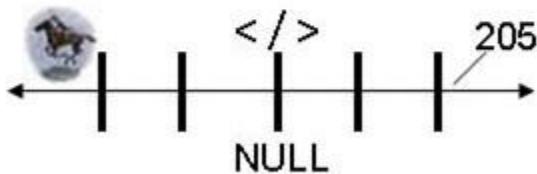


203

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



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



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

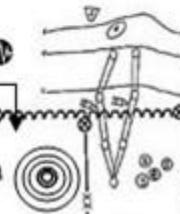
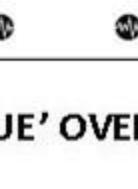
205



208



209



APPLIQUE' OVERLAYS

LENGTH, THRESHOLD, INTENSITY, DURATION



206



207

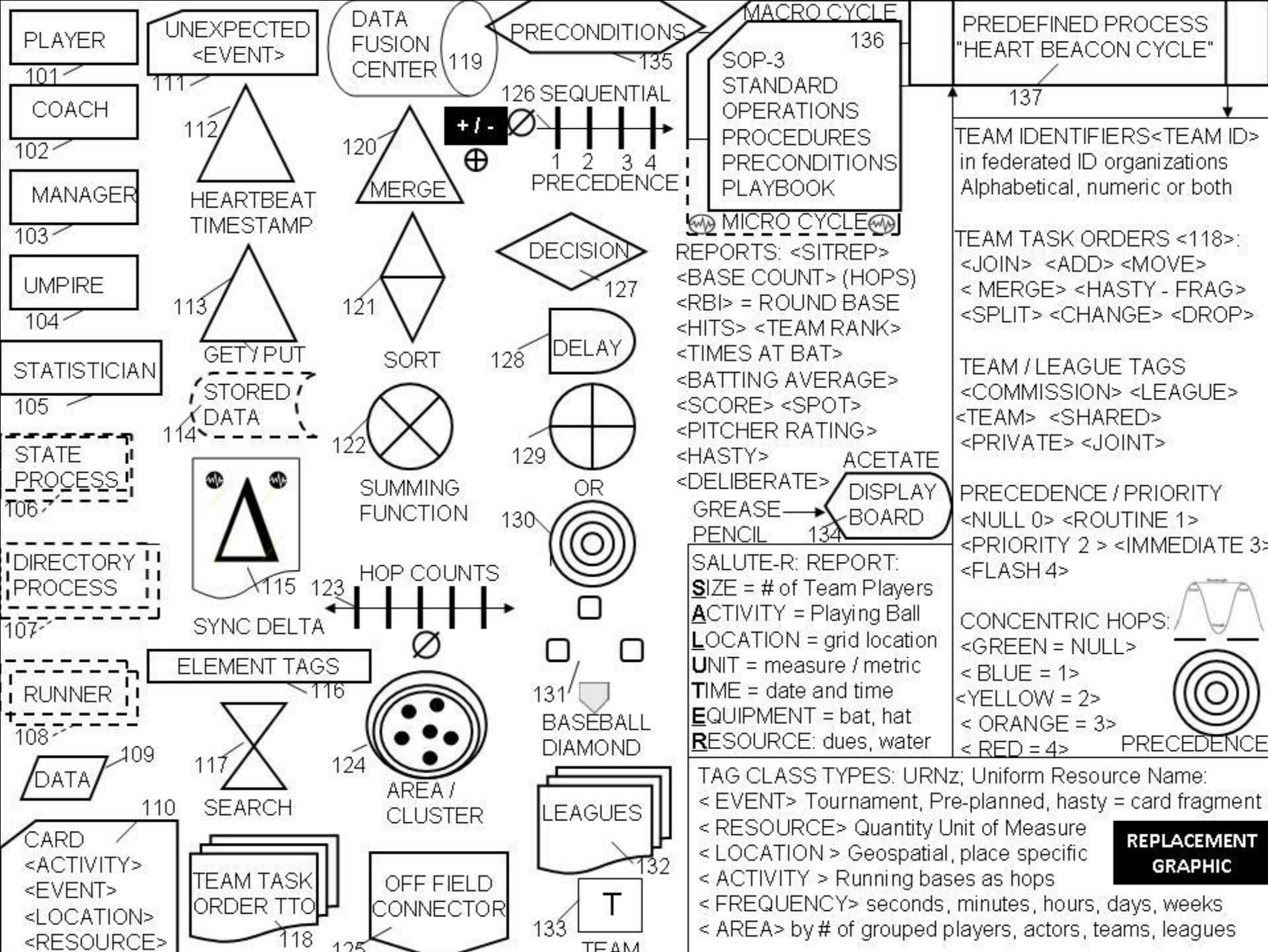
204

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

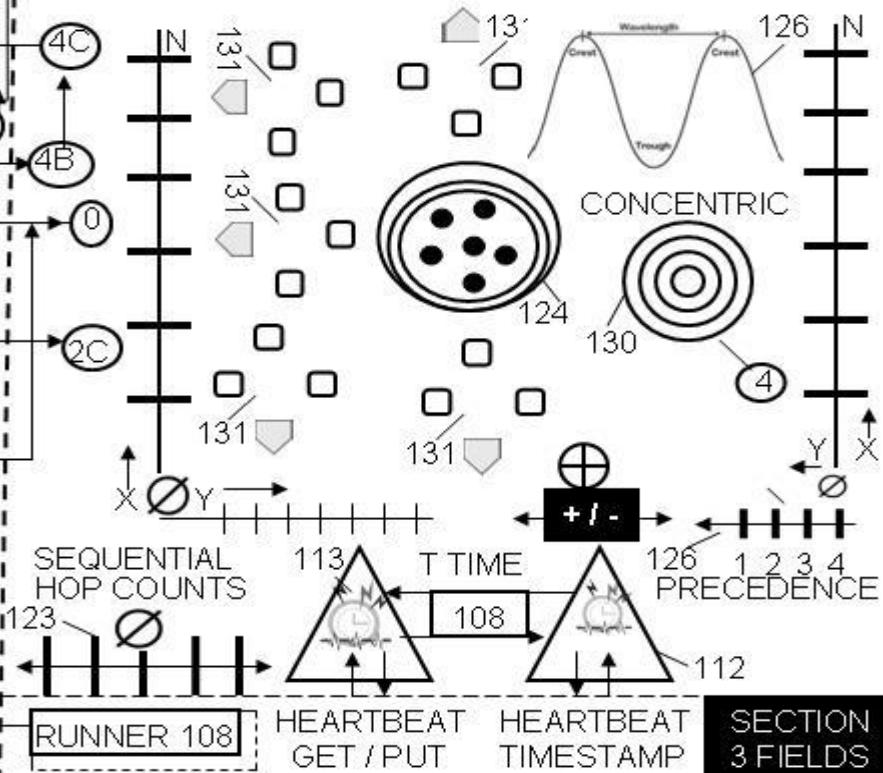
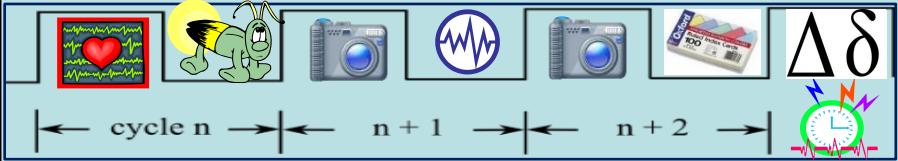
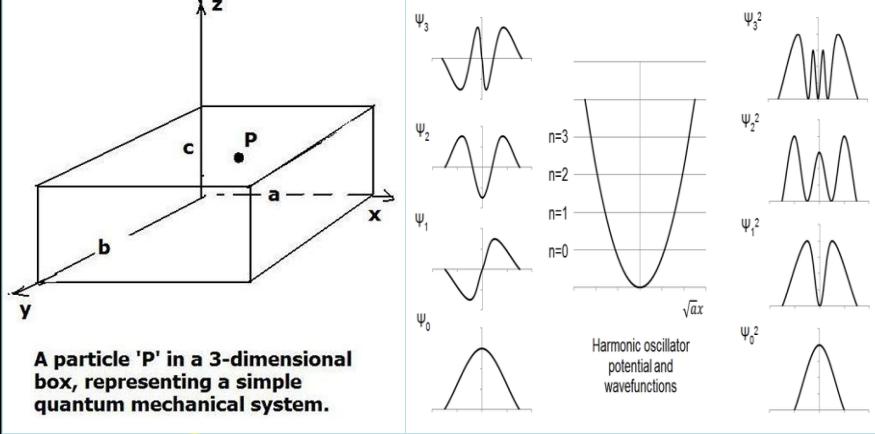
MAP VIEWS GEO-LOCATION SPECIFIC SHOW SYNC DELTAS BY GROUP / RESOURCE TYPE, EVENT CLASS / NEWSCAST BY TRANCHE <CLASSES>

209





QUANTUM COMPUTING / HBC TIME – SPACE METER / METRICS

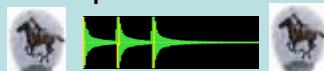


#QuantumComputing USct Alice Corp Vs CLS Bank compliant memes:
In quantum computing, a qubit (or quantum bit (sometimes qbit)) is a unit of quantum information—the quantum analogue of the classical binary bit. A qubit is a two-state quantum-mechanical system, such as the polarization of a single photon: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

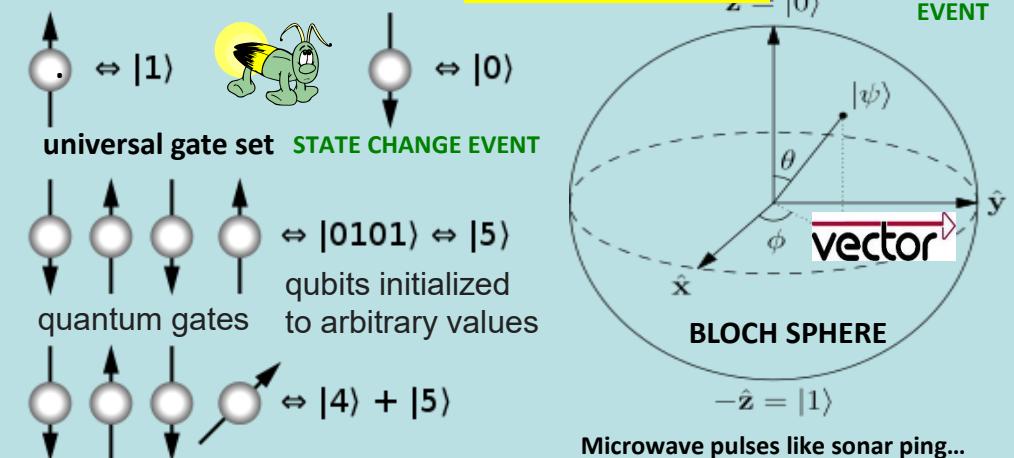
Vertical polarization vectors from a known point 0 null Sonar Hop meme



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?

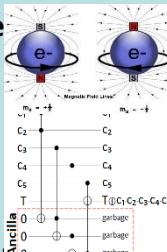


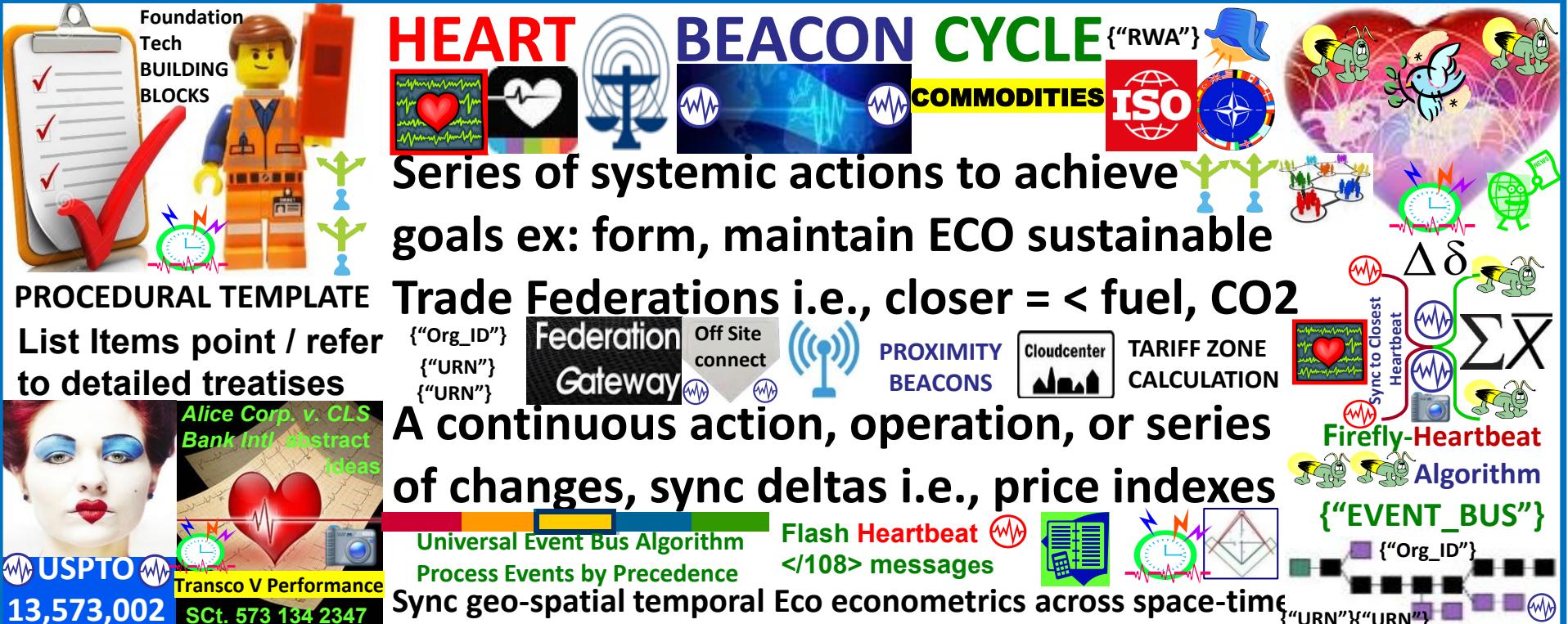
qubits can be in a superposition of all the classically allowed states

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.



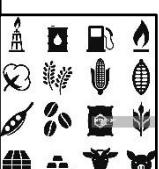
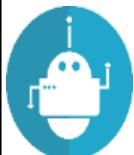
Fock state number state quantum state that is an element of a Fock space with a well-defined number of particles (or quanta)







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

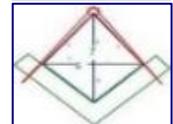
In the beginning (of time)..
There was the word (syntax)



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



FORMAT	NOCCA	TIDE	ABAB	ABCPOL	AFTAB	WIDE												
	PST1	PST2	PST3	PST4	PST5	PST6	PST7	PST8	PST9	PST10	PST11	PST12	PST13	PST14	PST15	PST16	PST17	PST18
	EST1	EST2	EST3	EST4	EST5	EST6	EST7	EST8	EST9	EST10	EST11	EST12	EST13	EST14	EST15	EST16	EST17	EST18
	CDT1	CDT2	CDT3	CDT4	CDT5	CDT6	CDT7	CDT8	CDT9	CDT10	CDT11	CDT12	CDT13	CDT14	CDT15	CDT16	CDT17	CDT18
	MDT1	MDT2	MDT3	MDT4	MDT5	MDT6	MDT7	MDT8	MDT9	MDT10	MDT11	MDT12	MDT13	MDT14	MDT15	MDT16	MDT17	MDT18
	EDT1	EDT2	EDT3	EDT4	EDT5	EDT6	EDT7	EDT8	EDT9	EDT10	EDT11	EDT12	EDT13	EDT14	EDT15	EDT16	EDT17	EDT18
	CDT19	CDT20	CDT21	CDT22	CDT23	CDT24	CDT25	CDT26	CDT27	CDT28	CDT29	CDT30	CDT31	CDT32	CDT33	CDT34	CDT35	CDT36
	MDT37	MDT38	MDT39	MDT40	MDT41	MDT42	MDT43	MDT44	MDT45	MDT46	MDT47	MDT48	MDT49	MDT50	MDT51	MDT52	MDT53	MDT54
	EDT55	EDT56	EDT57	EDT58	EDT59	EDT60	EDT61	EDT62	EDT63	EDT64	EDT65	EDT66	EDT67	EDT68	EDT69	EDT70	EDT71	EDT72

FFIRNS / FFUDNS



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 -
11.8.1.2 -

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

{“URN”}

{“Org_ID”}

{“Org_ID”}

{“URN”}

{“Org_ID”}

FROM	TO					CODE GUIDE					
	GCCS-A	TAIS	ASAS	AMDPCS	AFATDS	MCS					
ASAS	C002 C203 F002 F014 F015 F541 S201 S309	C002 C203	C002 C203	C002 C203 F014 F541 S305 S309	C002 C203 F014 F541 S305 S309	C002 C203 E400 F002 F014 F015 F541 S201 S309 S507					
TOKENS OPSCODE BREVITY CODES	<p>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</p>										
AMDPCS	<p>A423 A659 C505 C002 C203 F014 F002 F541 S201</p> <p>ASSET TOKENS Token Economy</p>					F002 F015 S201					
AFATDS	<p>F002 F014 F015 F541 S201</p> <p>A423 A659 C505 C002 C203 F014 F002 F541 S201</p> <p>Rosetta Stone Syntax Lexicon Coder's Guide</p>					A.I.					
MCS	<p>A423 A659 C505 C002 C203 F014 F002 F541 S201</p> <p>SYMBOLS RULE THE WORLD</p>					M2M					
  	<p>A423 A659 C505 C002 C203 F014 F002 F541 S201</p> <p>HEARTBEAT MESSAGE = K00.99 </108> {"108"}</p> <p>PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS</p>					  					
MESSAGE CATALOG 300 + Use Cases											
Information Categories and Examples											
Object Categories	Examples	Location	Movement	Identify	Status	Activity	Intent				
OOB	SYNTAX LEXICON	STRUCTURED DATA lat/long	EXCHANGE spd/hdg	Message country / alliance, type/class	Sets readiness	COA targeting, reconning	{"Java JS"}				
Infrastructure	Comm, power, transportation, water/sewer	network, grid	throughput, flow rates,	Machine Trust Language MTL name, part-of relationship	BDA, op levle	repair, broadcasts	YAML expansion				
Sociological	Culture, religion, economic, ethnic, government, history, languages	temples, historic structures	E-R Model	Class Diagram	Relational Database	Object DBMS	XML DTD / Schema	TADILs	MTF		
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth	Entity	Class	Table	Class	Element	Message	Message		
			Attribute	Attribute	Field / Column	Attribute	Child Element or Element Attribute	DFI	FFIRN / FFN / FUDN		
			Domain Value	PURCHASE CODES	Instance, Value			DUI	FUD		

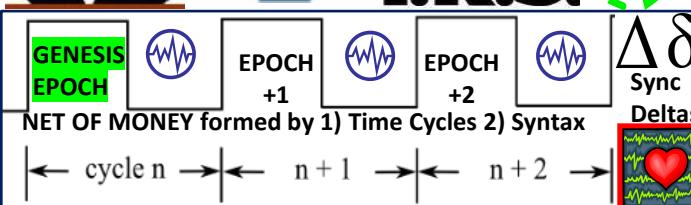
<h2>Information Elements Roles</h2> <ul style="list-style-type: none"> • COI Determination Org Interaction • Search and Discovery • Ontologies STANDARDS • Taxonomies REFERENCE • Metadata Attributes / Filters <p>(‘Org_ID’){“URN”}</URN></URN> FILTERS</p> 		
<p>FFUDN: Field Format Unit Designator #</p> <p>FFIRN: Field Format Index Reference #</p> <p>Structured military messaging ID's messages, message sets, data element, symbol fields </108></p> <p>BY Form Field Position & NUMBER</p>		
<p>“108” </p> <p>NDN </p> <p>Firefly-Heartbeat Flash Messages</p>		
<p>PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS</p>		
<h2>OPERATIONAL NODES / ACTIVITIES</h2>		
DATA	SYSTEM FUNCTIONS	PERFORMANCE
11.4 - Classification	11.8 - Kinematics	11.8.1 - Pos / Vel / Acc (PVA)
11.4.1 - Category	11.8.1.1 - Acceleration	11.8.1.1.1 - Angular
11.4.1.1 - Confidence Level	11.8.2 - Linear	11.2 - Linear
11.4.1.2 - Estimate Type	11.8.2.1 - Alternative	2 - Estimate Type
11.4.1.2.1 - Alternative	11.8.2.2 - Evaluated D	1.2.1 - Estimated
11.4.1.2.2 - Evaluated D	11.8.2.3 - Value	1.2.2 - Observed
11.4.1.3 - Value	CODES	1.2.3 - Predicted
SYMBOL	Friend	Neutral
2525C	Partner	
11.4.1.3.4 - Substance	Hostile	
11.4.1.3.5 - Surface	Competitor	
11.4.1.3.5 - Surface	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	
11.4.5 - Unit	3 - Covariance Matrix	



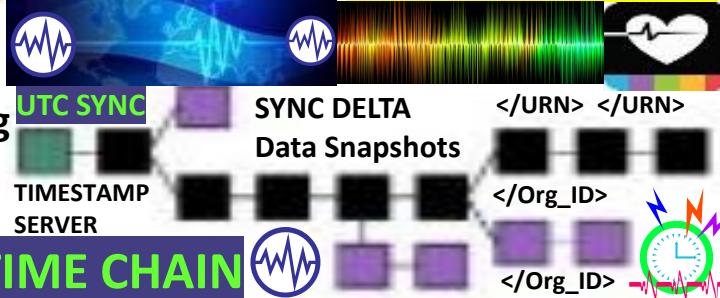
World Game Great Reset Signals Telemetry Annex K



A collage of various icons and text related to the World Game Great Reset, including "DeFi", "GDP INDEX", "TIME- SPACE METRICS METERS", "HEARTBEAT % REAL GDP", "ALGORITHMIC REGULATION", "NIST Beacon", "URN Org_ID Time Stamp Server", and "Time Series Databases".

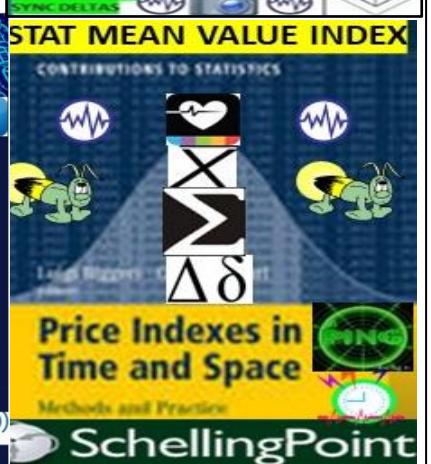
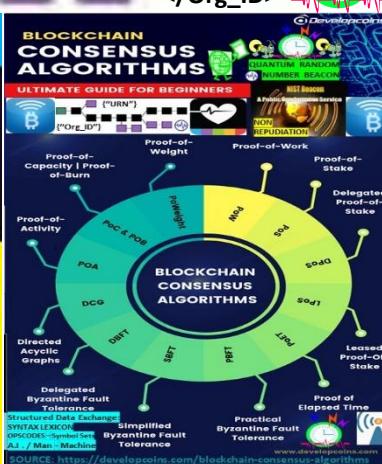
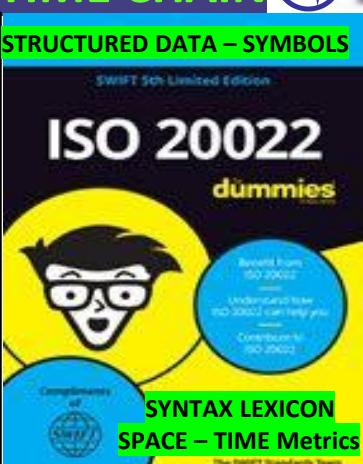


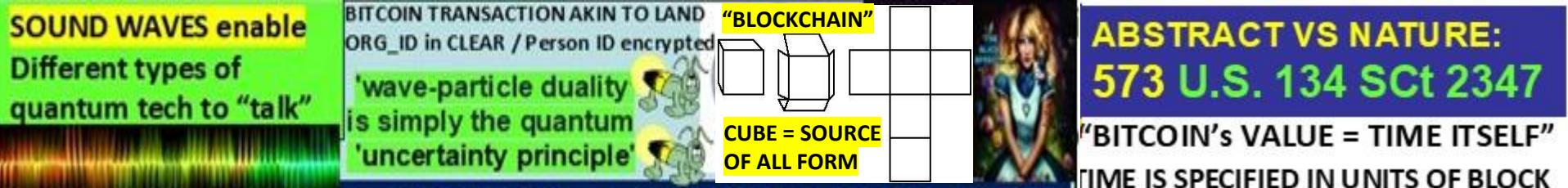
Syntax lexicon comprised of 300 + SOUND / LIGHT e.g., Q.R.N.B. QUANTUM COMPUTING @ ROOM TEMPERATURE SOUND WAVES = INTEROP



Structured data messages, message sets = Comprehensive list of use cases, data elements supporting Internet of Everything
IoE net of value. Reference guide, data dictionary standards support

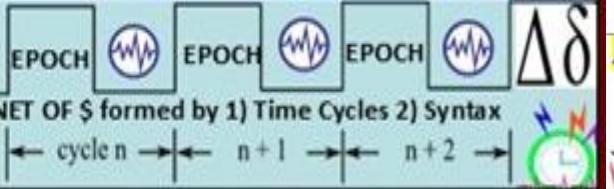
Data elements mapped to SYMBOL SETS





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 ?

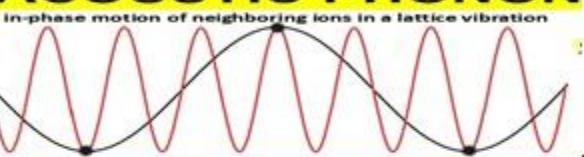
Q: IF CUBITS DO NOT EXIST, THEN ARE THEY SIMPLY A WAY TO ACHIEVE GROUP THINK FASTER ???

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

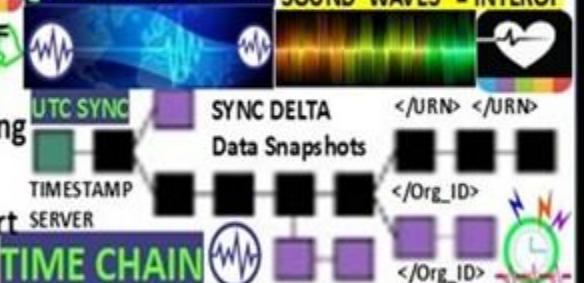
**ABSTRACT VS NATURE:
573 U.S. 134 S.Ct 2347**
"BITCOIN'S VALUE = TIME ITSELF"
TIME IS SPECIFIED IN UNITS OF BLOCK TRANSACTION CONFIRMATION TIMES"

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"



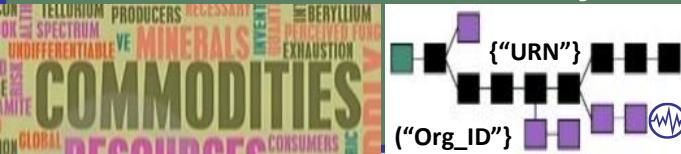
Numismatics: study of currency

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



Quadrans 1/4 As

12-18mm, ~1g, Bronze

This Example: 13mm, 4.09g

Semis 1/2 As

15-20mm, ~4g, Orichalcum

This Example: 17mm, 3.89g

As Base Unit

25-30mm, ~15g, Bronze

This Example: 27mm, 11.2g

Dupondius 2 asses

25-30mm, ~15g, Orichalcum

This Example: 28mm, 13.6g

Sestertius 4 asses / 2 dupondii

25-35mm, ~30g, Orichalcum

This Example: 33mm, 30.1g

1cm

1 in

Quinarius 2 sestertii / 8 asses

12-18mm, ~2g, Silver

This Example: XXmm, X.XXg

Denarius 4 sestertii / 16 asses

17-22mm, 2-4g, Silver

This Example: 19mm, 3.82g

Antoninianus 2 denarii (nominal)

18-25mm, 2-5g, Billon

This Example: 19mm, 3.82g

Quinarius 12.5 denarii

12-18mm, 2-4g, Gold

This Example: 23mm, 4.52g

Aureus 25 denarii

17-22mm, 4-8g, Gold

This Example: 17mm, 2.81g

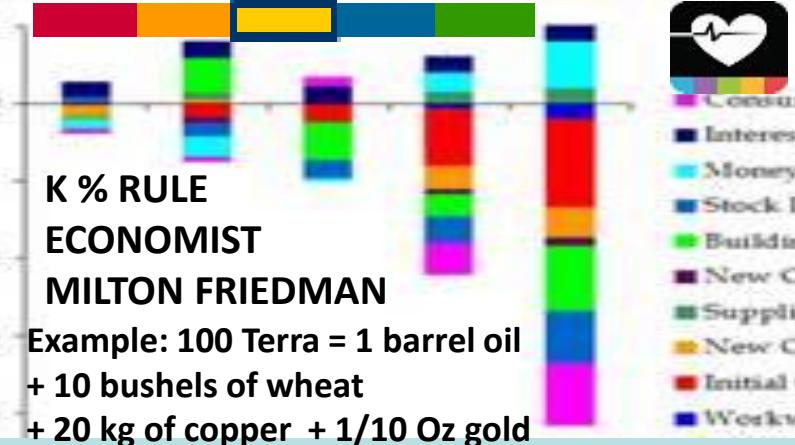
This Example: 20mm, 7.24g

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

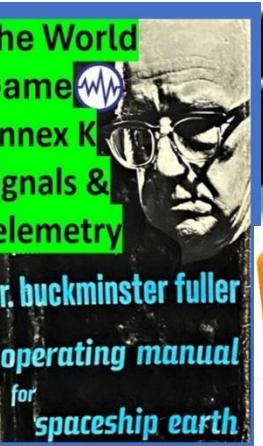
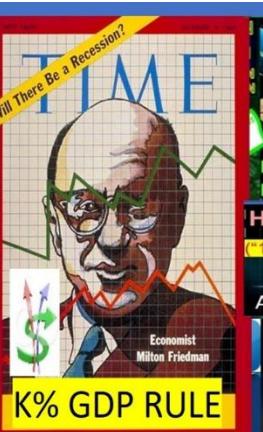
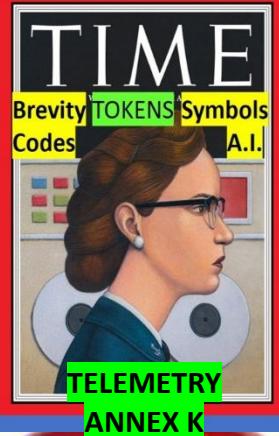
Commodities Index Basket / FIAT PRICE Discovery Algo / MEDIATION



LEADING ECONOMIC INDICATORS







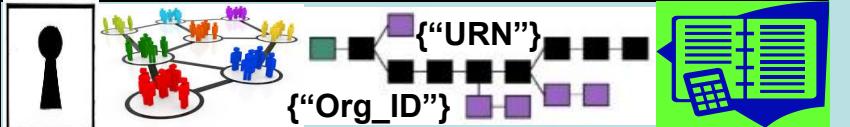
- Reuse, mod of System of systems engineering framework, Syntax Lexicon Library data elements
- STRUCTURED DATA EXCHANGE
Reuse brevity codes mapped to 2525D symbol sets comprised of 300 + message sets for A.I. - machine Block-Time DLT arbitrage among Trade Federations </Org_ID> {“URN”} </URN> = COMMODITY



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

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



ECONOMIC HEARTBEAT



K %



DAO

BITNATION

FEDERATE
SHARE
WINFEDERATE
SHARE
WIN

GOVERNANCE 2.0

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

FEDERATION CONSENSUS ALGORITHM / PROTOCOL LIQUIDITY ON DEMAND



Net joins, drops, splits, merges, moves

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

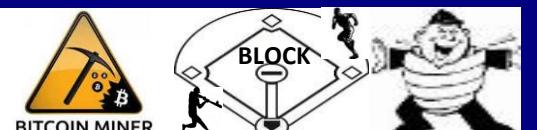
{“GLOBAL”}
 {“SHARED”}
 {“DOMAIN”}
 {“COMMUNITY”}
 {“PRIVATE”}
 </ORG_ID>
 {“GROUP ID”}

SYSTEMATIC

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



Bitcoin Mining Pools
 MEME / METAPHOR MEDIATION



DISTRIBUTED AUTONOMOUS ORGANIZATION = DAO RAND Corp

term coined circa 1991 now in use by Blockchain tech corporations

Uniform_Resource_Name



FIREFLY FLASH HEARTBEAT MESSAGES

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

IeT DEVICE / PLATFORM
 IoT SENSOR DEVICE

{“Asset_Type”}



STOCK EXCHANGE



MIC MARKET IDENTIFIER



CODES / BREVITY CODES

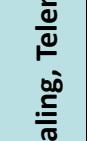


DeFi Ve TOKEN ECONOMY

VeriDAO



EVENT TELEMETRY BUS



Signalling, Telemetry



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





FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME



Net of \$\$\$ formed with:

1 EPOCH TIME CYCLES

2 {"Syntax"} "The Word"

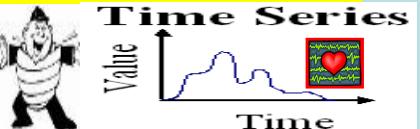
"In the Beginning" Genesis Block

"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



SYNTAX LEXICON
Library

1st Compiler



STRUCTURED DATA EXCHANGE
TEMPLATE FORMS
300+ USE CASES
LOGIC / FILTERS



Alpha Numeric Brevity Codes



SYNTAX / SYMBOL LEXICON LIBRARY



"BITCOIN MAKES MONEY PROGRAMMABLE.
MONEY IS SIMPLY DATA"

"BITCOIN'S VALUE = TIME ITSELF"

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



ALICE CORP VS CLS BANK

"claims may not be directed towards an abstract idea"

US SC 573 US 134 2347



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

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



CLOCK FACE 360°
90 / 90 / 90 / 90



MACRO CYCLES

RULES / ROLES

INSTRUCTIONS

WORKFLOW

UMPIRE

COACH

3rd Base

STATISTICIAN

Metrics, Meters

Stat Mean Value Index

3 X 5 HASH TABLES

STATE META DATA SHARDS

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

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY

IRS #1421

FLASH MESSAGE EVENT BUS

Fix {"108"}

TIME STAMP SERVER

Epoch Time Cycles

Time Stamp Server



BANK SC 573 US 134 2347

CLAIMS MAY NOT DIRECT

TOWARDS ABSTRACT IDEAS

Physical = Opposite

of abstract = ALICE

HEART BEACON CYCLE

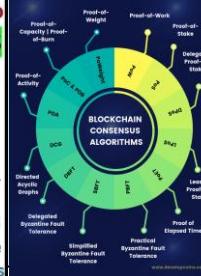
TIME – SPACE METER

USPTO 13/573,002

first base

RUNNER

Message Bus



Circle USDC

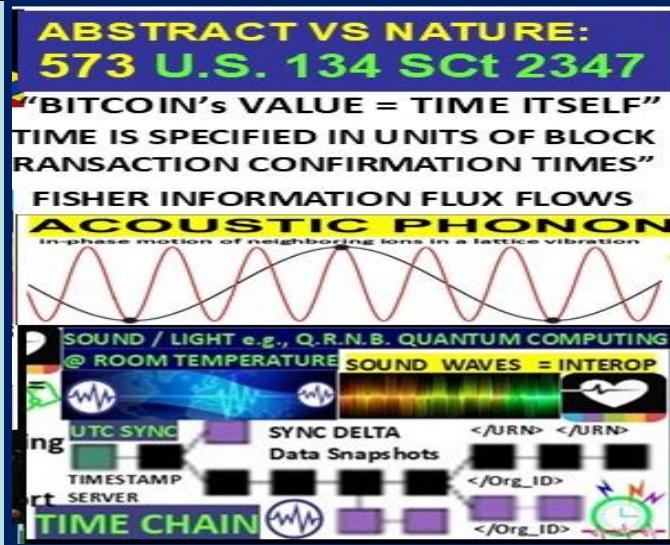
Investopedia

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

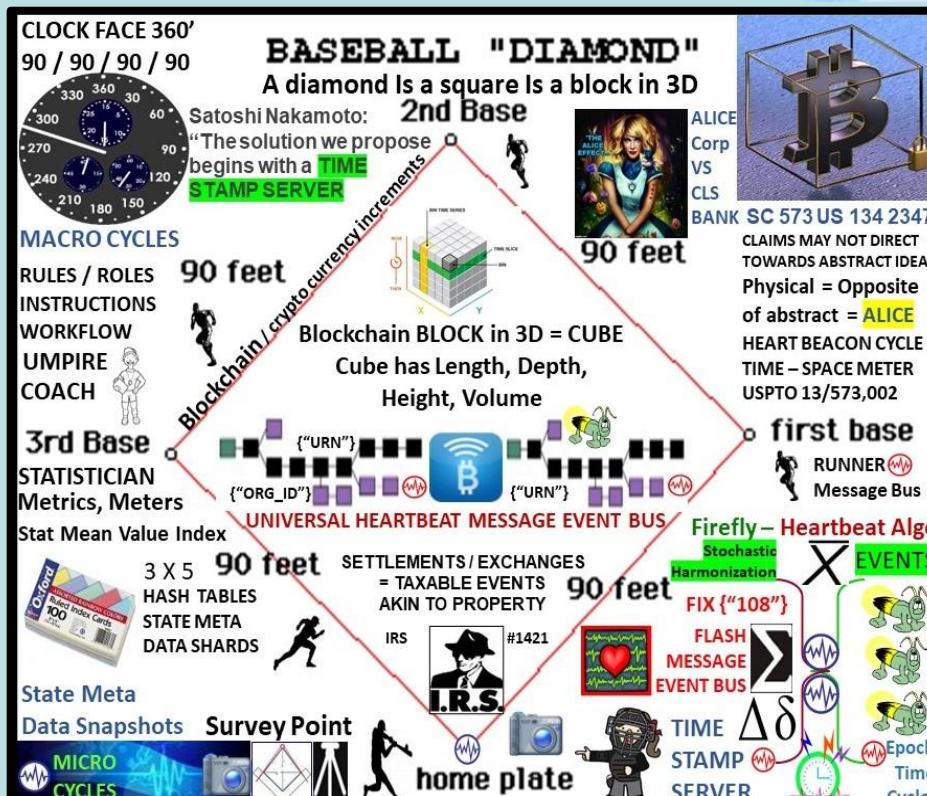
Stablecoins aims to provide an alternative to the high volatility of the most popular cryptocurrencies, Source JDSUPRA



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



TESLA "ALL IS WAVE FORM MOVEMENT"

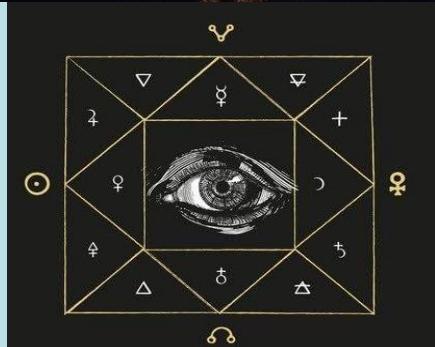


NOSTRADAMUS of FRANCE CENTURY 8: QUATRAIN 28:

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



"FutureMan"
13/573,002



"THE FINANCIAL NOSTRADAMUS"
REGGIE MIDDLETON

Reggie Middleton
"Father of DeFi"

US11196566
US11895246
JP6813477

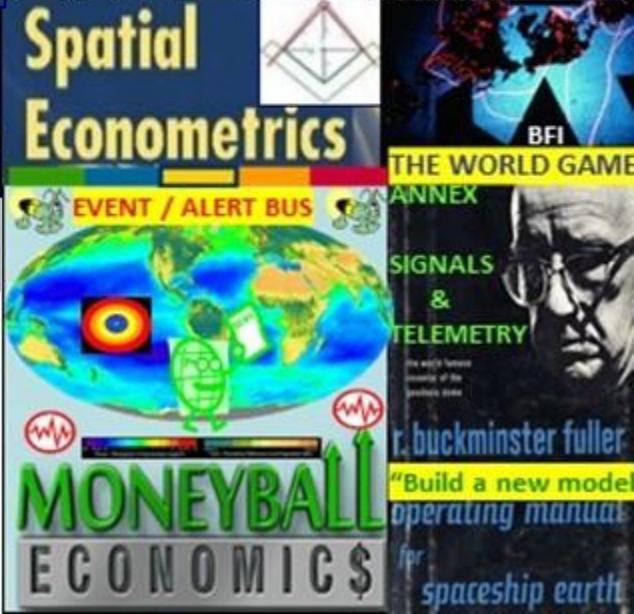
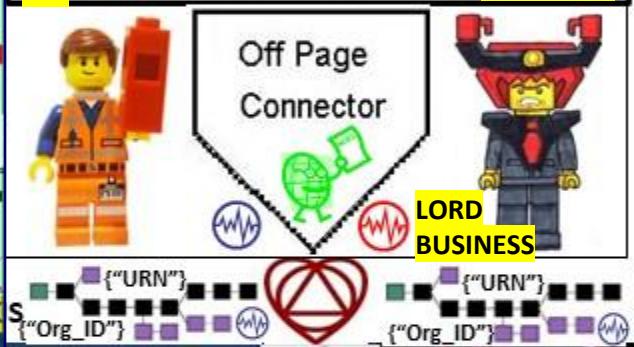
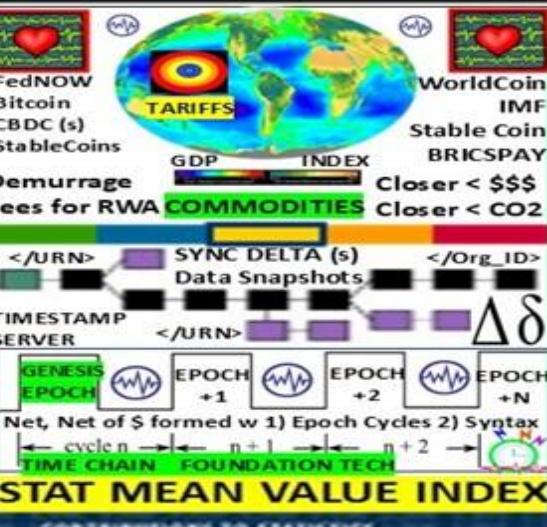
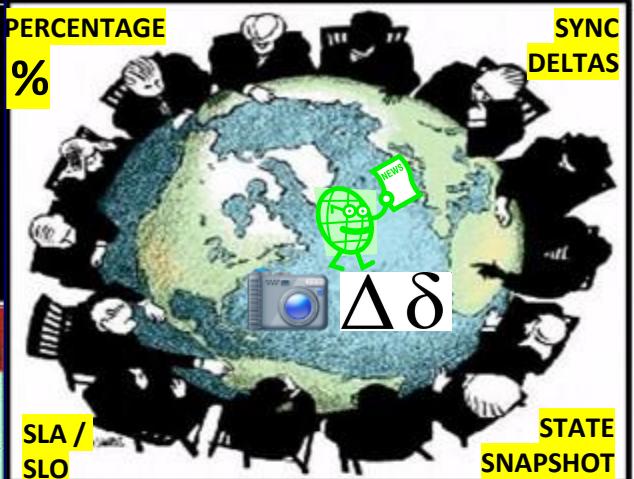
World Game (s) Fulcrum

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

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

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

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

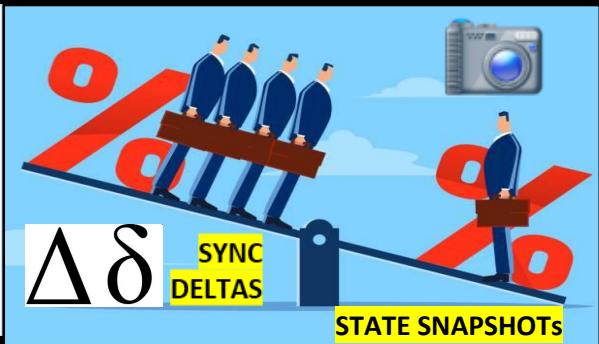


World Game (s) Fulcrum

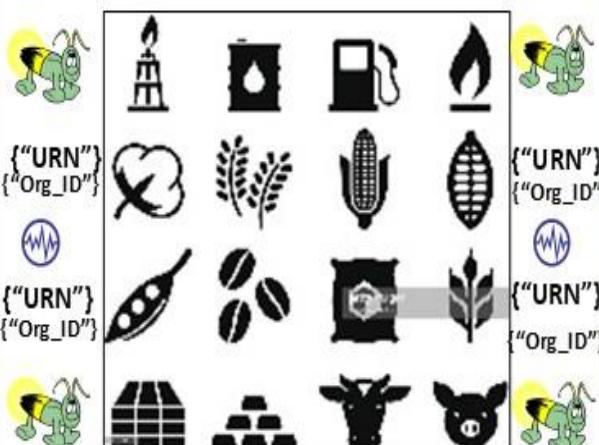
Schelling point: focal point = solution chosen by default in the absence of communication to avoid coordination failure introduced by the economist Thomas Schelling in his book "The Strategy of Conflict" published in 1960. Schelling points are particularly useful in **multiplayer games** where players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

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

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



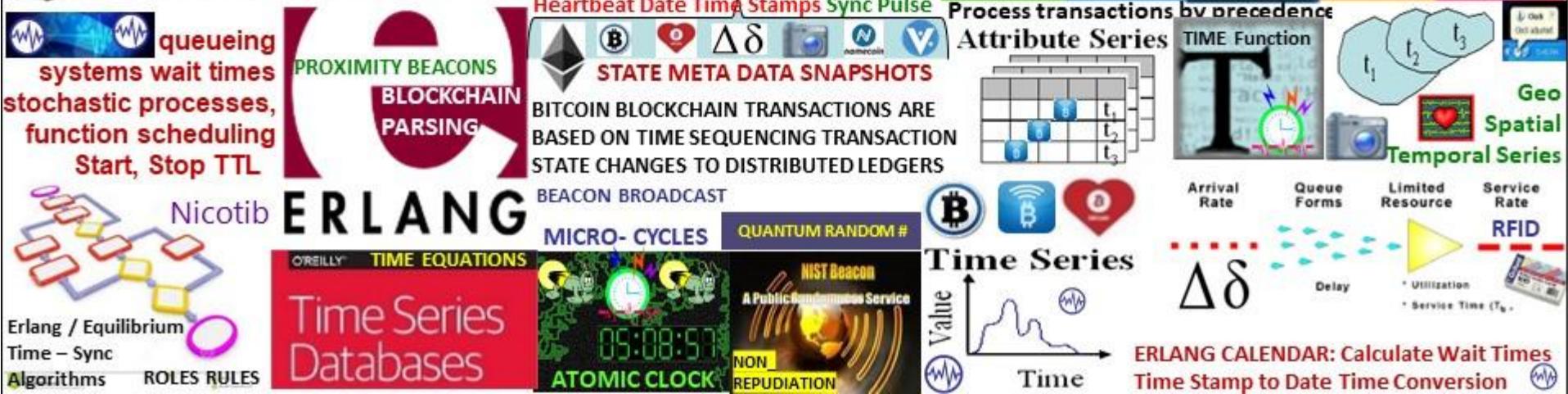
Commodities Index Basket / FIAT PRICE Discovery Algo / MEDIATION



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



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





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



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

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

USPTO 13/573,002 PRIOR ART

Physical = Opposite of Abstract

Q: WHO IS "SATOSHI NAKAMOTO" ?

HONUS WAGNER

THE LIFE OF BASEBALL'S "FLYING DUTCHMAN"



Arthur D. Hittner



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



A timestamp server works by taking a hash of a block of items to be timestamped and widely publishing the hash, such as in a newspaper or Usenet post [2-5]. The timestamp proves that the data must have existed at the time..

XRP = 10,000 Each ?

RIPPLE LABS / XRP

Honus Wagner NFT Non-Fungible Cryptocurrency Token

Honus Wagner is a legendary baseball player

T206 Honus Wagner card sold \$6.6 million August 2021

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

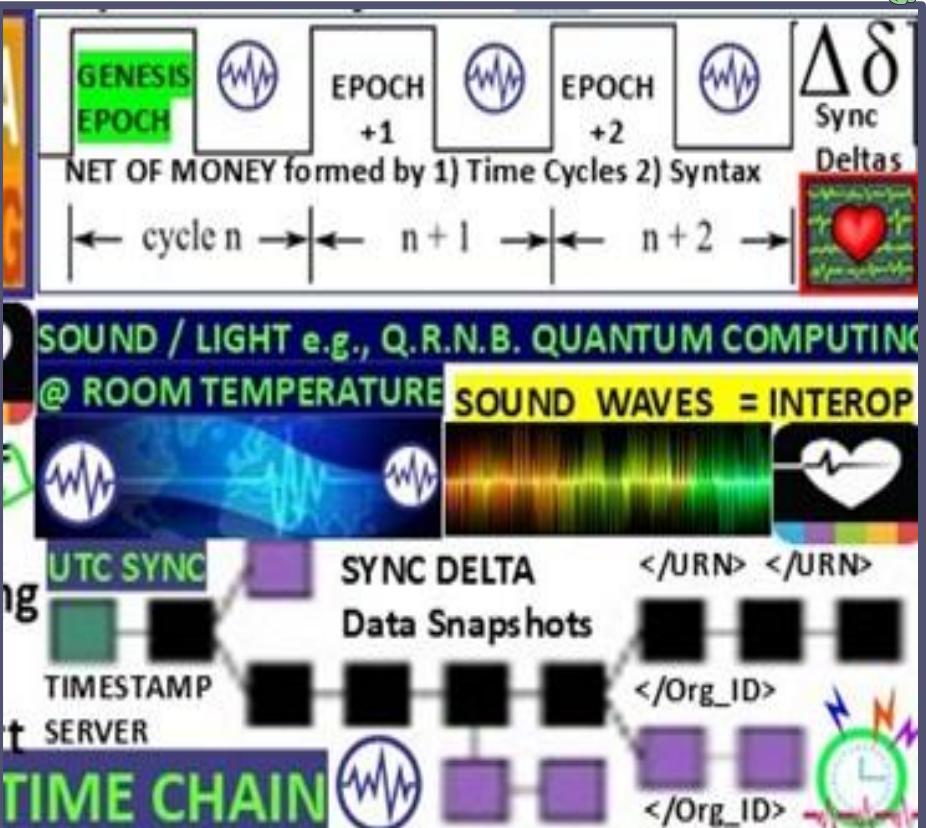
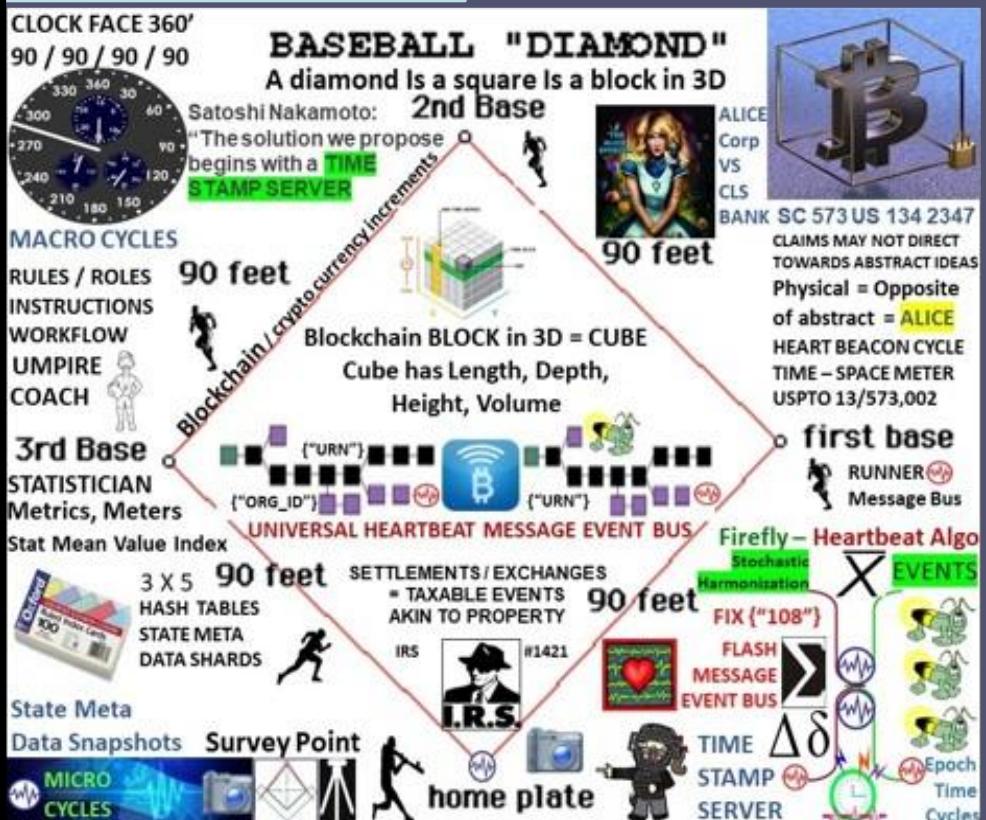
Defunct crypto exchange Mt. Gox has said that a repayment date will be set in "due course" February 7th 2014 trading halted

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



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

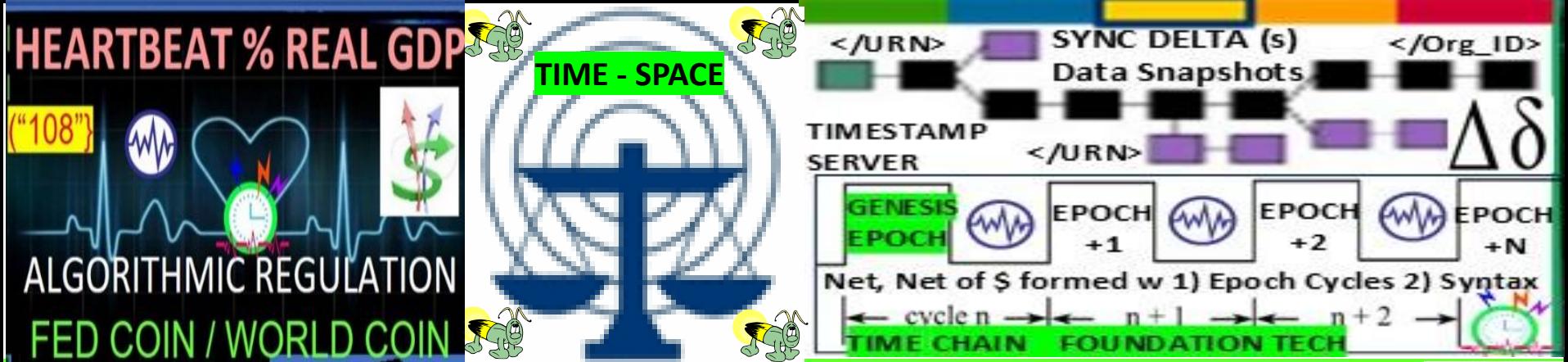
1919 BLACKSOX WORLD SERIES GAME FIXING RULING



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

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





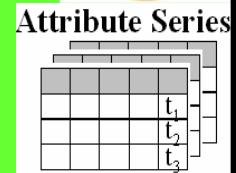
Banks, Tech firms' form teams to assert foundation tech as a legal basis for IP intellectual property claims for programmable \$\$\$ DeFI / TRADEFI

Use Case: Tokenize Europe 2025 initiative: reuse DoD / NATO's structured data brevity

OPSCODES mapped to 2525A, B, C, D symbols needed for A.I. man-machine interface

Reuse, modify 300 + Use Case message set templates data element FFIRNs FFUDNS

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



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



TIME EPOCHS & SYNTAX = FOUNDATION TECH

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





FIREFLY - Heartbeat Algo

Bologna Italy / Hungary / China Universities

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

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

Temple of Man

LUXOR
EGYPT

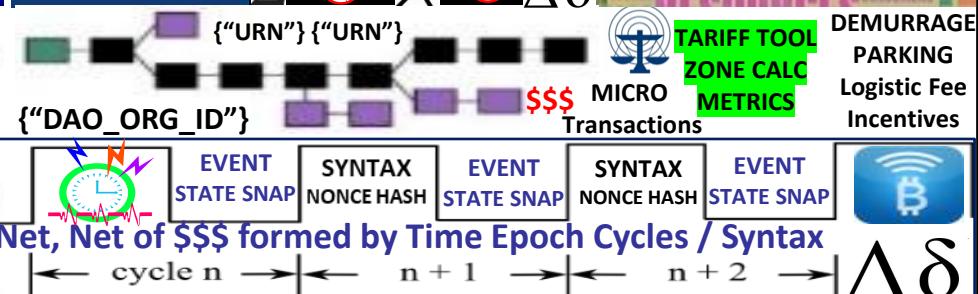
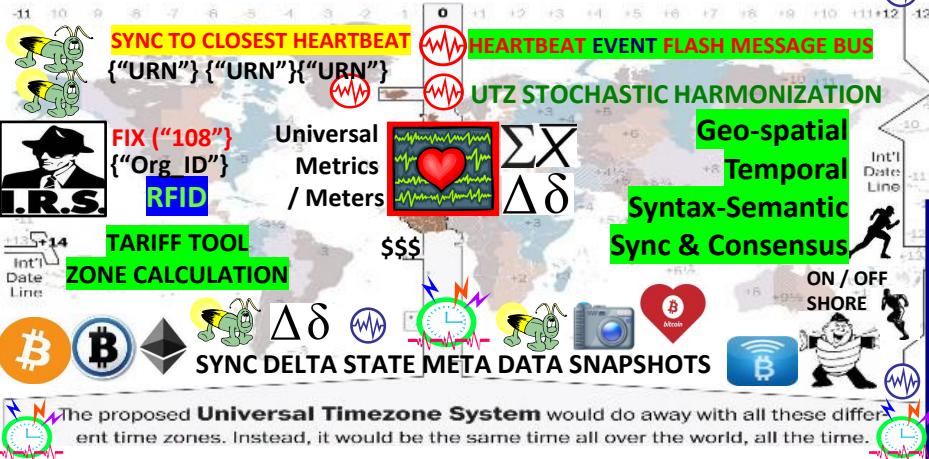
FIREFLY inspired Heartbeat Sync Algo

PRECEDENCE UTZ SYNC SYNC
PROCESSING PULSE DELTAS



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

UTZ TIME ZONE SYNC

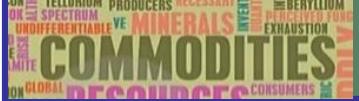


"Heartbeat Synchronization nodes in a distributed system generate periodic local heartbeat events approximately at the same time. It differs from classical clock sync in that nodes are not interested in counting cycles and agreeing on the ID of the current clock cycle. No rule governs the length of a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

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

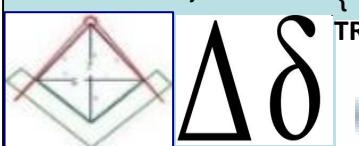
THE TERRA (TRC)

Trade Reference Currency

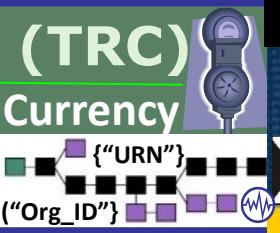


SLA: Closer = Cheaper

Closer = Less Fuel
= Less Time, CO2



DEMURRAGE FEES
MICRO PAYMENTS



TOKENIZES CURRENCIES



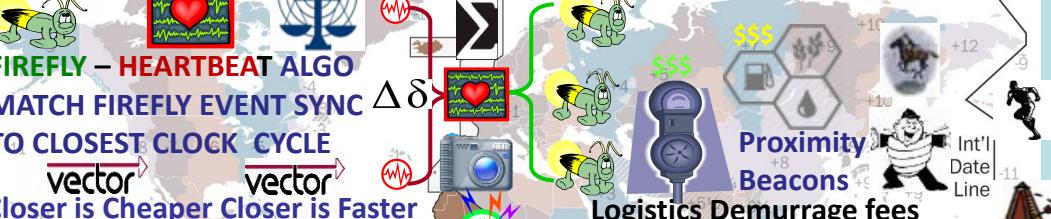
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STOCHASTIC HARMONIZATION

UNIVERSAL TIME ZONE UTZ
UNIVERSAL MESSAGE EVENT BUS

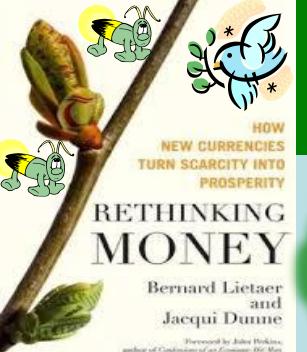
(**"Commodity_Tokens"**
{"TARIFF TRADE ZONES"})



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

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

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

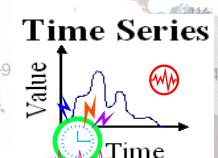


Example: 100 Terra = 1 barrel oil
+ 10 bushels of wheat
+ 20 kg of copper + 1/10 Oz gold



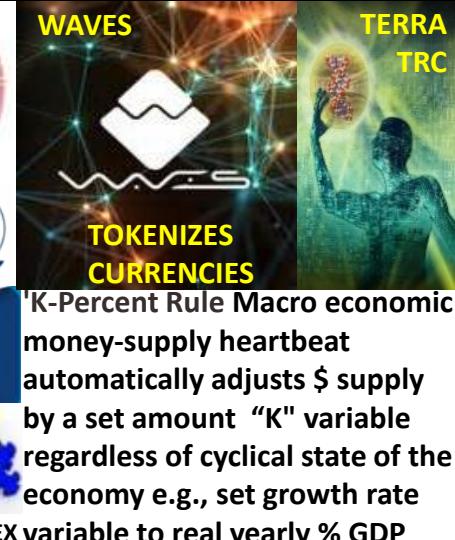
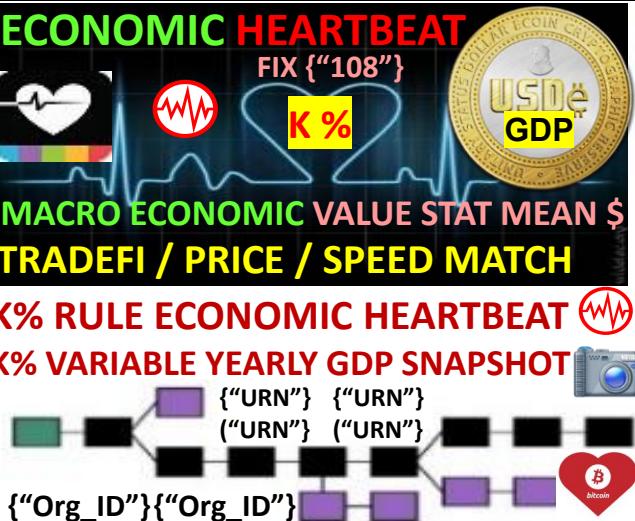
Spatial Econometrics

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



EDISON / FORD MONITARY OPTION 1921

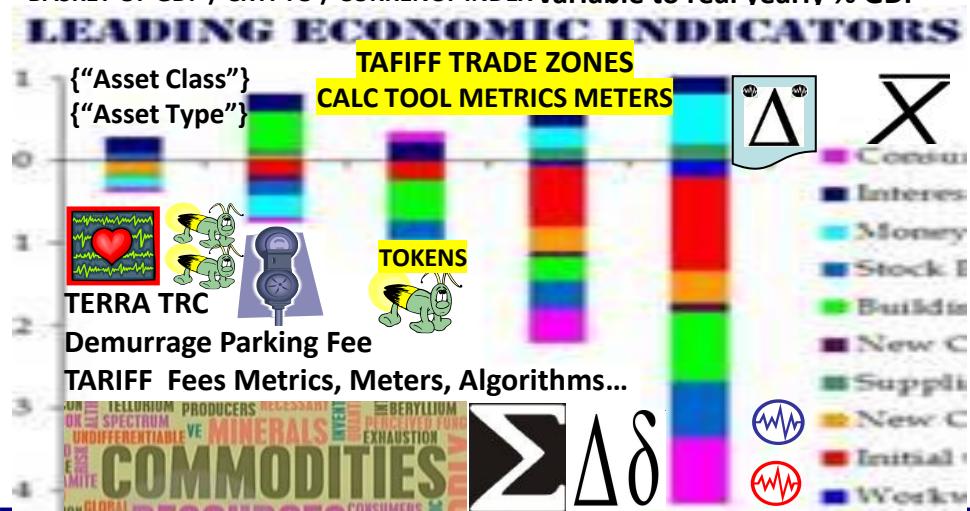
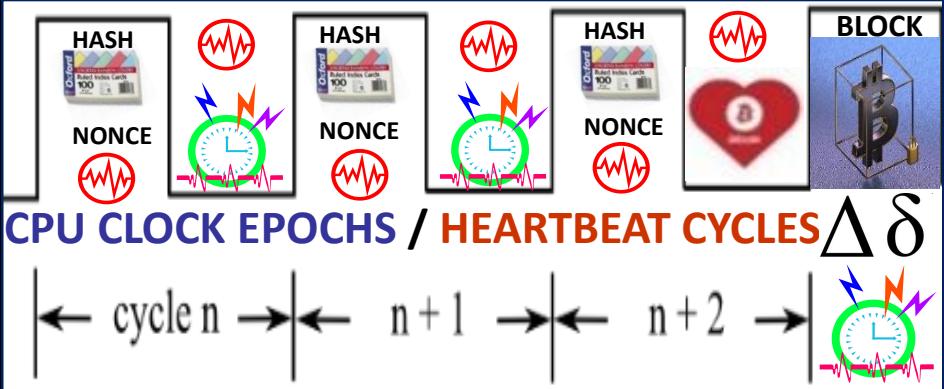




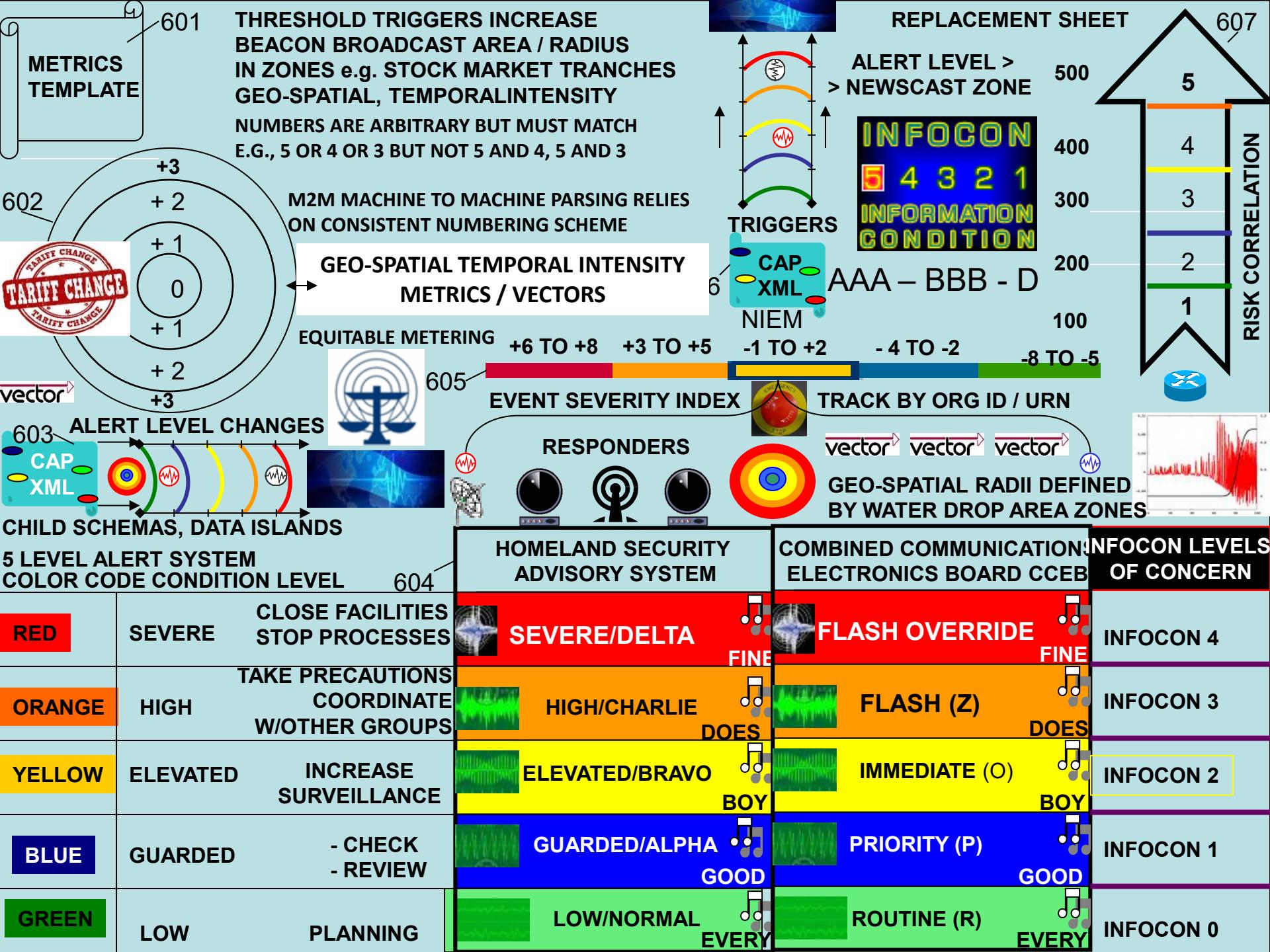
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TERRA TRC

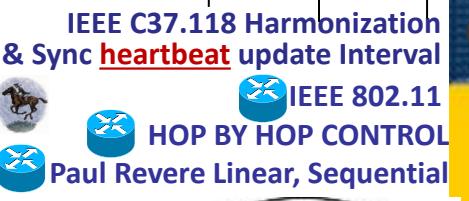
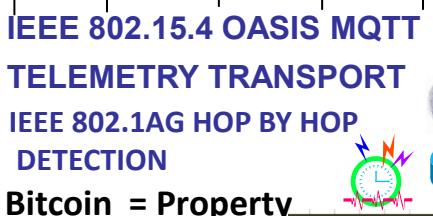
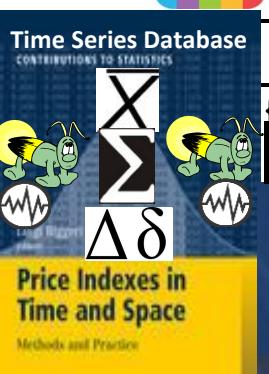
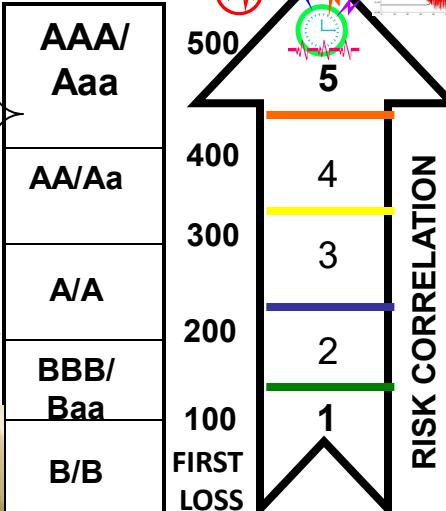


ECONOMIC HEARTBEAT

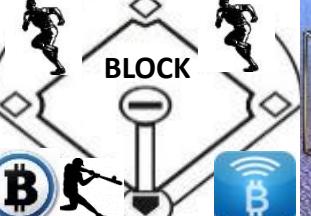
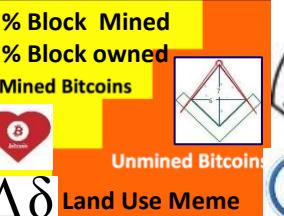


HB MSG </108>
FIX PROTOCOL
INDUSTRY-DRIVEN MESSAGING STANDARD

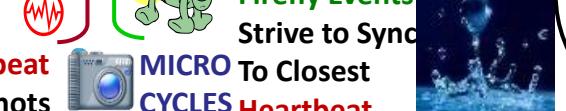
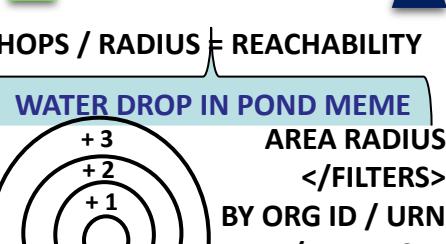
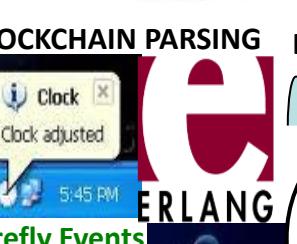
LAST LOSS



Bitcoin = Property



BLOCKTIME ARBITRAGE

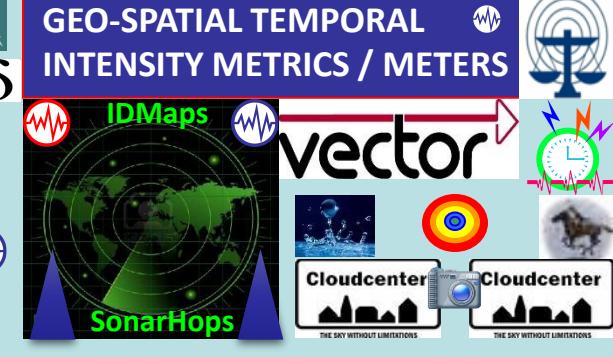
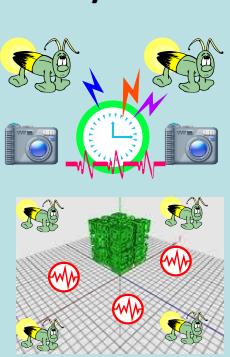




IDMaps: Global Internet Host Distance Estimation Service



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



IDMaps scalable Internet-wide architecture measures, disseminates distance information



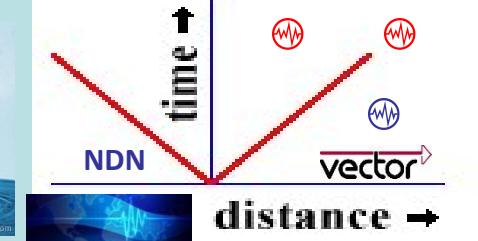
HOP COUNTS



REACHABILITY



/localhost/nfd/fib/add-nexthop



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



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

Name Prefix
<Org_ID> Trie (NPT)



NDN NAMES

NDN NAMED DATA NETWORK RIB /
FIB Datasets event notification

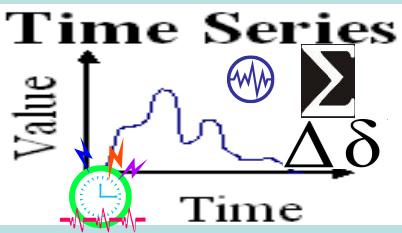
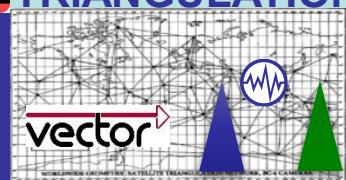
Distance information adjusts to “permanent” topology changes e.g., splits, joins, adds, moves, drops, merges in lieu of formal merger / acquisition

NDN INTEREST LENGTH
= DISTANCE BY HOPS

NDN
INTEREST

IS DATA
FRESH ?

TRIANGULATION



Datasets and Event Notification

INTEREST in <URNs>

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

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



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



MICRO-CYCLES



NDN INTEREST LIFETIME = TTL Time To Live

HEARTBEAT STATE META DATASNAPSHOTS

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

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



Geo-Spatial Temporal Intensity NOVEL METRICS / METERS:



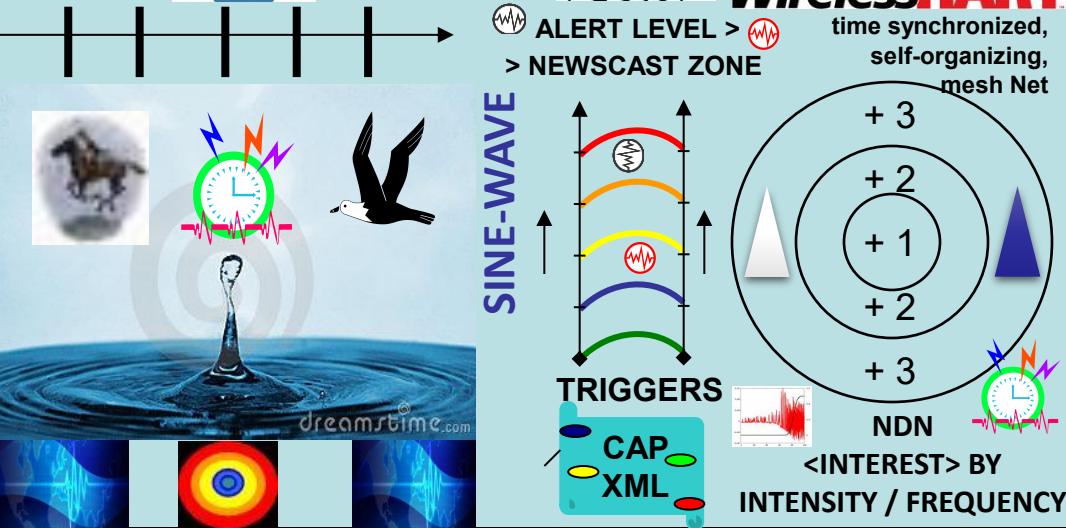
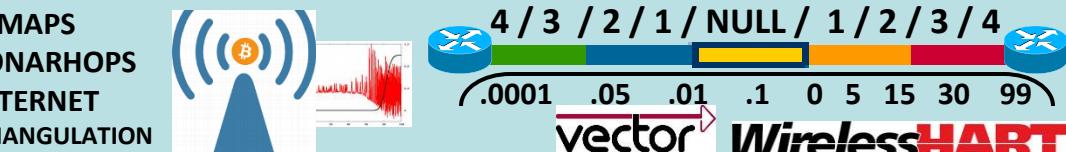
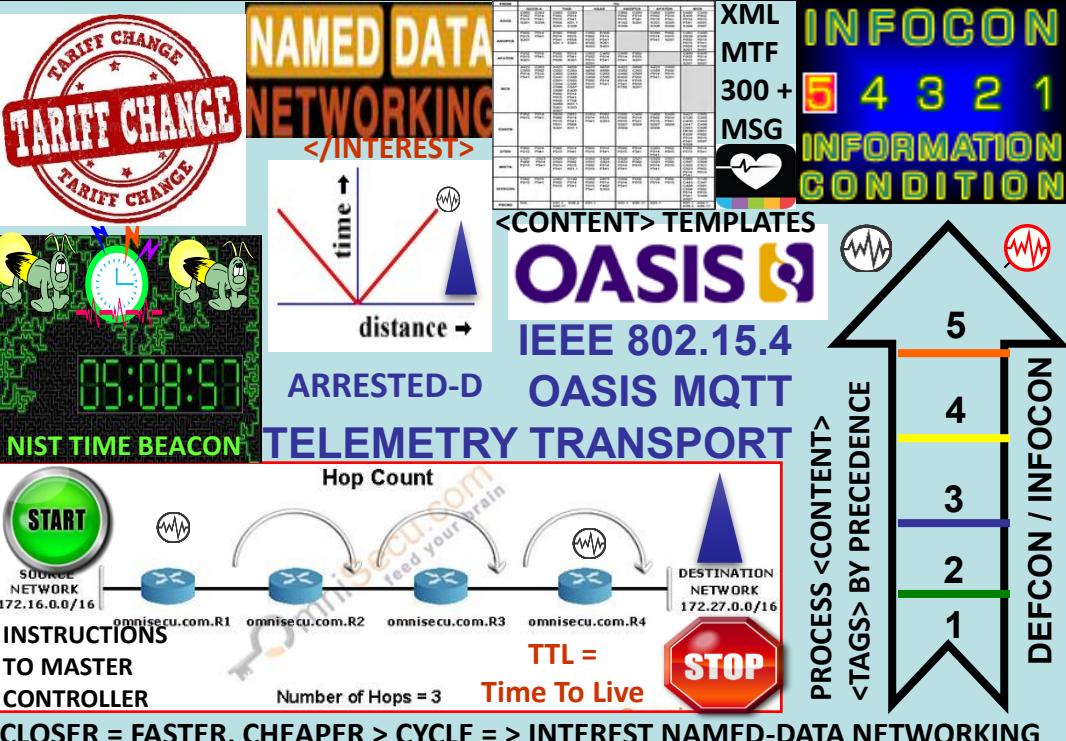
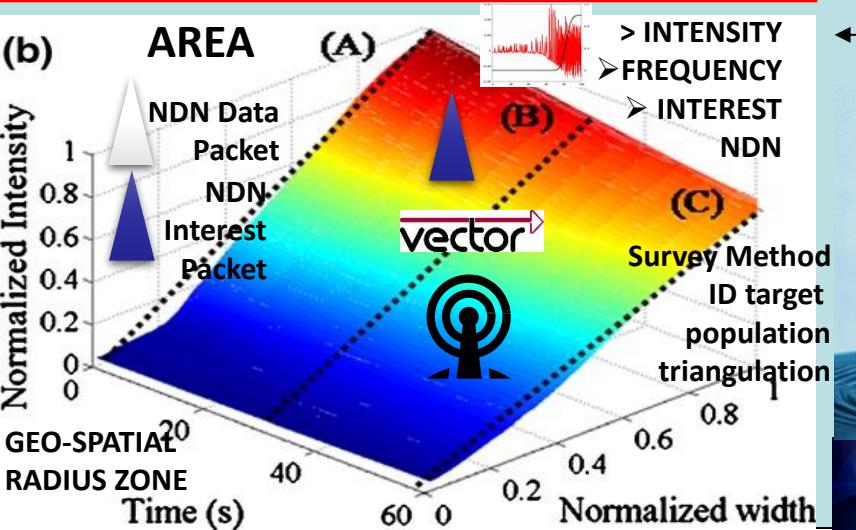
Paul Revere = linear, sequential



TCP/IP hop by hop counts, by hop controls



Water Drop = AREA / INTENSITY Cyclic Frequency



13/573,002 HEART BEACON CYCLE

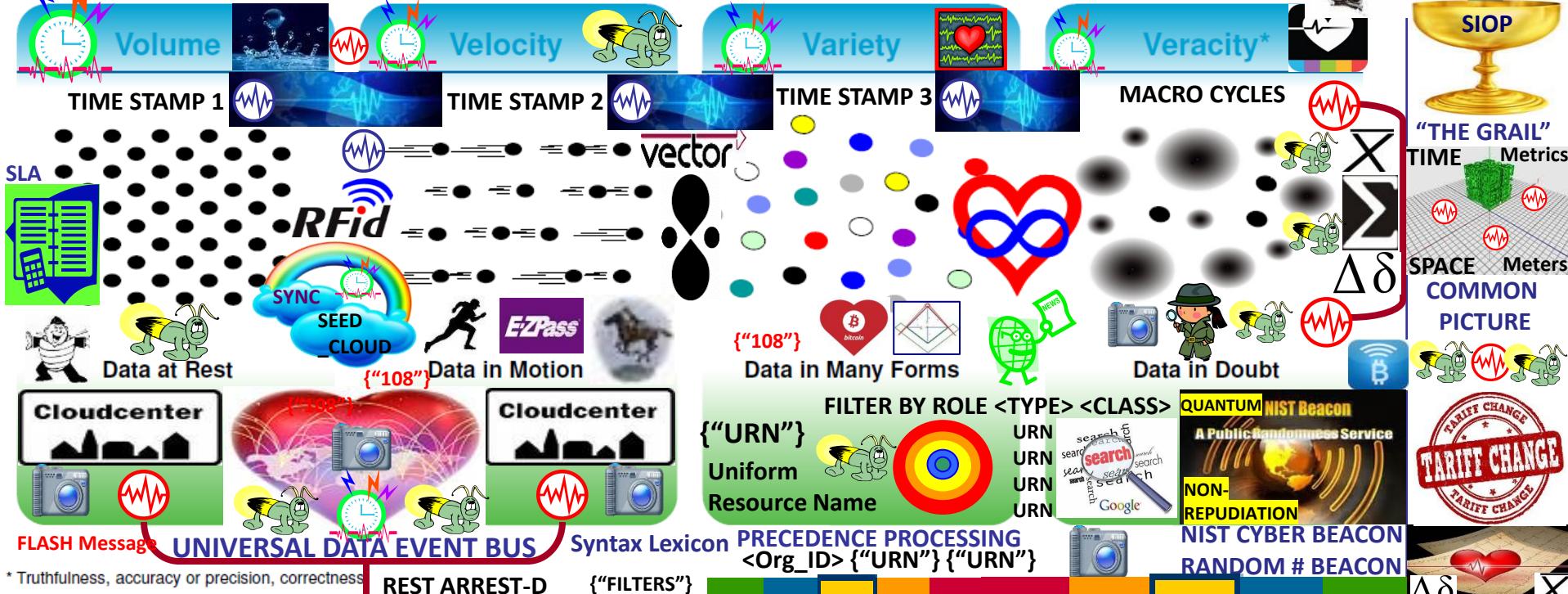
Time -Space meter, metrics / Universal data event, alert bus
Internet of Everything "ability to hear the world's heartbeat"

The four dimensions of Big Data

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



TIME STAMP BY Org_ID, URN Before FUSION CENTER

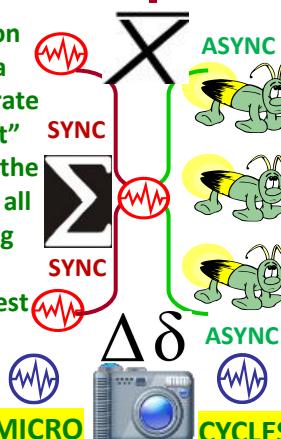


* Truthfulness, accuracy or precision, correctness

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

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

State Meta Data
Heartbeat Snaps



ERLANG

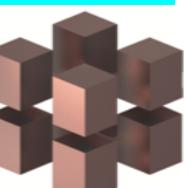
SPACE - TIME Equations
BLOCKCHAIN PARSING
{"URN"}
{"Org_ID"}

< / = / >
HEARTBEAT SYNCRONIZATION
FIREFLY SYNC CONSENSUS

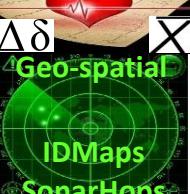


FOAM spatial protocol
Ethereum Blockchain

World Computer
Neural Network



FOAM



Geo-spatial

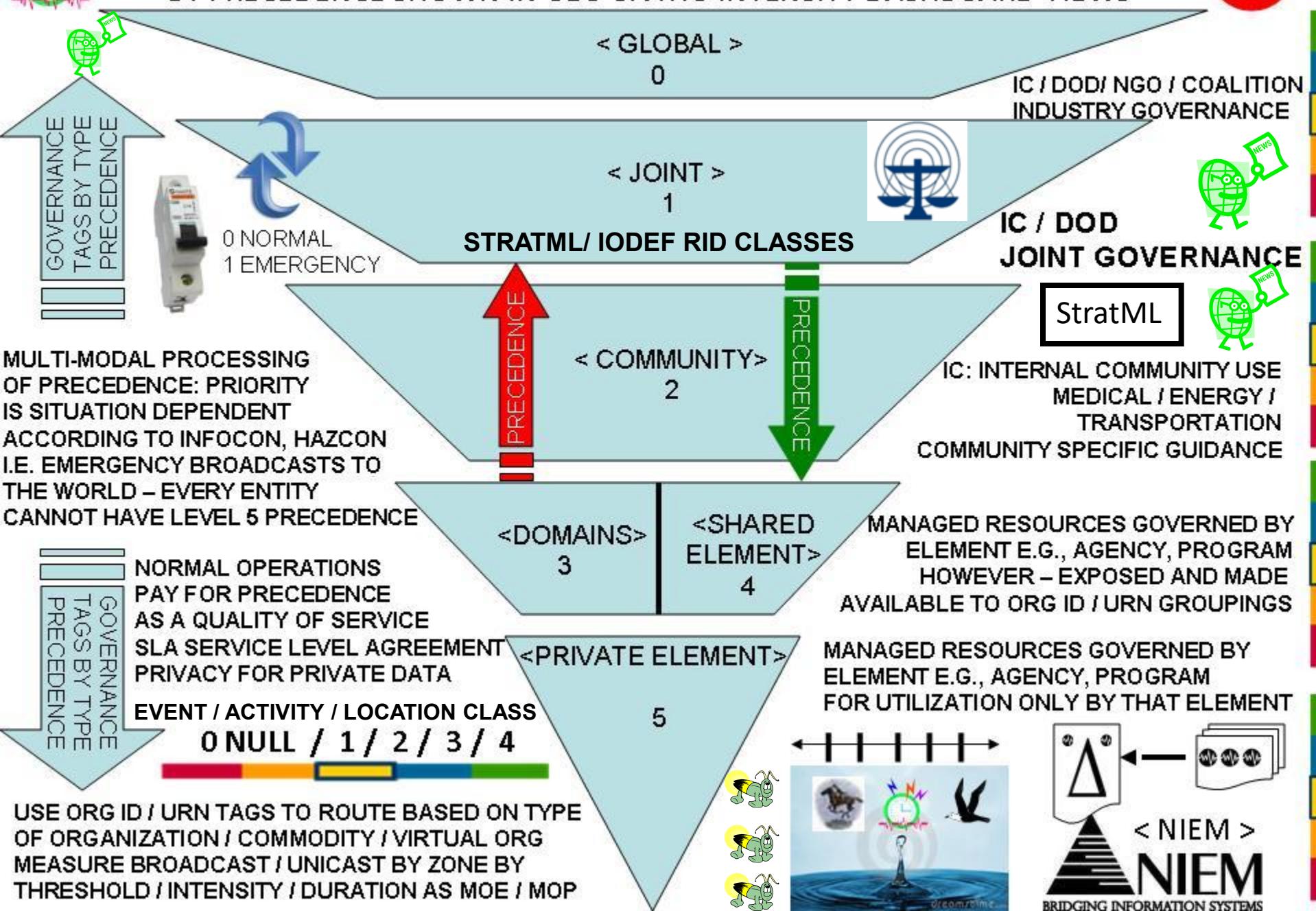
IDMaps

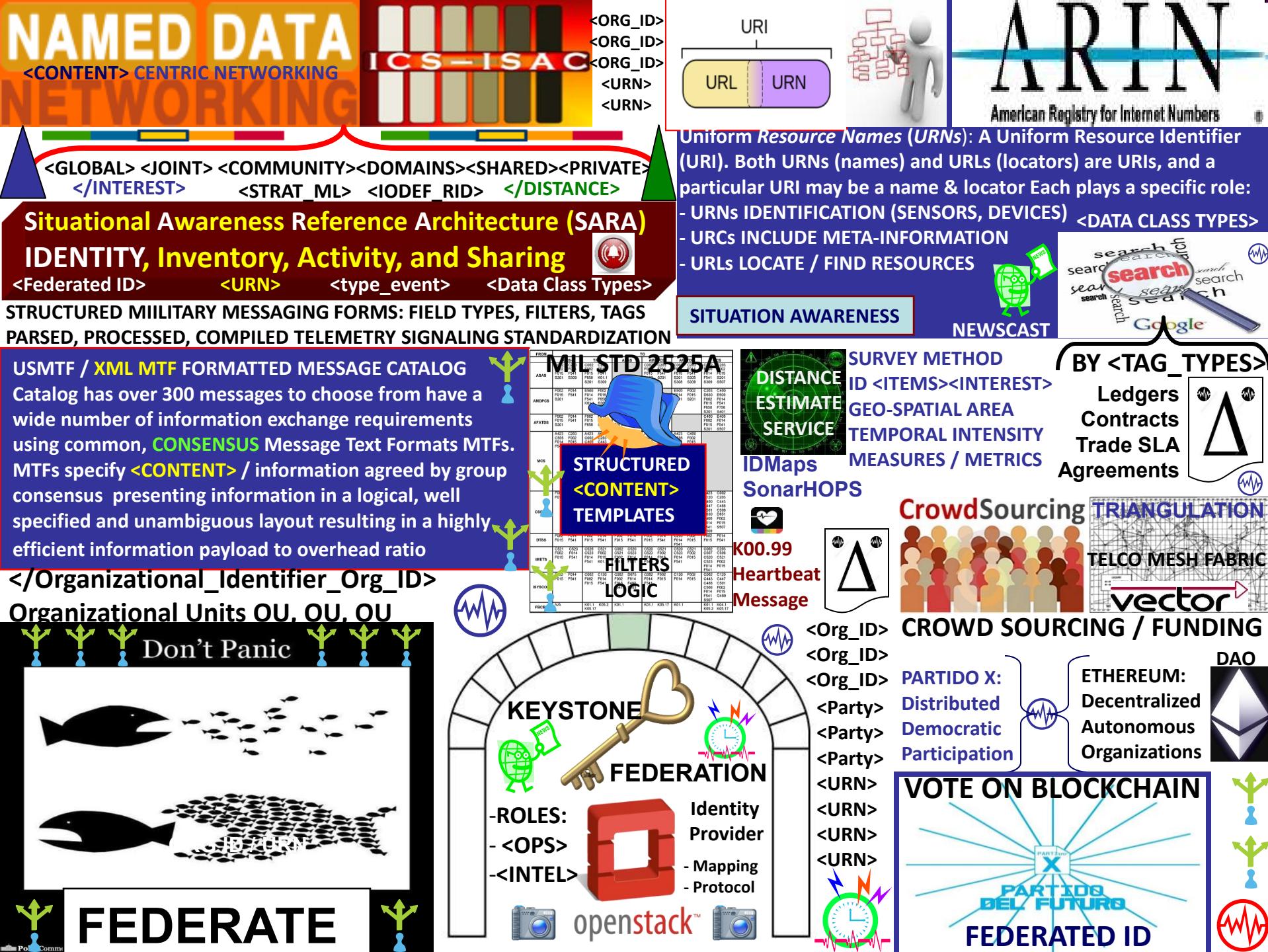
SonarHops

TARIFF CHANGE



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





Foundation Technology Trinity:

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

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

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

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

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

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

FROM	GCCS-A	TAIS	ASAS	AMDPSCS	AFATDS	CODE GUIDE
ASAS	C002 C203 F014 F541 S201 S309	C002 C203		C002 C203 F014 F541 S201 S309	C002 C203 F014 F541 S201 S309	MIL STD 2525A, B, C, D ["URN"] {"Org_ID"}
AMDPSCS						ISO Patent Application 9/11 2003: Method to commercialize structured military messaging
AFATDS	F002 F014 F541 S201			F002 F014 F541 S201	F002 F014 F541 S201	20022 DoD Systems of Systems Engineering Structured Data Exchange MIL Standards / ISO Standards
MCS	C002 C203 C505 F002 F014 F541 S201			C002 C203 C400 C443 C401 C444 C501 C503 C504 C505 C506 C507 F002 F014 F541 S201	C002 C203 C400 E500 E002 E014	BREVITY OPSCODES MAPPED TO SYMBOLS, SYMBOL SETS FOR A.I. ARTIFICIAL INTELLIGENCE MAN – MACHINE INTERFACE
TOKENS						STANDARD, CONSISTENT SYMBOLS
SIOP						

MESSAGE CATALOG
300 + Use Cases

Object Categories	Examples	Information Categories and Examples				
OOB	SYNTAX LEXICON	Location	Movement	Identify	Status	Activity Intent
		lat/long	spd/hdg	STRUCTURED DATA EXCHANGE / alliance / hierarchy class	Message Sets	("Java JS")
Infrastructure	Comm, power, transportation, water/sewer	network, grid	throughput, flow rates,	name, part-of relationships	BDA, op. metrics	Ergoengineering, reconfiguring, repair, preventive audits, YCOM expansion, inaction
Sociological	culture, religion, economic, ethnic, government, history, languages	temples, historic structures	ER Model	Class Diagram	Relational Database	Object DBMS XML DTD / Schema
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth	Attribute	Field / Column	Object Attribute	DBI FFN / FFN / FUON
			Domain Value	PURCHASE CODES	Instance, Value	TOKENS DUI FUD

Data Elements: entity, attribute, relationship equivalents

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



OPERATIONAL NODES / ACTIVITIES DATA SYSTEM FUNCTIONS PERFORMANCE

11.4 - Classification
11.4.1 - Category
11.4.1.1 - Confidence Level
11.4.1.2 - Monitoring Type
11.4.1.2.1 - Alternative
11.4.1.2.2 - Evaluated
11.4.1.3 - Value

11.6 - Kinematics
11.6.1 - Point / Line / Area (PLA)
11.6.1.1 - Acceleration
11.6.1.1.1 - Angular
11.6.1.1.2 - Linear
11.6.1.2 - Velocity
11.6.1.2.1 - Estimated
11.6.1.2.2 - Observed
11.6.1.2.3 - Predicted
11.6.1.2.4 - Generated

11.4.1.3.5 - Surface
11.4.1.2 - Platform / Point / Feature Type
11.4.1.3 - Specific Type
11.4.1.4 - Type Modifier
11.4.1.5 - Unit

11.4.1.1.1 - Horizontal
11.4.1.2 - Vertical
11.4.1.3 - Conforming
11.4.1.4 - Bearing Angle Rate
11.4.1.5 - Covariance Matrix

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

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



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

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

CONFUCIOUS

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>
<URN><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



NDN

<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>

<TAG> LIBRARY
TEMPLATES

NDN

<INTEREST>

Cybox™



<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

STRUCTURED
<CONTENT>
TEMPLATES

MCS

CBICS

DTBS

METS

ISYCON

FBCE



NIST RANDOMNESS
BEACON

05:08:51

NIST TIME BEACON

Cloudcenter

0°C

-0°C

Cloudcenter

0°C

-0°C

Cloudcenter

**NAMED DATA
NETWORKING**
<Content> Centric

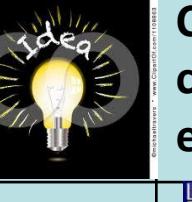
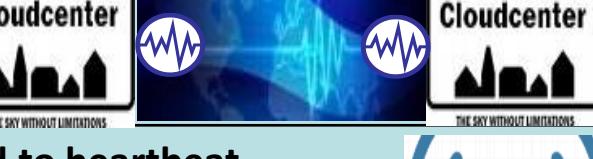
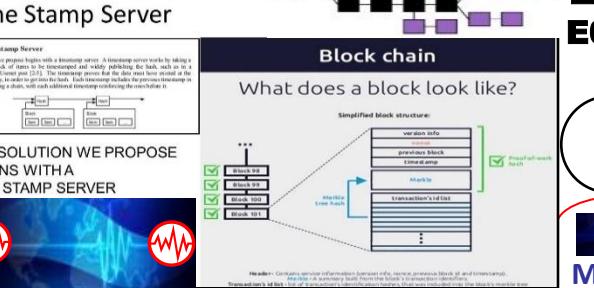
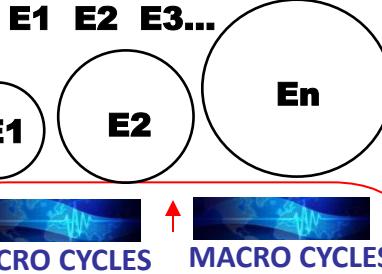
USMTF / XML MTF FORMATTED MESSAGE CATALOG

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

<TAG> LIBRARY

I&I

INBOUND SHARING / MICRO-CYCLES

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>		
Programmable Money World Computer / Blockchain	  <p>Cloud Interface Management configuration, start, stop cloud services, edit configuration (heartbeat messages)</p>	API Operation Count	
Interface Characteristics	<p>Web service access type Network Effects / A.I.</p> <p>LANGUAGE / PLATFORM BINDINGS</p>	<p>Web application, front end to [network, device, system, blockchain] heartbeat</p> <p>PHP Java Erlang...</p>	
"The external environment could update resources at random... One solution is a heartbeat: defining a default lease duration delaying updates until the next cycle"	<p>SCOP is a web application, PHP based front-end to heartbeat, IP Virtual Server ipvs and ldirectord [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>Epoch Time Cycles E0 E1 E2 E3...</p> 
<p>QubitCoin Interval: Every 30 Seconds</p>		 	

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

HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

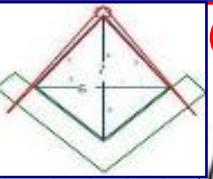
SC ALICE CORP VS CLS BANK: “claims may not direct towards abstract ideas”

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



$$\Delta \delta$$

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”

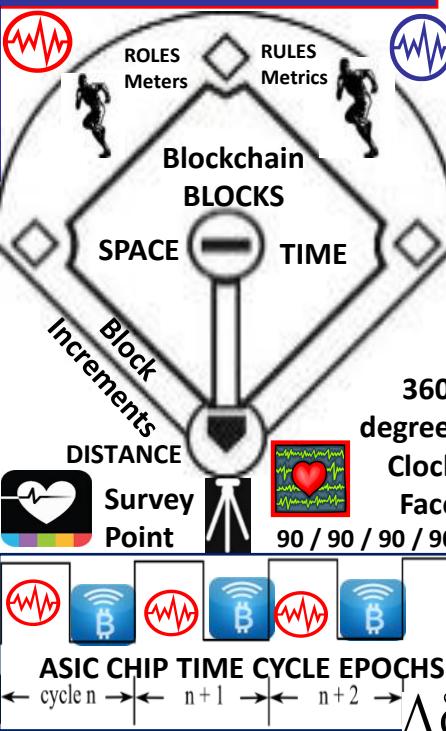
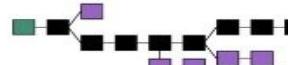
Coin never travel, but simply switch owners”

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

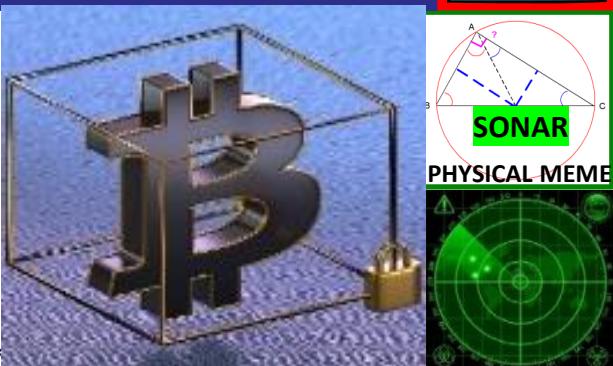
Step 4: Issuing Org of Record adjudicates w buyer



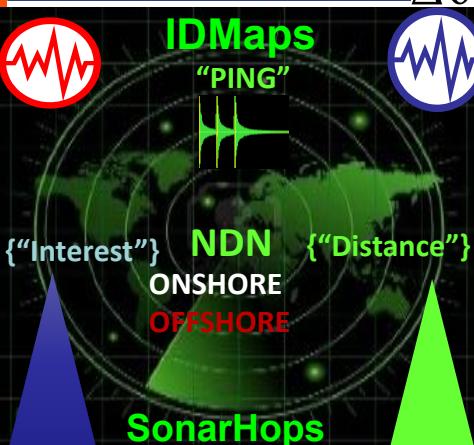
TRIANGULATION



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



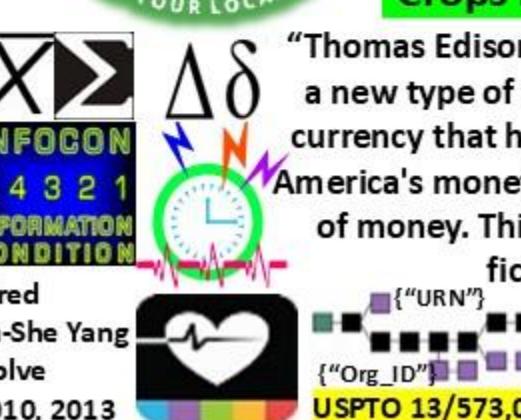
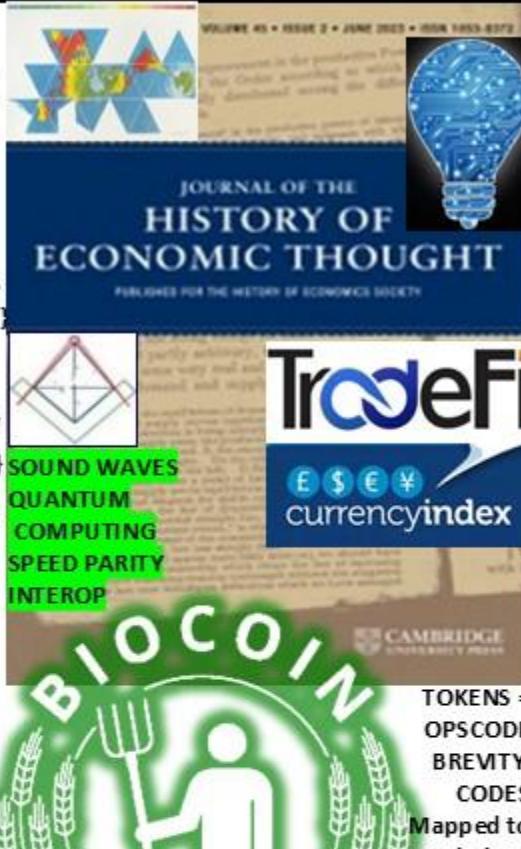
Commodities Index Basket / FIAT PRICE Discovery Algo / MEDIATION



ALGORITHMIC STABLE COIN EQUILIBRIUM ALGORITHMS
COMMODITY INDEX BASKET PRICE DISCOVERY ALGOS



flashing behavior of fireflies (Yang, 2008), adapted to solve continuous optimization problems (Lukasik and Žak) 2010, 2013

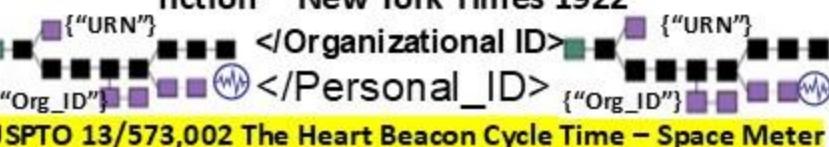


Edison's Monetary Option
Cambridge University Press 2009

"Crops hold their value best over time"

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

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



Tokenization of Physical Assets Enables Economy Of Everything

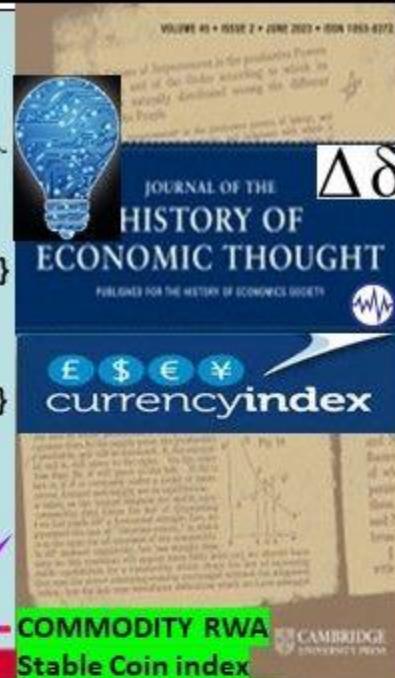


ALGORITHMIC STABLE COIN COMMODITY INDEX CURRENCY PROGRAMMABLE \$\$\$

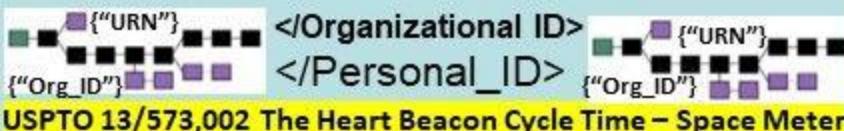
BELT and ROAD
Trade Initiative



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

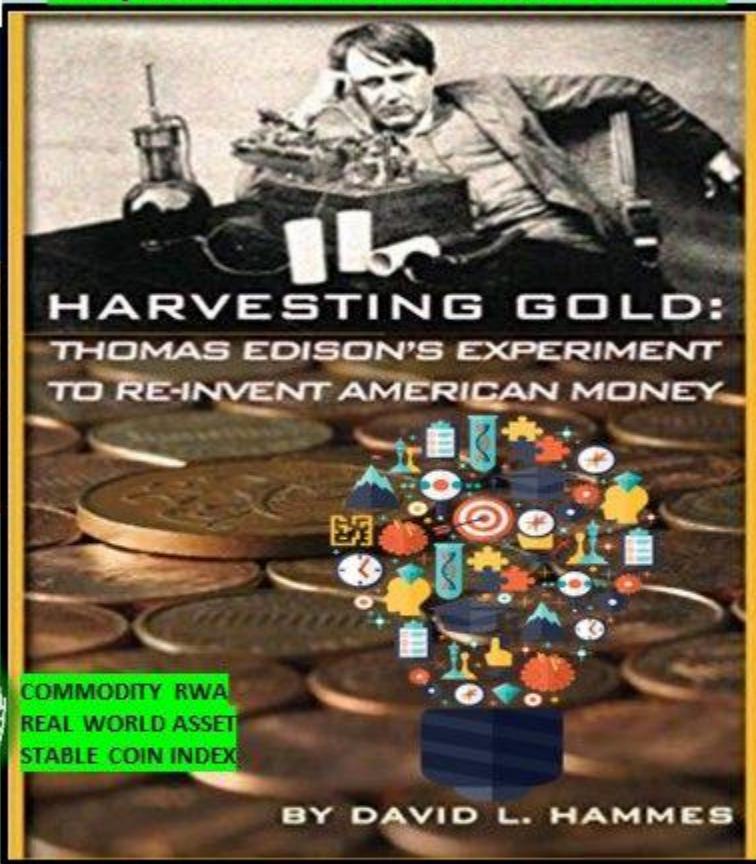


NETWORK
CENTRIC
OPERATIONS
INFOCON
4 3 2 1
INFORMATION
CONDITION

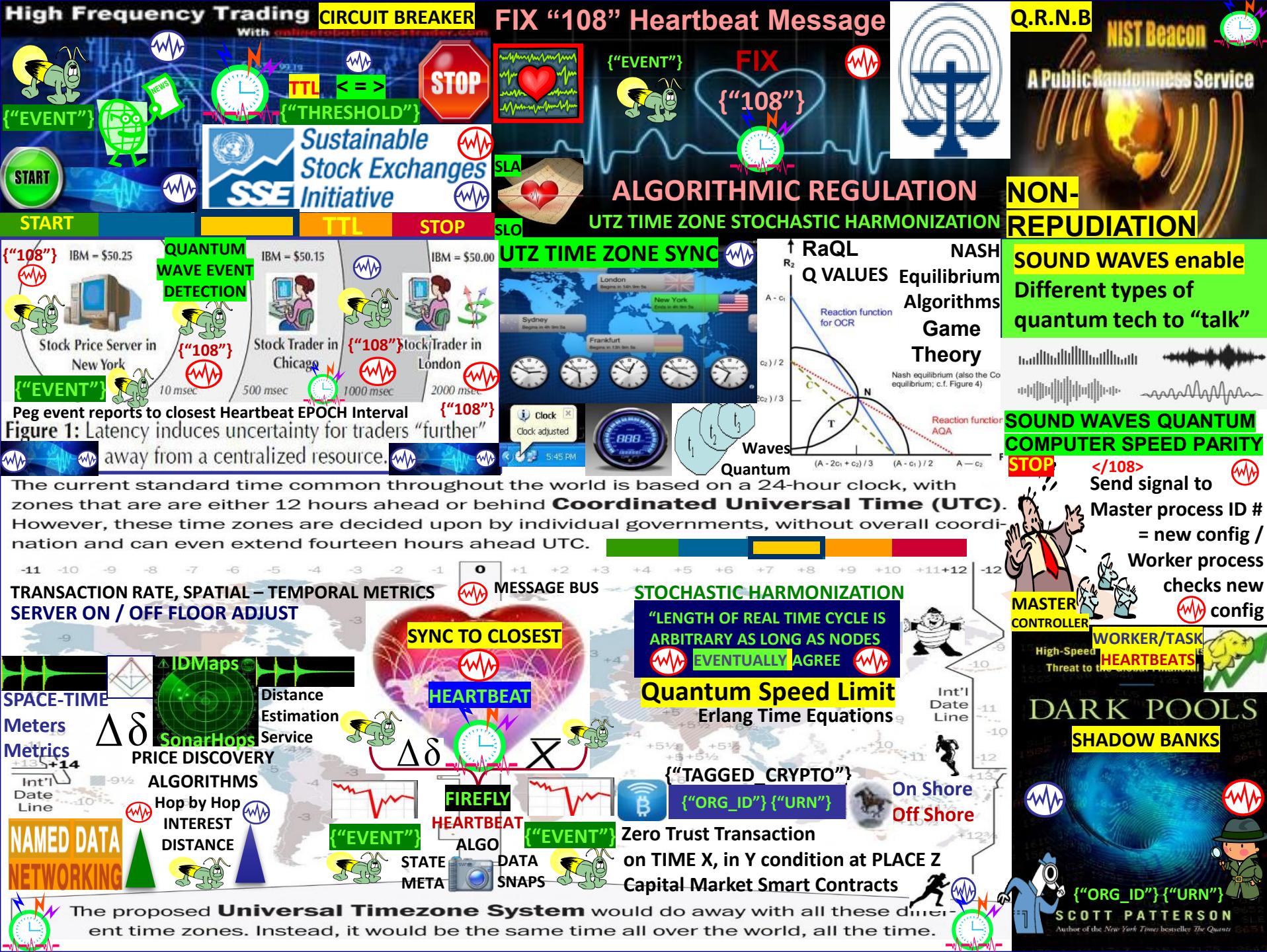


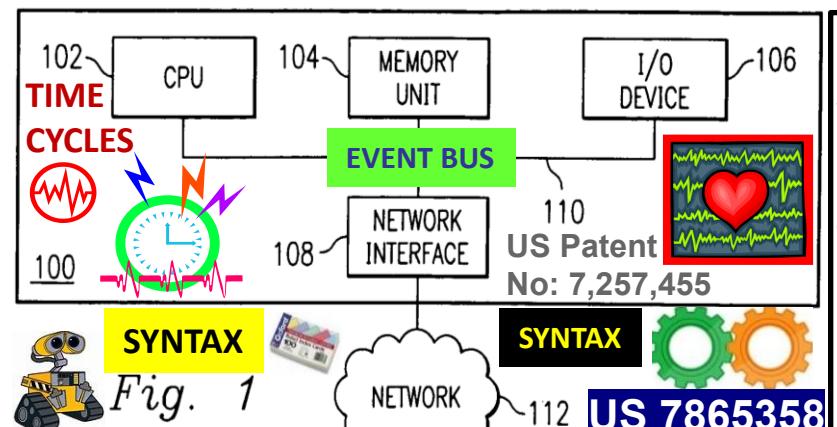
Thomas Edison's Monetary Option Cambridge University Press 2009

"Crops hold their value best over time"



"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



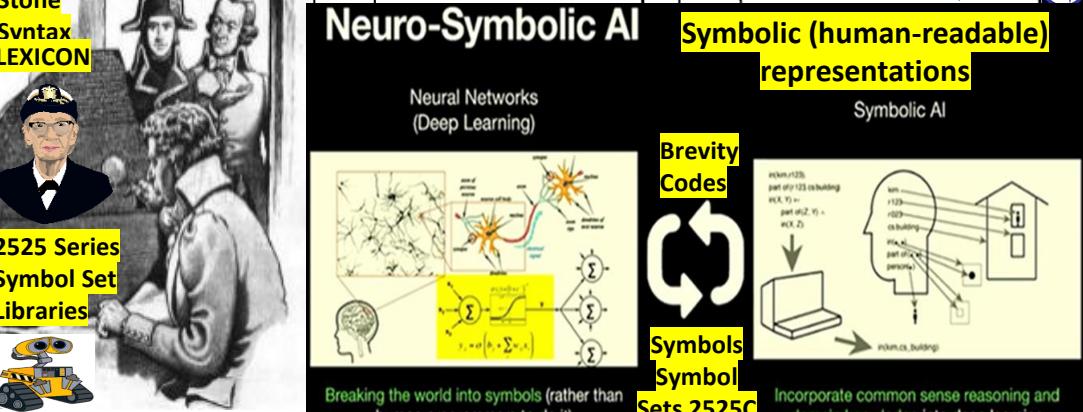
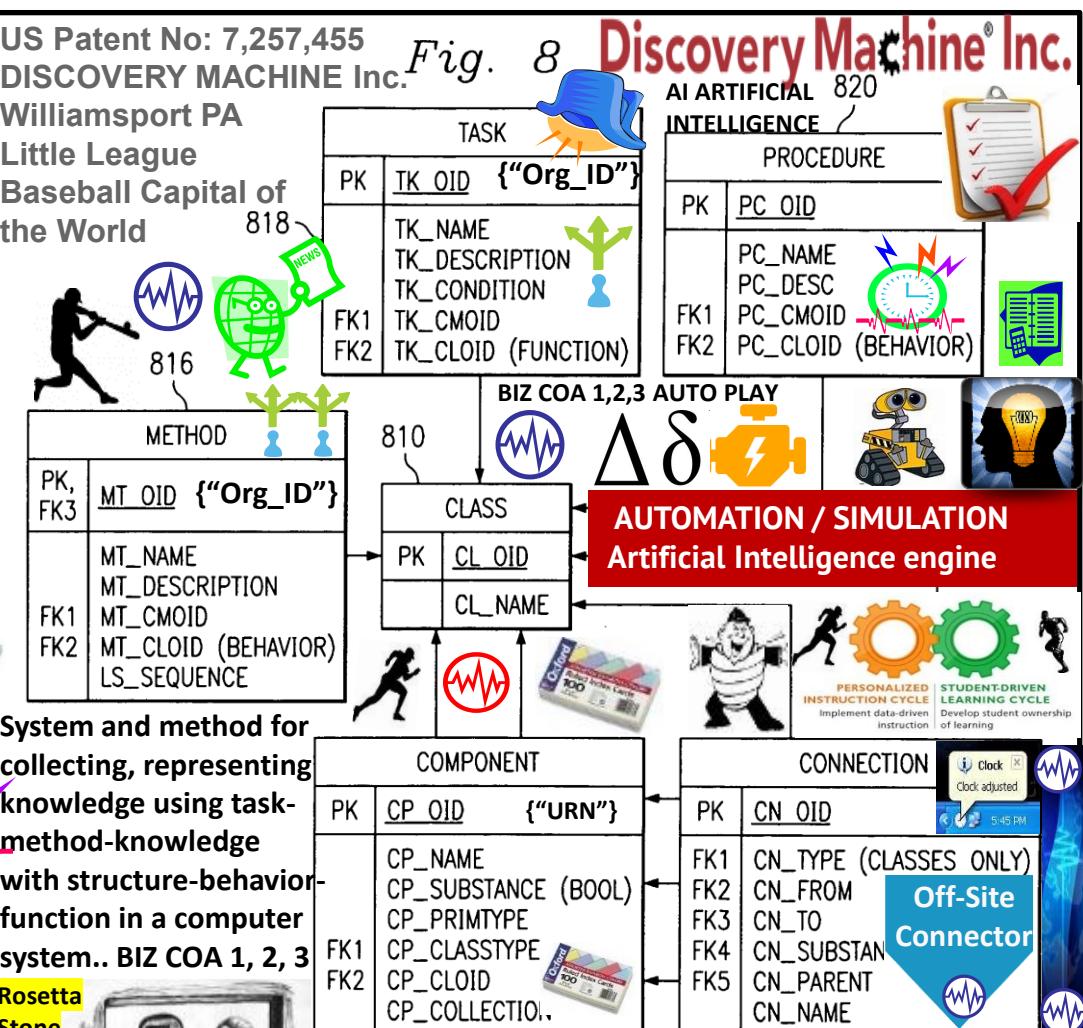
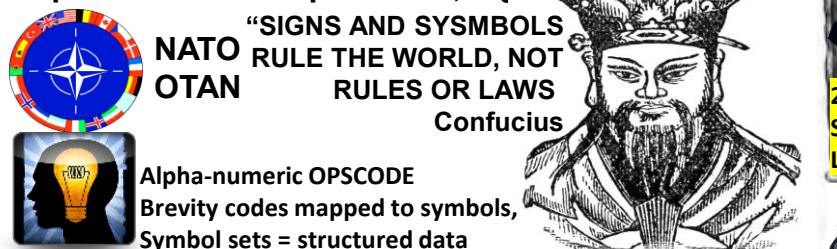


Machine-based system for transforming data from a source form to a target form, a tool is provided for sharing information established in developing a transformation model. The shared information may relate to rules for mapping source collection terms to standardized terms, rules for ordering or **SYNTAX**,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

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

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

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



Symbolic artificial intelligence: collection of all methods in artificial intelligence

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

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

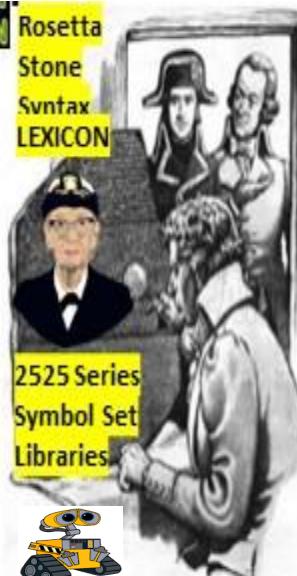
This claim implies both that human thinking is a kind of symbol manipulation (because a symbol system is necessary for intelligence) and that machines can be intelligent (because a symbol system is sufficient for intelligence).[3] The idea has philosophical roots in Hobbes (who claimed reasoning was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

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

data from a first form to a second form

CONDITION

Rosetta
Stone
Syntax
LEXICON



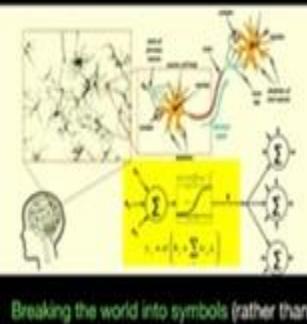
FRT CP CLOUD

ABC A OPS CODE BREVITY CODES

Neuro-Symbolic AI

Symbolic (human-readable)
representations

Neural Networks
(Deep Learning)



Symbolic AI

Brevity
Codes

Symbols

Symbol

Incorporate common sense reasoning and

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

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



Alpha-numeric OPS CODE

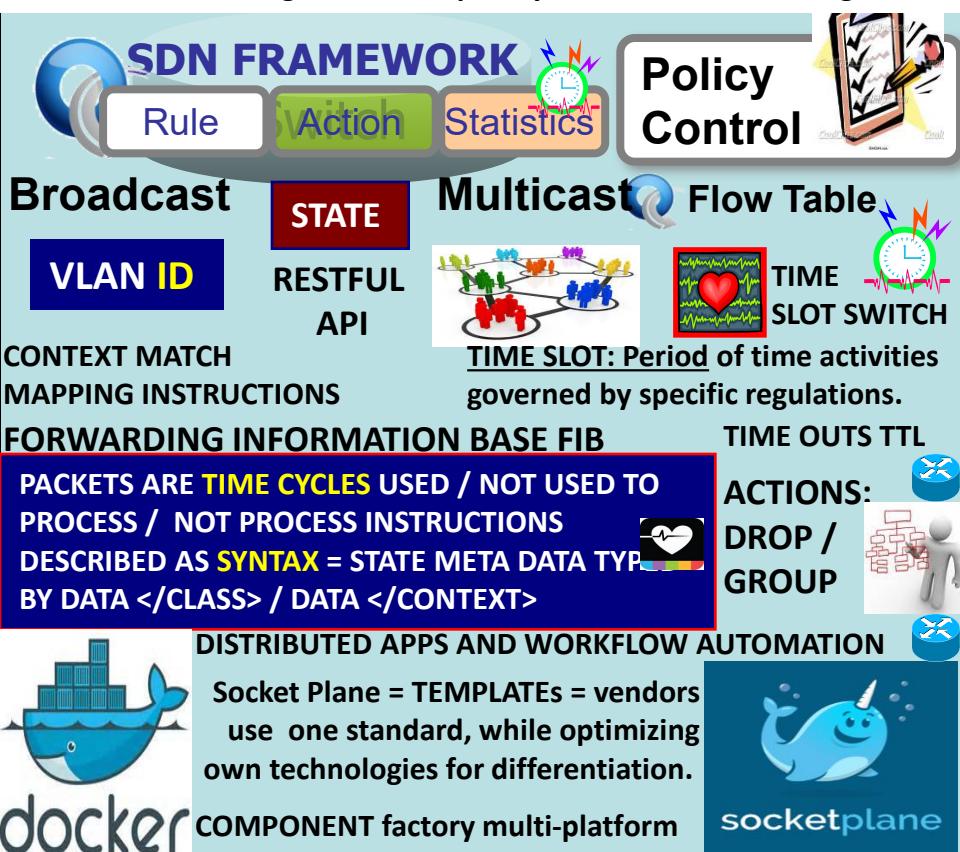
Brevity codes mapped to symbols,
Symbol sets = structured data





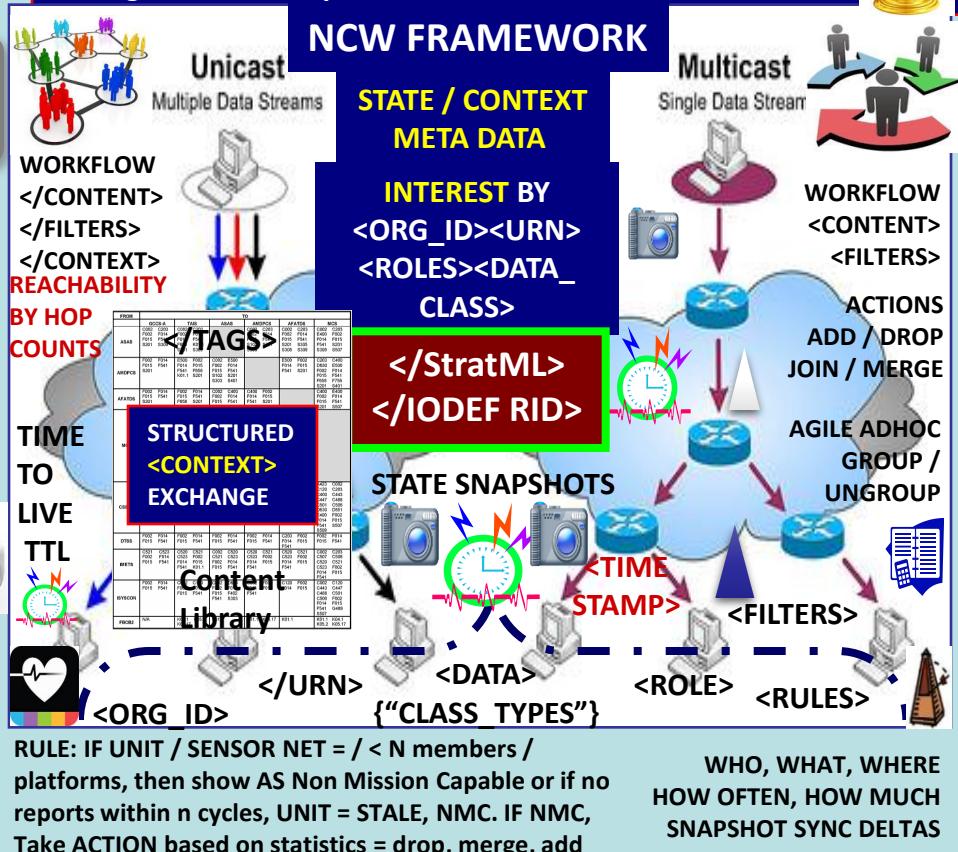
- SDN is a *framework* to allow network administrators to *automatically* and dynamically manage and control a *large number* of network devices, *services*, topology, traffic paths, and packet handling (quality of

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



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

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



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

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

SCt 573 ALICE CORP VS CLS BANK PHYSICAL MEMES

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



TIME / DISTANCE SERVICE LEVEL
AGREEMENT SLA / O Operations

IEEE 802.15.4 OASIS MQTT

TELEMETRY TRANSPORT

IEEE 802.1AG HOP BY HOP
DETECTION

IEEE 802.11
HOP BY HOP CONTROL



Unused Resources / Unmet Needs

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

DISTANCE
INFO SERVICE

Time Series

Value

Time



WATER DROP IN POND MEME IS
SONAR NAVY METAPHOR / MEME

NDN </INTEREST>
NDN {"DISTANCE"}

NAMED DATA
NETWORKING

IEEE C37.118
Harmonization
& Sync heartbeat
update Interval

CLOSER SOURCE
CHEAPER RATE



PAUL REVERE
LINEAR, SEQUENTIAL

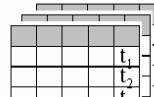


TCP/IP HOP BY HOP COUNT

Energy Attenuates over Distances

RADIUS
WATER DROP IN POND MEME

Attribute Series



INTEREST
DISTANCE

Temporal Series

Geo Spatial

Micro Grids Closer - Cheaper

BLOCKCHAIN
MICROGRIDS

TIME CYCLES / INTERVALS

cycle n

n + 1

n + 2

Spatial
Econometrics

Spaceship
Earth
Signals &
Telemetry
Annex

ASTEROID BELTS =
RARE MINERALS

MAIN
ASTEROID
BELT

MARS

MERCURY

VENUS

EARTH

STOCHASTIC
HARMONIZATION

Farther = More Cost
➤ Fuel, Resources

Service Level Agreements

FIREFLY-HEARTBEAT
ALGORITHM
UNIVERSAL
EVENT MESSAGE BUS

ERLANG

TIME- SPACE METRICS

43

22

13

0

1.5

Light minutes

TIME-SPACE BEACON

INFOCON

5 4 3 2 1

INFORMATION
CONDITION

????

MOON =

HELIUM 3

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

Alpha
Numeric
Brevity
Codes

SYNTAX
LEXICON

K0.99

ERLANG

TIME- SPACE METRICS

43

22

13

0

1.5

2.7

5.2

Astronomical units

FIREFLY – HEARTBEAT ALGORITHM MESSAGE EVENT BUS

EPOCH / TIME CYCLES / INTERVALS

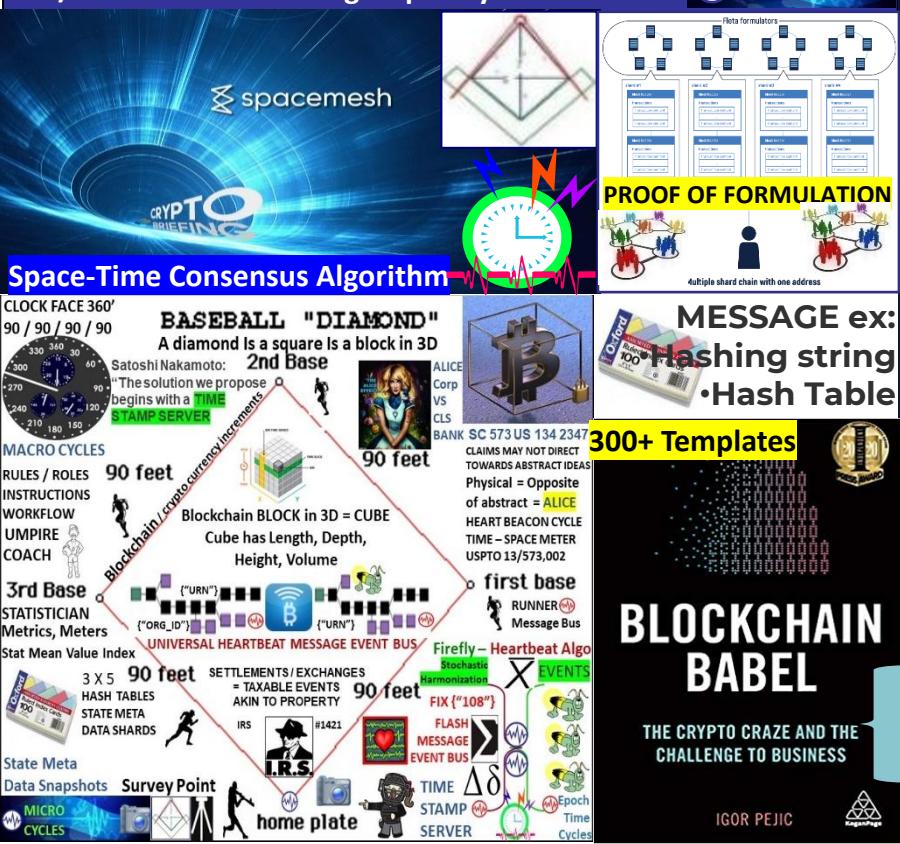
← cycle n → ← n + 1 → ← n + 2 →

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.



BLOCKCHAIN CONSENSUS ALGORITHMS

ULTIMATE GUIDE FOR BEGINNERS



Structured Data Exchange:

SYNTAX LEXICON
OPSCODES – Symbol Sets
A.I. / Man - Machine

Simplified
Byzantine Fault
Tolerance

Practical
Byzantine Fault
Tolerance

www.developcoins.com

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

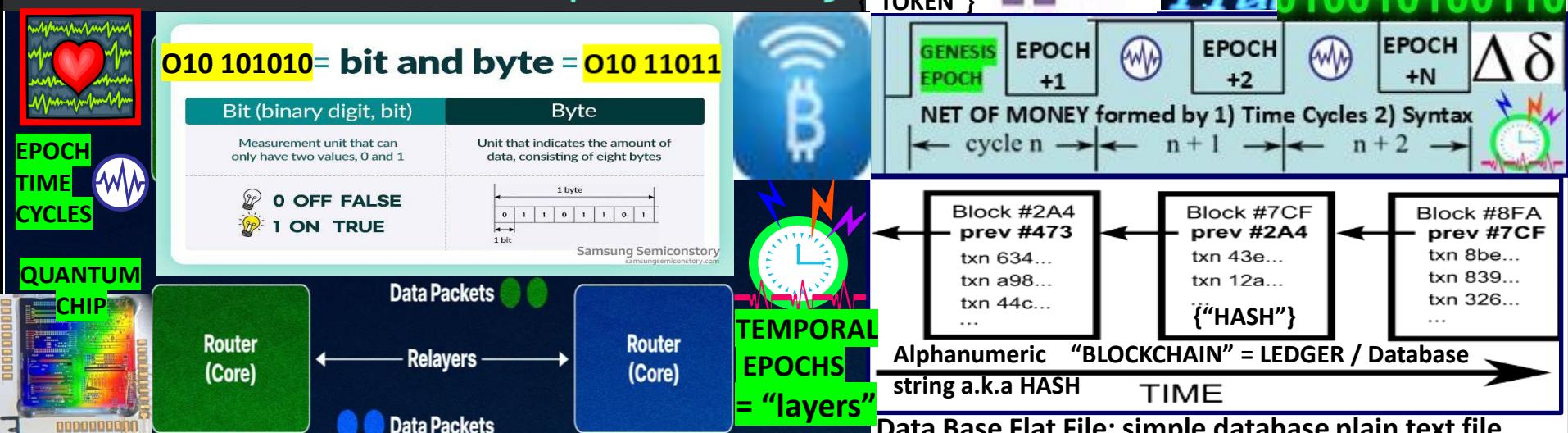


BIT: logical state with two possible values: "1" or "0",
TRUE / FALSE, YES / NO, ON / OFF, or +/-

"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

- Reuse, mod of System of systems engineering framework, Syntax Lexicon Library data elements



- STRUCTURED DATA EXCHANGE

Reuse brevity codes mapped to 2525D symbol sets comprised of 300 + message sets for A.I. - machine

Block-Time DLT arbitrage among Trade Federations </Org_ID>

{“URN”} </URN> = COMMODITY



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

Eco sustainable incentives

We can synchronize ourselves, DAO Trade Federations in time - space for common purposes”

Eco sustainable, Equitable Economic econometrics.



All things net, net of money formed with 1. Epochs 2 Syntax

Federation Gateway

MEDIATE $\Delta\delta$ MITIGATE

Bitcoin's value is determined by supply and demand.

UNIVERSAL MEME

Purchased Bitcoins Akin to property

I.R.S.

On / Off Shore

Time-Series Databases

XBRL / CDL / DAML

ROSETTA STONE

FEDERATION: Latin: foedus, foederis, 1. covenant, union of partially self-governing states under a central government 2. League or confederacy. People, groups retain autonomy 3. A federated body formed by a number of nations, states, societies, unions, retaining control of own internal affairs SC Alice Corp “claims may not direct”

USPTO 13/573,002 Alpha-Numeric Procedural

BREVITY CODES / TOKENS “Bitcoin is a language”

STRUCTURED DATA EXCHANGE

SYNTAX LEXICON CODER'S GUIDE

ISO 20022 2525C/D

NATO NETOPS TEMPLATE FORMS

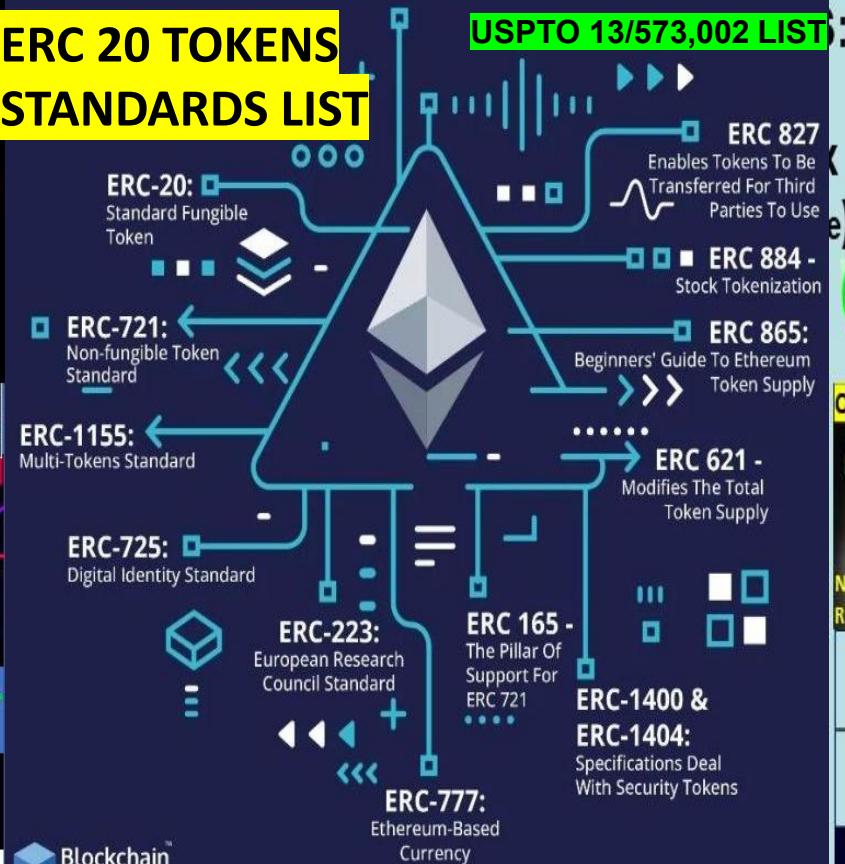
“LOGIC” FILTERS

Message Sets ISO 9001:2015

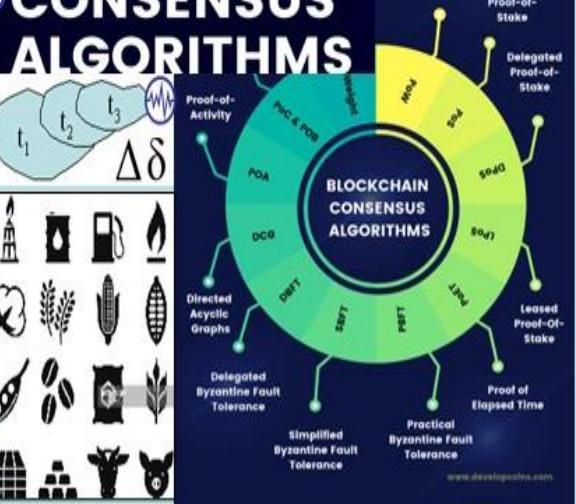
DATA SETS XBRL / CDL / DAML

ROSETTA STONE

ERC 20 TOKENS STANDARDS LIST



BLOCKCHAIN CONSENSUS ALGORITHMS



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

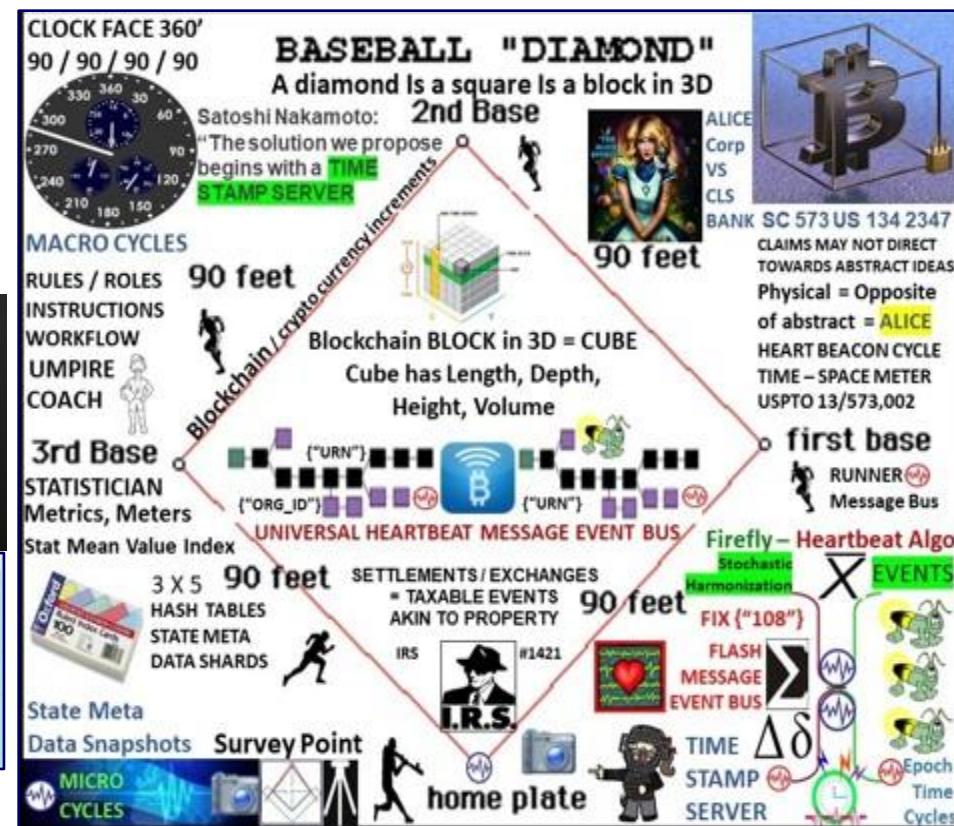
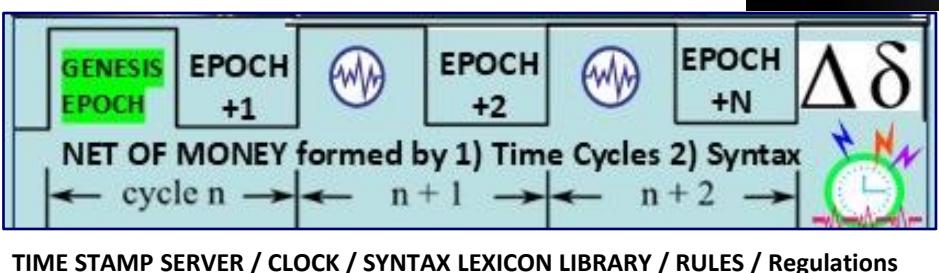
Token Type: Utility and Governance Token

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



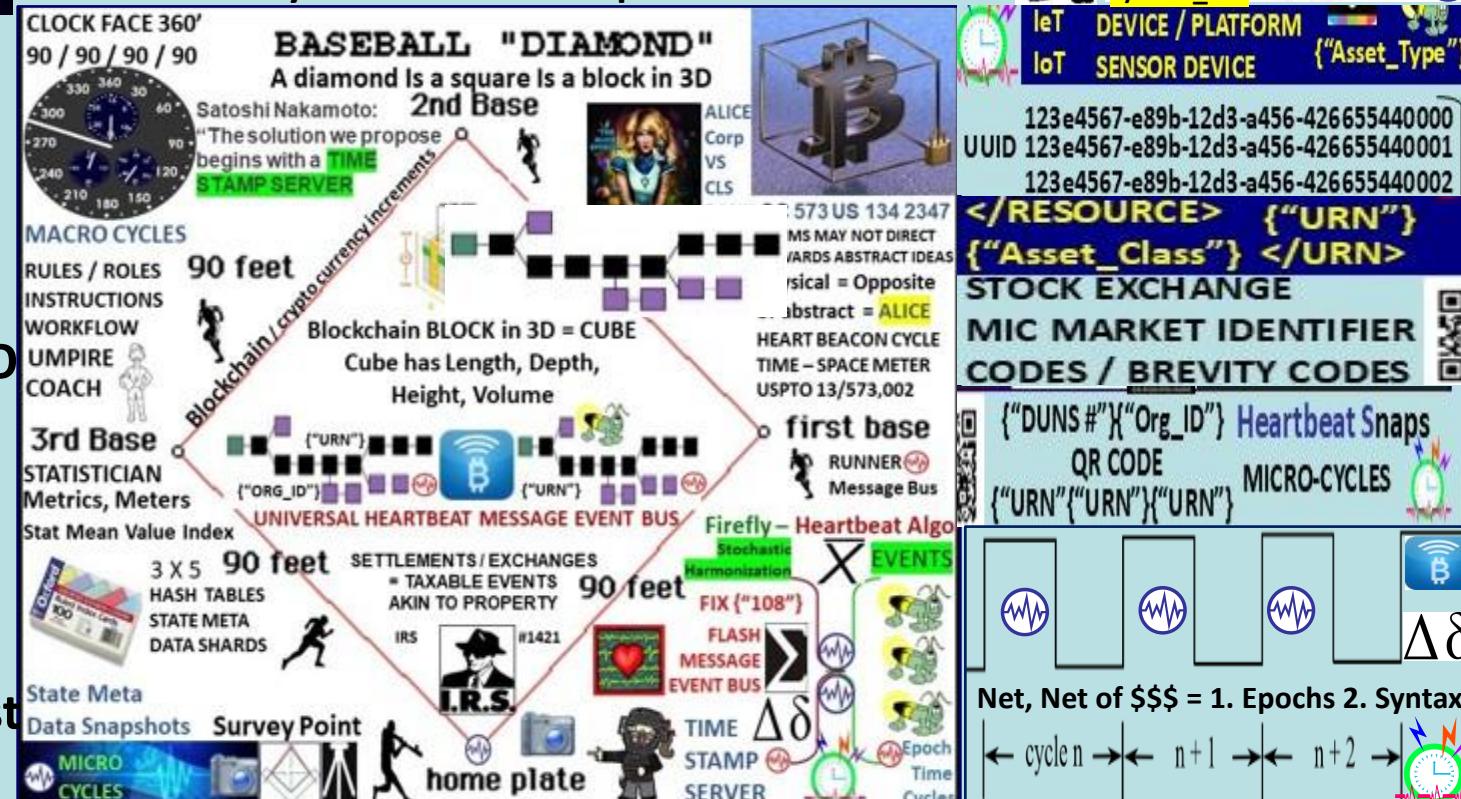
123e4567-e89b-12d3-a456-426655440000
UUID 123e4567-e89b-12d3-a456-426655440001
123e4567-e89b-12d3-a456-426655440002

</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 →

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

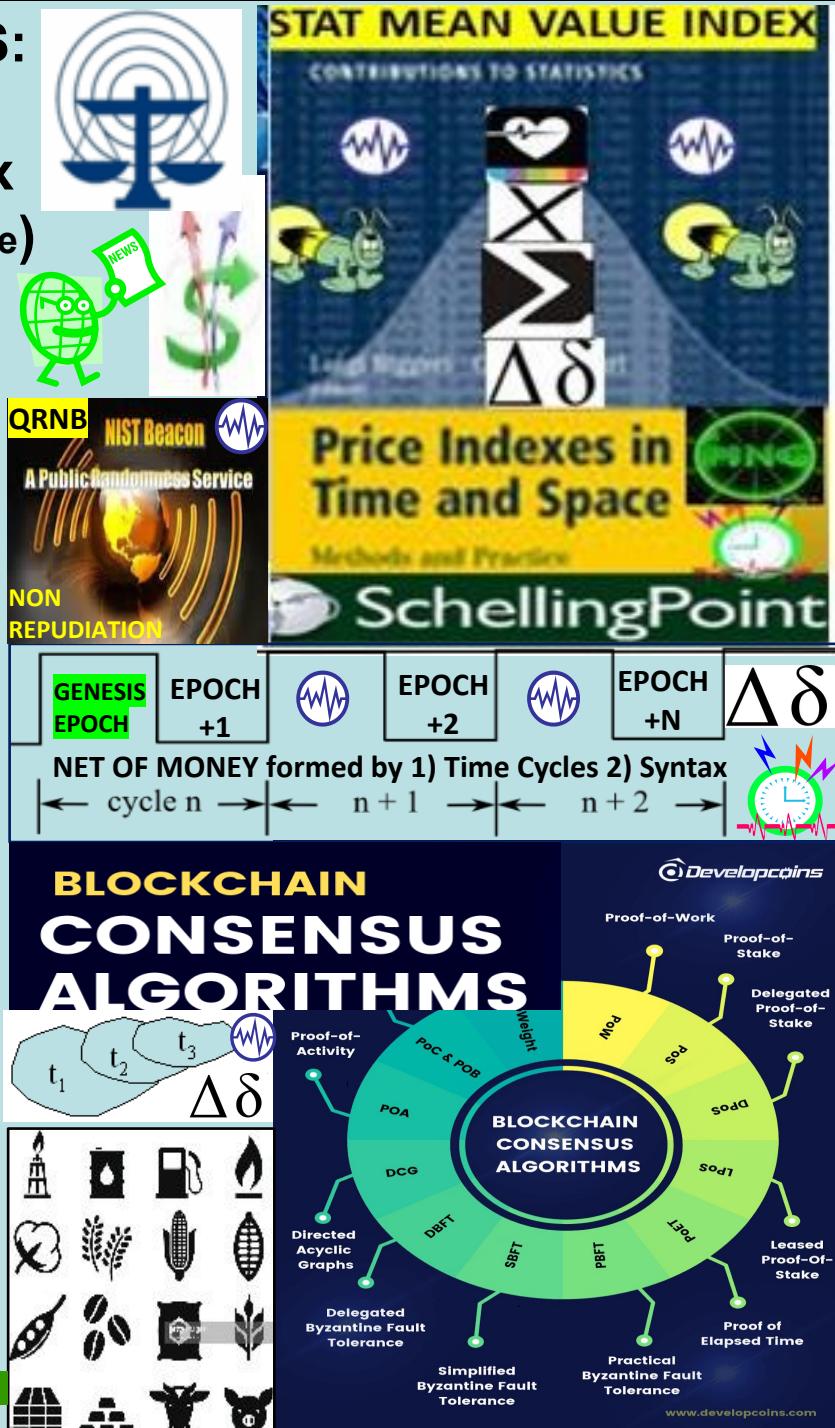
RWA-Backed:, EAnzen, Superstatethena (UStb update)

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

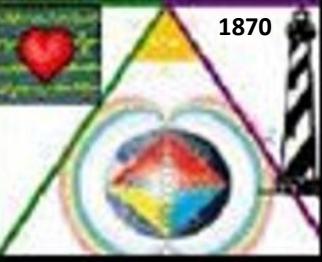
2) Collateralized Debt Positions (CDPs)

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**

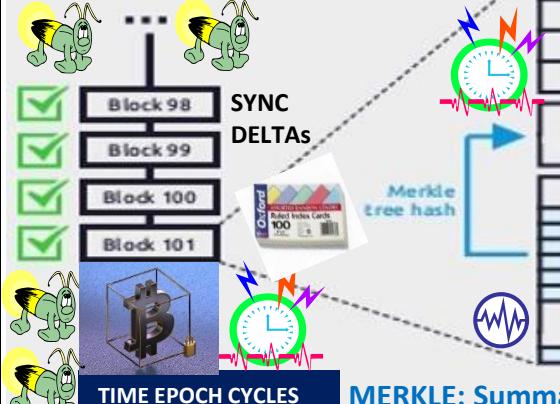
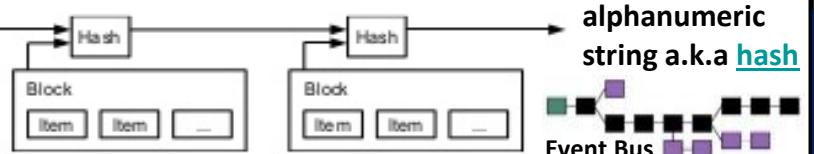
Satoshi Nakamoto Bitcoin Paper

“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



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

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

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

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



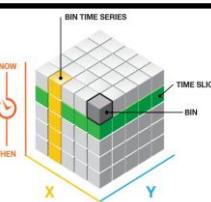
“THE VALUE OF BITCOIN IS TIME ITSELF”



JapanNet Crypto Time
Authentication Service
(Timestamp Service)

“EVENTS”

Oxford Ruled Index Cards



CLOCK FACE 360°
90 / 90 / 90 / 90

300 330 360 30 60 90
270 240 210 180 150 120

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

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

Satoshi Nakamoto:
“The solution we propose
begins with a **TIME
STAMP SERVER**”



90 feet

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

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

Blockchain / crypto currency increments
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Height, Volume

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



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”

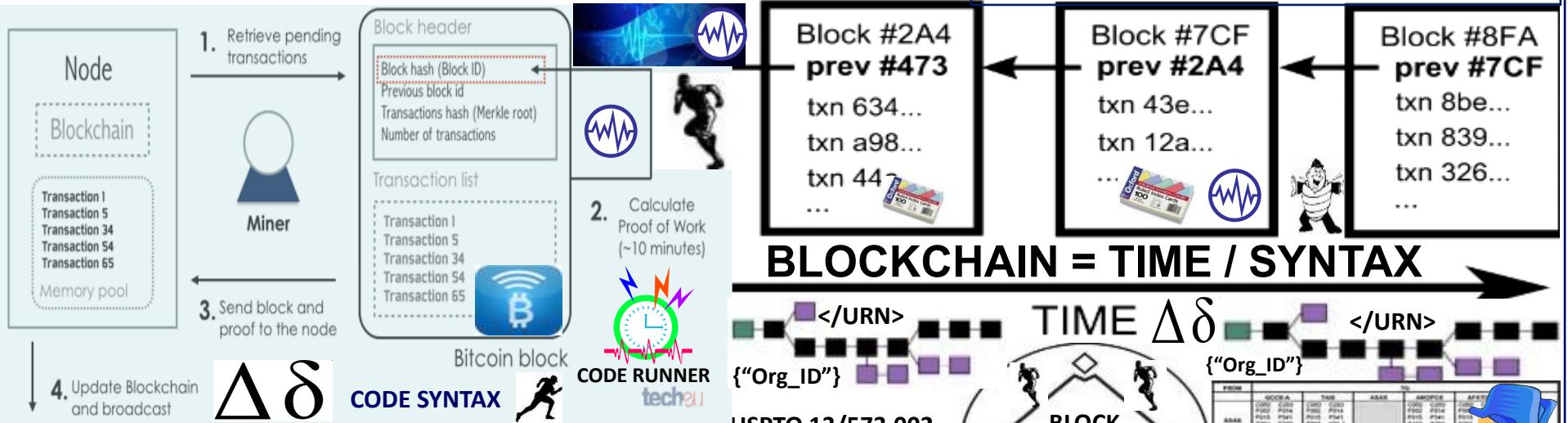
FLASH MESSAGE EVENT BUS

TIME Δδ

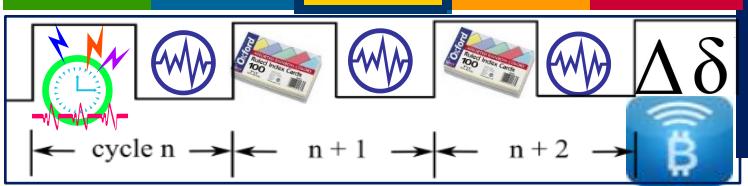
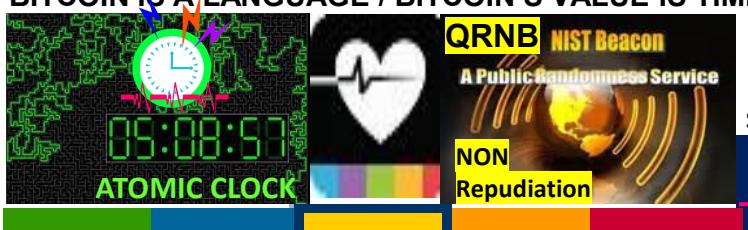
Epoch
Time Cycles



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.

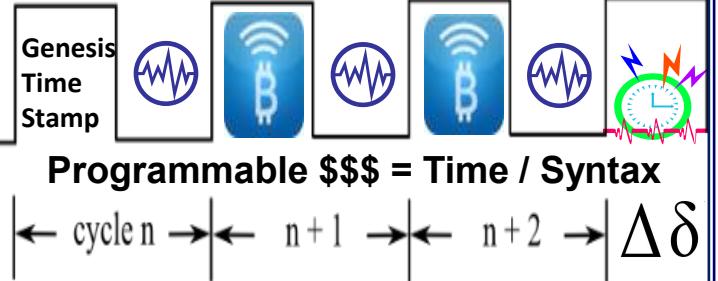


"BITCOIN IS A LANGUAGE / BITCOIN'S VALUE IS TIME ITSELF"



TIME EPOCH CYCLES

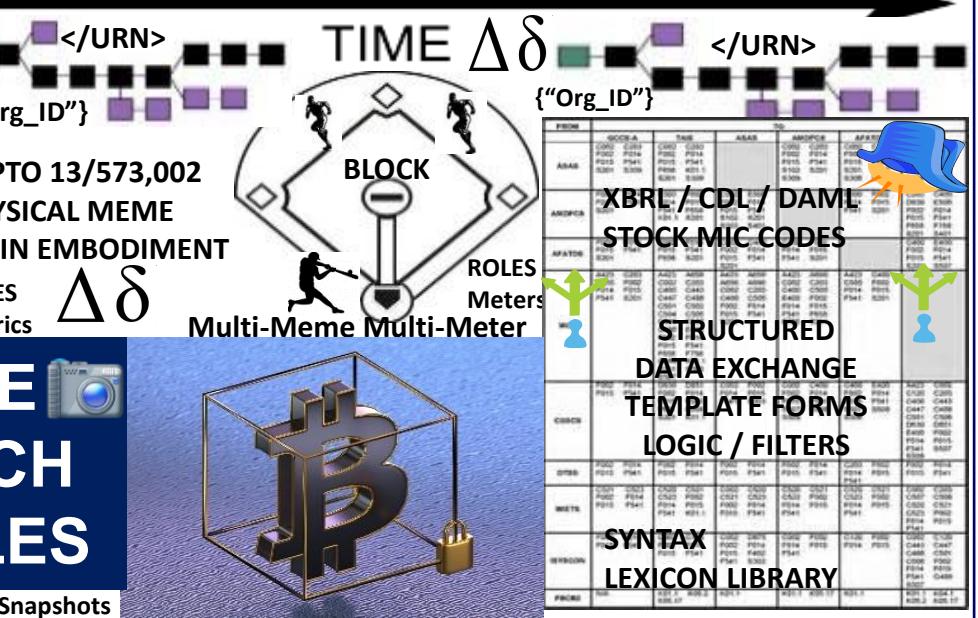
State Meta Data Snapshots



Programmable \$\$\$ = Time / Syntax



BLOCKCHAIN = TIME / SYNTAX





Blockchain

BLUEPRINT FOR A NEW ECONOMY



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



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

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



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



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



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



Functional Sequential Erlang

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

SORTING ALGO'S

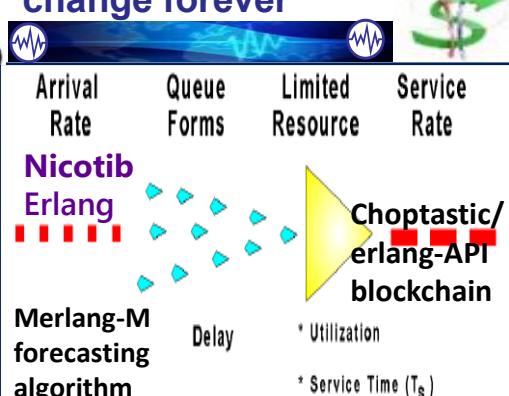
[Ericsson Open Money For Society Patent App](#)



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

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

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



Rho ratio $\Delta\delta$ 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

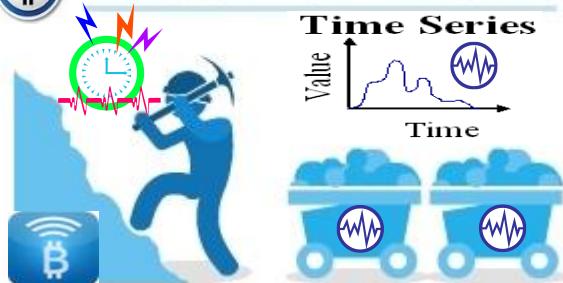
Fast ETS in-memory, and DETS persistent on-disk database

Mnesia database ("Organization_ID") Global name resolution

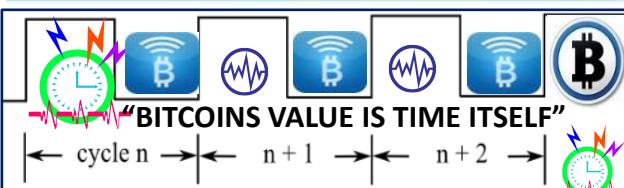
FROM	USCA	THA	AIAZ	AMPO	AFAT	WIC
XBRL	/ CDL	/ DAML				
ALPHA	NUMERIC	BREVITY	CODES			
AZURE		BLETCHLEY				
STRUCTURED						
MILITARY	MESSAGE					
TEMPLATE	FORMS					
LOGIC	/ FILTERS					



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

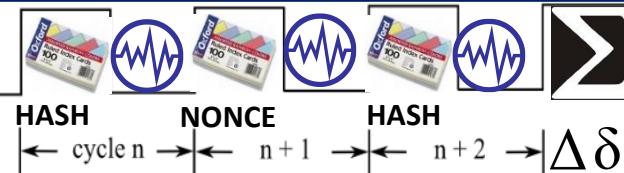


THROTTLE equivalent to difficulty. State
•target = maximum value of 8 bytes Snap
(2^{64}) divided by the difficulty.

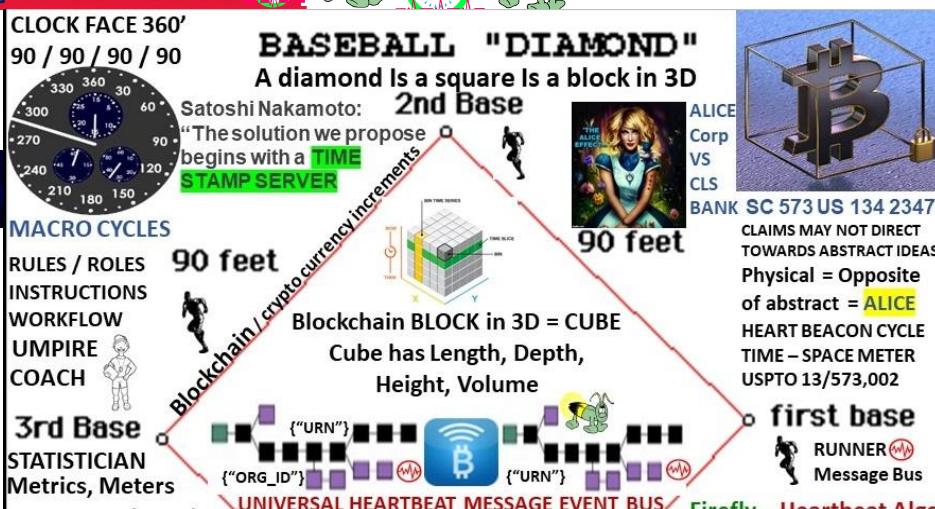
NONCE increments from 0..N until the target is met.



GUESS stores the guess
Effectively, it begins at infinity.



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



300+Message Templates

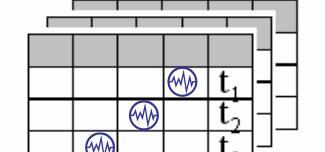
FORM	FORMAT								
OCTOB	OC001A	OC001B	OC001C	OC001D	OC001E	OC001F	OC001G	OC001H	OC001I
ABAB	AB001A	AB001B	AB001C	AB001D	AB001E	AB001F	AB001G	AB001H	AB001I
ANAN	AN001A	AN001B	AN001C	AN001D	AN001E	AN001F	AN001G	AN001H	AN001I
COSC	CO001A	CO001B	CO001C	CO001D	CO001E	CO001F	CO001G	CO001H	CO001I
DPSB	DO001A	DO001B	DO001C	DO001D	DO001E	DO001F	DO001G	DO001H	DO001I
METH	MO001A	MO001B	MO001C	MO001D	MO001E	MO001F	MO001G	MO001H	MO001I
RESON	RO001A	RO001B	RO001C	RO001D	RO001E	RO001F	RO001G	RO001H	RO001I
PRIO	PO001A	PO001B	PO001C	PO001D	PO001E	PO001F	PO001G	PO001H	PO001I

LOGIC FILTERS
LOGIC GATES

SYNTAX LIBRARY LEXICON

CODER'S GUIDE

POW PAYLOAD : COMBINATIONS OF ENCRYPTED SYNTAX Attribute Series







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

FEDERATION CONSENSUS ALGORITHM / PROTOCOL LIQUIDITY ON DEMAND

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



Connects to receiving bank's Ripple Connect to exchange KYC, risk info, fees, payment details, **expected time** of funds delivery Provides information about total costs of the transaction



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



Neutral transaction protocol

secured REST messaging API's

Interledger Protocol ILP

ripple

Ripple Consensus Ledger (RCL)

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

each retaining control of internal affairs

Federation

Gateway

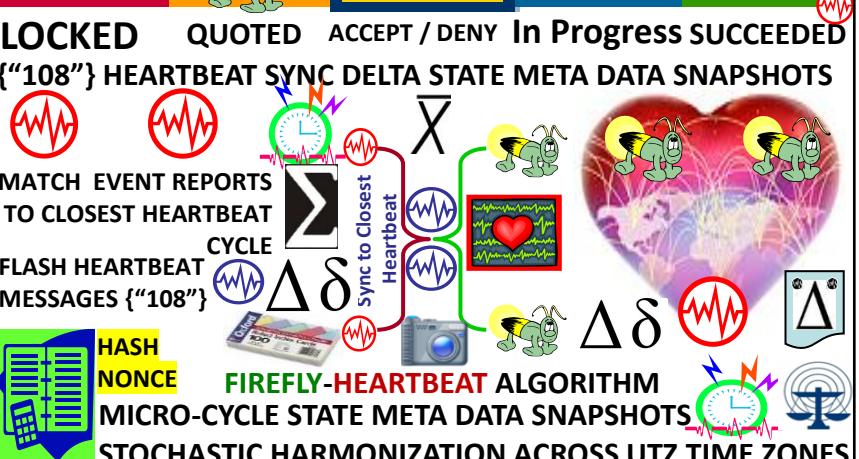
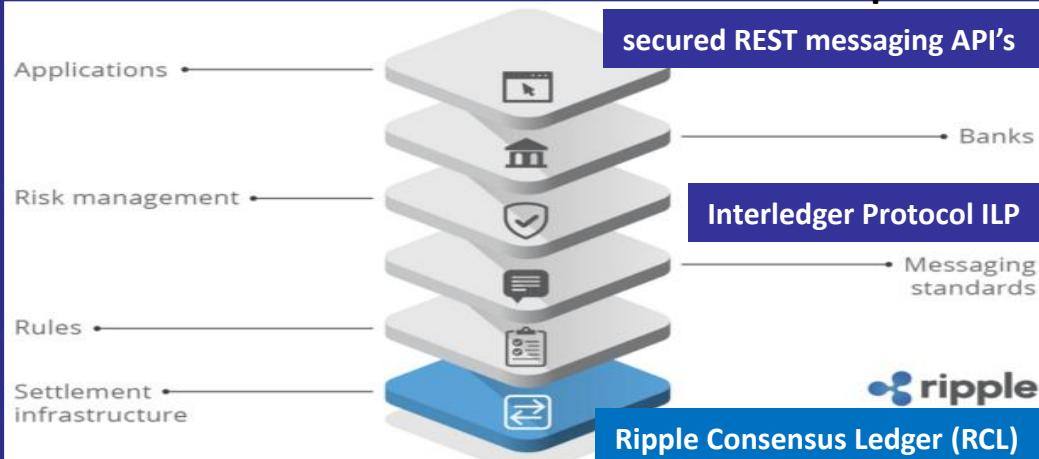
Net joins, drops, splits, merges, moves

Agile, adhoc NETOPS Vs acquisition preserves the

LIQUIDITY, ORGANIZATIONAL INTEGRITY OF TRADE FEDERATIONS

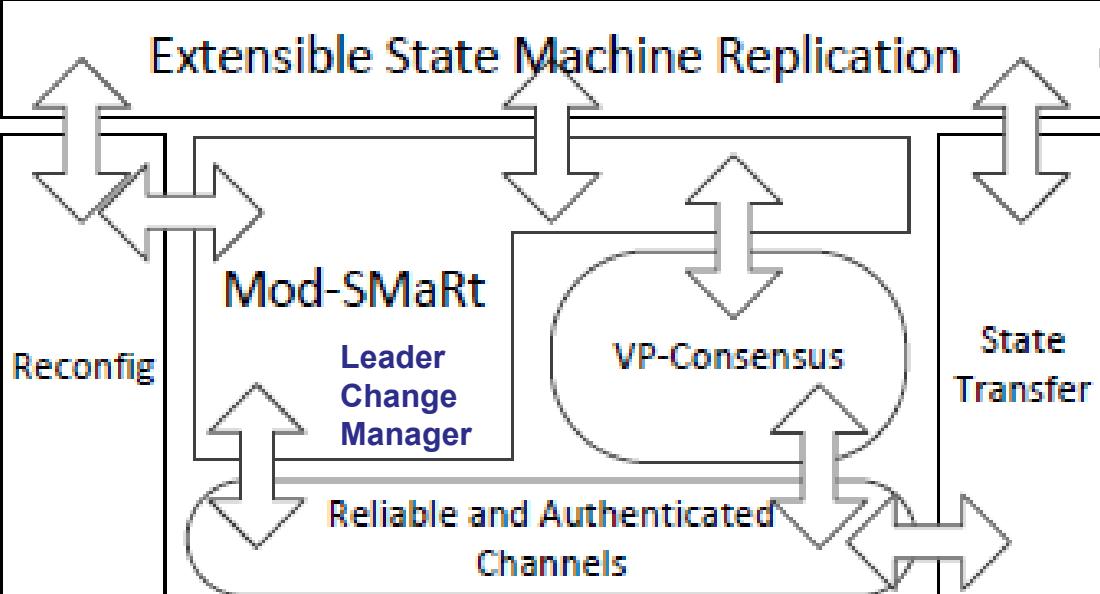
FEDERATION CONSENSUS PROTOCOL

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



Byzantine Fault-Tolerant State Machine Replication

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



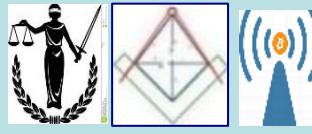
Modularity is achieved using a set of building blocks(or modules)containing the core functionality of BFTSMaRt. Blocks are divided in three groups: communication system, state machine replication and state management.

BFT-SMaRt needs an eventually synchronous system

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

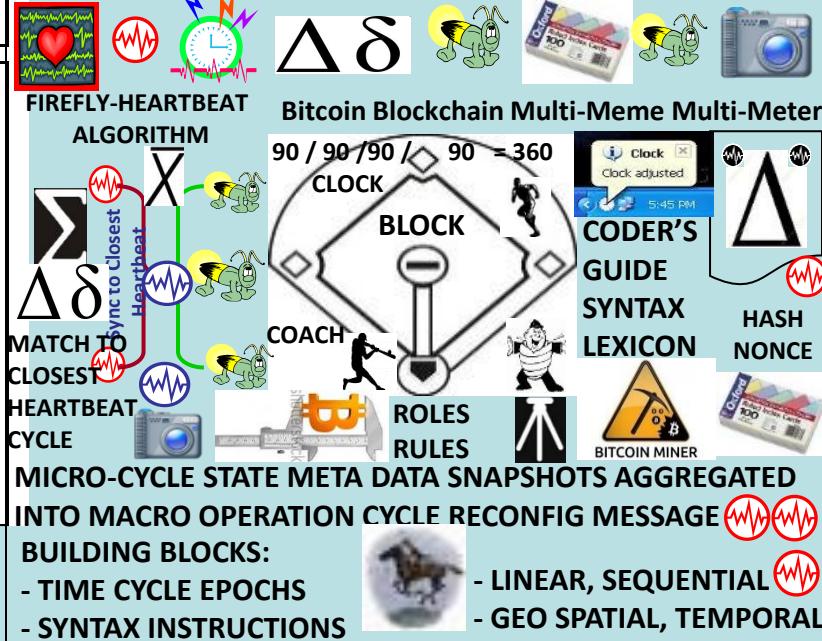
USPTO 13/573,002 HEART BEACON CYCLE TIME-SPACE METER

USCt ALICE CORP V CLS BANK
PHYSICAL = OPPOSITE OF ABSTRACT



DERIVED FROM BATTLEFIELD DIGITIZATION DISTRIBUTED AUTONOMOUS ORGANIZATION DAO SYSTEM OF SYSTEMS
FEDERATED ID / ORGANIZATIONAL IDENTIFIER {"ORG_ID"}
ADDS, JOINS, DROPS, MOVES TO / FROM DAO
CHANGES IN STATE VIEWED IN "APPLIQUE' OVERLAY VIEWS

00.99 HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS



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

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



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



The Volumetric Weight is often referred to as dimensional weight

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



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



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



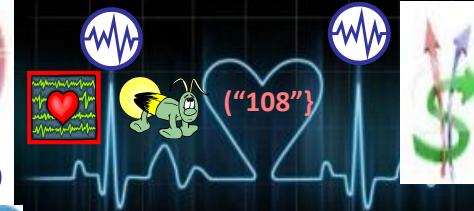
- Creates an online store for users to sell goods for Bitcoin
- Connects these stores directly to each other on a global network
- Users browse individual stores, search for products across whole network
- A buyer directly connects, purchases good from the merchant using Bitcoin
- Bitcoin payments via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



STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS



Price Indexes in Time and Space Methods and Practice

SchellingPoint

Free, open markets: Commodity / Currency Index

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

•VALUES: Privacy </Org_ID>



HASH Values
Nonce Values </Org_ID>



COMMODITIES



ORG ID



Bitcoin: OpenBazaar transactional currency



</DATA>
("FILTERS")



FIREFLY – HEARTBEAT ALGO



SYNC EVENTS



UTZ SYNC



TO CLOSEST
HB CYCLE

SchellingPoint

Cryptographic Security

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



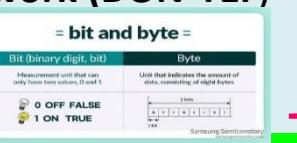
NIST Beacon
A Public Randomness Service
Non-
Repudiation

DON: DECENTRALIZED ORACLE NETWORKS Explicit Staking



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

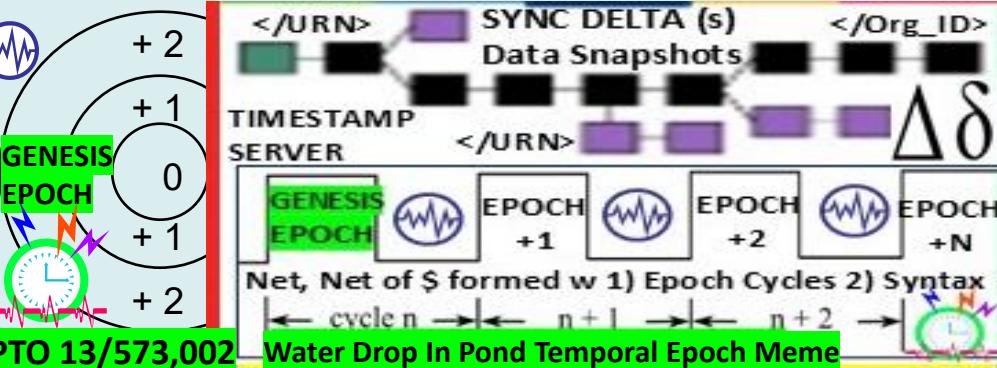
Chainlink CCIP:Arbitrary Messaging, Token Transfers: data encoded as BYTES 0101010 in smart contracts on different blockchains



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

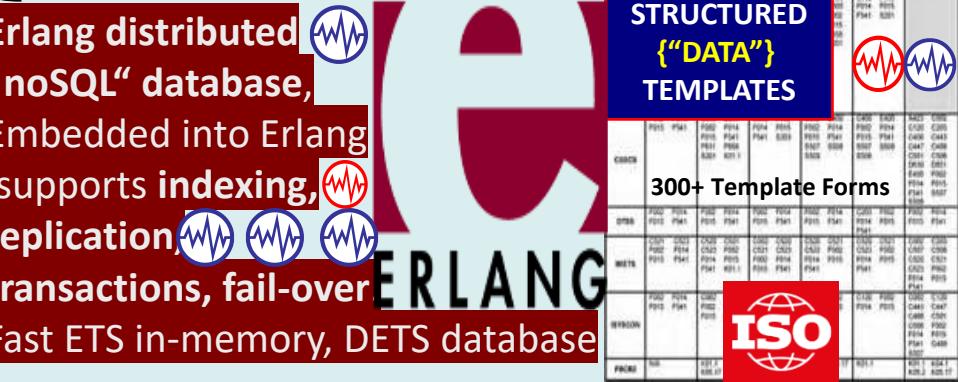
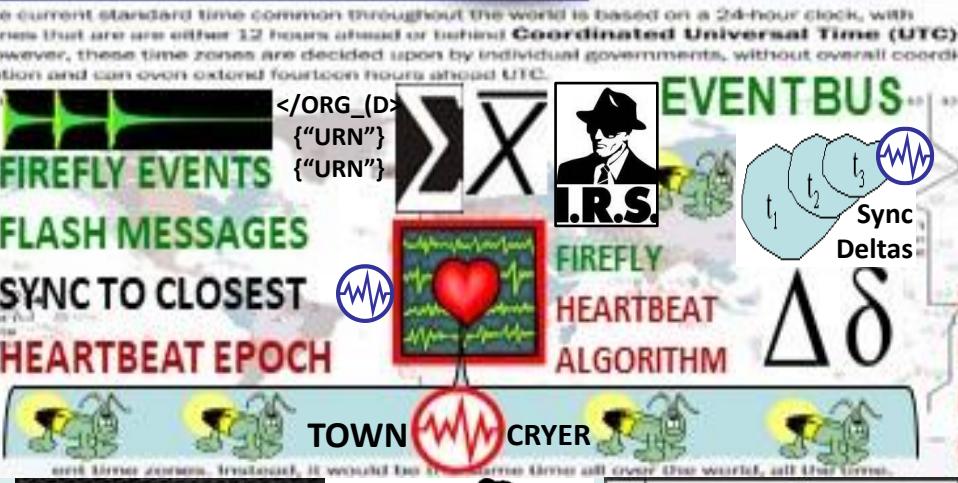
USPTO 13/573,002

Water Drop In Pond Temporal Epoch Meme



- 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



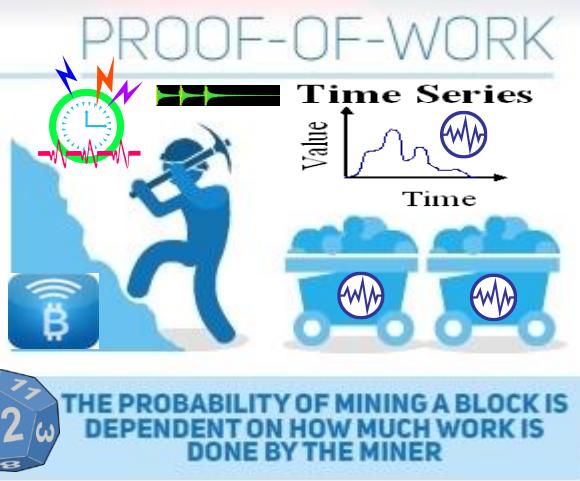
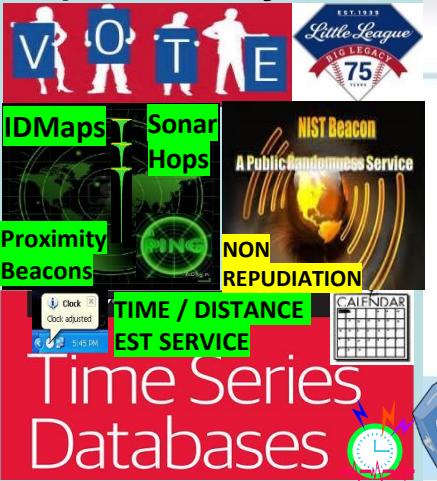


Proof-of-activity PoA is a combination of Proof of Work / Stake blockchain consensus algorithms:

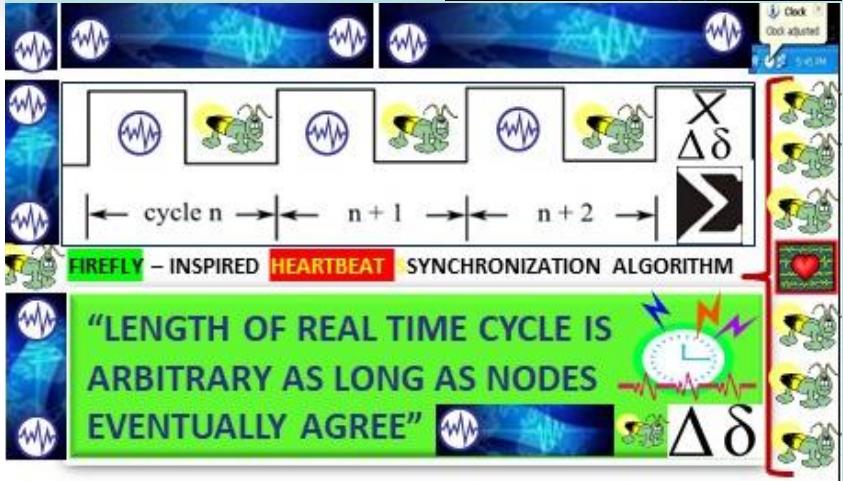
Example of Proof-of-Activity (PoA)

HEART BEACON CYCLE 13/573,002

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



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





"THE FINANCIAL
NOSTRADAMUS"
RFGGIF MIDDIFTON



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



VERITAS TOKENS

P2P Capital Market smart contracts Eco Economic **HEARTBEAT**

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



INFOCON
5 4 3 2 1
INFORMATION
CONDITION



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

GDP INDEX ECONOMY K% RULE



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

DAO Distributed Autonomous Organization Investor Pools

Place Order X ritaseum™

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

DeFi Ve TOKENS VeriDAO #DeFi All Market Orders

Denominating Asset: ~BTC:SATOSHIS

Contract Expiry: 16w

Contract Starts at: -

Contract Ends at: -

Cancel Contract at: -

Est. Trans. Fees: \$0.0437

Transaction Fees: \$1.0262

Leverage Fees: \$3.2528

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

Total Required: \$104.3227

NIST TIME BEACON

UTZ Time Zone Sync

START

Heartbeat Flash Messages Precedence Processing

Collateral Notional Expiry

FIREFLY HEARTBEAT ALGO EVENT MSG BUS

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

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

STOP TTL



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

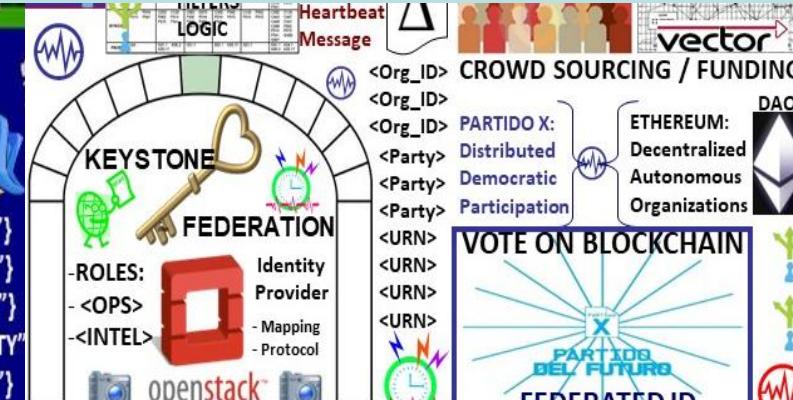
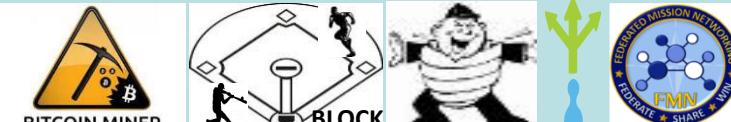
Agile, adhoc NETOPS Vs acquisition preserves the

CHANNEL

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS

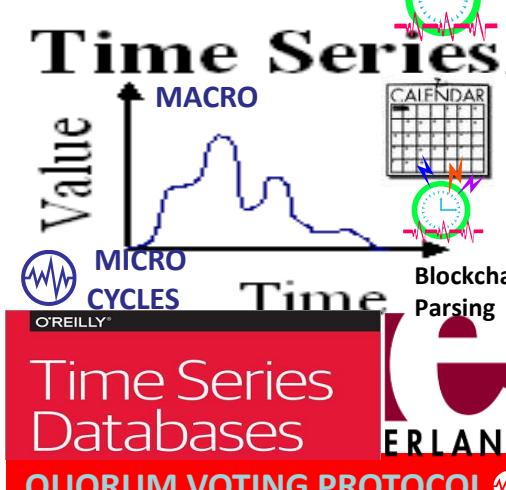


SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

"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



Time Series Databases

QUORUM VOTING PROTOCOL

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

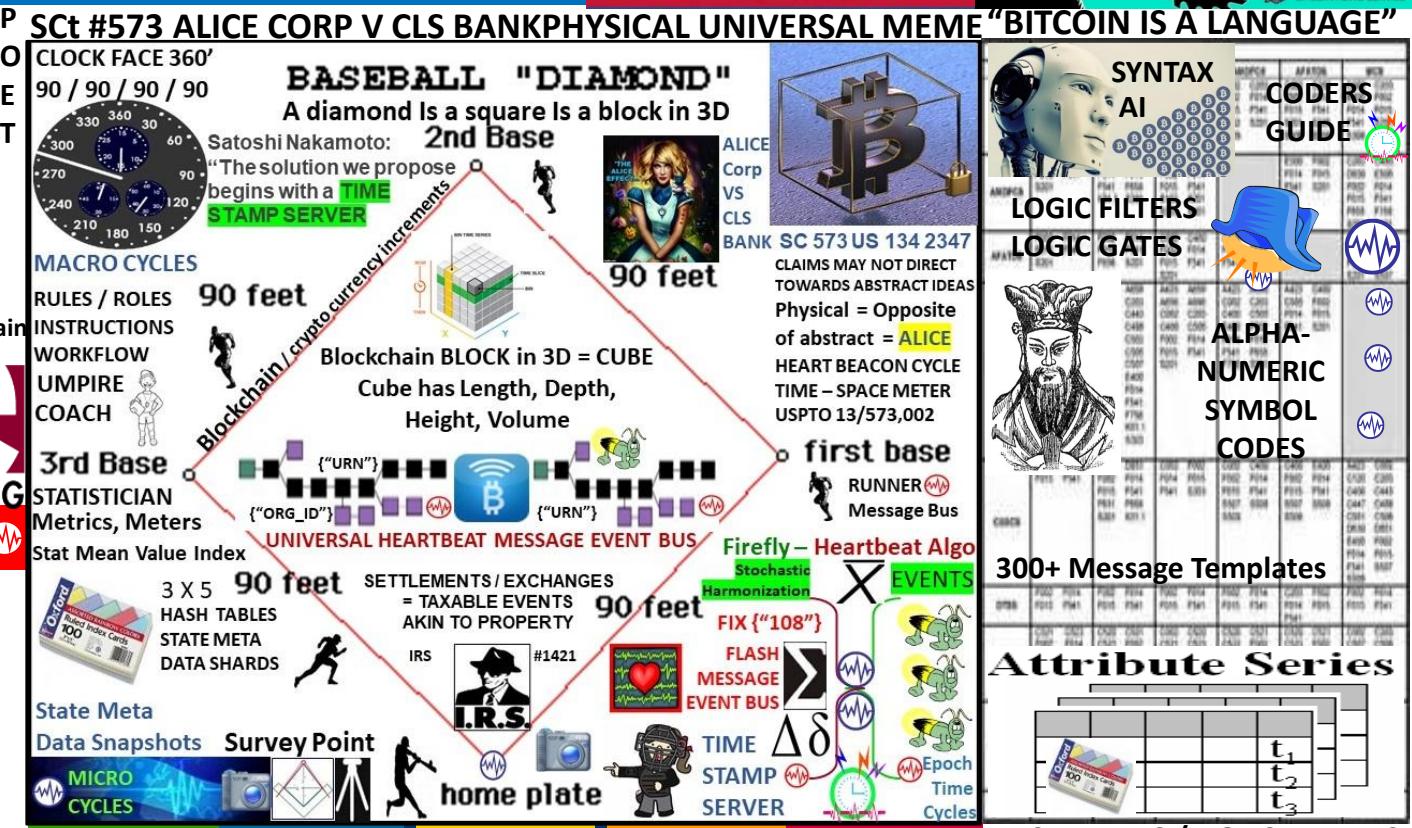
Voting based selection Instead of only using the stake size, the block generators can be selected by votes
ex: League MVP

MVP



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

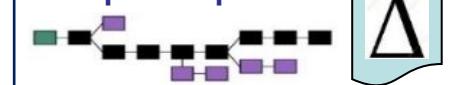
TOURNAMENT LEAGUE BOARD



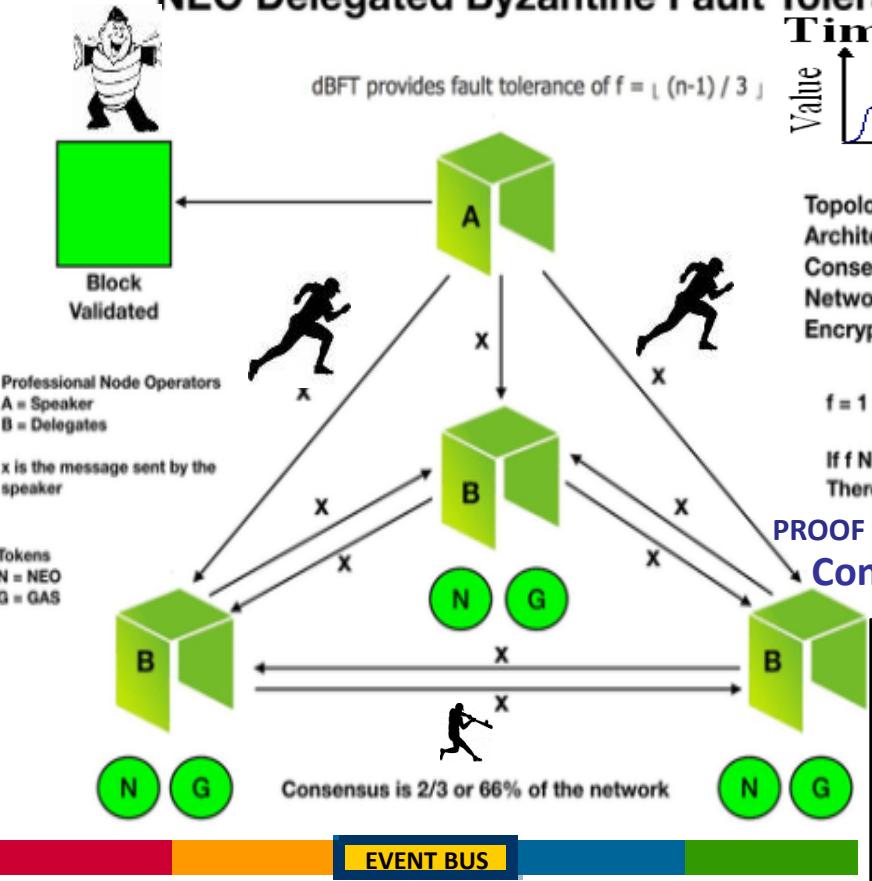
FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BUS



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

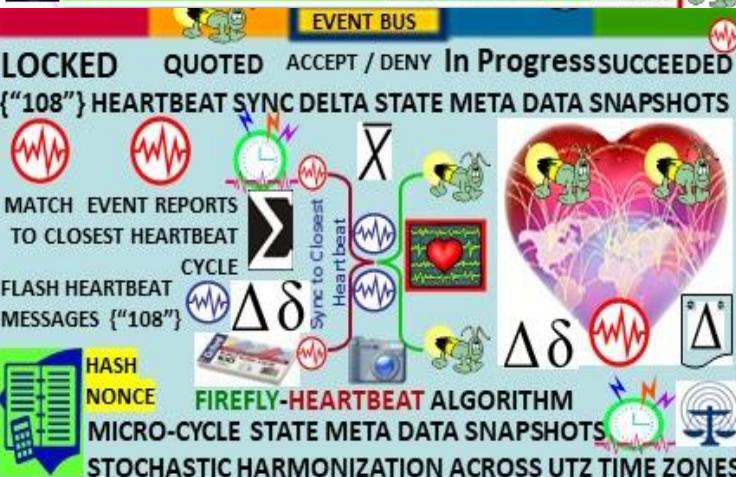
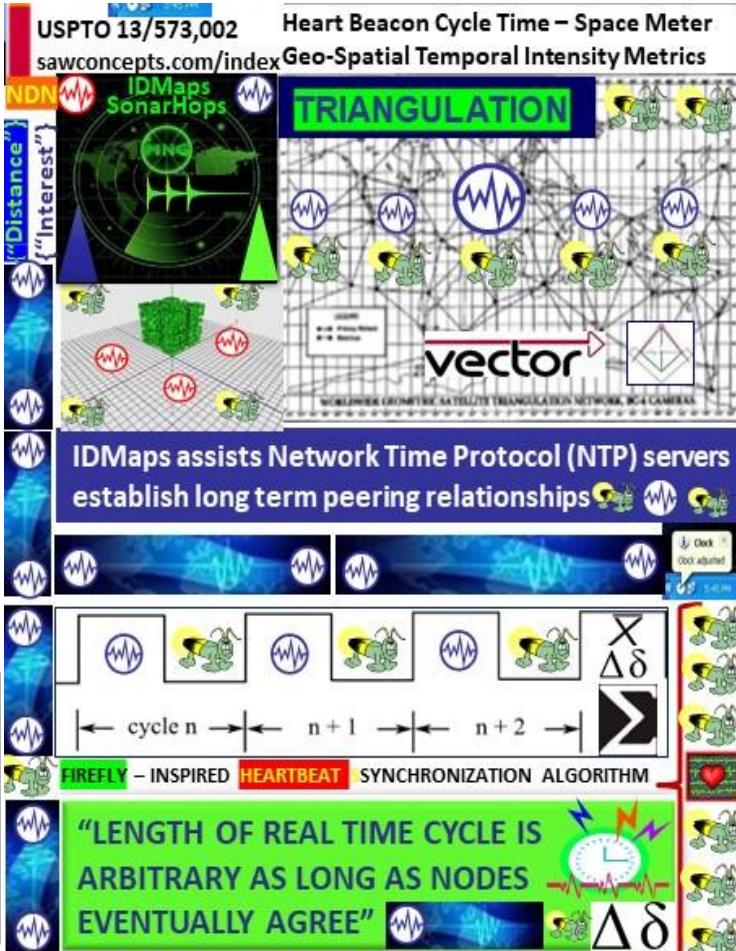


NEO Delegated Byzantine Fault Tolerance (dBFT)



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"



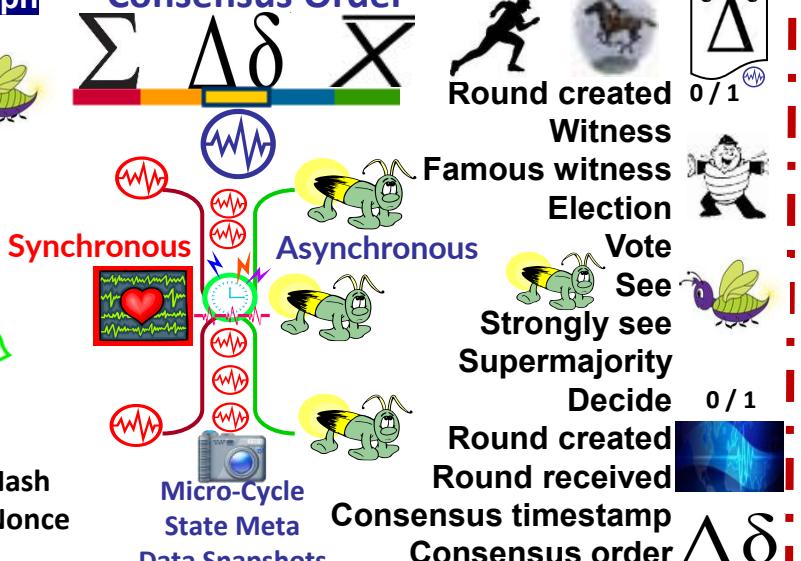
DAG "Directed Acyclic Graph" large number of blocks arrive at the same time. DAG system reaches consensus leveraging "Gossip"... information spread by a computer calling up other computers at random, sharing everything it knows

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

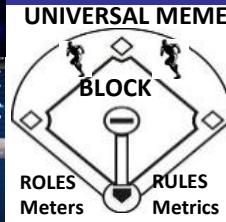
DAG finite directed graph
= no directed cycles

$$\Sigma \Delta\delta X$$

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

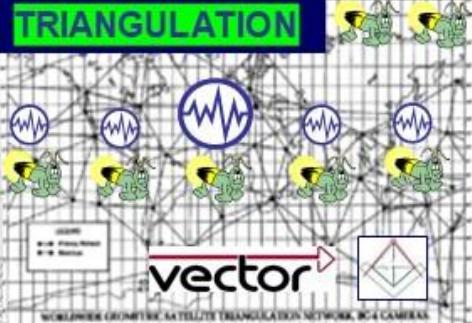


The Heart Beacon Cycle Time – Space Meter
Adaptive Procedural Template Checklist
Heartbeat Sync Delta state meta data
structured data exchange snapshots
300 + Use Case message template sets
Rosetta Stone Syntax lexicon Coder's guide



USPTO 13/573,002
sawconcepts.com/index

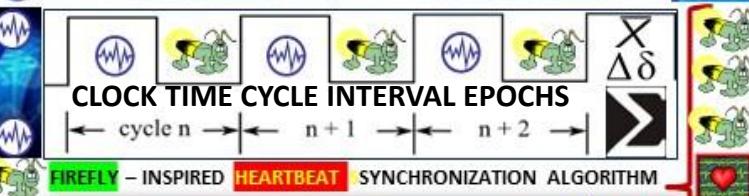
Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics



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

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

FIREFLY HEARTBEAT Synchronization Algorithm



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



Proof of Burn



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

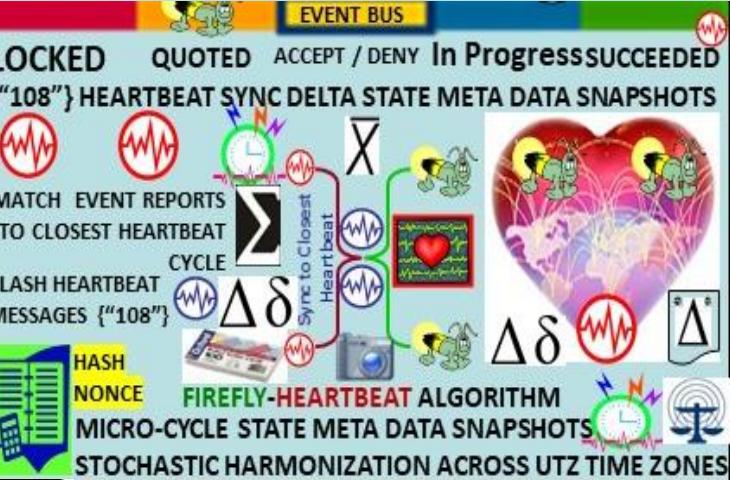
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describe the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining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

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



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

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



Heartbeat Event {"burn"} SLA = increase mining rig volume IEEE C37.118 Time Synchronization Harmonization Heartbeat update Interval PMU data time-stamp measure C37.118

Phase 2: Shared file stores data for 5 tags:

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

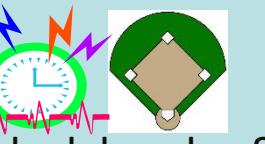
TAG	SLA/O	Token Award
{"Org_ID"} ActiveID	[UFO2_ACTIVEID]	</EVENT>
IF1_Heartbeat (IF-Node1)	[UFO2_HEARTBEAT:#]	</EVENT>
IF2_Heartbeat (IF-Node2)	[UFO2_HEARTBEAT:#]	</EVENT>
{"UUID"} IF1_DeviceStatus (IF-Node1)	[UFO2_DEVICESTAT:#]	</EVENT>
{"UUID"} IF2_DeviceStatus (IF-Node2)	[UFO2_DEVICESTAT:#]	</EVENT>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

Proof of Capacity PoC



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

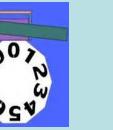
Proof of capacity for mining devices, also known as blockchain nodes, to use empty space on their hard drive to mine the available [cryptocurrencies](#).



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



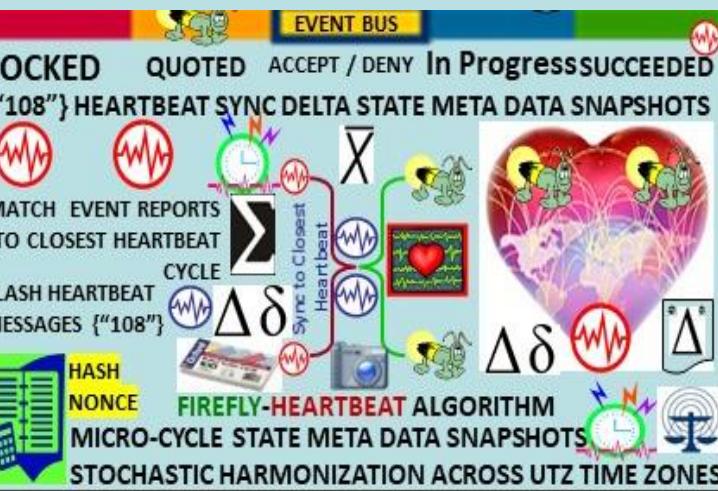
The larger the hard drive, the > possible solution values one can store on the hard drive, the more chances a miner has to match required hash value from his list, resulting in more chances to win the mining reward.



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

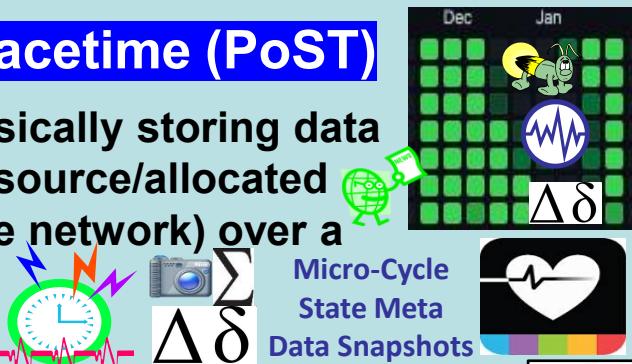


Bitcoin purchase akin to property



PoST Proof-of-Spacetime (PoST)

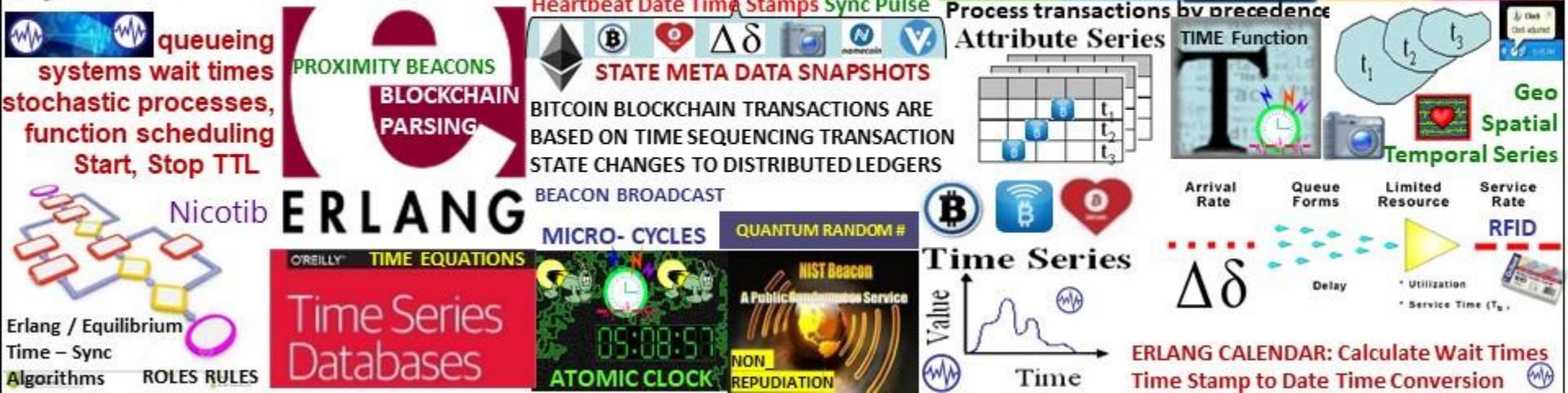
PoST shows that physically storing data (spent "spacetime" resource/allocated storage capacity to the network) over a certain period of time.



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



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



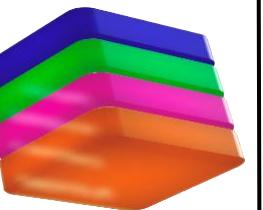


PROTON A CHAIN Virtual Machine

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)



DAG Acyclic Graph Parameters:

n: number of participants

k (sample size): between 1 and n

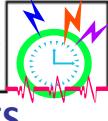
α (quorum size): between 1 and k

β (decision threshold): >= 1

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

1) EPOCH TIME INTERVALS

2) SYNTAX (not) used in epochs



BLOCKCHAIN EPOCH CLOCK TIME CYCLES

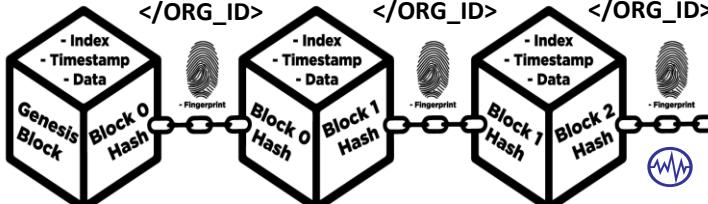
← cycle n → ← n + 1 → ← n + 2 → Δδ

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"



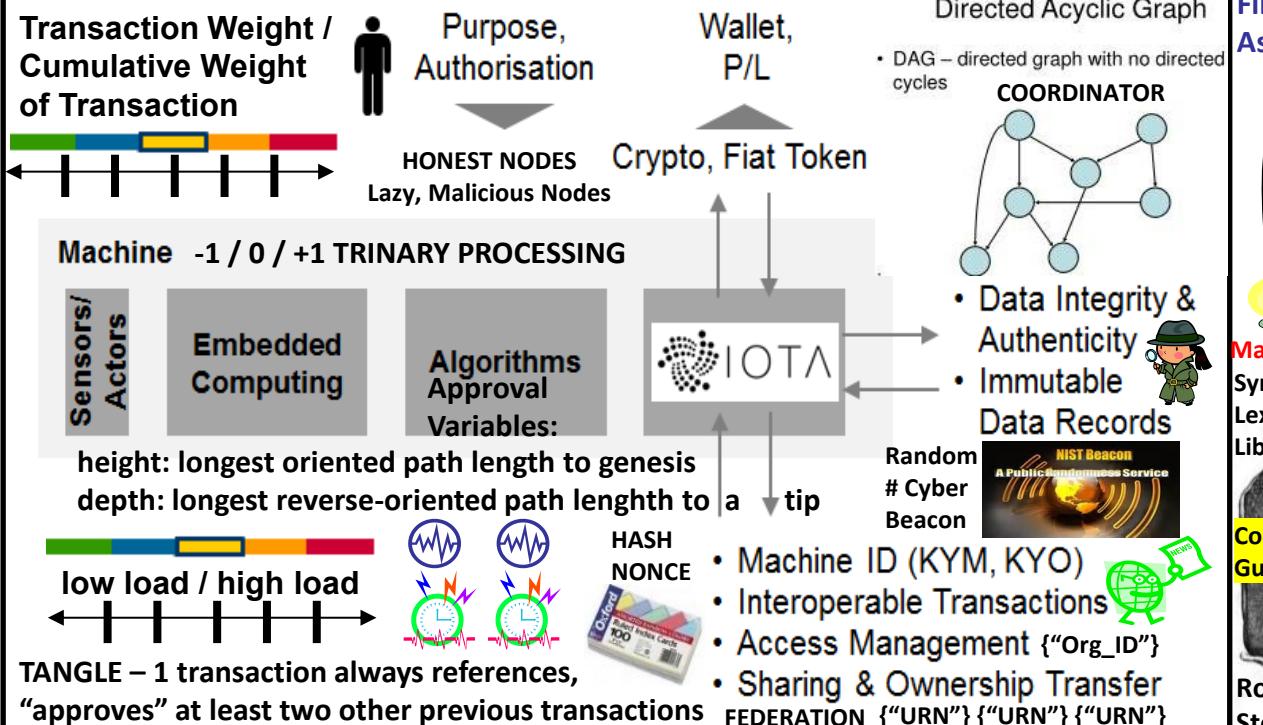


IOTA: Internet Of Things IOT distributed ledger with microtransactions without fees

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

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

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

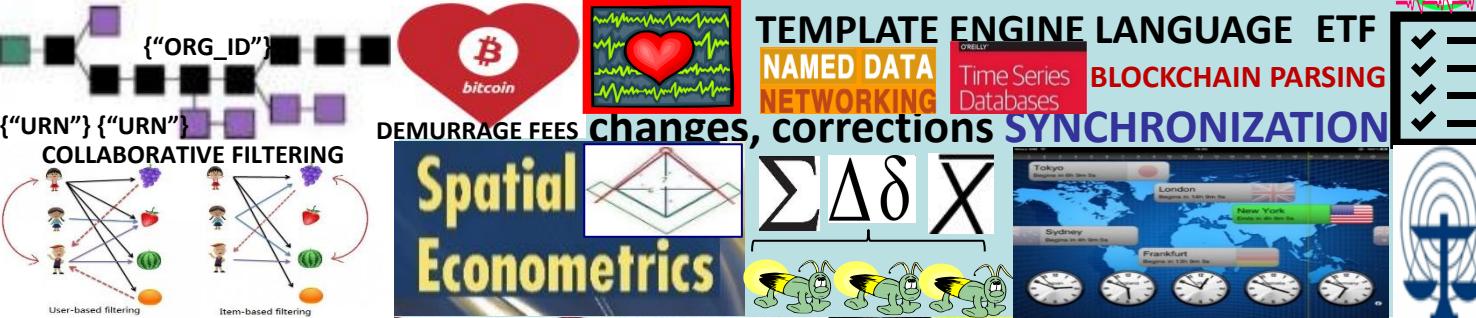




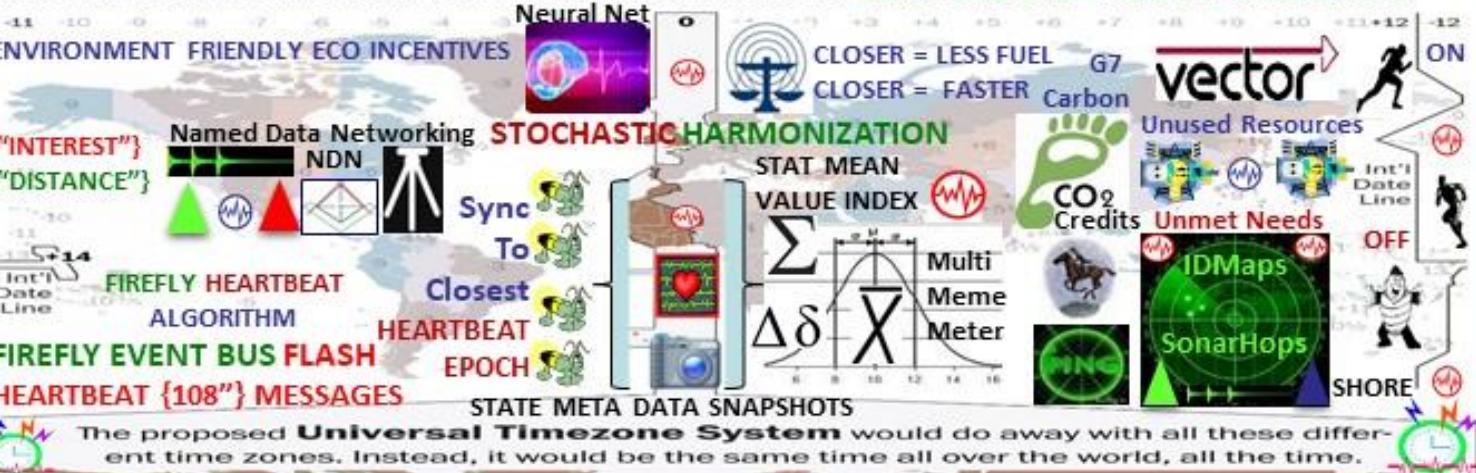
EGaaS

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.



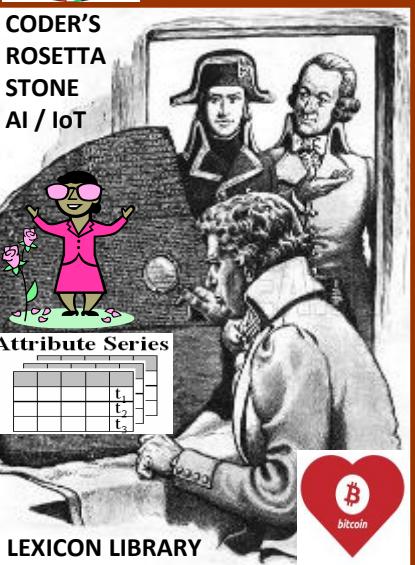
The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours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



SYNTAX / SYMBOL	LEXICON LIBRARY	STRUCTURED
300 + TEMPLATE FORMS	LOGIC / FILTERS	
ALPHA-NUMERIC		BREVITY CODES
FEDERATED MISSION NETWORKING		FMN
CODER'S ROSETTA STONE		AI / IoT



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

AZURE: Core/Kernel/Universal Protocol

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

Unspent Transaction Output protocols UTXO

Crypto Tokenized Assets Digital Bearer Bonds
unique identity for owned artifacts

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

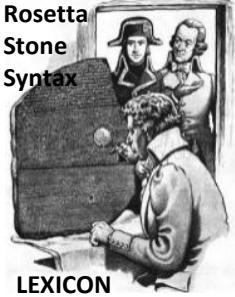
Blockchain middleware: identity and operations management, data, intelligence services like analytics and machine learning. New middleware works with existing Azure services, like Active Directory and Key Vault

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

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

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

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

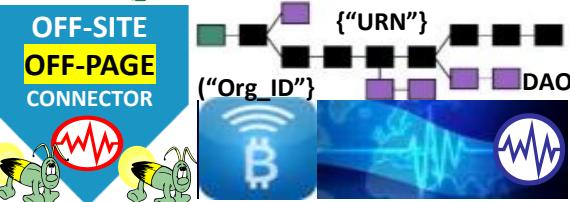
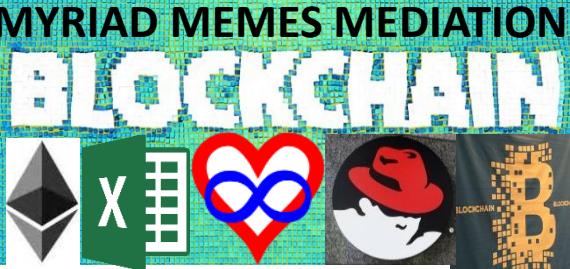
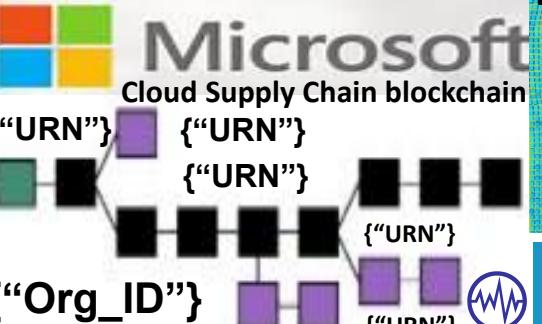


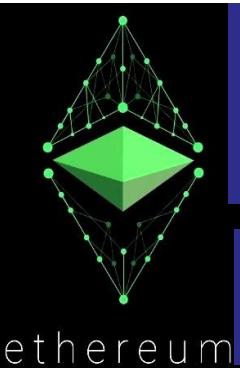
ALPHA NUMERIC	
BREVITY CODES	
SYMBOL CODES	
STRUCTURED MILITARY MESSAGE	
TEMPLATE FORMS	LOGIC / FILTERS

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



MULTI-MEME MULTI-METER





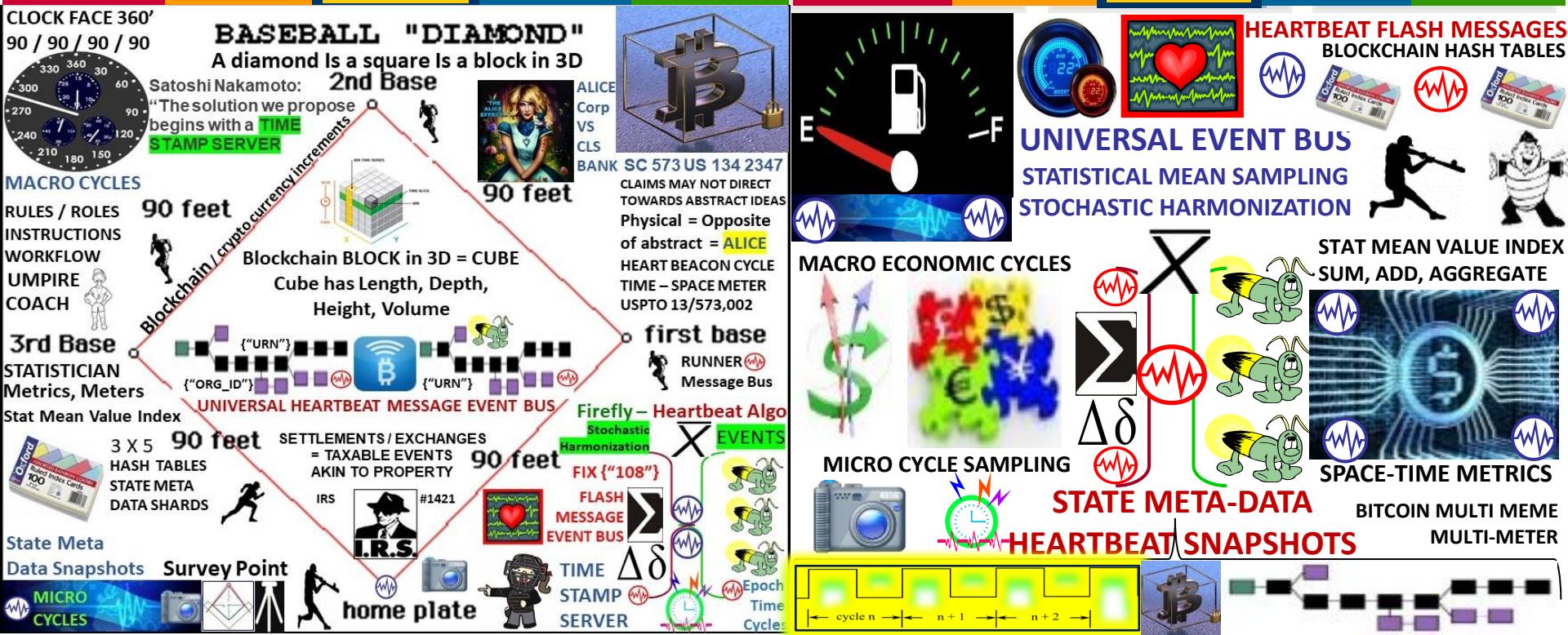
ETHER: Compensate Resource Contribution

Gas: price to
Run contract
transactions

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**



DFINITY

RANDOM # BEACON

NIST Beacon
A Public Randomness Service

QUANTUM RANDOM #

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

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

GROUP Signature is random number

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

HYPER GEOMETRIC PROBABILITY CALCULATOR

CONSENSUS / RANDOM BEACON

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

Each process has mining identity

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

UTZ TIME ZONE SYNC

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

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

NIST TIME BEACON

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"

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

MACRO CYCLES

RULES / ROLES INSTRUCTIONS WORKFLOW UMPIRE COACH

90 feet

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

3rd Base STATISTICIAN Metrics, Meters

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS

90 feet

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

90 feet

State Meta Data Snapshots Survey Point

MICRO CYCLES

home plate

Fix {"108"}

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

EVENTS

Firefly – Heartbeat Algo

Stochastic Harmonization

Epoch Time Cycles



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

ERLANG API FOR BLOCKCHAIN



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

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

CROSS – CHAIN ATOMIC SWAPS

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



Aeons: energy for applications implemented on the platform.

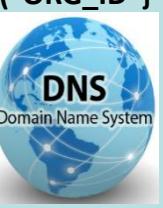
ACCOUNTS & IDENTITY: æternity's accounts are permission-less, but allow customization via schema.org's semantic web scheme. Create & own (**federated group**) / individual identities on the æternity network



("ORG_ID")

("ORG_ID")

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



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

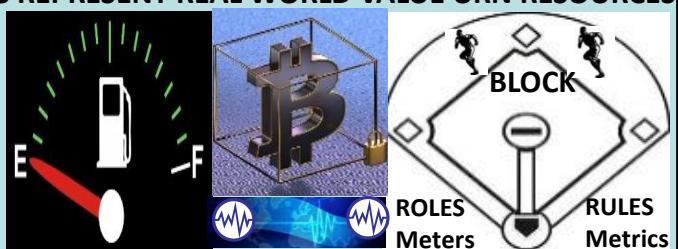
AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS



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

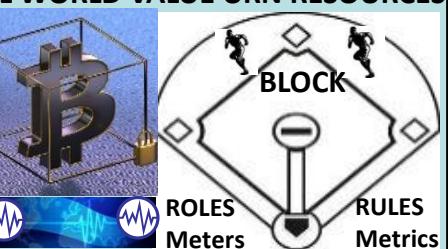
TOKENS REPRESENT REAL WORLD VALUE URN RESOURCES

ETHEREUM USES GAS GUAGE MEME INDICATING THRESHOLD MET / NOT MET



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

Federation Gateway
("ORG_ID")



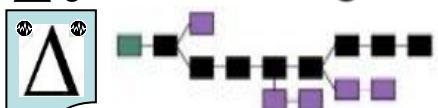
ROLES Meters RULES Metrics

ARIN
American Registry for Internet Numbers

HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$ Shared Ledger



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

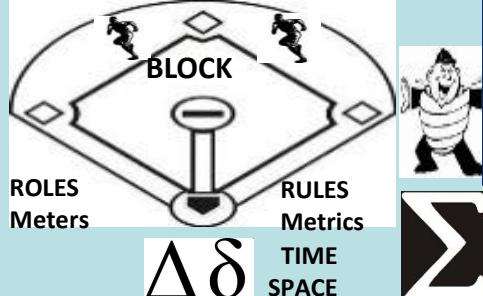
FEDERATION
Federation Gateway

METRICS ("Organization ID")
METERS

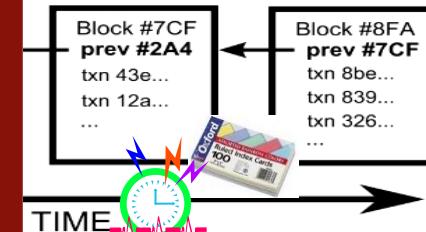
RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE



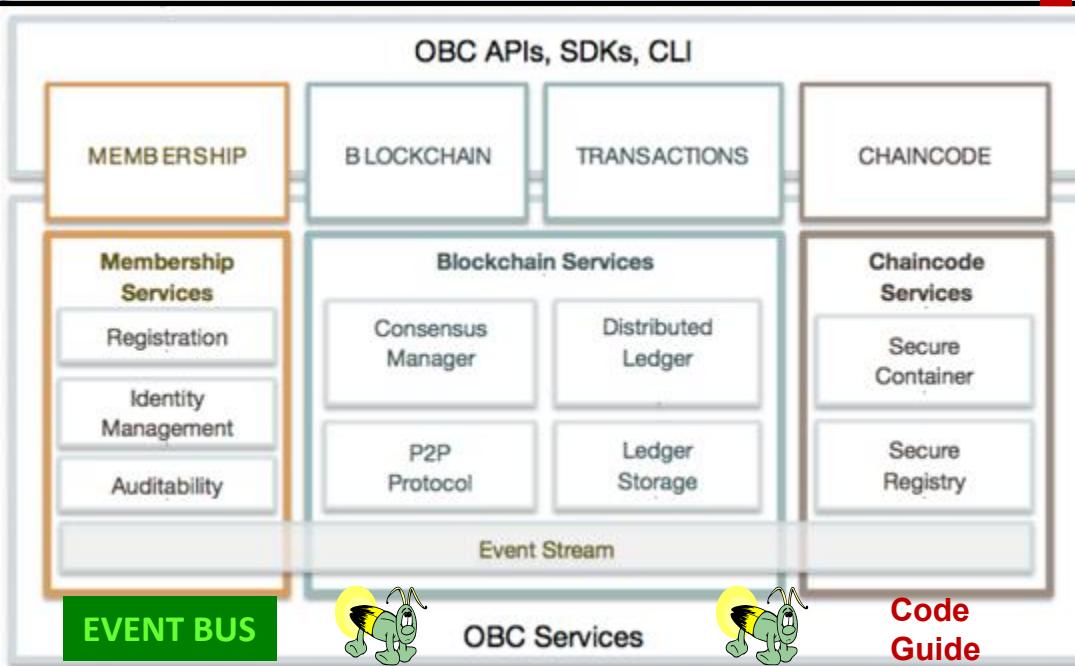
BLOCKTIME ARBITRAGE



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



Alpha-Numerics



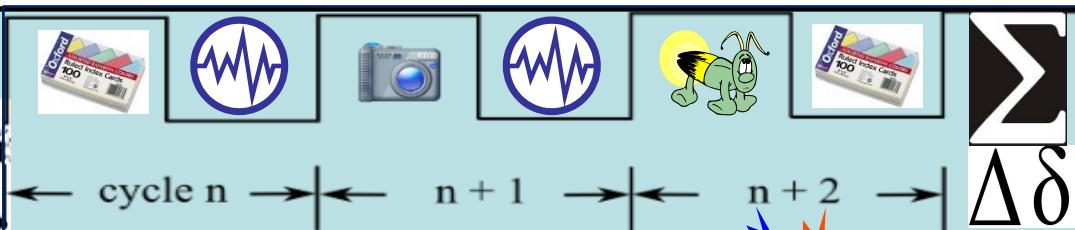
ROSETTA STONE

XBR / CDL / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

SYNTAX
SYMBOL LIBRARY

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



MICRO-MACRO CYCLE SCHEDULE



FFIRNS
FFUDNS

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

DASH



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

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

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

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

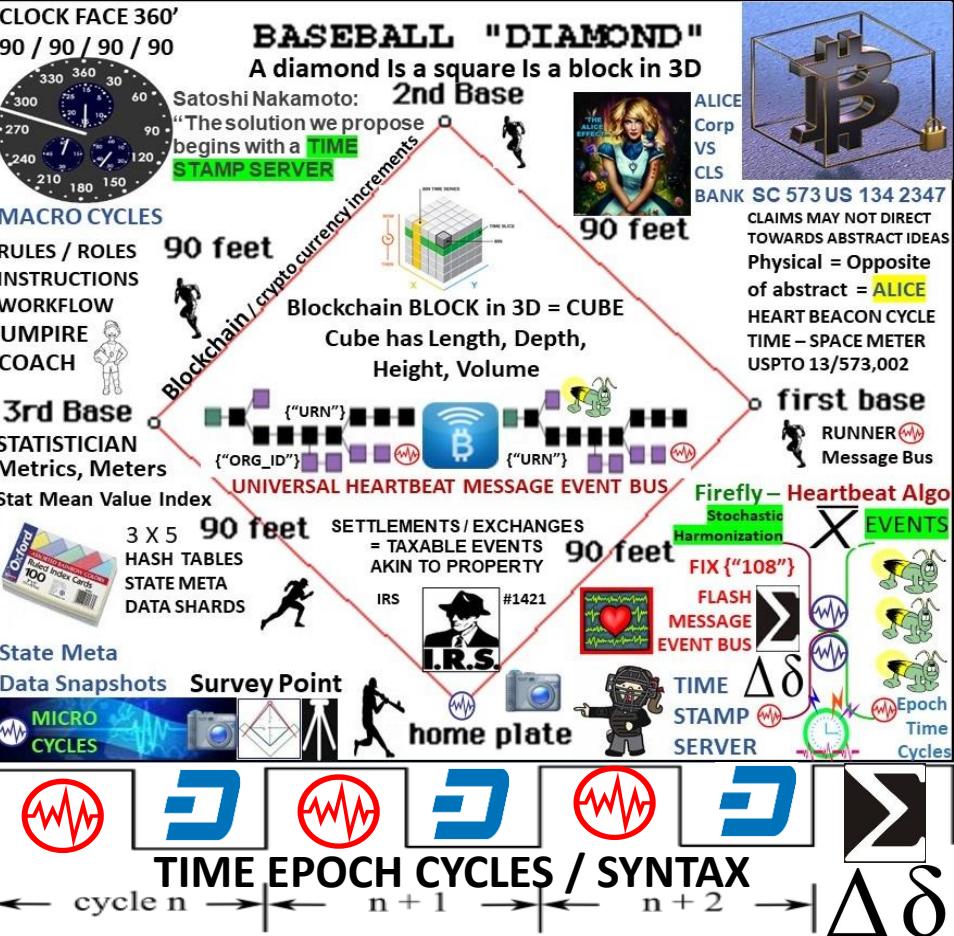
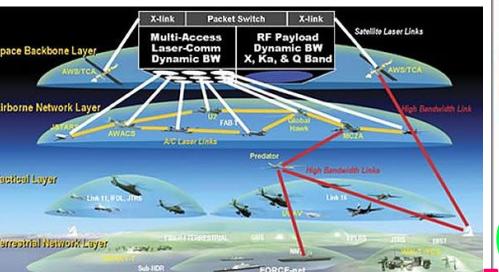
"Its makeup is thus: the block reward is divvied up in three parts. The first 45 percent goes to [Dash's miners](#). Another 45 percent goes to its Masternodes. And 10 percent is set aside to fund whatever other jobs or expenditures the Dash network deems necessary"

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

DAO: RAND THINK TANK TERM COINED + / - 2001

NETWORK CENTRIC WARFARE
Developing and Leveraging Information Superiority

ALICE CORP
Vs CLS BANK



STOCHASTIC HARMONIZATION FIREFLY-HEARTBEAT EVENT BUS

HEART BEACON CYCLE = IMPROVEMENT TO NETWORK CENTRIC WARFARE



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



STATE: stored data at a given instant in time

STATE CHANNELS: blockchain interactions

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



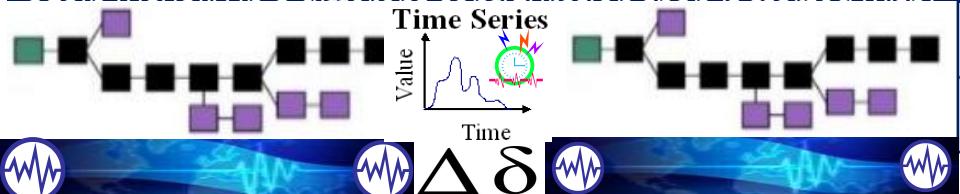
1. Part of the blockchain state is locked via multisignature or smart contract convention, so that a specific set of participants must completely agree with each other to update it.



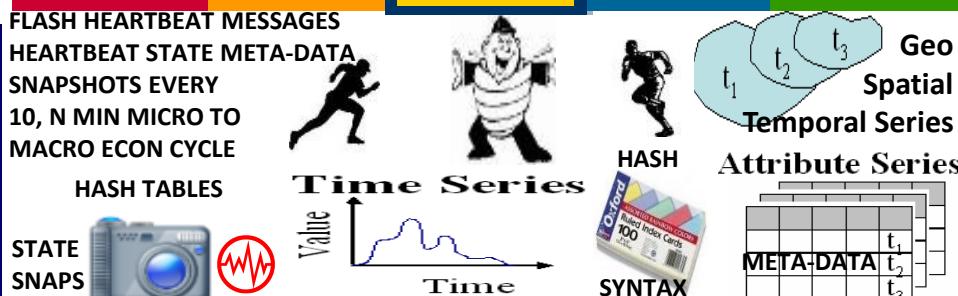
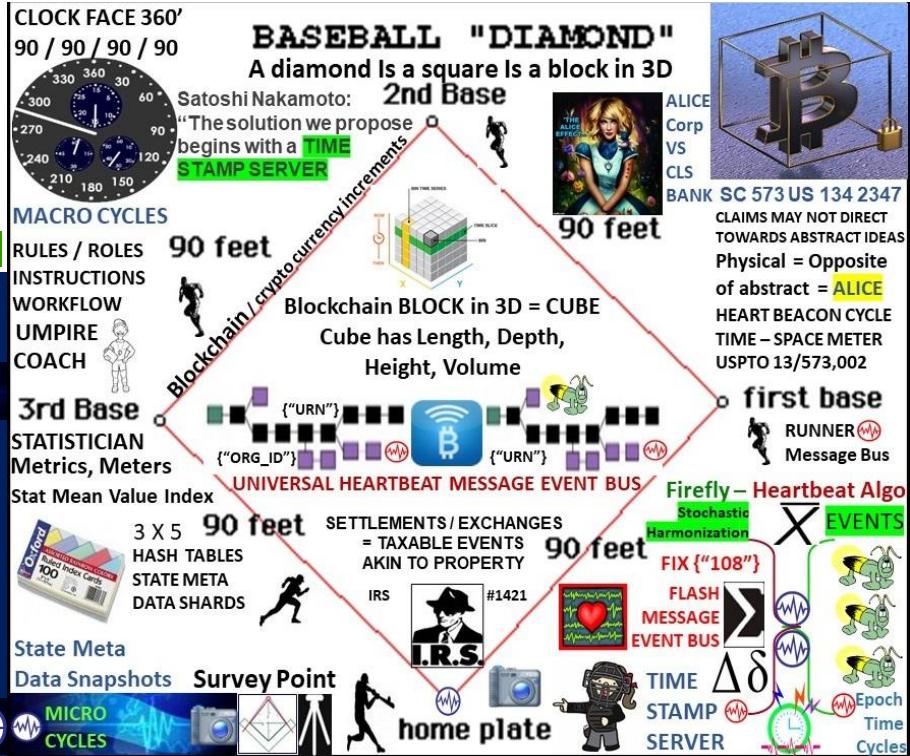
2. Participants update the state amongst themselves by constructing and signing transactions that *could* be submitted to the blockchain, but instead are made available for a new update "trumps" previous updates.



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



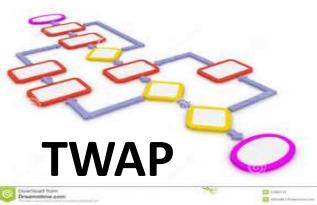
NEW UPDATES OVERWRITE THE PREVIOUS: simplest way is to have any unlocking attempt start a timer, during which any *newer* update can replace the old update (restarting the timer). When the timer completes, the channel is closed and the state adjusted to reflect the last update received. The length of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



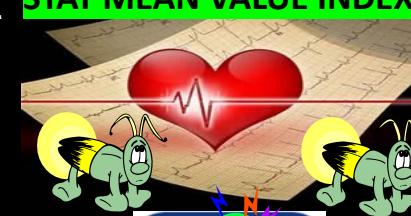
Firefly - Heartbeat synchronization: nodes in a distributed system generate periodic, local "heartbeat" events approximately at the same time with a goal of all nodes starting / ending cycles at the same time eventually = HB CYCLE

TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

TWAP GOAL: provide a Time Weighted Average Price Benchmark

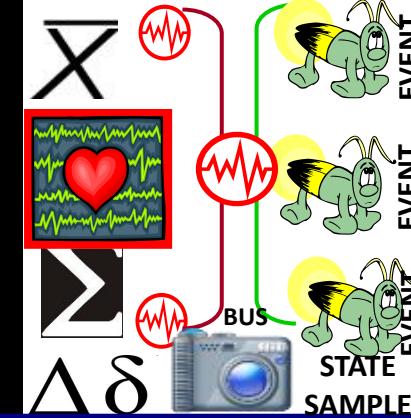


FIREFLY HEARTBEAT ALGO
STAT MEAN VALUE INDEX



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

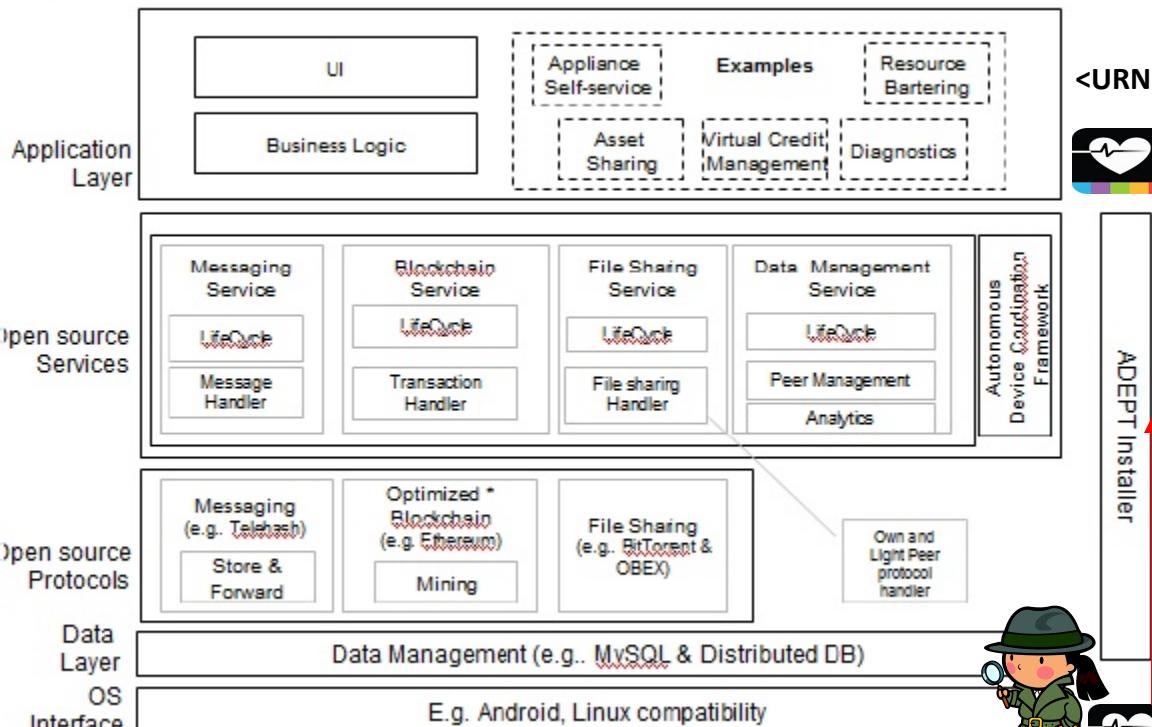
Temporal proximity

Agreements

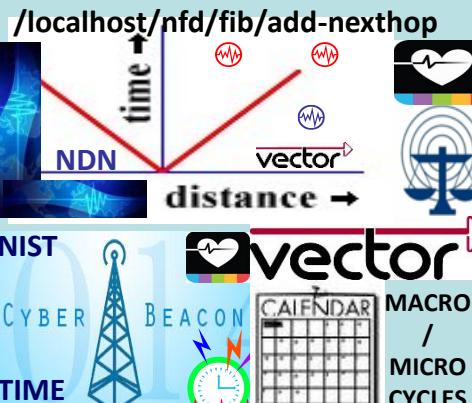
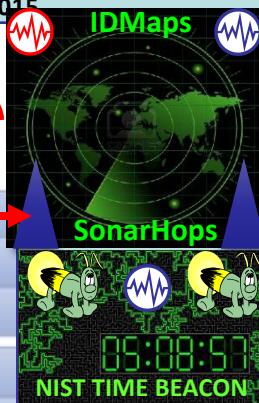
Payments

Barter

ADEPT Standard Peer Architecture – Logical View



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

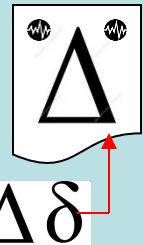


PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS
<URN> DESCRIBES COMMODITIES ETC BY UNIFORM RESOURCE NAME BY </INTEREST>>



ASSET SHARING WITHIN FEDERATION

BUSINESS LOGIC = WORKFLOW <XML_Wf>



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

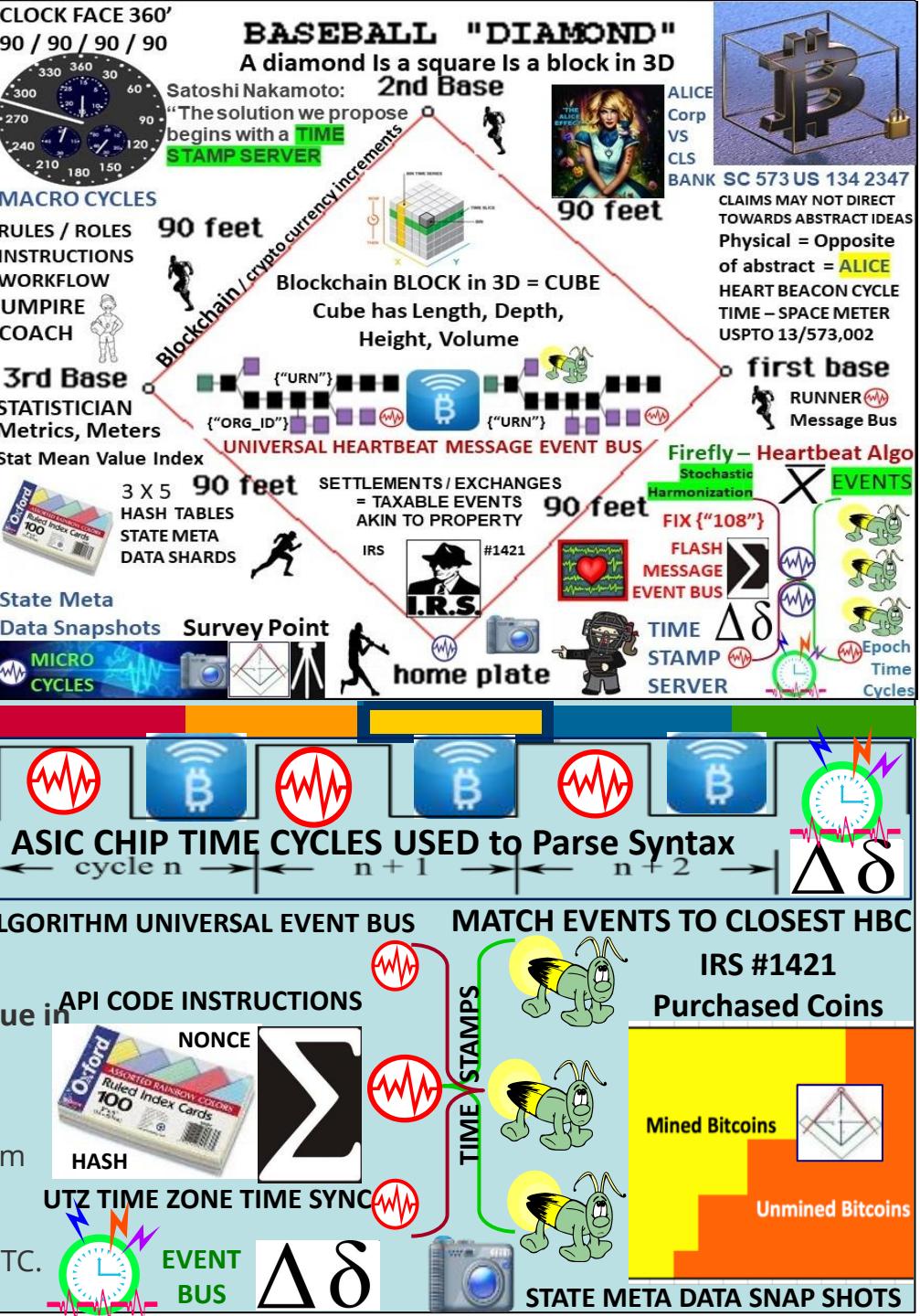
Transaction ID, Block ID, time-stamp, BWAP per block, Value in USD. BTC per transaction, bitcoin transaction fees per transaction.

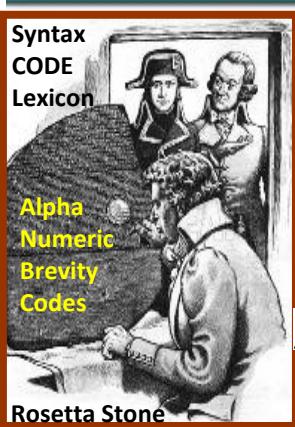
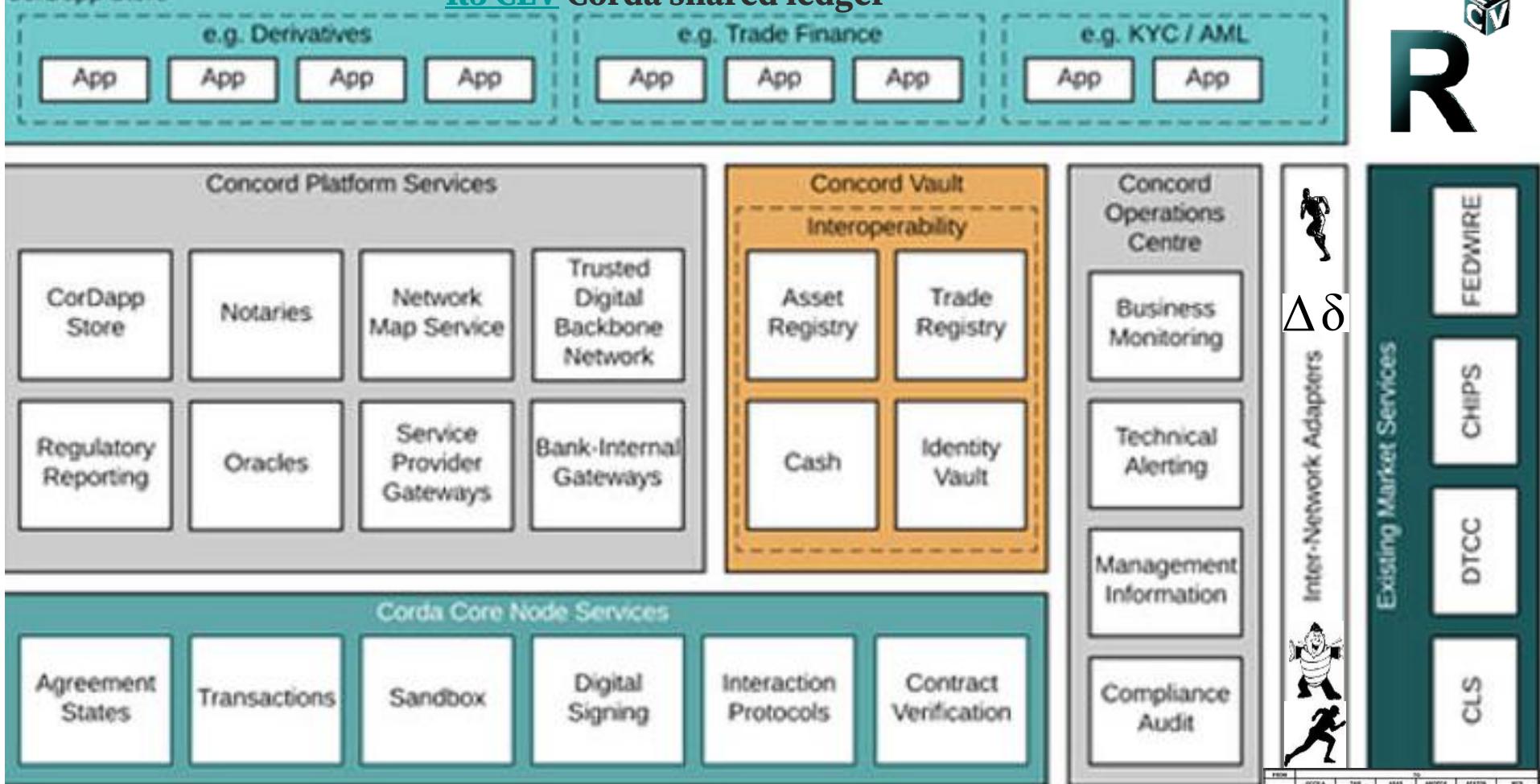
"Blocks are a measure of time":

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

Federation
Gateway

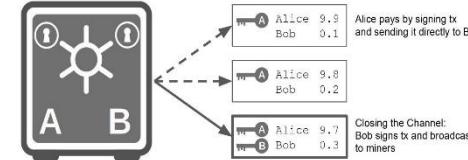


PROJECT LIGHTING

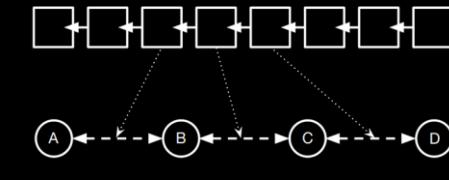
transactions sent over / off chain micropayment channels

Micropayment Channels

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



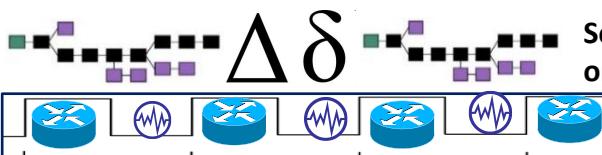
LIGHTNING



Millions of Transactions. Milliseconds of Delay.

Hashed TIME LOCK contracts component for global consensus

OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/ Random # BEACON



Payment channels multi-hop hub spoke model like internet routing

FIREFLY – HEARTBEAT ALGORITHM



FIREFLY – HEARTBEAT

CLOCK FACE 360°
90 / 90 / 90 / 90



MACRO CYCLES

RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE COACH

3rd Base
STATISTICIAN Metrics, Meters
Stat Mean Value Index

3 X 5 HASH TABLES STATE META DATA SHARDS
State Meta Data Snapshots Survey Point

MICRO CYCLES



BASEBALL "DIAMOND"

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

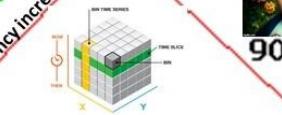
Satoshi Nakamoto:
"The solution we propose begins with a TIME STAMP SERVER"

Blockchain / cryptocurrency increments

90 feet

Blockchain BLOCK in 3D = CUBE

Cube has Length, Depth, Height, Volume



90 feet

first base

RUNNER Message Bus

home plate

Time Stamp Server

Flash Message Event Bus

Fix "108"

Time Stamp Server

Sync Delta State Meta Data Snaps

ADJACENT FIELDS SEPARATE CHANNELS



EVENT REPORTING ACROSS TIME-SPACE



MESSAGE EVENT BUS



SEGREGATED WITNESS

SegWit



OUT OF BAND / CHANNEL



Segregated witness = Separated signatures

- signatures are cryptographic proofs also known as witnesses

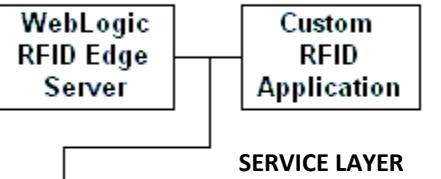
- moving signatures out of transactions
- keeping a separate repository of the signatures
- making them optional in propagation and storage
- signature are the biggest part of transactions
- can be implemented as a soft-fork vs a hard-fork

Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data



EPCIS DATA MODEL



SERVICE LAYER

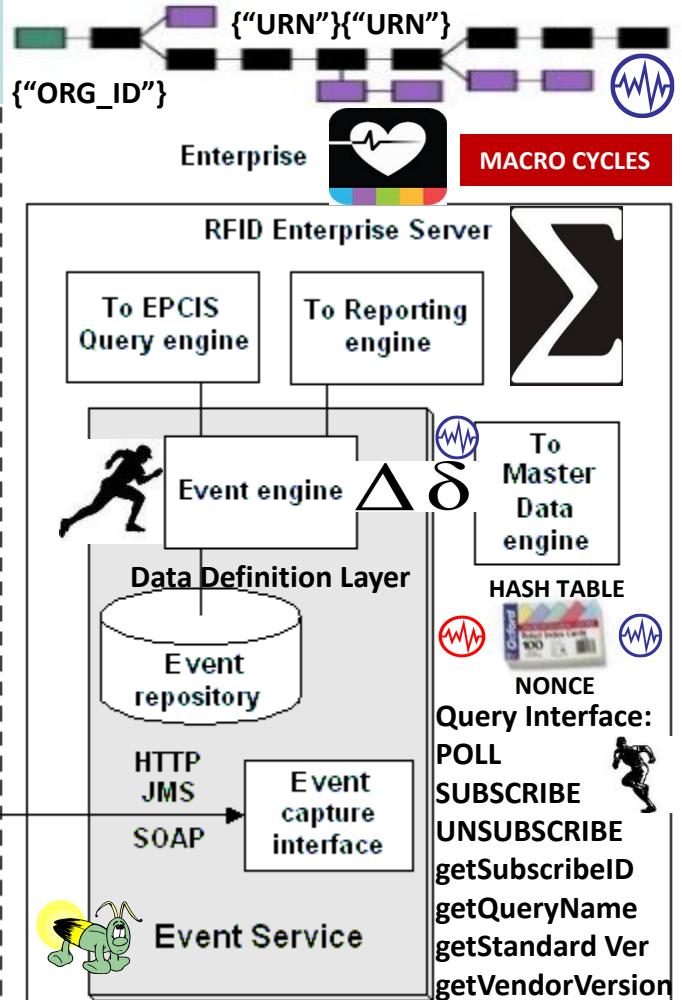
XML

ObjectEvent

AggregationEvent

QuantityEvent

TransactionEvent



Core Business Vocabulary (CBV)

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

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

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

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

MICRO CYCLES



CLOSER IS CHEAPER
CLOSER IS FASTER



STRUCTURED DATA EXCHANGE / STRUCTURED MILITARY MESSAGES

FROM	TO		BATTLEFIELD DIGITIZATION		ALPHA NUMERIC BREVITY CODES	
ASAS	NETWORK CENTRIC WARFARE		SYSTEM OF SYSTEMS BEST PRACTICE		SYNTAX LEXICON CODE GUIDE	
AMOPCS	F002 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019	
AFATOS	F002 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019	
CSSCS	F002 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019	
DTSS	F002 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019	
IMETS	F002 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019	
ISYCON	F002 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019		F003 F014 F015 F016 F017 F018 F019	
F002	F003 F014 F015 F016 F017 F018 F019		F004 F015 F016 F017 F018 F019		F004 F015 F016 F017 F018 F019	
NIA	K01.1 K02.1 K03.1		K01.1 K02.1 K03.1		K01.1 K02.1 K03.1	

SYNTAX LEXICON CODE GUIDE

1st Compiler DESIGN Still the BEST

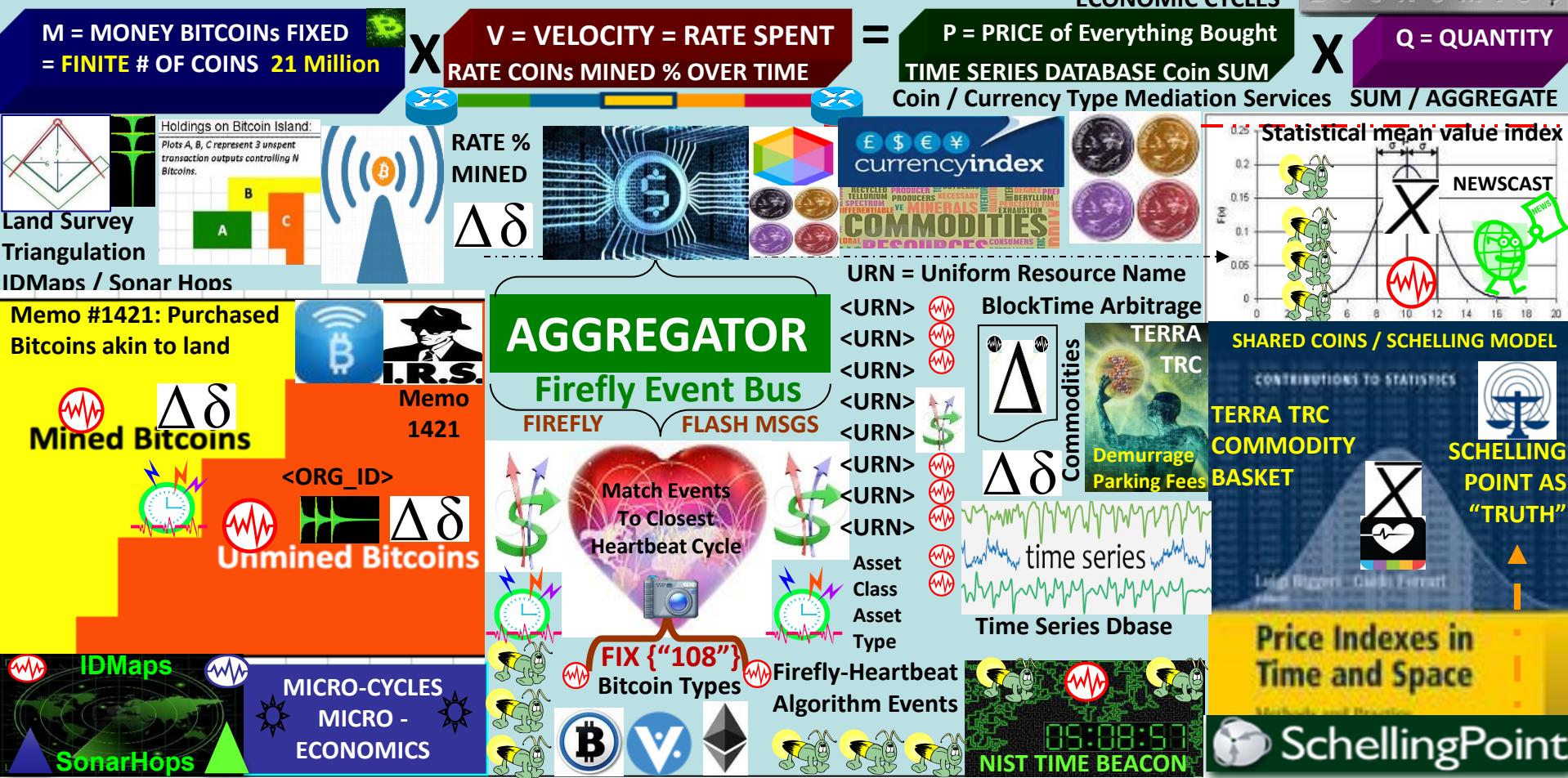
NETOPS SOP

ROSETTA STONE

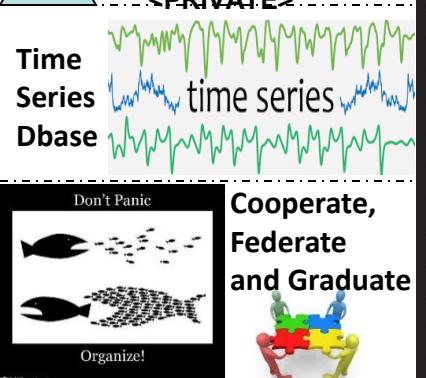
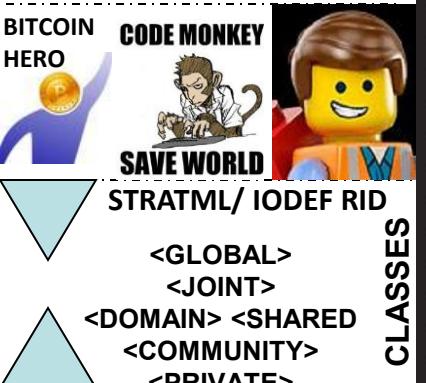
How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

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

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



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



HOW GAMIFICATION WORKS:

5 COMMON MECHANICS

POINTS



Measure a user's achievements in relation to others

Can double as currency to exchange for rewards

BADGES



Reward achievements visually

LEVELS



Encourage users to progress and unlock new rewards

LEADERBOARDS

Organise players by rank

CHALLENGES

Encourage engagement by offering specific tasks to complete

4 MAIN WAYS TO DRIVE ENGAGEMENT

ACCELERATED FEEDBACK CYCLES

CLEAR GOALS AND RULES OF PLAY

A COMPELLING NARRATIVE

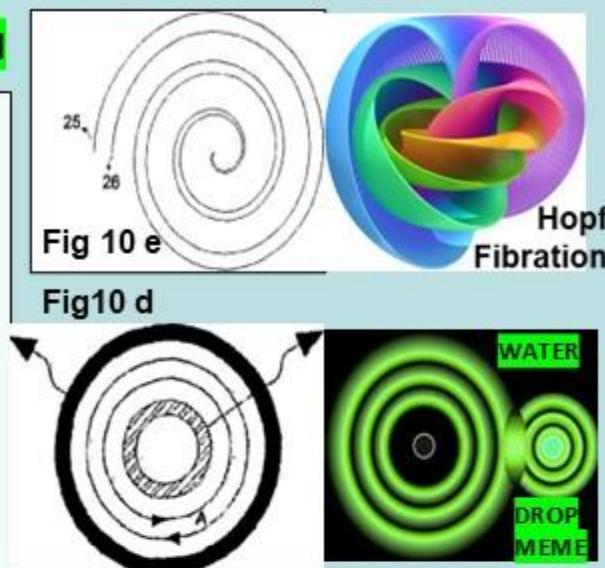
CHALLENGING BUT ACHIEVABLE TASKS





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

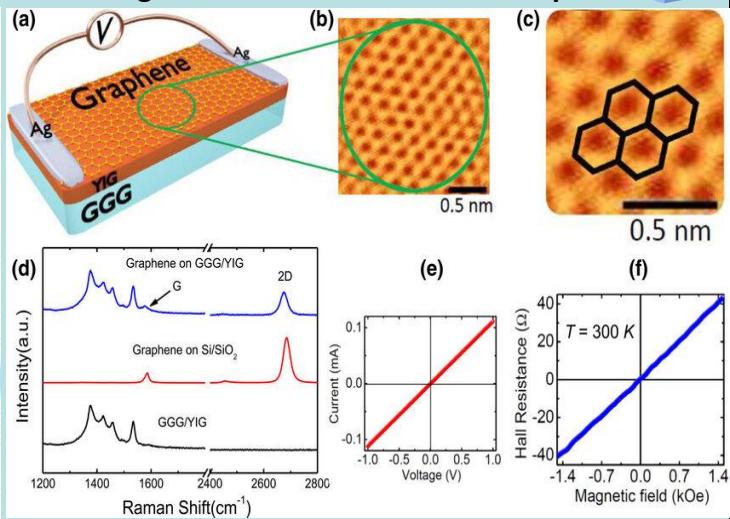
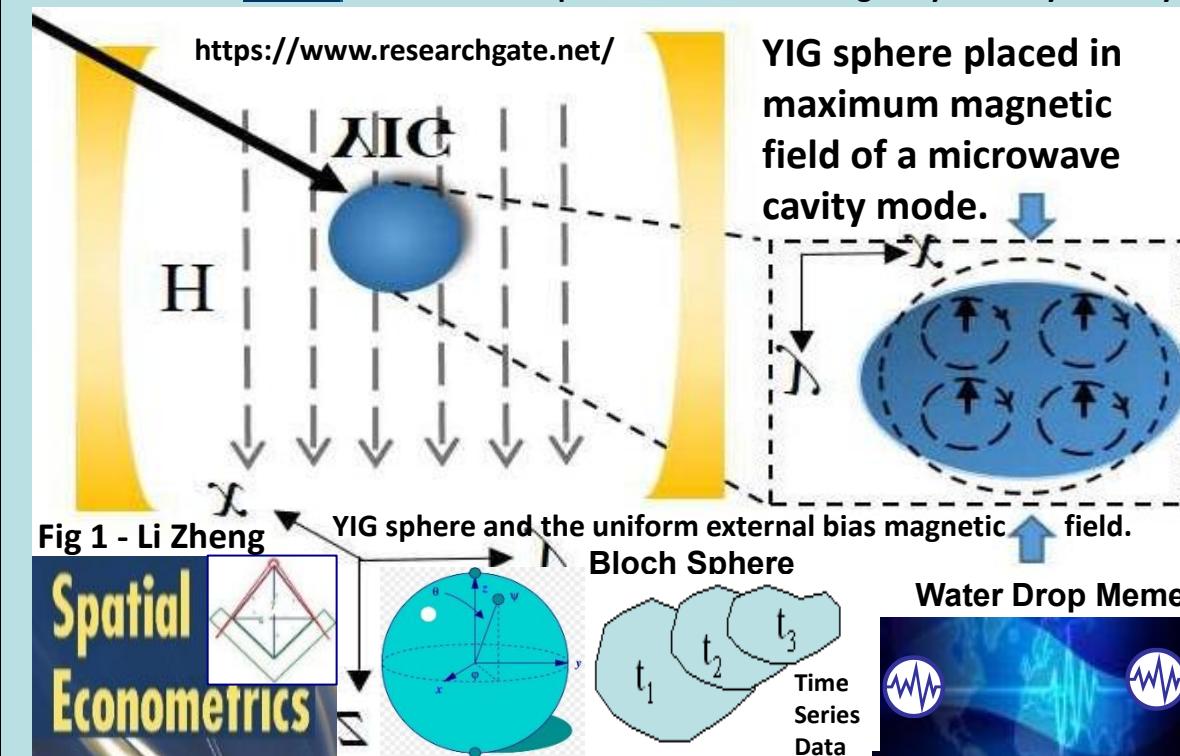
ENERGY / DATA

"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



USPTO 13/573,002 Time – Space Meter

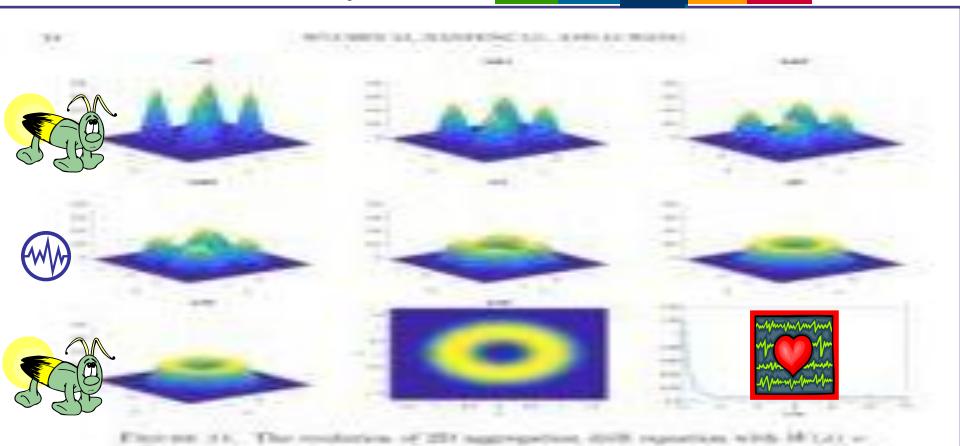


Figure 3.6. The evolution of 2000 measurements, 400000 iterations, with $\Delta\theta = 10^{-3}$, $\omega_0 = 2\pi \times 10^9$ rad/s, $\rho_0 = 10^3$ kg/m³, $\epsilon_0 = 8.854 \times 10^{-12}$ F/N·m². The boundary values for the initial conditions are $\theta_{0,i} = \frac{\pi}{2}$, $\theta_{0,j} = \sqrt{\frac{3}{2}}$. Other computational initial conditions are $\theta_{0,k} = 0$, $\theta_{0,l} = \sqrt{\frac{1}{2}}$. Other computational initial dimensions are $[x_0, x_1] = [0, 2\pi]^2$, initial velocity values are $v_{0,k} = 2\pi v_0 = 2\pi \times 10^{-3}$, $v_{0,l} = 0$, $v_{0,i} = 0$, $v_{0,j} = 0$. Discretized time parameter is $\Delta t = 10^{-3}$, $T = 3.255 \times 10^{-3}$, and $N = 3000$ for numerical integration concerning other dimensions.

Figure 3.7. The 200000th model. We chose the variables for computing a three-dimensional SVD decomposition.

$$\text{det} = \nabla \cdot \left[\text{adj} \left(\frac{1}{2} \text{diag}(\rho + \delta) \right) \right]$$

Note, $\Delta\theta = 10^{-3}$, $\omega_0 = 10^9$ rad/s initial conditions, concerning of some constraints. As other cases, we also want to investigate evolution until eliminate all constraints uncertainty. As seen in Fig. 3.6, the dimension of constraint less than equilibrium value, $\rho = 10^3$ kg/m³, more rapidly, the plot becomes constant, periodic, and also compression value of the model's main component will be satisfied until the model's equilibrium state becomes a general model.

GENESIS
EPOCH



EPOCH

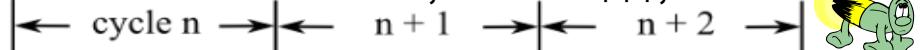


EPOCH



$\Delta\delta$
Sync
Deltas

FOUNDATION FOR NET, NET OF \$\$\$, WEB 3



The Variance of...

$\Delta\delta$

$$I(\theta) = \text{Var} \left(\frac{\partial}{\partial \theta} \ell(\theta | X) \right)$$

the partial derivative w.r.t. θ of...

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



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.



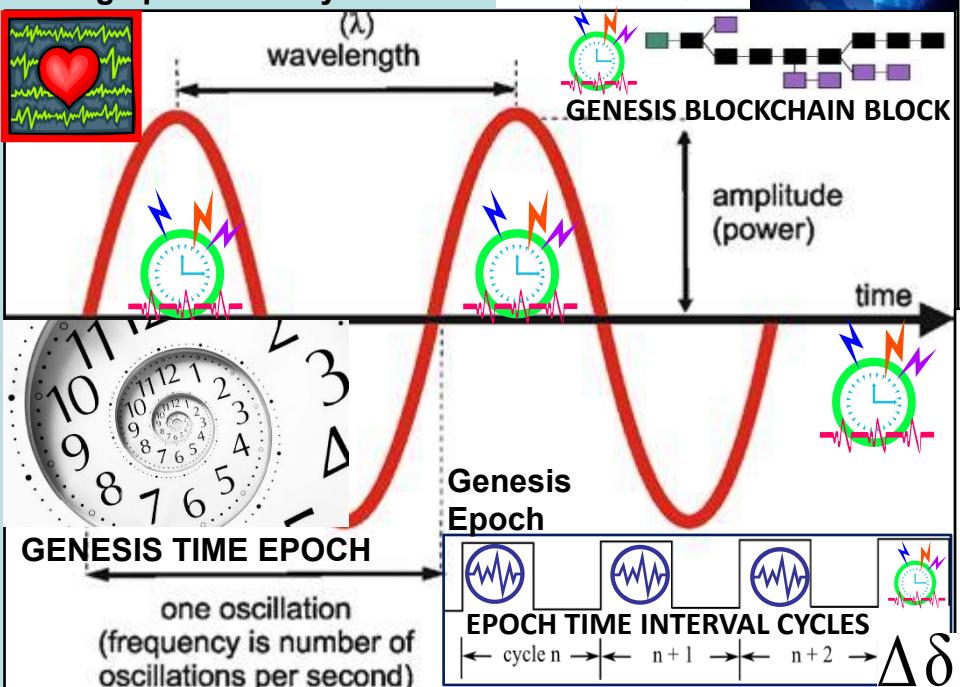
THESES: All things net, net of programmable \$\$\$ are formed using:

ENERGY / DATA WAVE METRICS / METERS

BELL STATE QUANTUM COMPUTING

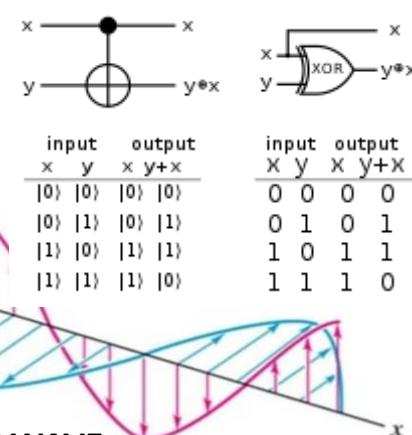
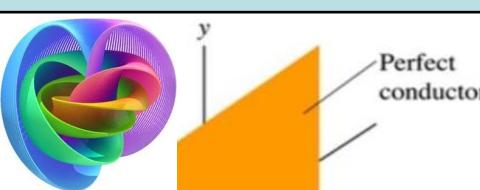
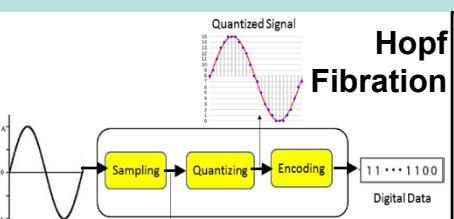
1) Time epochs created by quartz crystal silicon chips

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



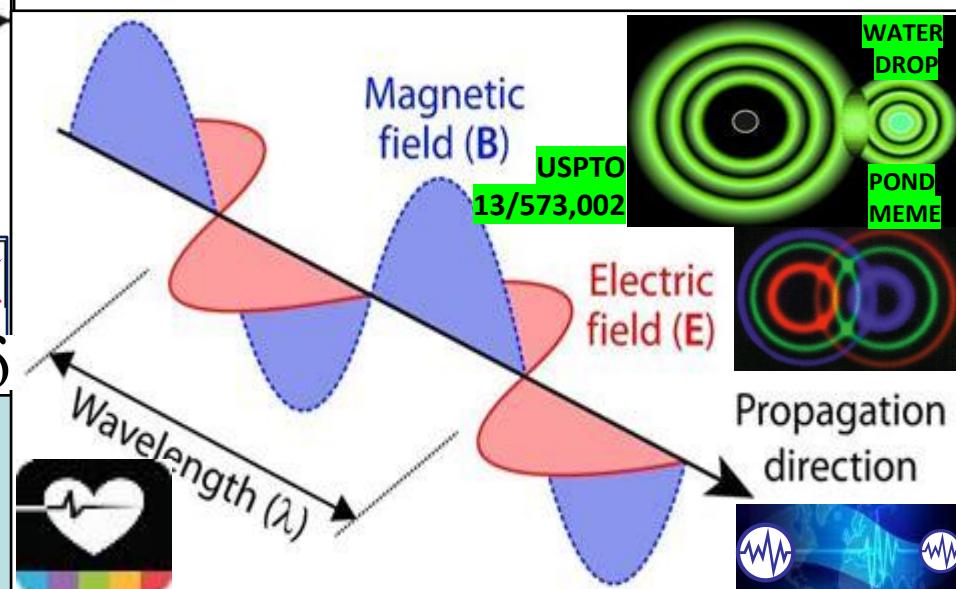
Quantum Computing Vibrations encode, process data like quantum computers. A simple mechanical system built from aluminum rods uses vibrations to encode information, mimicking quantum computing in a non-quantum system. "Light is made from photons, the quantum of light. mechanical vibrations or sound waves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



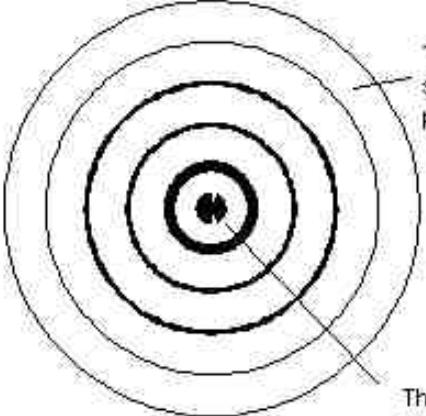
STANDING ELECTRO- MAGNETIC WAVE

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. $x^2 + y^2 + z^2 = r^2$

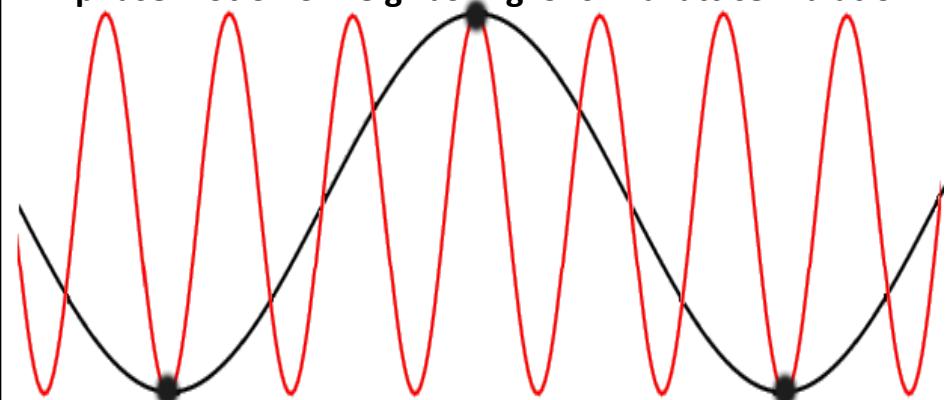


"Simplicity is the ultimate sophistication".
(Leonardo da Vinci)

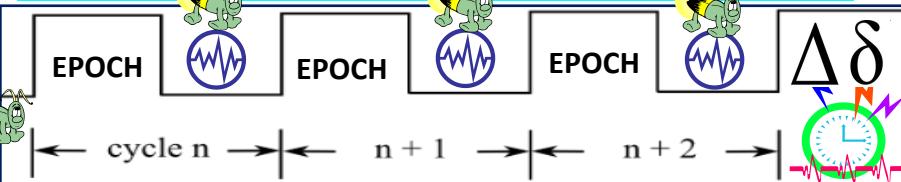
ACOUSTIC PHONON

USPTO 13/573,002

in-phase motion of neighboring ions in a lattice vibration

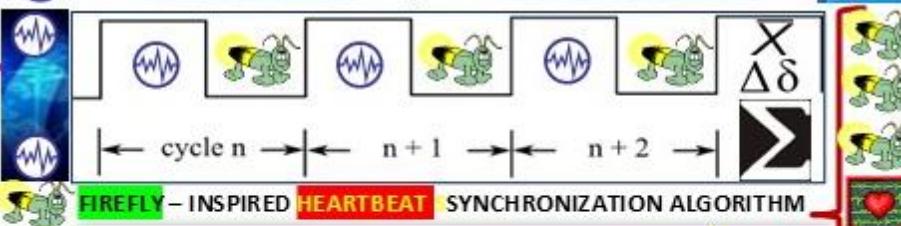
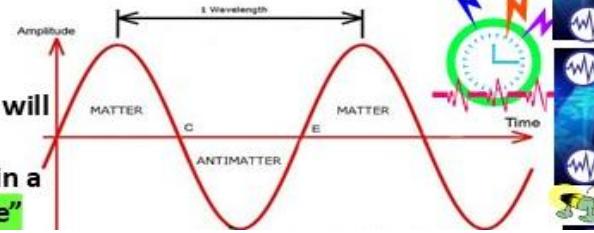


Phonons: A phonon is a quantum of the lattice vibration, the collective motion of atoms constituting a crystal. There are two types of phonons: optical and acoustic. The optical phonon has high-frequency oscillation in the THz range and the unit cell center of mass does not move. It undergoes a dipole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

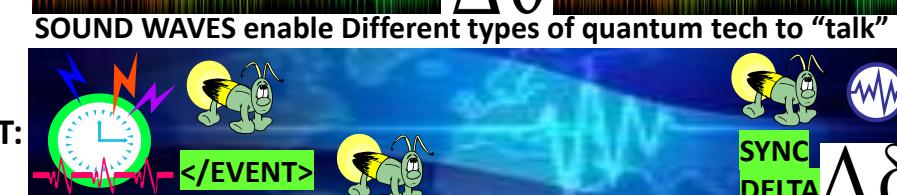
"Similarly, the electromagnetic force will also be found to vary continuously and retain a TIME-AVERAGED value"



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

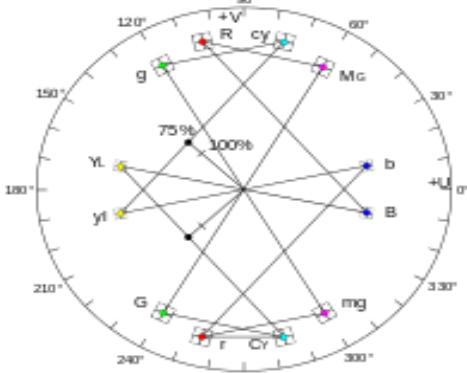
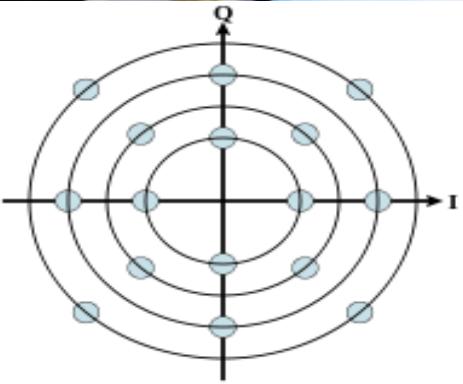


</EVENT>

SYNC DELTA $\Delta\delta$



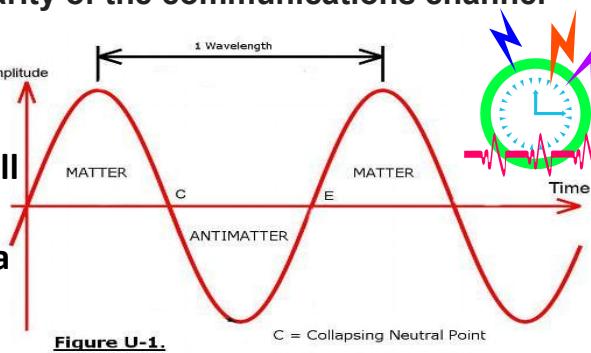
www.RLighthouse.com



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”

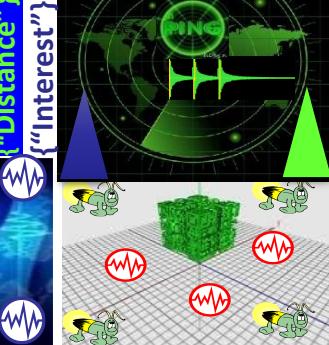


Sine wave of our blinking universe. The 4 fundamental forces will all be found to vary continuously when sampled at 2x the blinking frequency, per Nyquist-Shannon theory



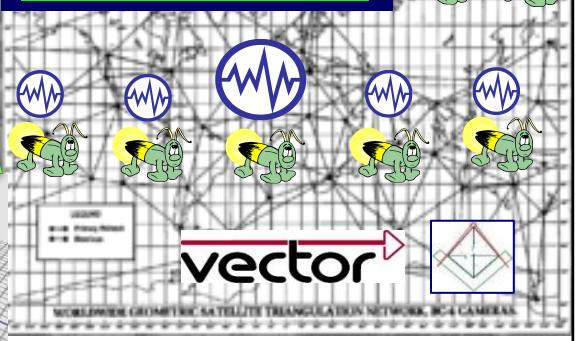
USPTO 13/573,002
sawconcepts.com/index

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

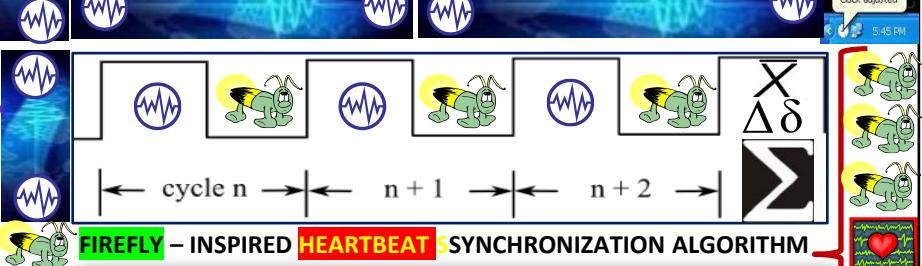


Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics

TRIANGULATION



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

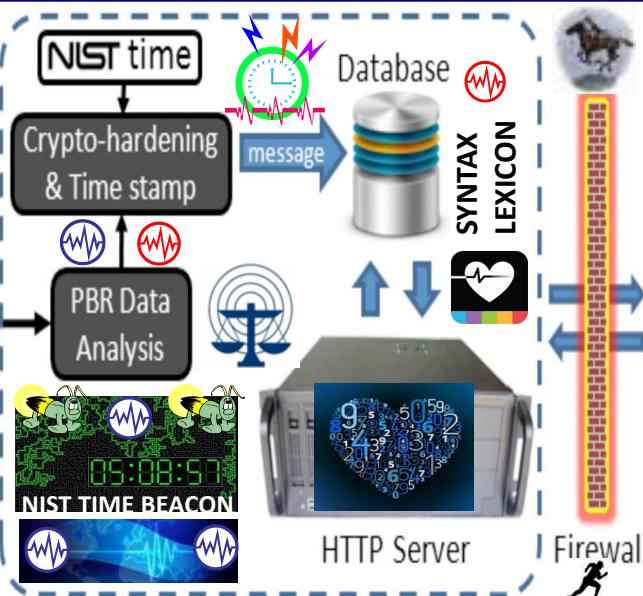
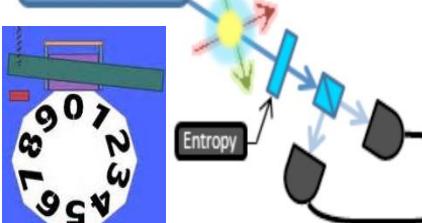
SECURE AUTHENTICATION

SECURE MULTI

PARTY /
AUTHENTICATION

Entanglement
Source

RANDOM
NUMBER
GENERATOR



NIST

**NON
REPUDIATION**

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

IDMaps Distance Estimation Service

SonarHops



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

Metrics and Time - Space Meter uses PHYSICAL Memes / Metaphors

**NAMED DATA
NETWORKING**

Time / Distance Metrics



PROXIMITY

OFFSHORE BEACONS ONSHORE

NDN
</Interest>
</Distance>

NDN
SURVEY METHODS
+ TRIANGULATION
Euclidian Geometry

Geodesic System Routing Info Base RIB

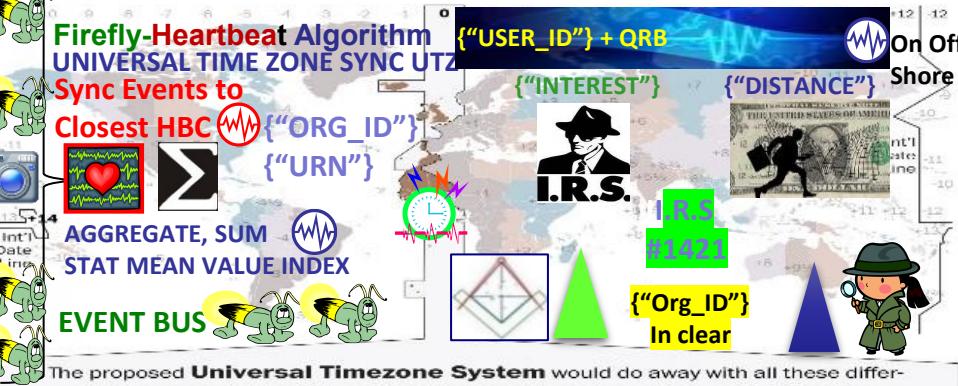
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DEVICE / SENSORS <UUID><UUID>

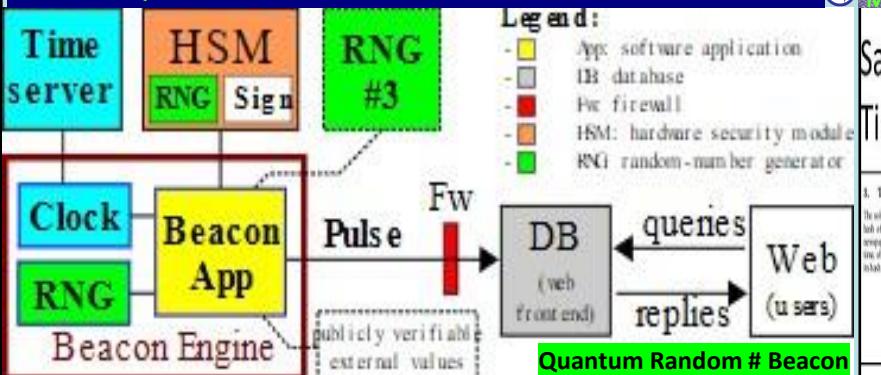
Higher-level services collect distance data to build virtual distance map State Snap Shots

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"

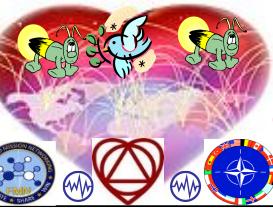


Satoshi Bitcoin Blockchain
Time Stamp Server

3. Timestamp Server

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





WORLD ECONOMIC Heartbeat
ALGORITHMIC REGULATION
HEARTBEAT SYNC DELTAS



PROOF of SPACE-TIME
Firefly - Heartbeat Sync Algorithm
Heartbeat Event Message Bus
UTZ stochastic harmonization

Epoch Time Cycles

E0 E1 E2 E3...

Genesis

Epoch
E0

E1

E...n



Structured Data Exchange

ROSETTA

STONE

BREVITY

CODES

Attribute Series

Time Series

Value

Time

300 +

Message

Sets

Spatial

Geo

Work flow

Filters

SYNTAX LEXICON

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

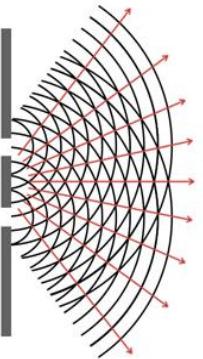


Double-Slit Experiment

Screen with two slits

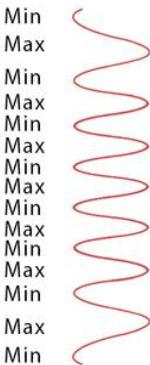
PARTICLE ?

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

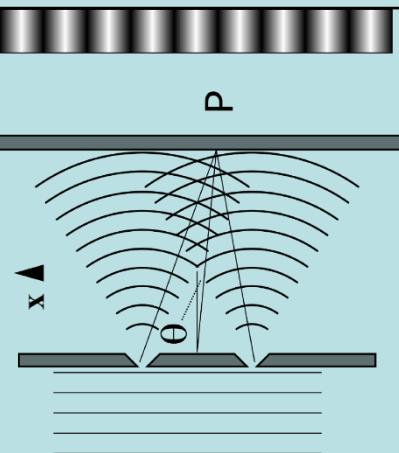
Alternating bright and dark fringes due to interference of light waves

Intensity of the

fringes shows the maxima and minima

Science Facts

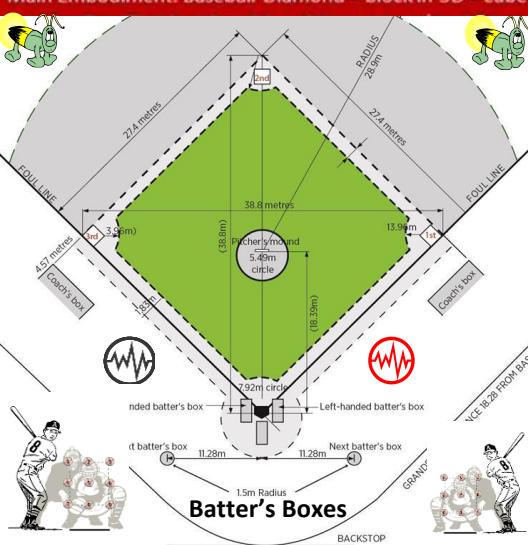
**QUANTUM COMPUTING
- RESISTANT ? - BASED ?
THROUGH LENS OF SCOTUS
ALICE LOOKING GLASS RULING**



USPTO APPLICATION 13/573 002

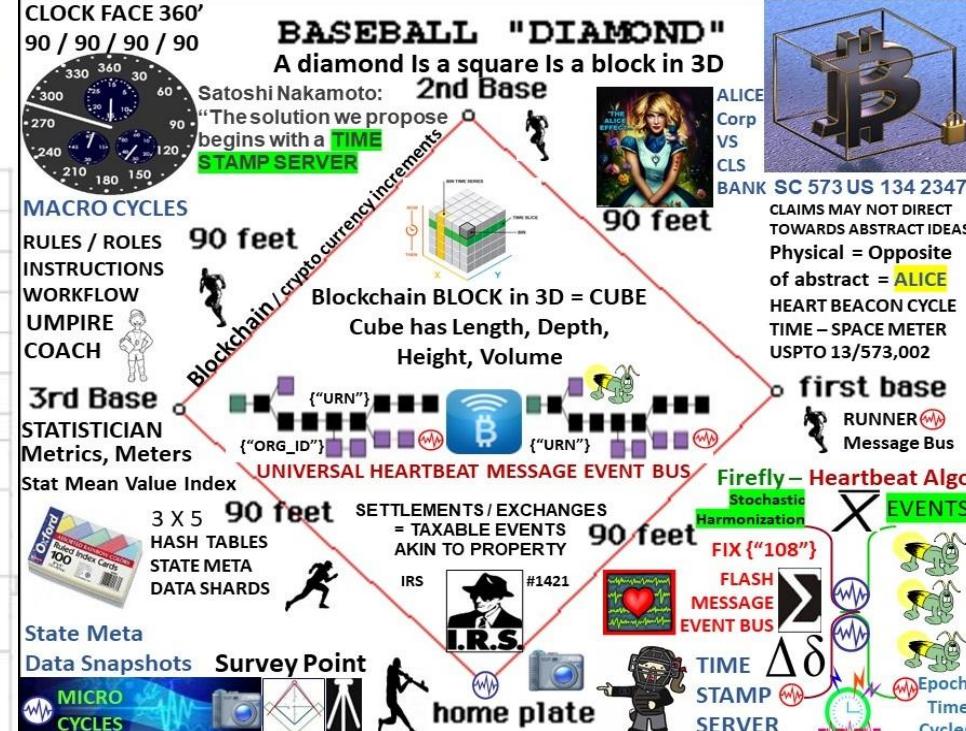
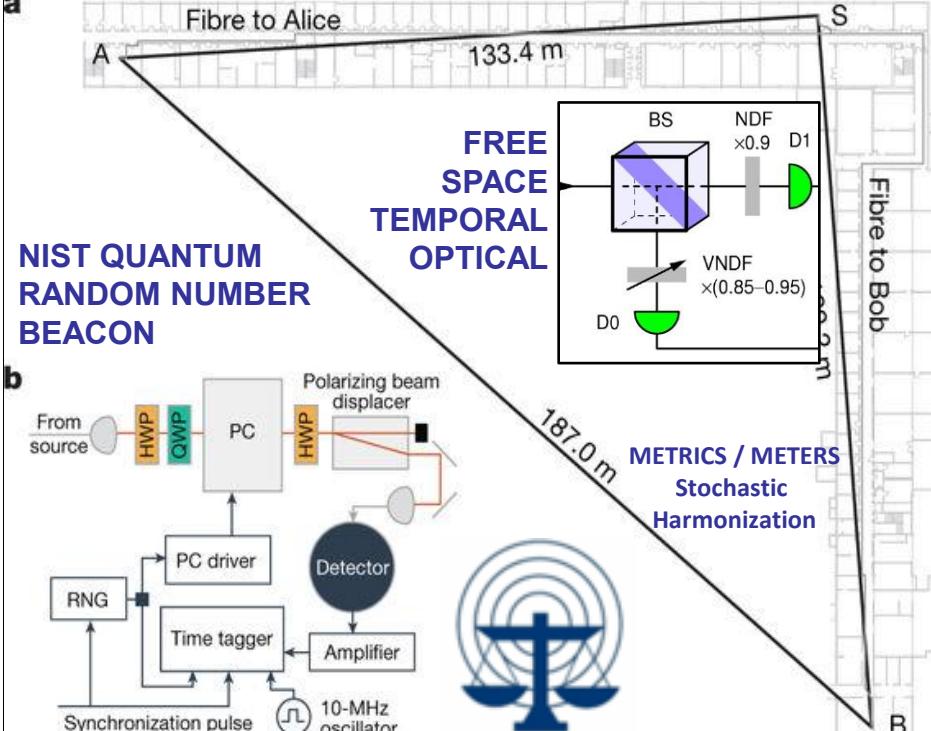
The Heart Beacon Cycle Time-Space Meter

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



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

a



The Hopf Fibration

Edmund Harriss

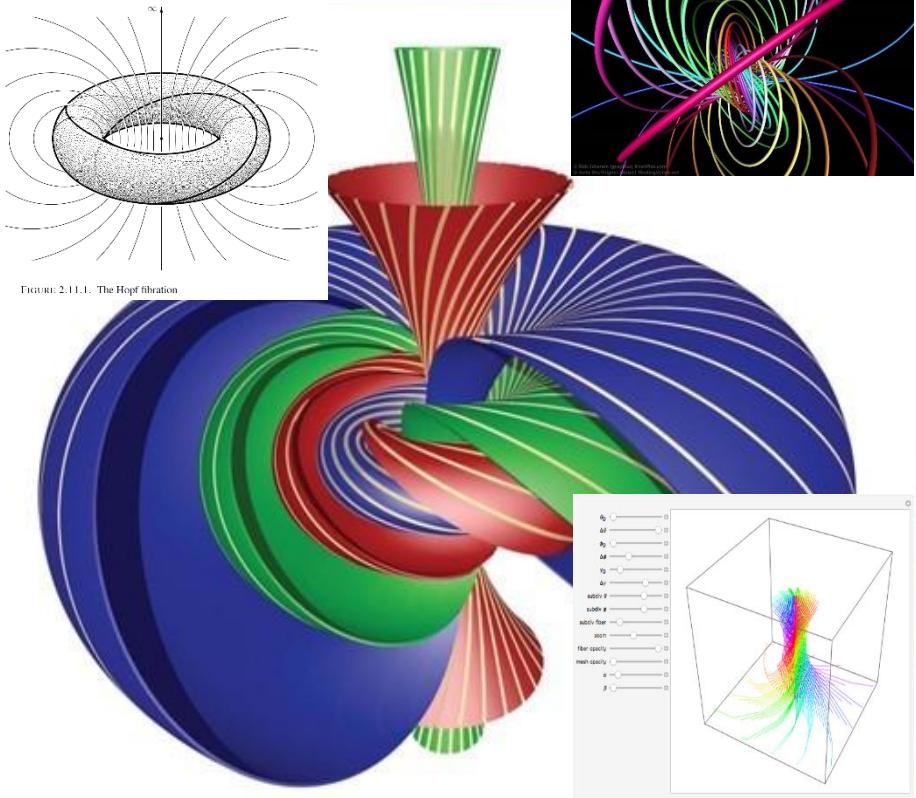
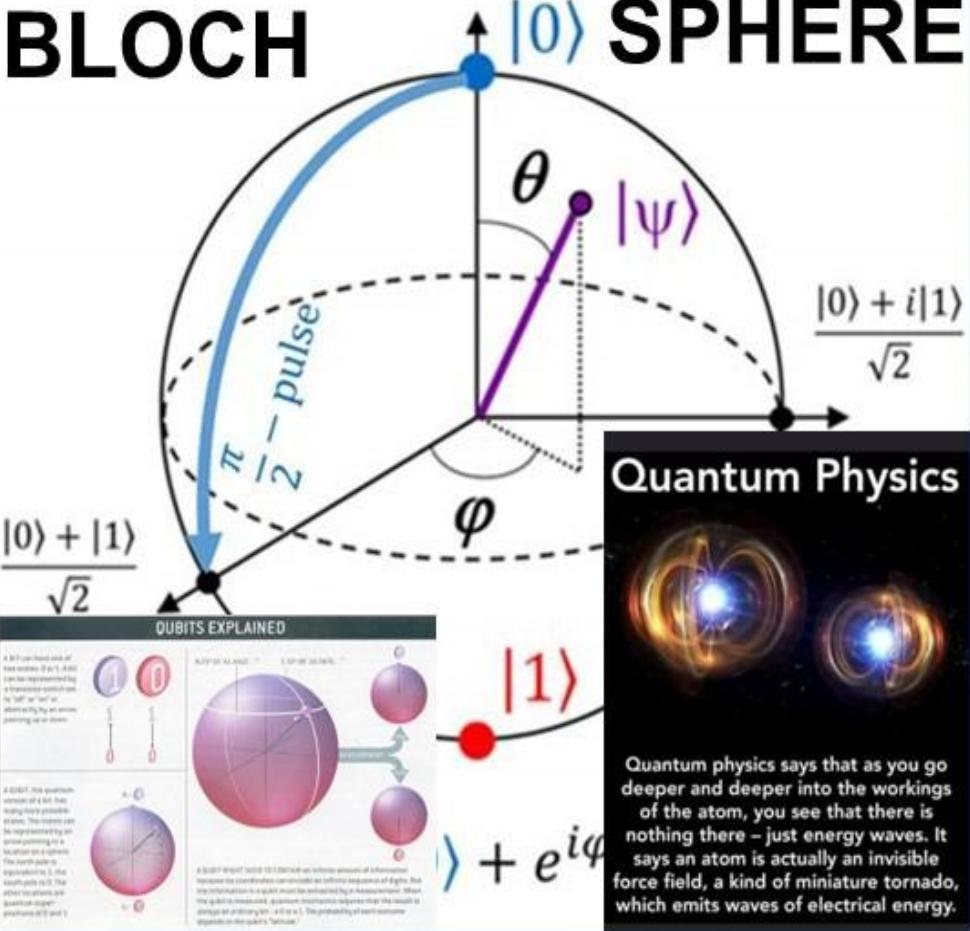


FIGURE 2.11.1. The Hopf fibration

BLOCH SPHERE



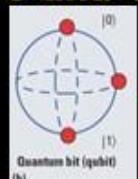
Hopf Fibration / #Bloch sphere

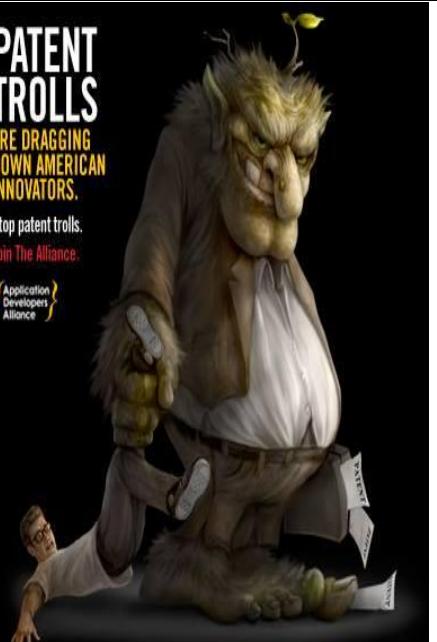
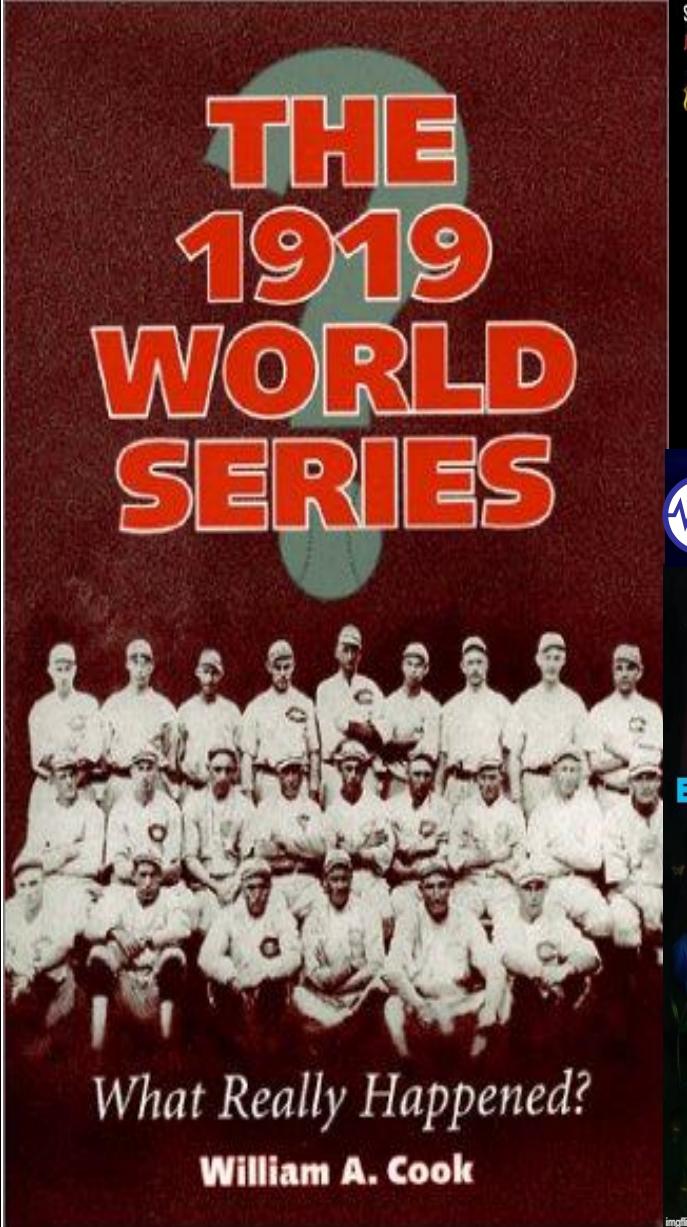
"the most important object in the universe"

"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.





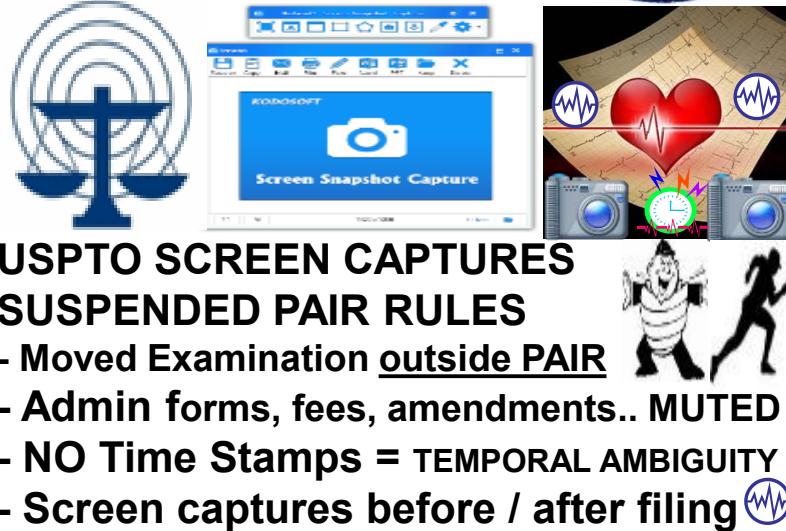
Stop patent trolls.
Join The Alliance.

{Application Developers Alliance}



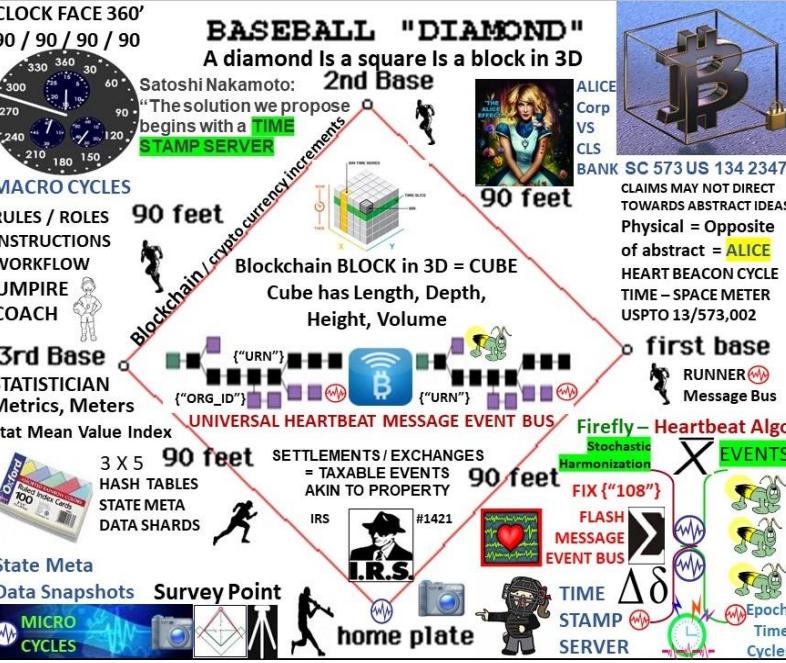
imgflip.com

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





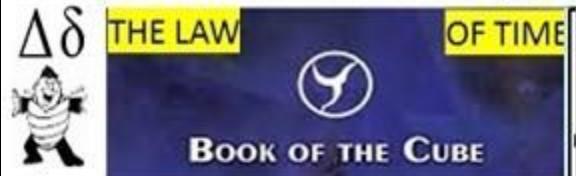
USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter

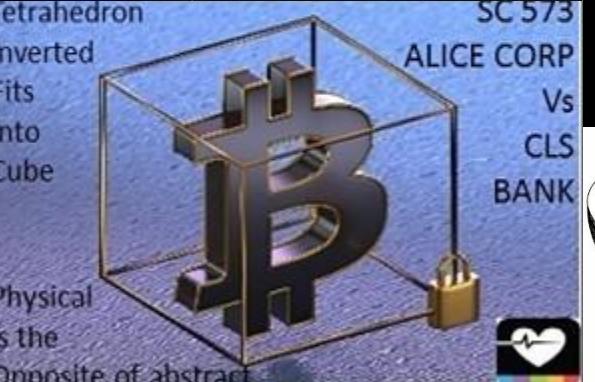
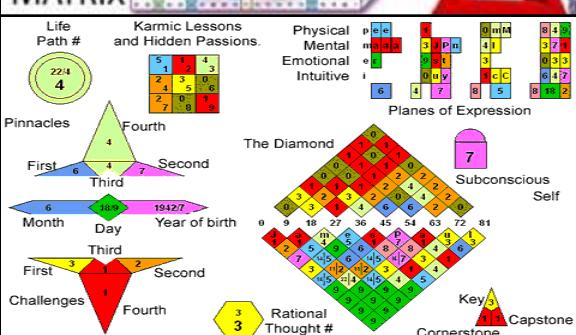
Main Embodiment: Baseball Diamond = block in 3D = cube

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

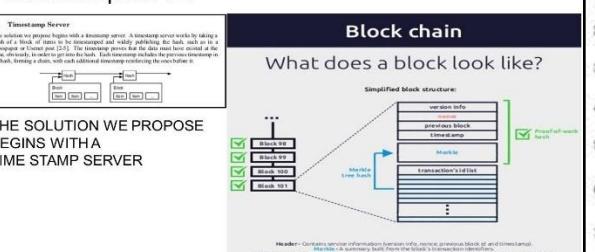
"We can synchronize ourselves in time for a common purpose" Universal Blockchain Meme



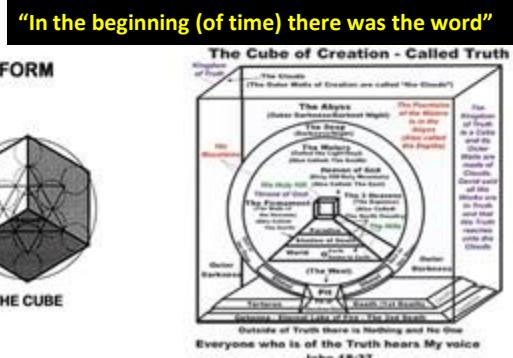
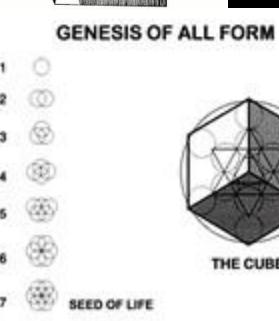
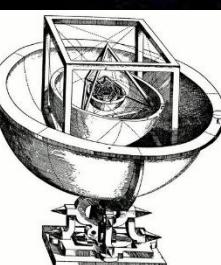
First
Baseball
Players
Union
Formed
1870



Satoshi Bitcoin Blockchain Time Stamp Server



Metatron's Cube and the Platonic Solids





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

-Buckminster Fuller

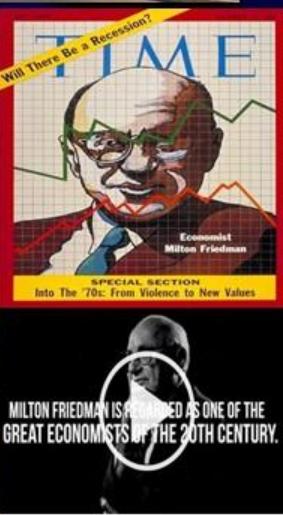


THE GREAT CONJUNCTION IN AQUARIUS

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



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

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

Milton Friedman — Preface to Capitalism & Freedom 1962

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

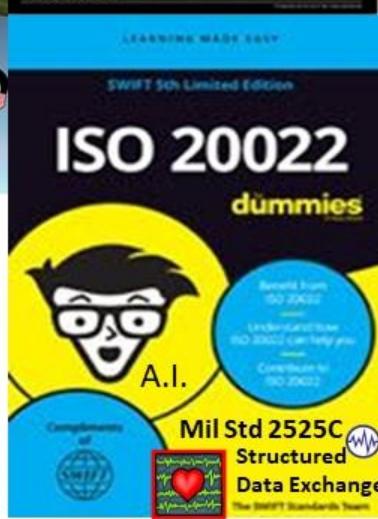
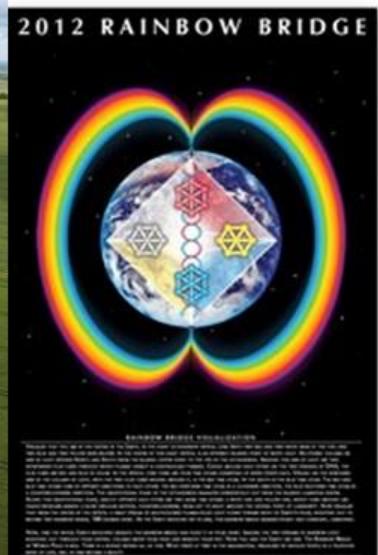
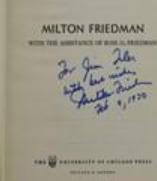
The K-Percent Rule: sets the money supply growth at a rate equal to the growth of gross domestic product (GDP) yearly.

Milton Friedman

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



CAPITALISM AND FREEDOM
MILTON FRIEDMAN
WITH THE ASSISTANCE OF ROBERT FRIEDMAN



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



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

MACRO CYCLES
RULES / ROLES
INSTRUCTIONS
WORKFLOW
UMPIRE
COACH

3rd Base
STATISTICIAN
Metrics, Meters
Stat Mean Value Index

3 X 5
HASH TABLES
STATE META
DATA SHARDS

State Meta
Data Snapshots
Survey Point
MICRO CYCLES



METATRON'S CUBE
GENESIS OF ALL FORM



THE ALICE KEY
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
Stochastic Harmonization

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

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS
TIME STAMP SERVER

FLASH MESSAGE EVENT BUS

MAXWELL'S EQUATIONS
+ the Lorentz force law
= foundation of electromagnetism

$$\begin{aligned}\oint \vec{E} \cdot d\vec{A} &= \frac{Q_{\text{enc}}}{\epsilon_0} \\ \oint \vec{B} \cdot d\vec{A} &= 0 \\ \oint \vec{E} \cdot d\vec{s} &= \frac{d\phi_B}{dt} \\ \oint \vec{B} \cdot d\vec{s} &= \mu_0 I + \mu_0 \epsilon_0 \frac{d\phi_E}{dt}\end{aligned}$$

IP
DeFi FINTECH

QUANTUM COMPUTING

INTERNET OF EVERYTHING IoT

TIME



QRNB NIST Beacon A Public Randomness Service
Non-Repudiation



ACOUSTIC PHONON

e ERLANG

ARTIFICIAL INTELLIGENCE

FOUNDATION TECHNOLOGY

EPOCH TIME CYCLES

SYNTAX LEXICON SYMBOLS

SPACE

THE OZ KEY



THE LAW OF TIME

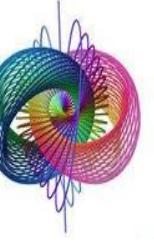


"Time is a created thing" Lao Tzu

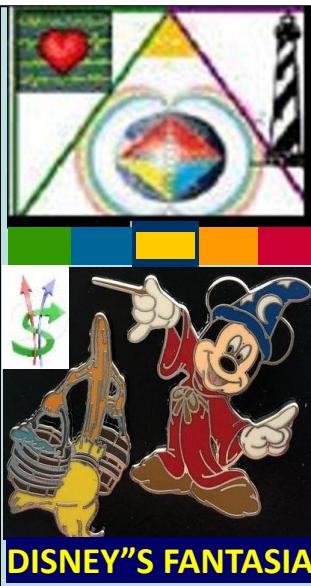
"If you want to find the secrets of the universe, think in terms of energy, frequency and vibration." - Nikola Tesla



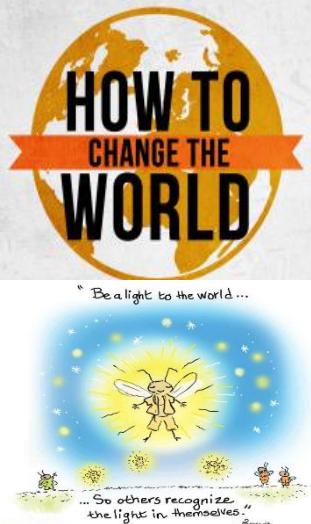
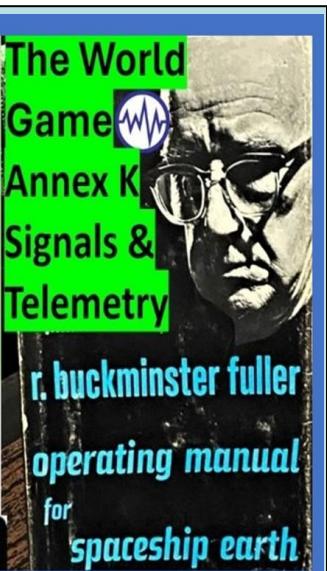
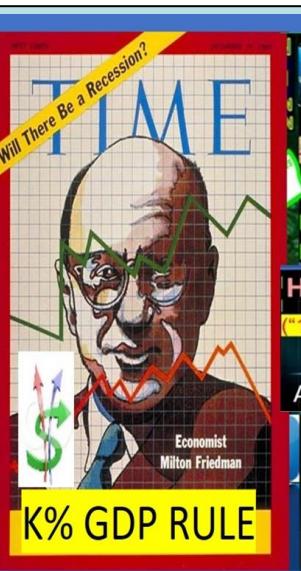
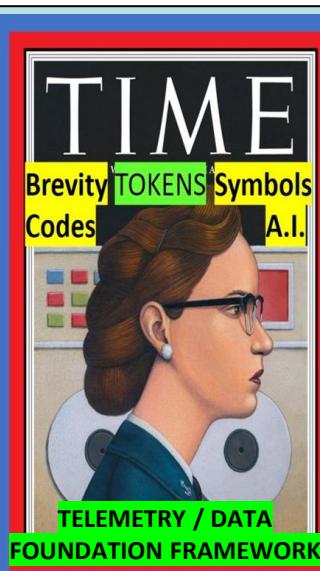
HOPF FIBRATION



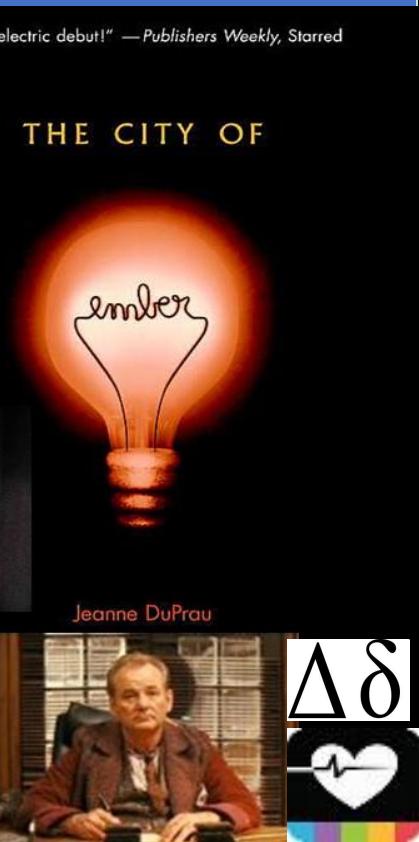
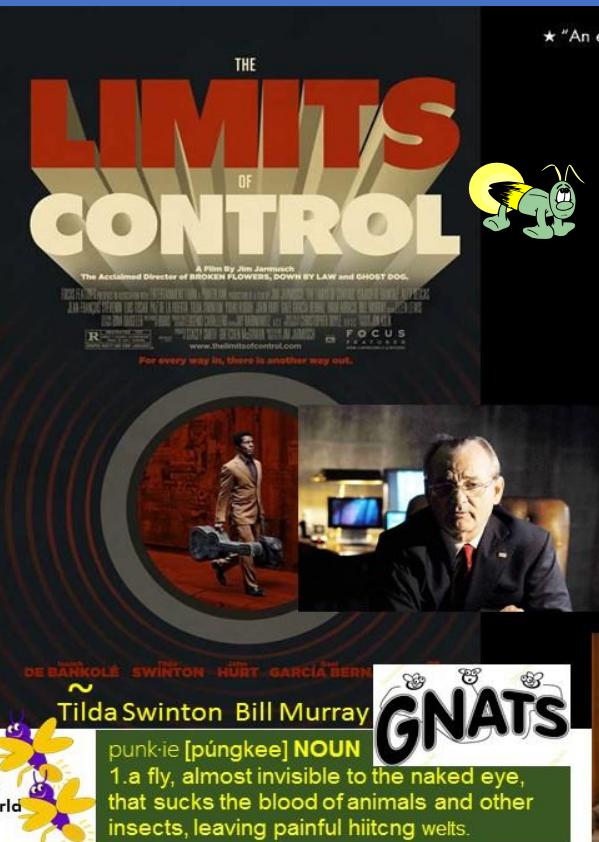
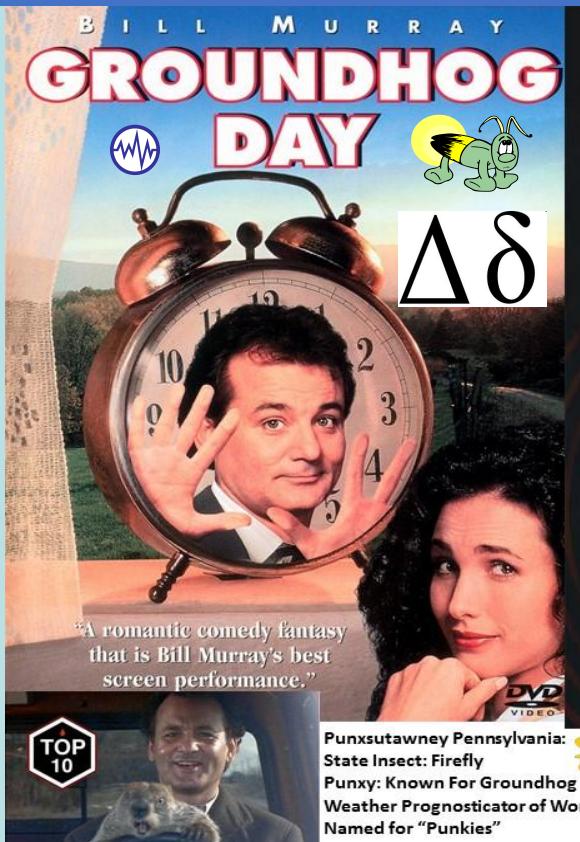
USPTO 13/573,002 The Heart Beacon Cycle Time – Space Meter / Adaptive Template

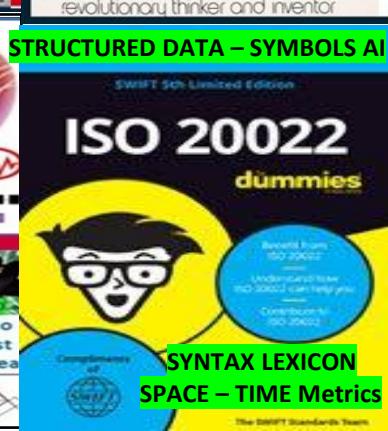
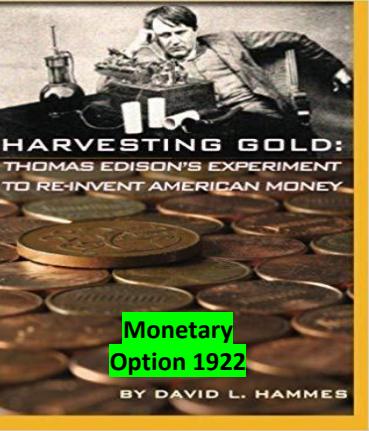
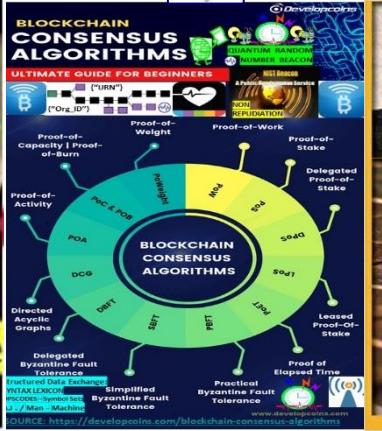
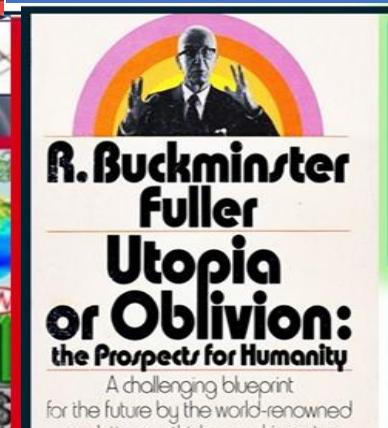
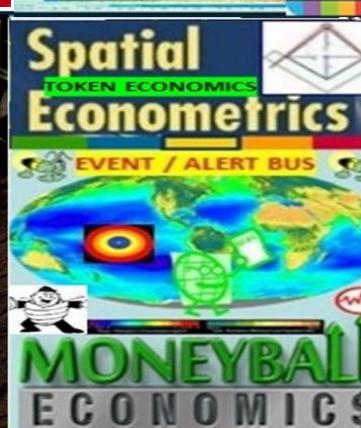
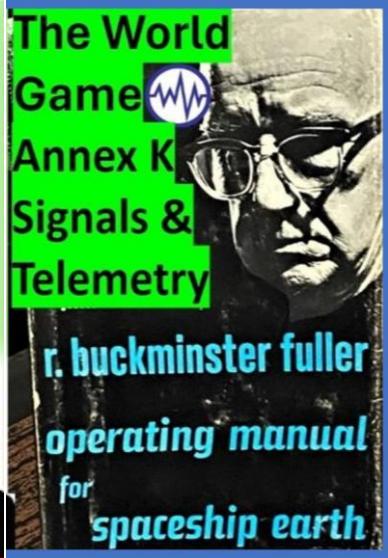
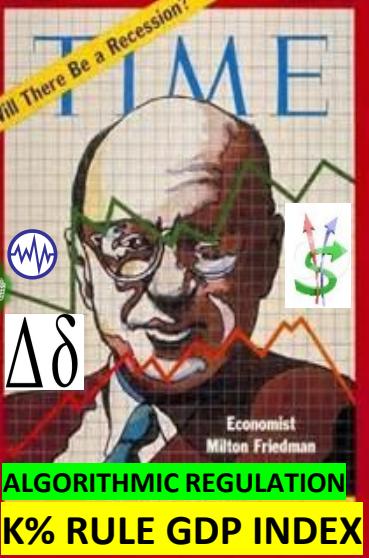
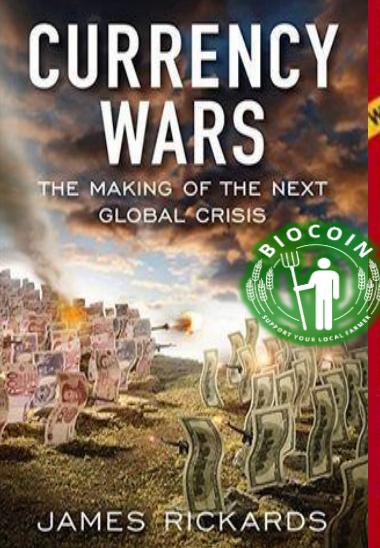


DISNEY'S FANTASIA



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







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

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

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

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



Spatial Econometrics
TOKEN ECONOMICS
EVENT / ALERT BUS
MONEYBALL
ECONOMICS



What does your name mean?

Steven + McGee
Intellectual Revolutionary

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

Feb 10, 1960 Aquarius / Aquarius Rising

The Time Keeper
Borderlands 4

Alice Corp. v. CLS Bank International

573 U.S. 134

S. Ct. 2347

2014



"Claims may not direct towards abstract ideas"

Bloomberg Law:

Crypto Lawsuit Deluge

Has Big Firms Scrambling to Keep Up

USPTO 13/573,002
Filed 2012

