



# Battlefield Digitization

## OOTW Operations Other Than War



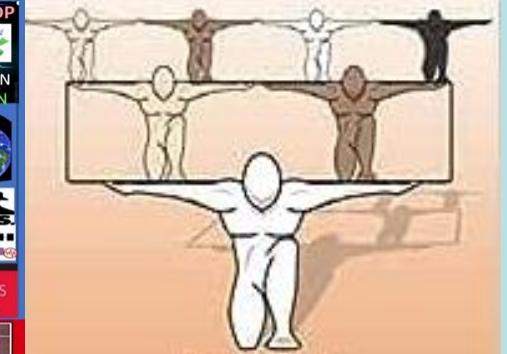
INTERNET, NET of \$\$\$ =  
 1. Epoch Time Cycles  
 2. Syntax instructions



$\Delta \delta$   
 {“URN”}  
 {“URN”}  
 {“URN”}  
 Structured Data  
 BREVITY CODES  
 - Symbols, Message sets



Eco Economic Epoch Heartbeat: reuse of DoD / NATO signal, telemetry syntax - symbol set structured data exchange system of systems engineering framework for DAO Trade Federations, programmable money / Economy. It is time to stand on the shoulders of giants. SLA Service Level Agreement Eco incentives: closer = < time, cheaper, < fuel, < CO2 “Build a new model that makes the old model obsolete” Buckminster Fuller



STANDING  
ON THE  
SHOULDERS  
OF GIANTS



FOUNDATION TECH  
For Programmable \$\$\$  
Programmable Economy  
Eco Economic Epoch

HEARTBEAT





# Eco Economic Epochs Heartbeat

# DEFI FINTECH IP WARS / Litigation Foundation Tech



# **SWORDS to PLOWSHARES**



The logo consists of a blue digital camera icon on the left, followed by a blue circular icon containing a white brain-like waveform. To the right of these icons, the text "USPTO 13/573,002" is displayed in large, bold, black letters. Below it, "573 U.S. 134 SCt 2347" is shown in a slightly smaller, bold, black font. At the bottom, the words "Alice in Wonderland Ruling" are written in a bold, black, sans-serif font.

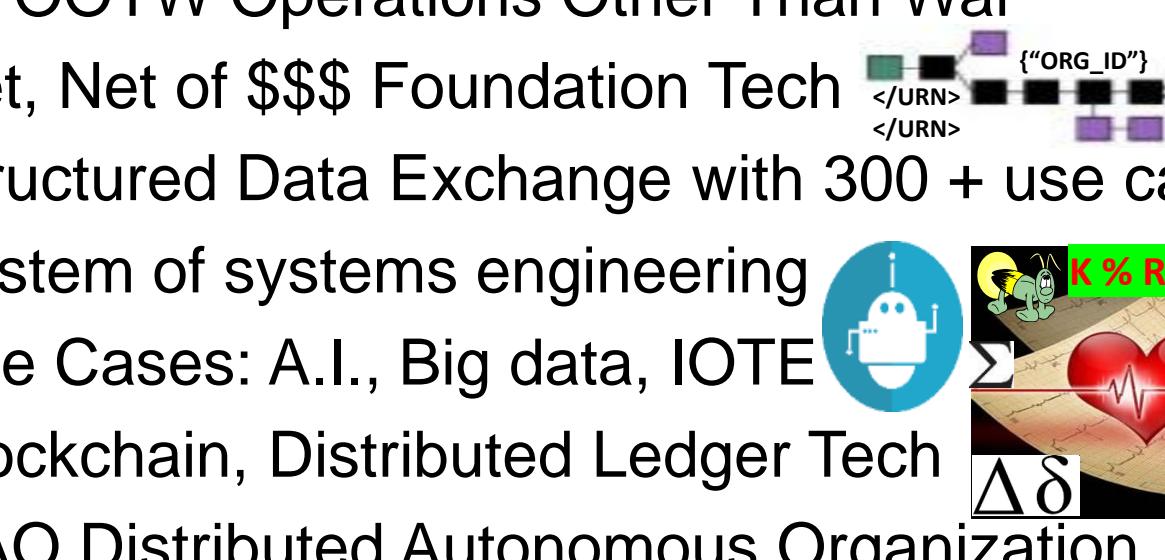


**Symbols  
Rule  
The World  
OPSCODE  
BREVITY  
CODES  
Mapped  
To symbols  
2525A,C D**



## YNC DELTA $\Delta\delta$ ATA SNAPSHOT

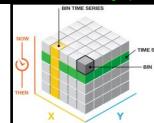
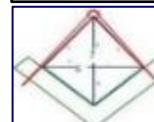
**INFOCON  
1 4 3 2 1  
INFORMATION  
CONDITION**

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

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



## HET START-STOP Time to LIVE



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

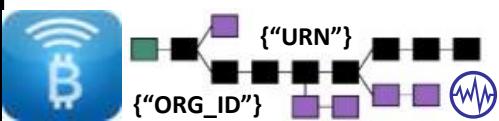
- 1) Epoch Time Cycles**
- 2) Syntax used / not in epochs**

# 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

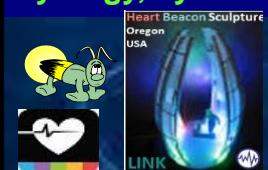


"Shared situational awareness enables collaboration synchronization, and enhances sustainability, speed of command"



300 +TEMPLATES  
STRUCTURED DATA  
EXCHANGE  
FFUIRNS FFUDNS OPSCODES  
MAPPED TO SYMBOL SETS

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

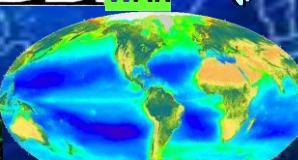


Proximity Beacons



JAEGERS

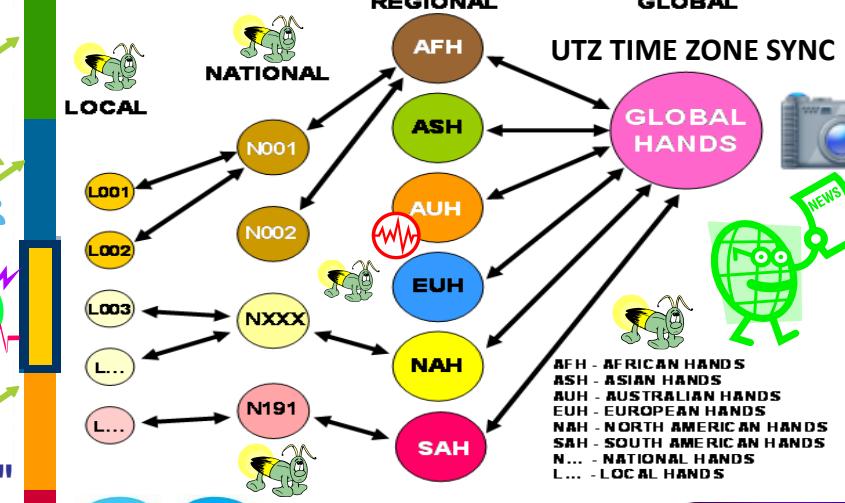
Closer < \$\$\$ < FUEL



FREELY  
HEARTBEAT  
ALGORITHM  
EVENT / ALERT Flash Heartbeat Message Bus



SYSTEM  
Of  
SYSTEMS



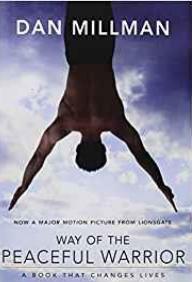
AFH - AFRICAN HANDS  
ASH - ASIAN HANDS  
AUH - AUSTRALIAN HANDS  
EUH - EUROPEAN HANDS  
NAH - NORTH AMERICAN HANDS  
SAH - SOUTH AMERICAN HANDS  
N... - NATIONAL HANDS  
L... - LOCAL HANDS



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



Neural Net

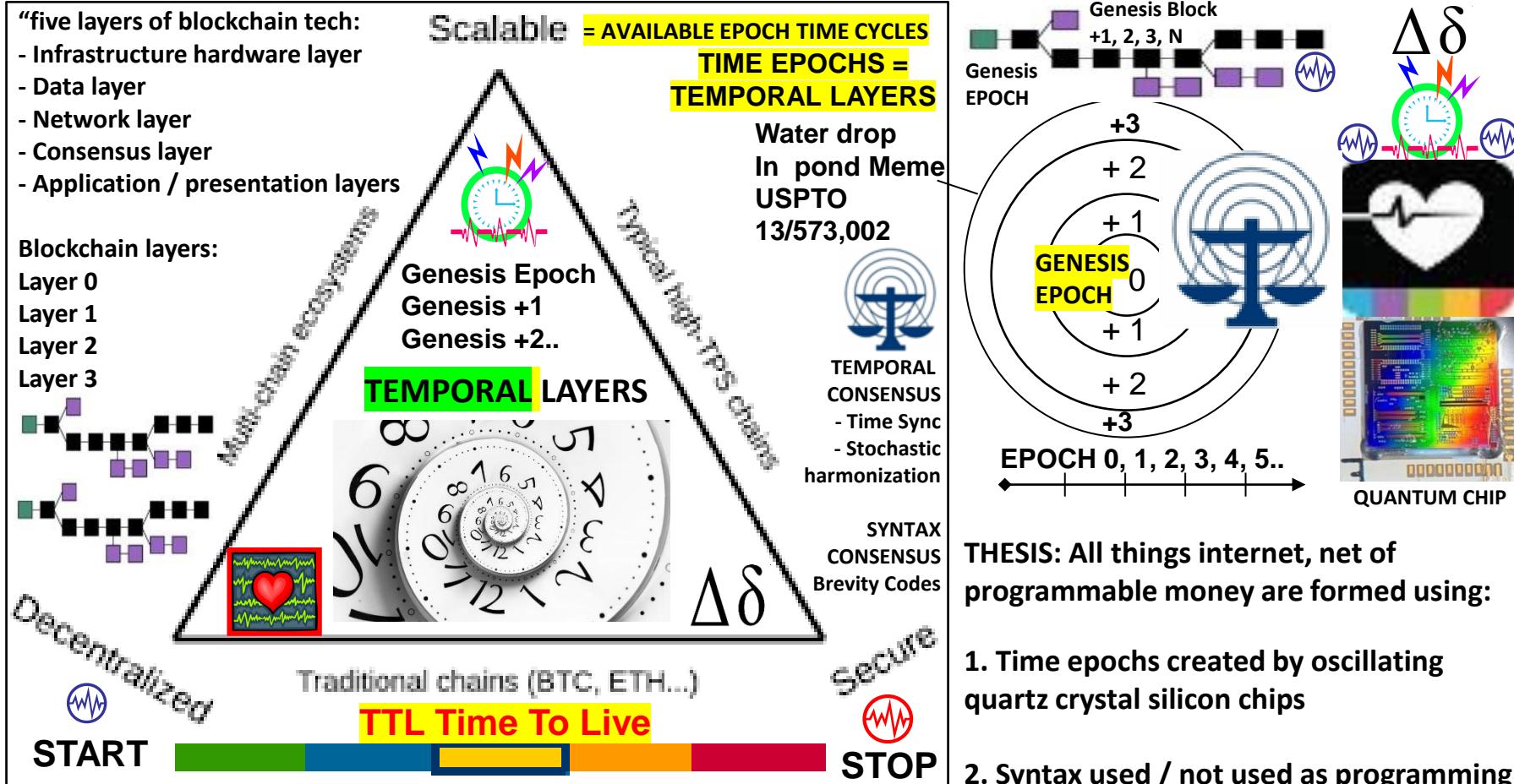


OFF SHORE  
OUTER BANKS



KAIJU

# Blockchain Quad-lemma



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

## Database Flat File

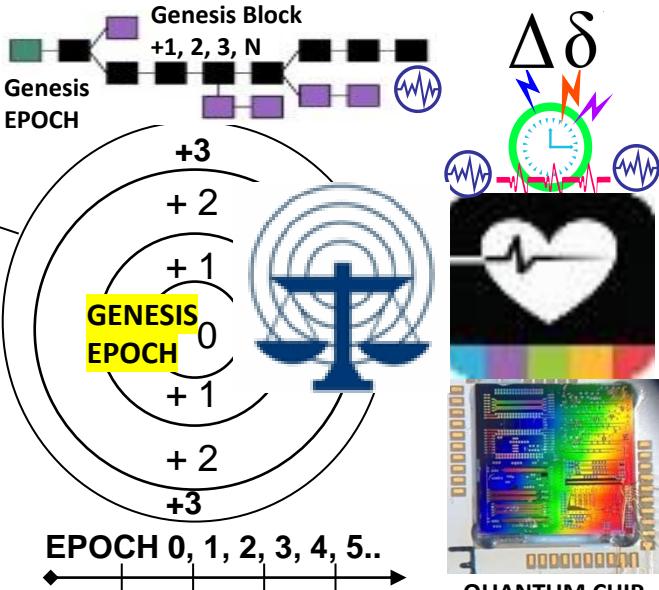
### "BLOCKCHAIN" = LEDGER / Database

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

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

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

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



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

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

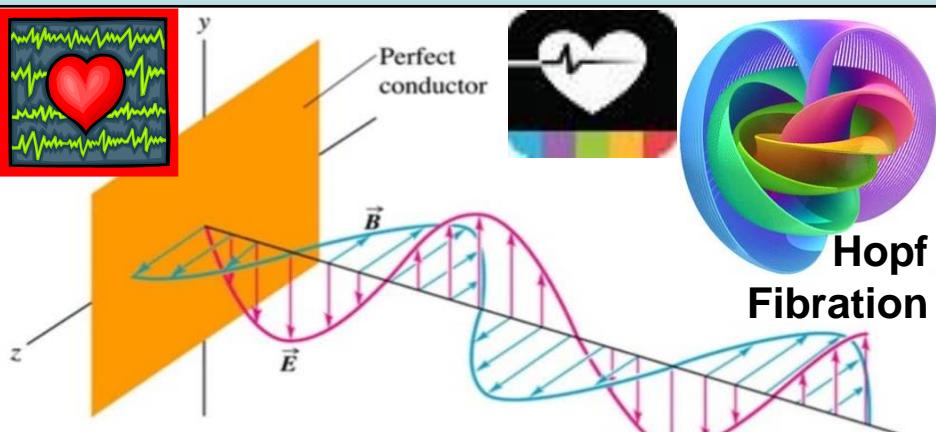
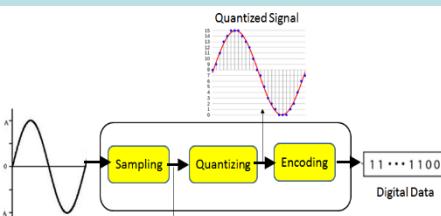
All things internet, internet of money, blockchains are formed by unicast, multicast, anycast protocols. Programmable money's improvements are in cryptography. The internet consists of unicast, multicast broadcast, anycast and workflow filters, publish – subscribe paradigms..

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

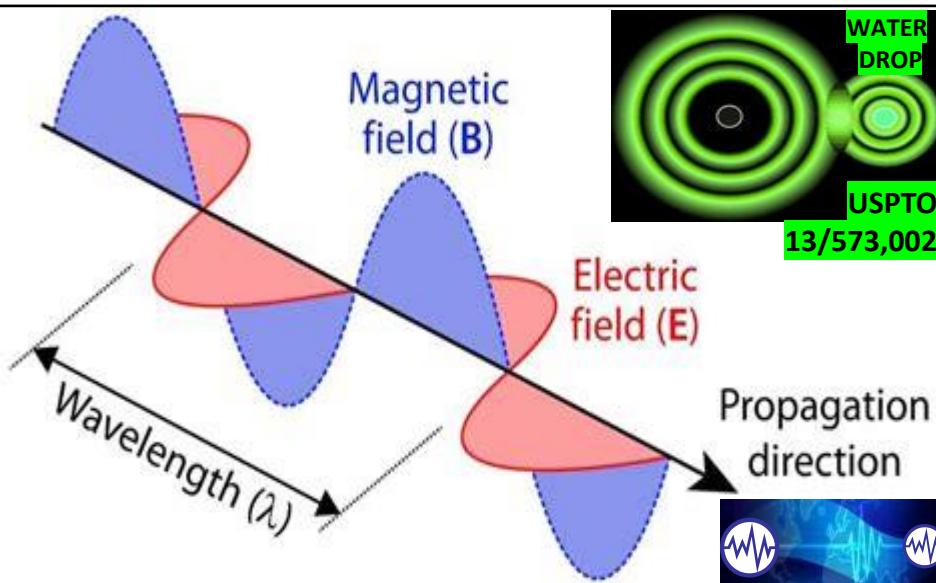
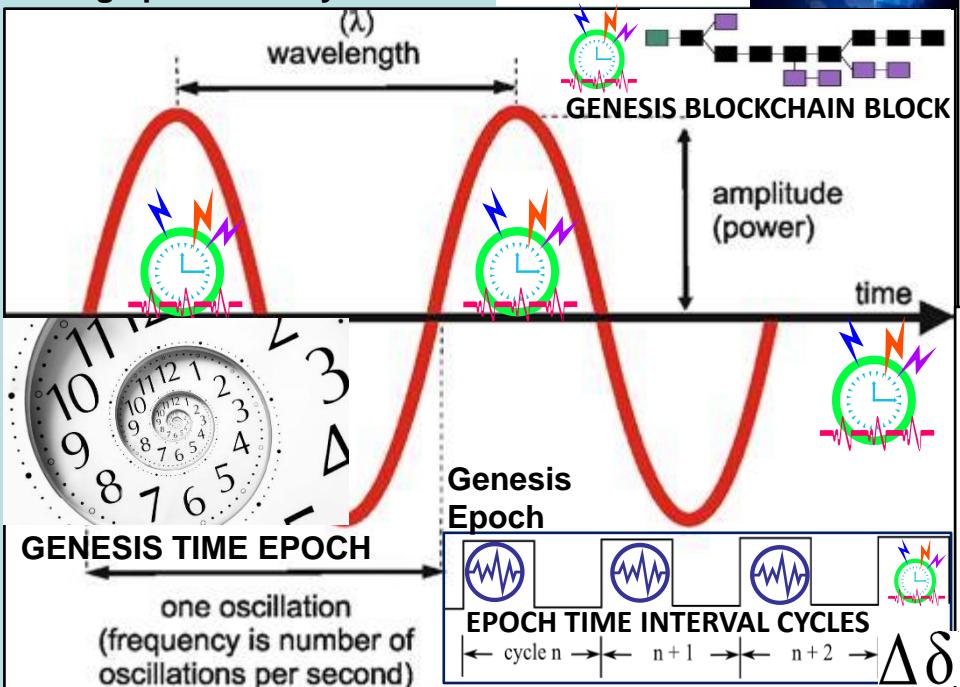
## ENERGY / DATA WAVE PROPAGATION / METRICS / METERS

1) Time epochs created by quartz crystal silicon chips

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

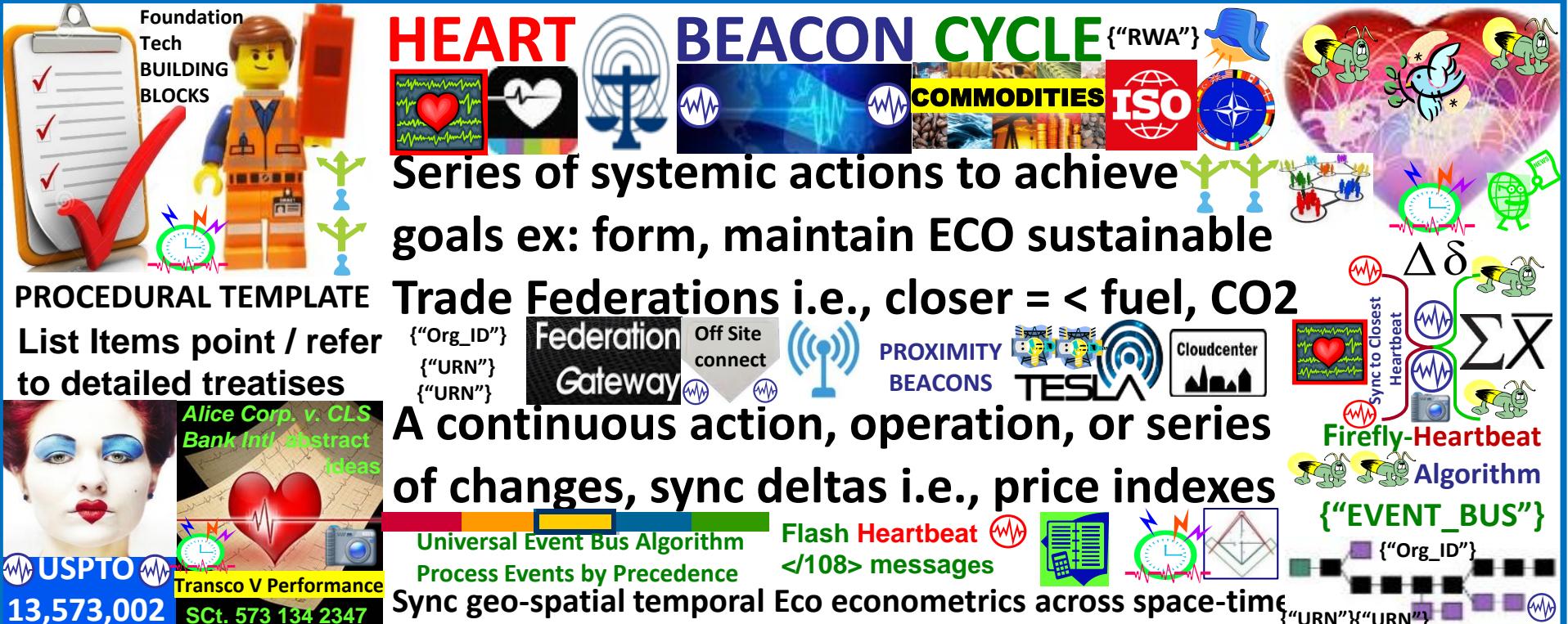


Hopf  
Fibration



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)

"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



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

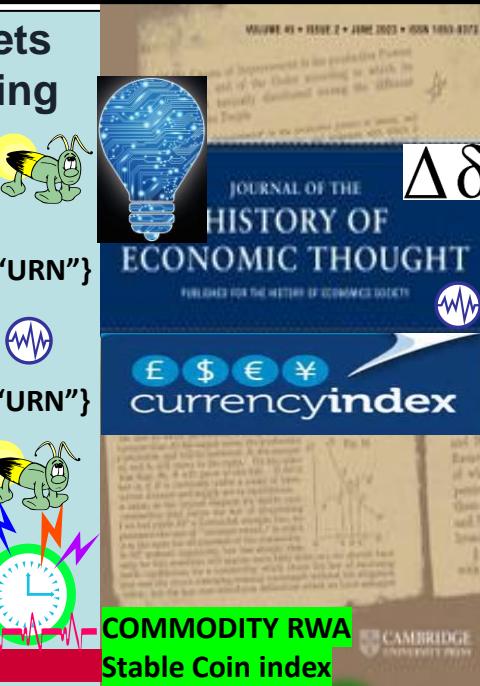
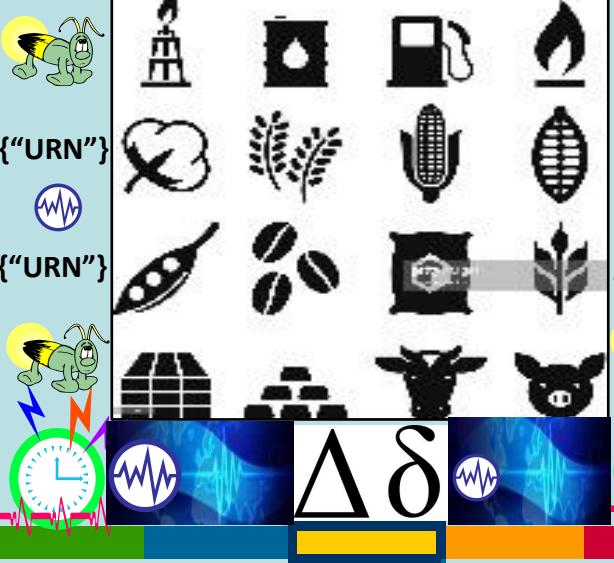
DAO's in FEDERATIONS AGREE TO USE COMMON COMPONENTS, SHARED PROCESSES, METHODS, SIGNALING - TELEMETRY SCHEDULE & METRICS IN SMART CONTRACTS, SERVICE LEVEL AGREEMENTS

CHECKLIST: TRADE FEDERATION ECONOMIC FRAMEWORK EX:

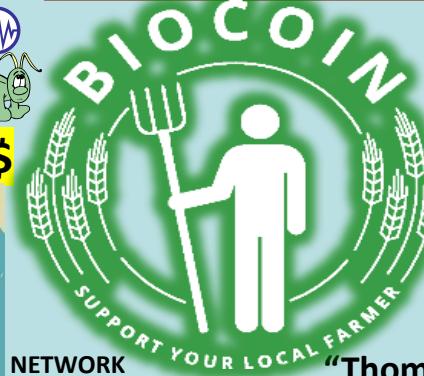
- 1) Organize with Organization Identifiers {"Org\_ID"}
  - 2) Track RWA Real World Assets / Commodities by </URN>
  - 3) Take State Meta Data heartbeat snapshots @ 15 / N min
  - 4) Honor Satoshi's intent for Crypto to be paired w markets
  - 5) Use NIST Quantum Random Number Beacon QRNB
- USPTO 13/573,002 = Spaceship Earth's Signals & Telemetry Annex



# Tokenization of Physical Assets Enables Economy Of Everything



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



NETWORK  
CENTRIC  
OPERATIONS  
**INFOCON**  
5 4 3 2 1  
INFORMATION  
CONDITION



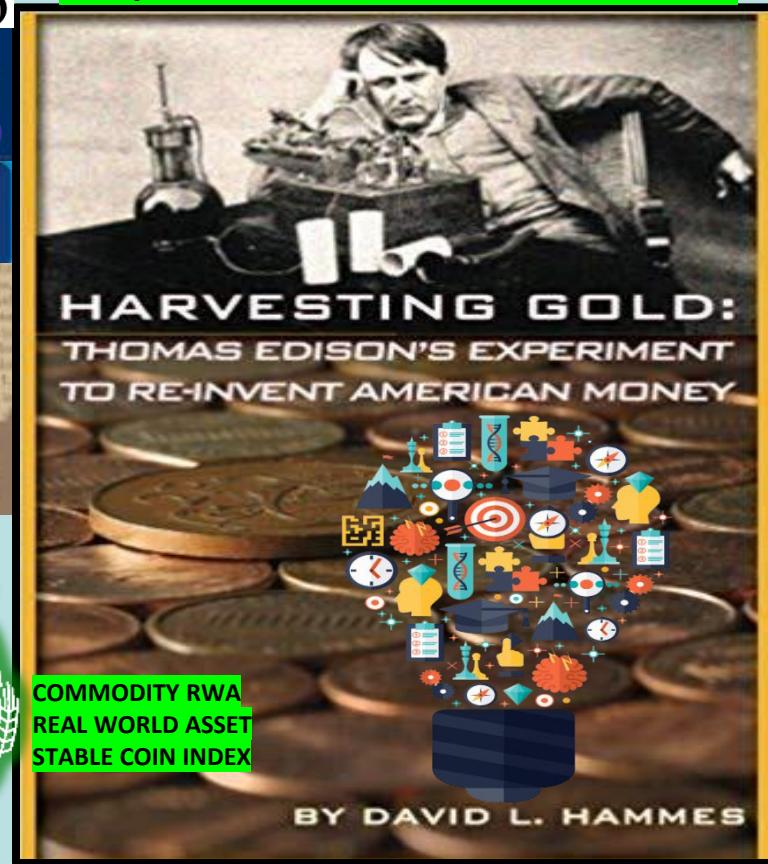
$\Delta\delta$



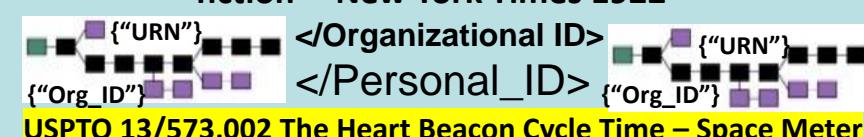
{\"Org\_ID\"}

# 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



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



# THE BITCOIN BLOCKCHAIN FOR DUMMIES



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

Satoshi Nakamoto Bitcoin Paper



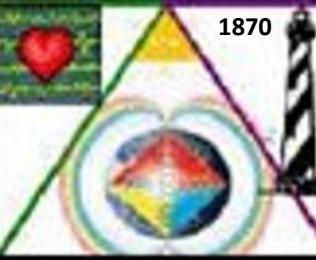
Satoshi Nakamoto



Craig WRIGHT  
a.k.a.  
Satoshi Nakamoto



"Bitcoin is a LANGUAGE"



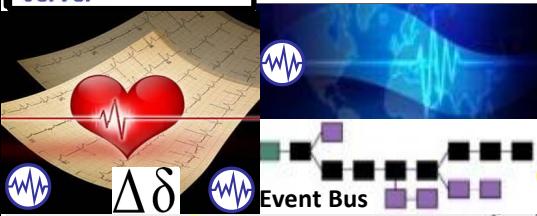
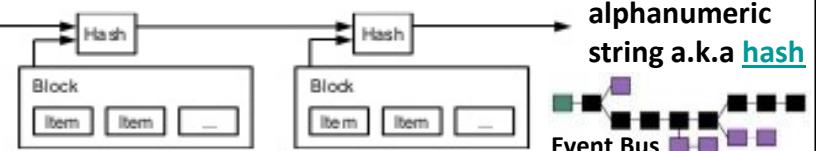
Wright Brother's 1<sup>st</sup> Flight  
Cape Hatteras Outer Banks

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

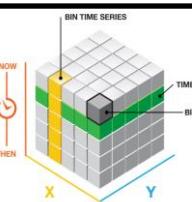
### 3. Timestamp Server

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

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



JapanNet Crypto Time Authentication Service (Timestamp Service)



BIN TIME SERIES  
NOW THEN  
TIME SLICE BIN

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

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



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

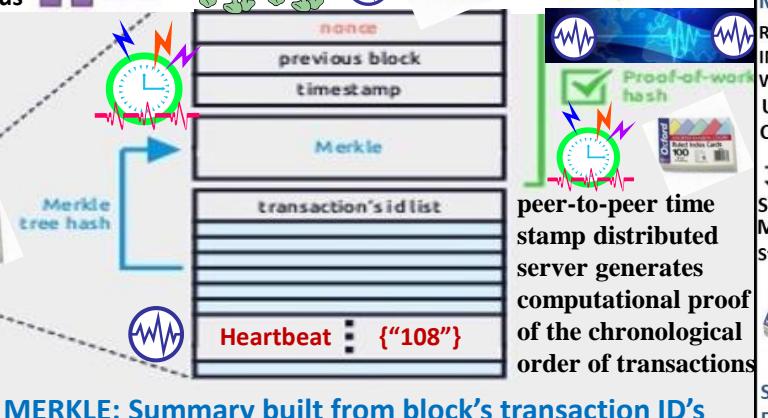
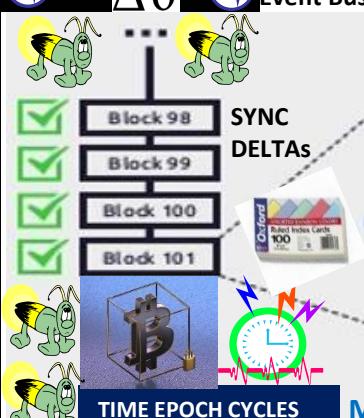
Fix {"108"}

FLASH MESSAGE EVENT BUS

TIME Δδ

Epoch

Time Cycles

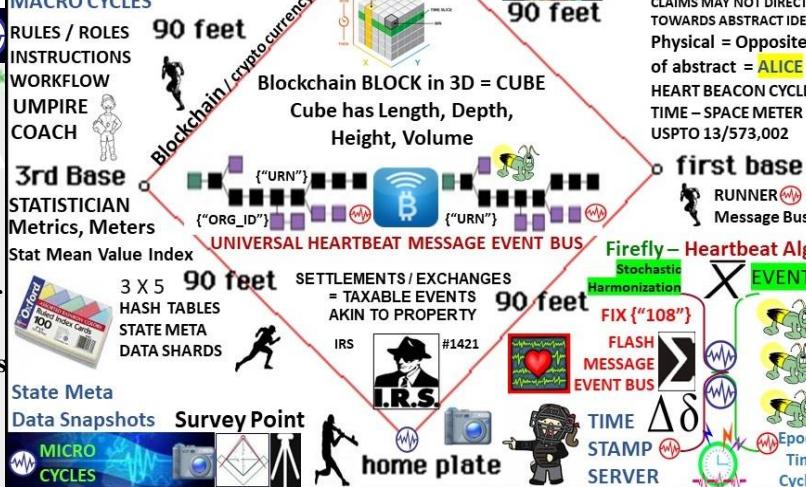


MERKLE: Summary built from block's transaction ID's

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

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

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



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

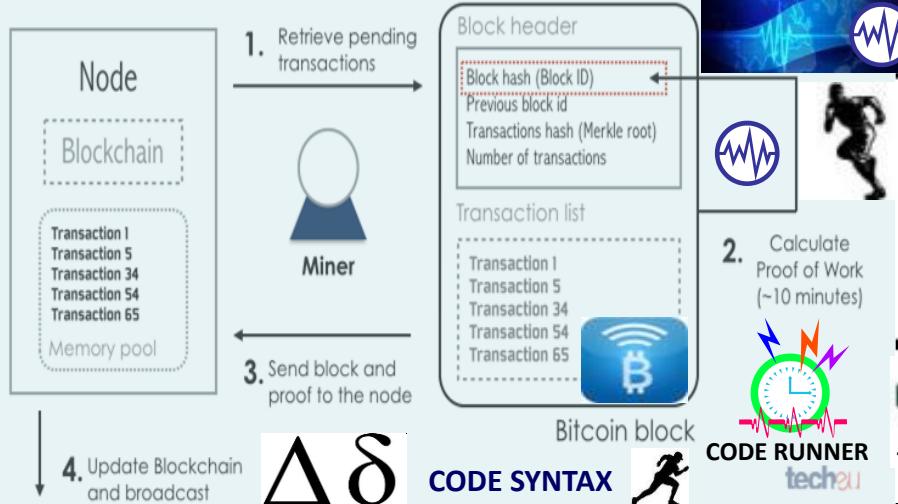


## Bitcoin is a language”

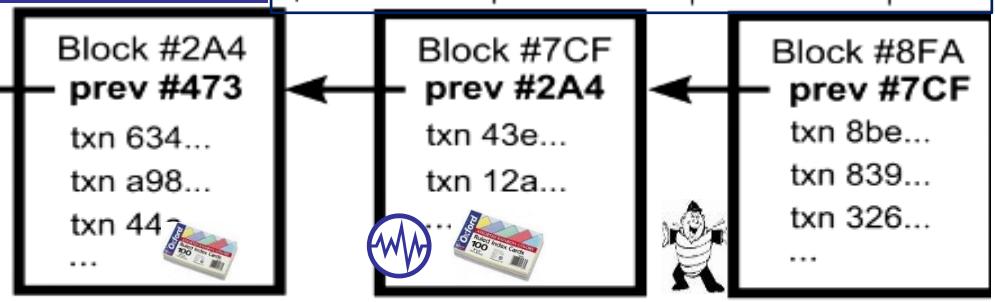
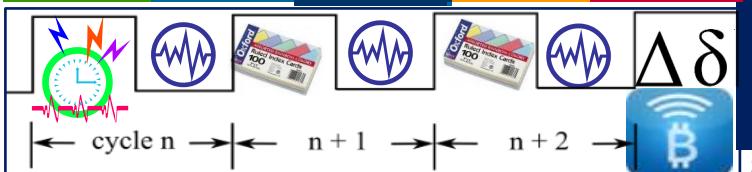
WIRED

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

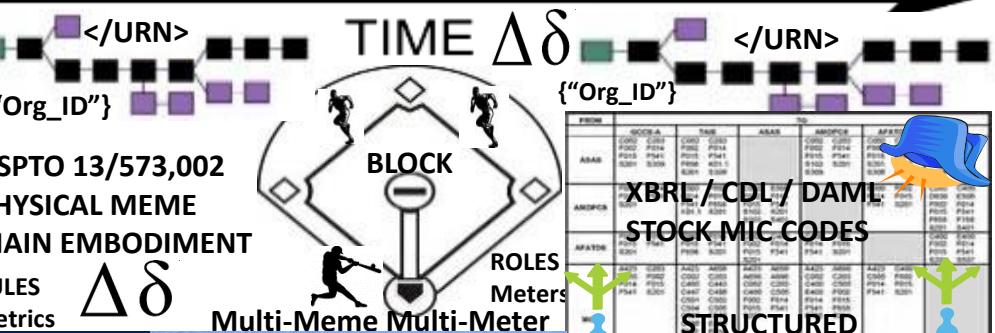
Alice Corp. v. CLS Bank International, 573 U.S. 134 SCt 2347 (2014) is a 2014 decision of the United States Supreme Court about patentable subject matter (patent eligibility).<sup>[2]</sup> The issue in the case was whether certain claims about a computer-implemented, electronic escrow service for facilitating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



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



# **BLOCKCHAIN = TIME / SYNTAX**



**XBRL / CDL / DAML  
STOCK MIC CODES**

**STRUCTURED  
DATA EXCHANGE  
TEMPLATE FORMS  
LOGIC / FILTERS**

**SYNTAX  
LEXICON LIBRARY**

Net of \$\$\$ formed with:

1 EPOCH TIME CYCLES

2 {"Syntax"} "The Word"

"In the Beginning" Genesis Block

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

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

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

## NAMED DATA NETWORKING



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



STOCK MIC CODES

STRUCTURED DATA EXCHANGE  
TEMPLATE FORMS

300+ USE CASES  
LOGIC / FILTERS

SYNTAX / SYMBOL LEXICON LIBRARY

/ORG\_ID>

/URN>

R

W

A

Alpha

Numeric

Brevity

Codes

A.I.



Coder Guide

Rosetta Stone



"BITCOIN MAKES MONEY PROGRAMMABLE.  
MONEY IS SIMPLY DATA"

"Bitcoin's Value is TIME itself"

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



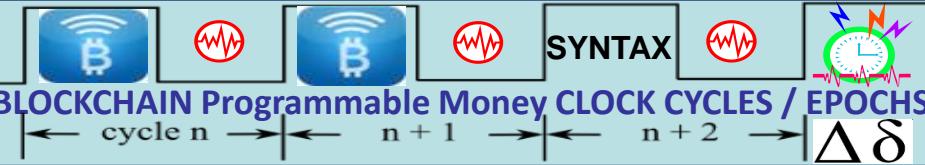
ALICE CORP VS CLS BANK

"claims may not be directed towards an abstract idea"

US SC 573 US 134 2347

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

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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

Blockchain / crypto currency increments

90 feet

90 feet

90 feet

90 feet

SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKA TO PROPERTY

IRS #1421

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER

Epoch Time Cycles

Time Stamp Server

Time Stamp Server



BANK SC 573 US 134 2347

CLAIMS MAY NOT DIRECT TOWARDS ABSTRACT IDEAS

Physical = Opposite of abstract = ALICE

HEART BEACON CYCLE

TIME – SPACE METER

USPTO 13/573,002

first base

RUNNER

Message Bus

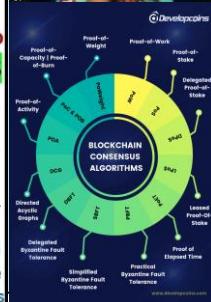
Firefly – Heartbeat Algo

EVENTS

Fix "108"

Flash Message Event Bus

Time Stamp Server



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

HEART BEACON CYCLE  
USPTO 13/573,002  
SURVEY METHODS

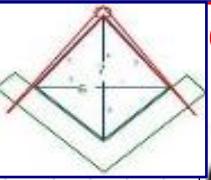
## SC ALICE CORP VS CLS BANK: “claims may not direct towards abstract ideas”

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.

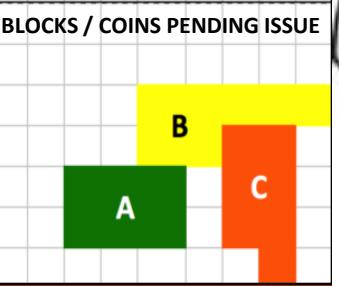


Memo #1421: Purchased Bitcoins are treated akin to property

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



## Mined Bitcoins



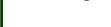
$$\Delta\delta$$

## 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

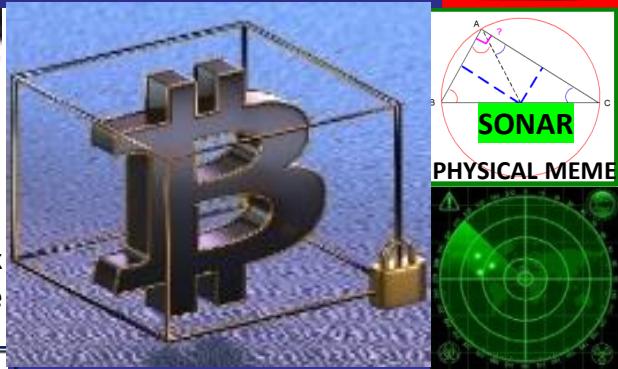
Step 4: Issuing Org of Record adjudicates w buyer

Diagram showing a sequence of icons representing the flow from ownership proof to issuance and delivery.

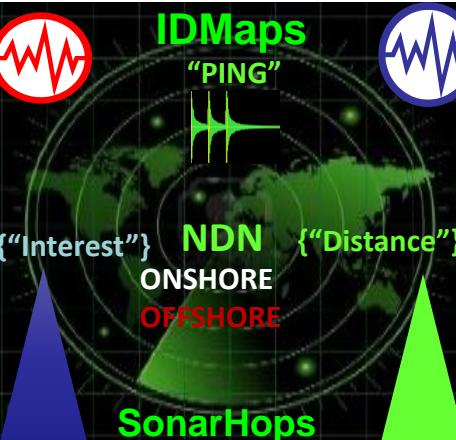
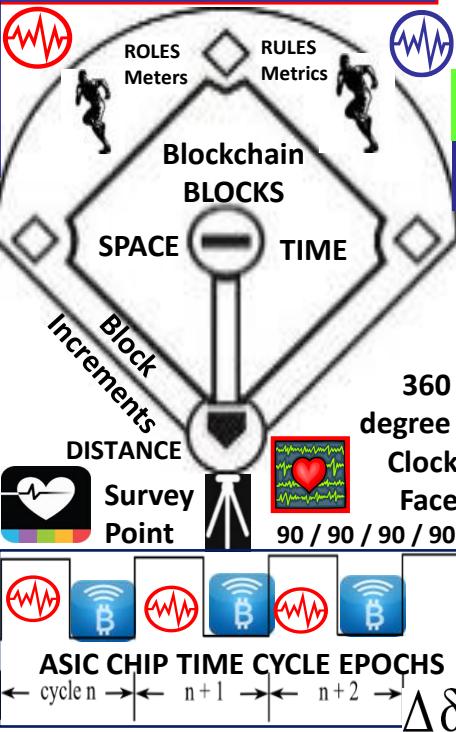
## TRIANGULATION



## 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

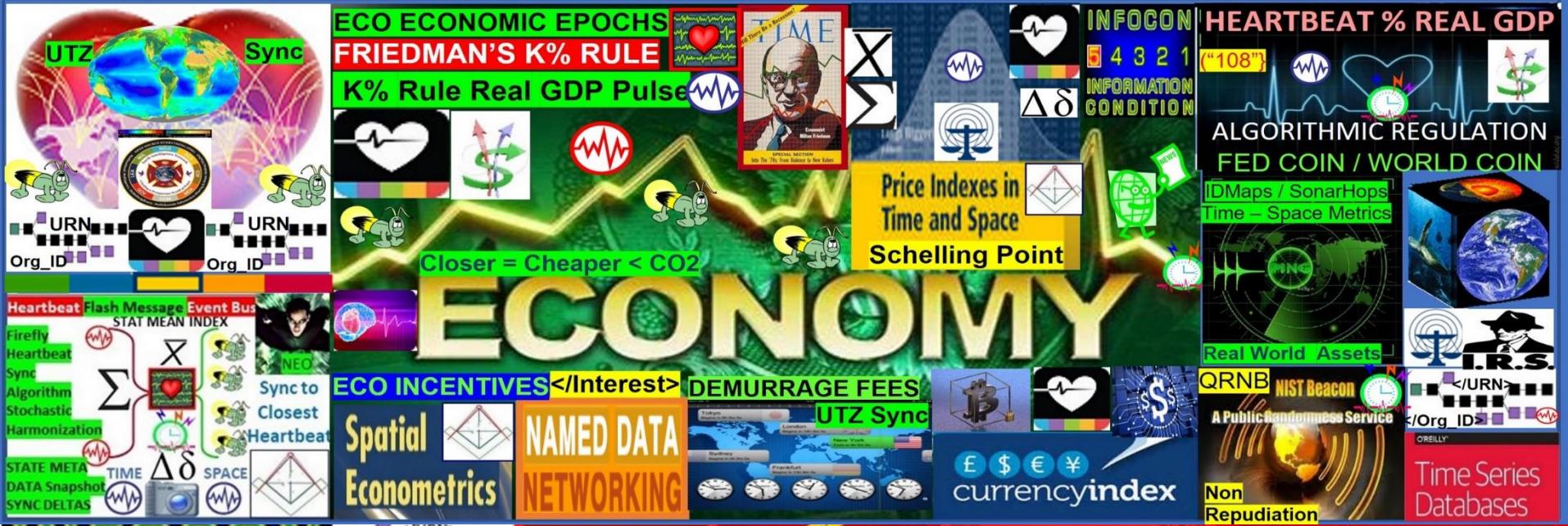
vector

vector

vector

vector

vector



Eco Economic Epoch Heartbeat: reuse of DoD / NATO signal, telemetry syntax - symbol set structured data exchange system of systems engineering framework for DAO Trade Federations, programmable money / Economy. It is time to stand on the shoulders of giants. SLA Service Level Agreement Eco incentives: closer = < time, cheaper, < fuel, < CO2 "Build a new model that makes the old model obsolete" Buckminster Fuller



# Adaptive Procedural Template (checklist): Foundation tech for programmable \$\$\$, Economy / DeFI



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

## Eco Economic Epoch GDP Heartbeat signals and telemetry framework



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

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



**SCOTUS 2014 ruling  
SC 573 134 2347**



claims may not direct towards abstract Ideas”

Trade  
Reference  
Currency  
**TERRA**  
TERC

**Physical = opposite of abstract**

The collage includes:

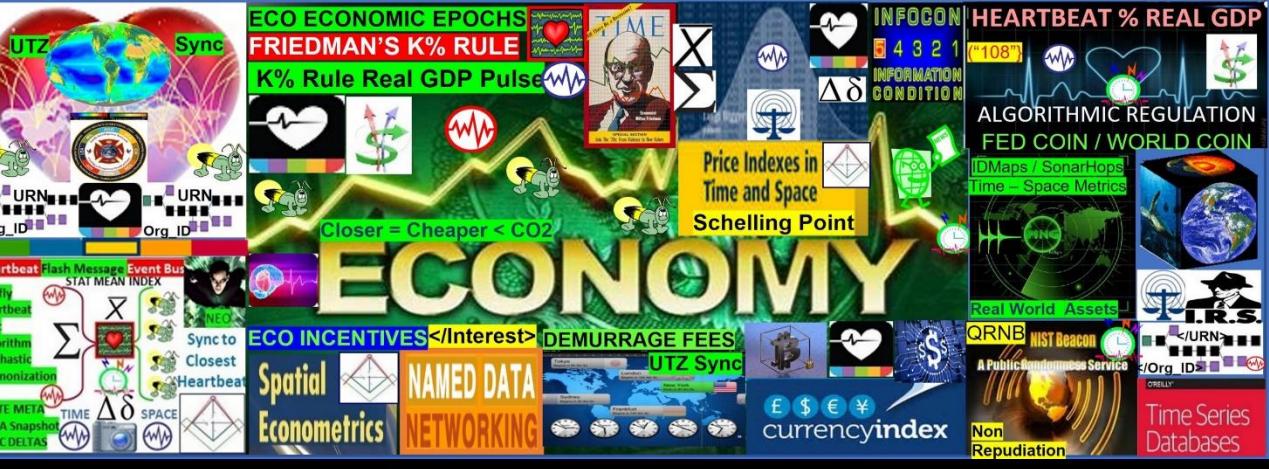
- A circular dial labeled "CLOCK FACE 360°" with numbers 90, 180, 270, 360.
- A diagram of a baseball diamond with "90 feet" between bases.
- A diagram showing a diamond as a block in 3D.
- A diagram of a diamond with "Satoshi Nakamoto" and "The solution we propose begins with a block" above it.
- A diagram of a diamond with "2nd Base" and a person running.
- A diagram of a diamond with "ALICE Corp VS BOB Corp" and "BANK SC 573 US 134 2347 CLAIMS MAY NOT DIRECTLY PERTAIN TO IDEA Physical + Opposite of abstract + ALICE TIME BEACON CYCLE SPACE METER USPTO 13/573,002".
- A diagram of a diamond with "90 feet" and "90 feet" again.
- A diagram of a diamond with "Blockchain BLOCK in 3D = CUBE Cube has Length, Depth, Height, Volume".
- A diagram of a diamond with "Blockchain Core/Source/Incremental".
- A diagram of a diamond with "3rd Base" and "1st Base".
- A diagram of a diamond with "STATISTICIAN Metrics, Meters" and "Stat Mean Value Index".
- A diagram of a diamond with "90 feet" and "90 feet" again.
- A diagram of a diamond with "Universal HEARTBEAT MESSAGE EVENT BUS".
- A diagram of a diamond with "SETLEMENTS + TAXABLE EVENTS AKIN TO PROPERTY IRS #2421".
- A diagram of a diamond with "90 feet" and "90 feet" again.
- A diagram of a diamond with "FIX (\*108\*) FLASH MESSAGE EVENT BUS".
- A diagram of a diamond with "TIME STAMP".
- A diagram of a diamond with "EVEN".
- A diagram of a diamond with "Firefly - Heartbeat Algo".
- A diagram of a diamond with "Rosetta Remonstrance".
- A diagram of a diamond with "Time".
- A diagram of a diamond with "ΣX".
- A diagram of a diamond with "ΣΔ".
- A diagram of a diamond with "State Meta Data Snapshots MICRO".
- A diagram of a diamond with "Survey Point home plate".
- A diagram of a diamond with "3 X 5 HASH TABLES STATE META DATA SHARDS".
- A diagram of a diamond with "cyclen n → n + 1 → n + 2 → |Δδ|".
- A diagram of a diamond with "Ericsson Open \$\$\$ for Society".
- A diagram of a diamond with "COMMODITIES".
- A diagram of a diamond with "URN".
- A diagram of a diamond with "X Δ δ".

**“The solution we propose begins with a time-stamp server” Satoshi**

**"The internet, internet of \$\$\$ is comprised:  
1. Epoch time cycles 2. Syntax used / not  
used during epoch time cycles instructions**

**“Bitcoin is a language” “Bitcoin’s value = time itse**  
**Blocktime = computing clock-time that creates**  
**sync delta differentials in the chain of time [W]**  
**described by MTT Machine Trust Language**  
**smart contracts adjusted by time arbitrators**

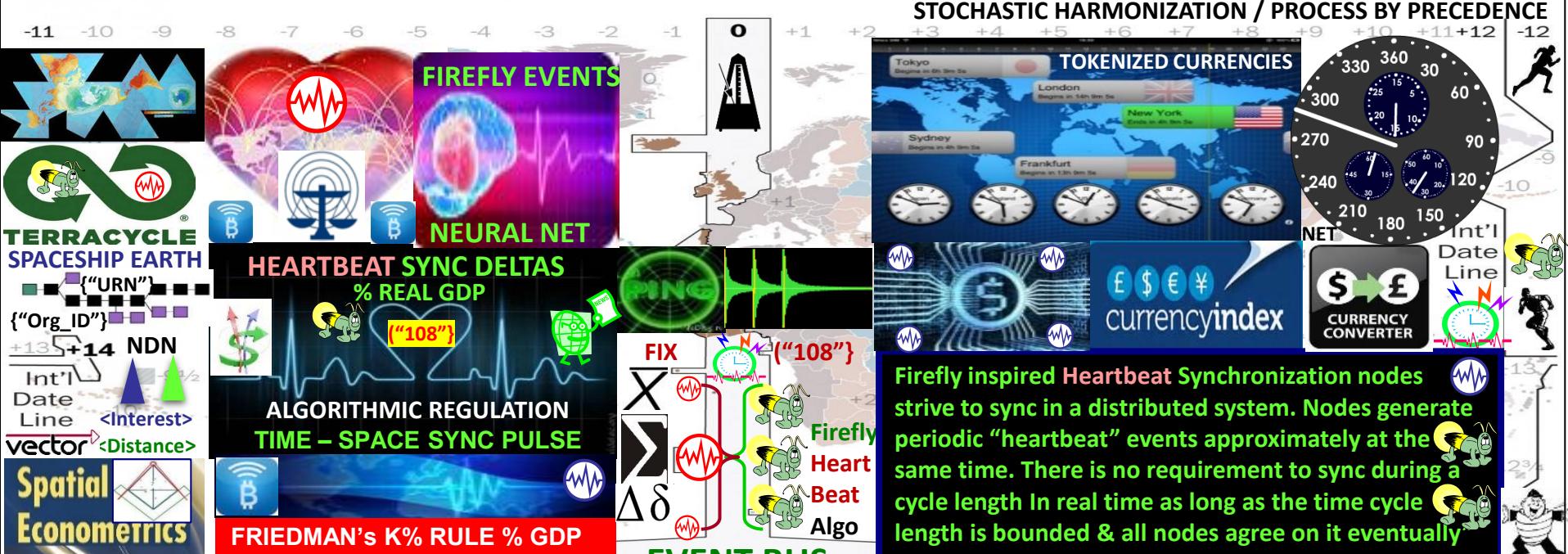
# USPTO 20130166398 Ericsson System Method Implementing Context Based Payment System



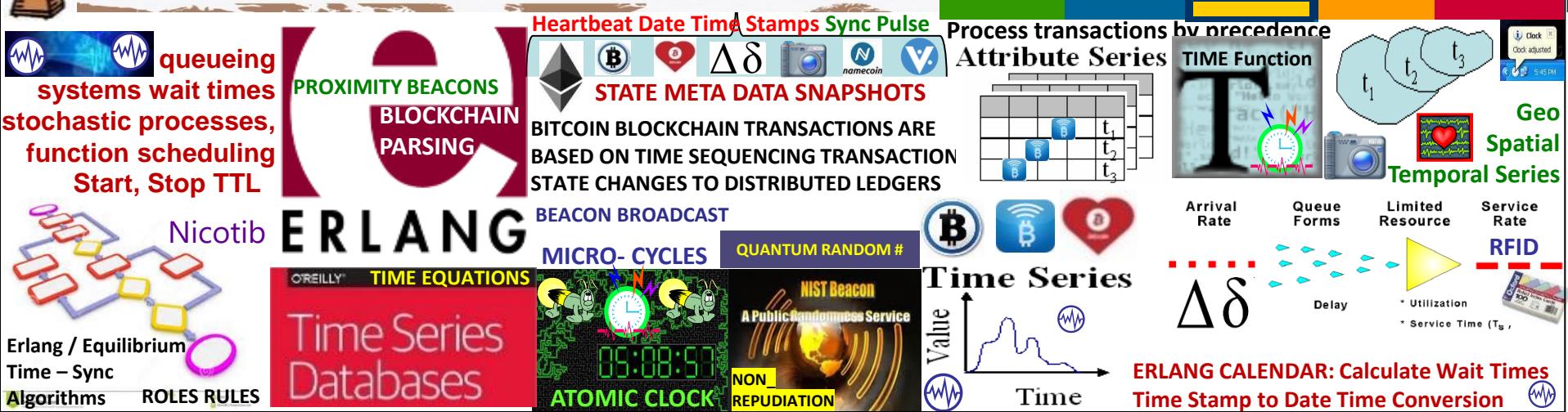




The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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



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





FROM	TO					CODE GUIDE	
	GCCS-A	TAIS	ASAS	AMDPCS	AFATDS	MCS	
ASAS	C002 C203 F002 F014 F015 F541 S201 S309	C002 C203	USMTF / XML MTF FORMATTED MESSAGE CATALOG = 300 + messages info exchange sets using common, CONSENSUS Message Text Formats MTFs. MTFs specify </CONTENT> / info agreed by group consensus presenting information in a logical, well specified unambiguous layout resulting in a highly efficient info payload to overhead ratio	C002 C203 F014 F541 S305 S309	C002 C203 F014 F541 S305 S309	C002 C203 E400 F002 F541 S201	
AMDPCS	TOKENS OPSCODE BREVITY CODES	F002 F014 F015 F541 S201	A423 A659 C505 C203 F014 F015 F541 S201	A423 A659 C002 C203 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F658 F756 G489 K01.1 S201 S303 S507	Rosetta Stone Syntax Lexicon Coder's Guide	A.I. INFOCON 5 4 3 2 1 INFORMATION CONDITION	C203 C400 D630 E500 F002 F014
AFATDS	F002 F014 F015 F541 S201	A423 A659 C002 C203 C400 C443 C447 C488 C501 C503 C504 C505 C506 C507 C508 E400 F002 F014 F015 F541 F658 F756 G489 K01.1 S201 S303 S507	ASSET TOKENS Token Economy	A423 A659 C505 C203 F014 F015 F541 S201	M2M "SYMBOLS RULE THE WORLD"	P015 F541 S201	
MCS	NEWS SIOP FEDERATED MISSION NETWORKING FMN	NEWS	ASSET TOKENS Token Economy	SYNTHESIS	SYNTHESIS	SYNTHESIS	

## MESSAGE CATALOG 300 + Use Cases

Data Elements: entity, attribute, relationship equivalents

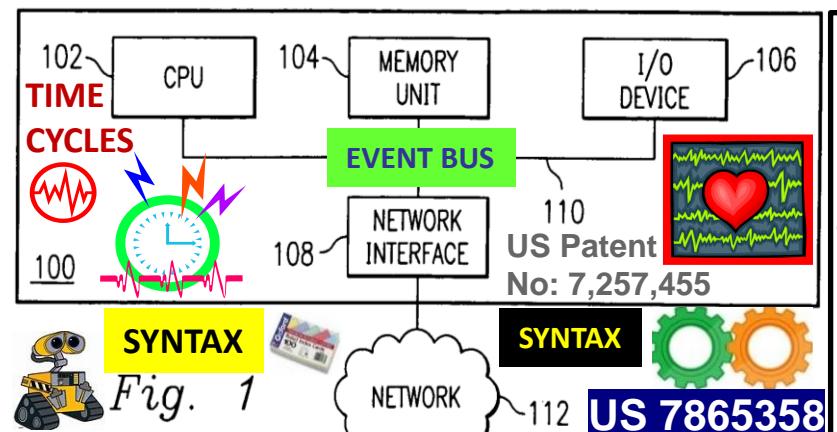
HEARTBEAT MESSAGE =  
K00.99 </108> {"108"}

### 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	Machine Trust Language MTL network, grid	throughput, flow rates,	name, part-of relationship	BDA, op levels	repair, broadcasts	YAML expansion
Sociological	Culture, religion, economic, ethnic, government, history, languages	temples, historic structures	E-R Model Entity	Class Diagram Class	Relational Database Table	Object DBMS Class	XML DTD / Schema Element
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth	Attribute Domain Value	PURCHASE CODES Instance, Value	Field / Column Attribute	Object DBMS Child Element or Element Attribute	TADILs Message
							MTF Message
							DFI FFIRN / FFN / FUDN
							DUI FUD
							TOKENS

Information Elements Roles		Data System Functions		Operational Nodes / Activities	
• COI Determination Org Interaction		• Search and Discovery		• Ontologies STANDARDS	
• Taxonomies REFERENCE		• Metadata Attributes / Filters ('Org_ID" {{"URN"} </URN></URN> FILTERS		FFUDN: Field Format Unit Designator #	
FFIRN Field Format Index Reference #		Structured military messaging ID's messages, message sets, data element, symbol fields </108>		BY Form Field Position & NUMBER	
{"108"} NDN		Firefly-Heartbeat Flash Messages		PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS	
DATA		SYSTEM FUNCTIONS		PERFORMANCE	
11.4 - Classification		11.8 - Kinematics		11.8.1 - Category	
11.4.1 - Category		11.8.1.1 - Acceleration		11.8.1.1.1 - Angular	
11.4.1.1 - Confidence Level		11.8.1.1.2 - Linear		11.2 - Linear	
11.4.1.2 - Estimate Type		11.8.1.1.3 - Alternative		2 - Estimate Type	
11.4.1.2.1 - Alternative		11.8.1.1.4 - Estimated		1.2.1 - Estimated	
11.4.1.2.2 - Evaluated D		11.8.1.1.5 - Observed		1.2.2 - Observed	
11.4.1.3 - Value		11.8.1.1.6 - Predicted		1.2.3 - Predicted	
PURCHASE CODES		11.8.1.1.7 - Smoothed Data		1.2.4 - Smoothed Data	
SYMBOL		Friend		Neutral	
2525C		Partner		Hostile	
Competitor		Friend		Neutral	
11.4.1.3.1 - Substance		11.4.1.3.2 - Velocity		11.4.1.3.3 - Surface	
11.4.1.3.4 - Mass		11.4.1.3.5 - Horizontal		11.4.1.3.6 - Vertical	
11.4.1.3.7 - Charge		11.4.1.3.8 - Feature Type		11.4.1.3.9 - VA Confidence	
11.4.1.3.10 - Temperature		11.4.1.3.11 - Bearing Angle		11.4.1.3.12 - Bearing Angle Rate	
11.4.1.3.13 - Pressure		11.4.1.3.14 - Covariance Matrix		11.4.1.3.15 - Correlation Coefficient	





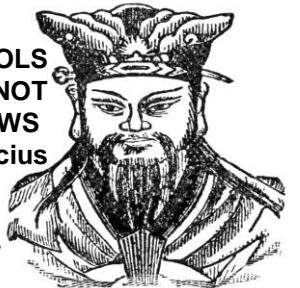
Machine-based system for transforming data from a source form to a target form, a tool is provided for sharing information established in developing a transformation model. The shared information may relate to rules for mapping source collection terms to standardized terms, rules for ordering or **SYNTAX**, 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  
**INFOCON**  
**5 4 3 2 1 INFORMATION CONDITION**

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

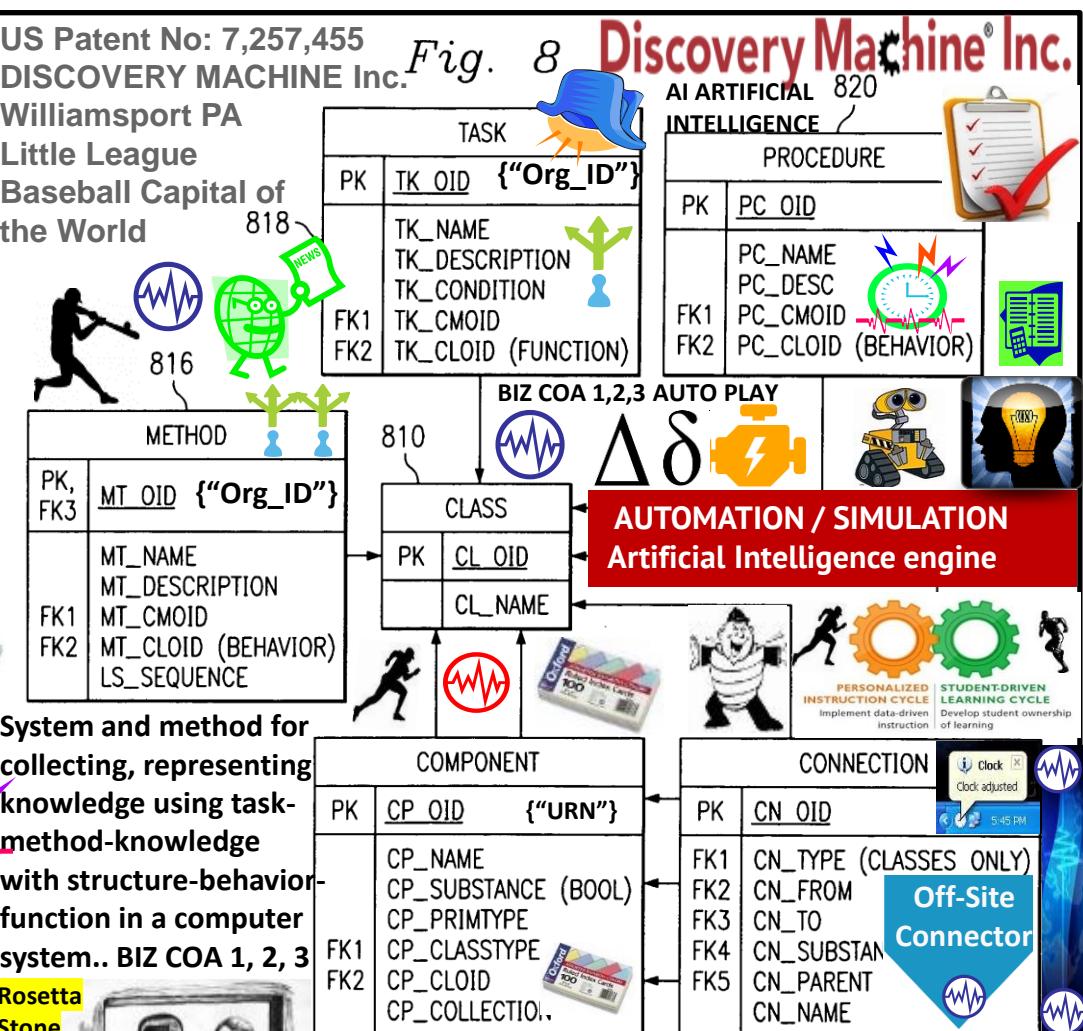
Symbolic artificial intelligence: collection of all methods in artificial intelligence research that are based on high-level symbolic (human-readable) representations of problems, i.e.

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



Alpha-numeric OPSCODE

Brevity codes mapped to symbols,  
 Symbol sets = structured data

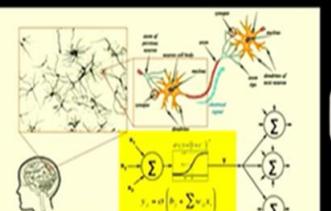


**2525 Series Symbol Set Libraries**



## Neuro-Symbolic AI

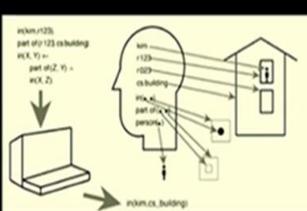
Neural Networks  
 (Deep Learning)



Breaking the world into symbols (rather than neural nets)

**Brevity Codes**  
**2525 Symbols**

**Symbol Sets**



Incorporate common sense reasoning and knowledge about the world into the system

Symbolic AI

# 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

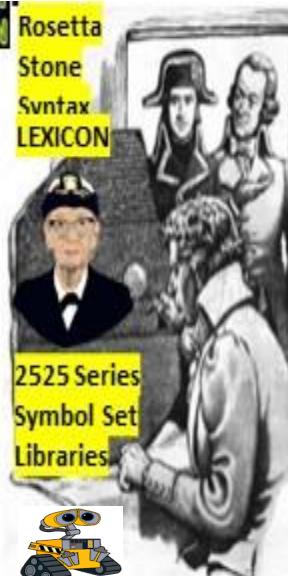
This claim implies both that human thinking is a kind of symbol manipulation (because a symbol system is necessary for intelligence) and that machines can be intelligent (because a symbol system is sufficient for intelligence).[3] The idea has philosophical roots in Hobbes (who claimed reasoning was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

data from a first form to a second form

CONDITION

Rosetta  
Stone  
Syntax  
LEXICON



2525 Series  
Symbol Set  
Libraries



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



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

FRZ T CP CLOUD FRS T LN PAREN

ABCA OPS CODE BREVITY CODES

Neuro-Symbolic AI

Symbolic (human-readable)  
representations

Neural Networks  
(Deep Learning)



Brevity  
Codes



Symbols



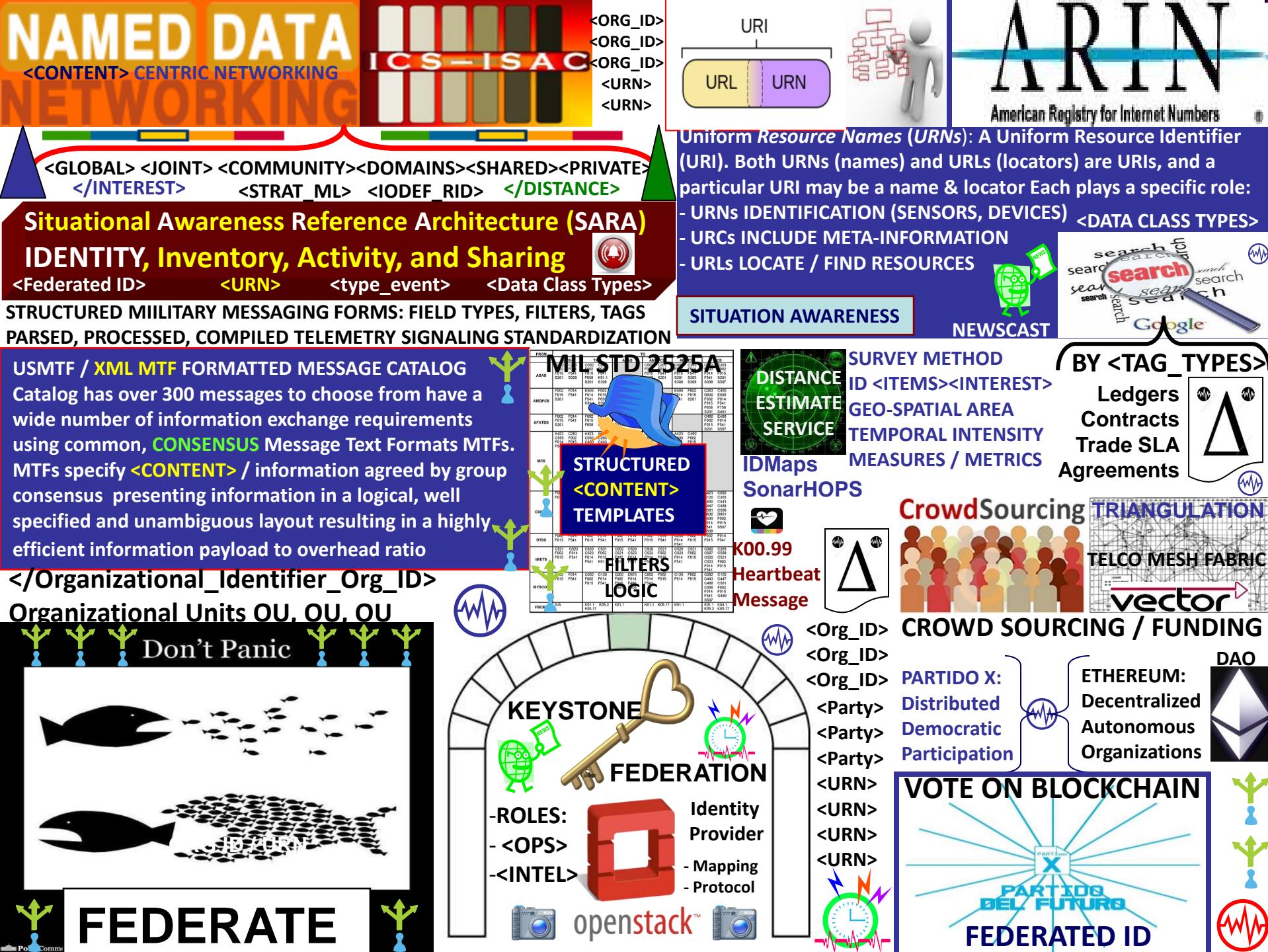
Symbol

Symbolic AI



Incorporate common sense reasoning and

Breaking the world into symbols (rather than  
sets 2525)



# Situational Awareness Reference Architecture (SARA)

Identity, Inventory, Activity, and Sharing

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



Industrial Control System  
Information Sharing and  
Analysis Center

**IDENTITY:** <UUID> = Devices, sensors

<ORG\_ID> Organizations

Federation  
Gateway

## <ELEMENTS>

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

STRATEGIC  
MARKUP

StratML

LANGUAGE

**INVENTORY:** Uniform Resource Name <URN>

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



vector

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

GEO-SPATIAL TEMPORAL INTENSITY METRICS

UNIFIED EVENT / ALERT TRIGGER / THRESHOLDS

**ACTIVITY:** <EVENT><ALERT>

CONTENT LEXICON  
ROSETTA STONE



<TIME\_STAMP><ORG\_ID><URN>  
<GEO\_LOC\_GPS><STATUS>  
<Halt><Moving><Stale><Ready>

AVALANCHE

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

NIST CYBER SECURITY FRAMEWORK

CYBER SECURITY CONTENT  
LEXICON ROSETTA STONE

FROM	TO
QCB2-A	TAB
ABAD	AMOPCS
AMOPCS	AFATOB
AFATOB	MCB

FROM	TO
QCB2-A	TAB
ABAD	AMOPCS
AMOPCS	AFATOB
AFATOB	MCB

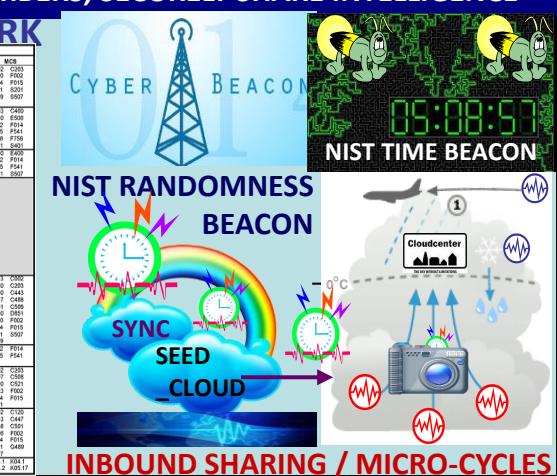
STRUCTURED  
<CONTENT>  
TEMPLATES



NAMED DATA  
NETWORKING  
<Content> Centric

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

<TAG>  
LIBRARY



# Heart Beacon Cycle

## FEDERATE / TRADE FEDERATIONS



ECONOMIC HEARTBEAT  
K %



BITNATION



FEDERATE  
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  
Gateway



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

{"GROUP ID"}



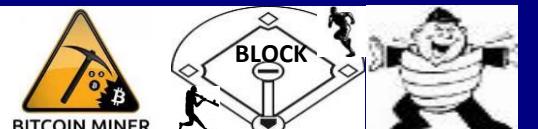
Net joins, drops, splits, merges, moves  
Agile, adhoc NETOPS Vs acquisition preserves the **CHANNEL**



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

IeT DEVICE / PLATFORM  
IoT SENSOR DEVICE



</RESOURCE> {"URN"}

{"Asset\_Class"} </URN>

STOCK EXCHANGE

MIC MARKET IDENTIFIER

CODES / BREVITY CODES



Office 365 Groups

Microsoft Teams

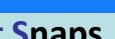
UUID 123e4567-e89b-12d3-a456-426655440000

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

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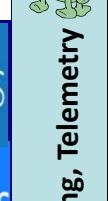
CODES / BREVITY CODES



{"DUNS #"} {"Org\_ID"} Heartbeat Snaps

QR CODE

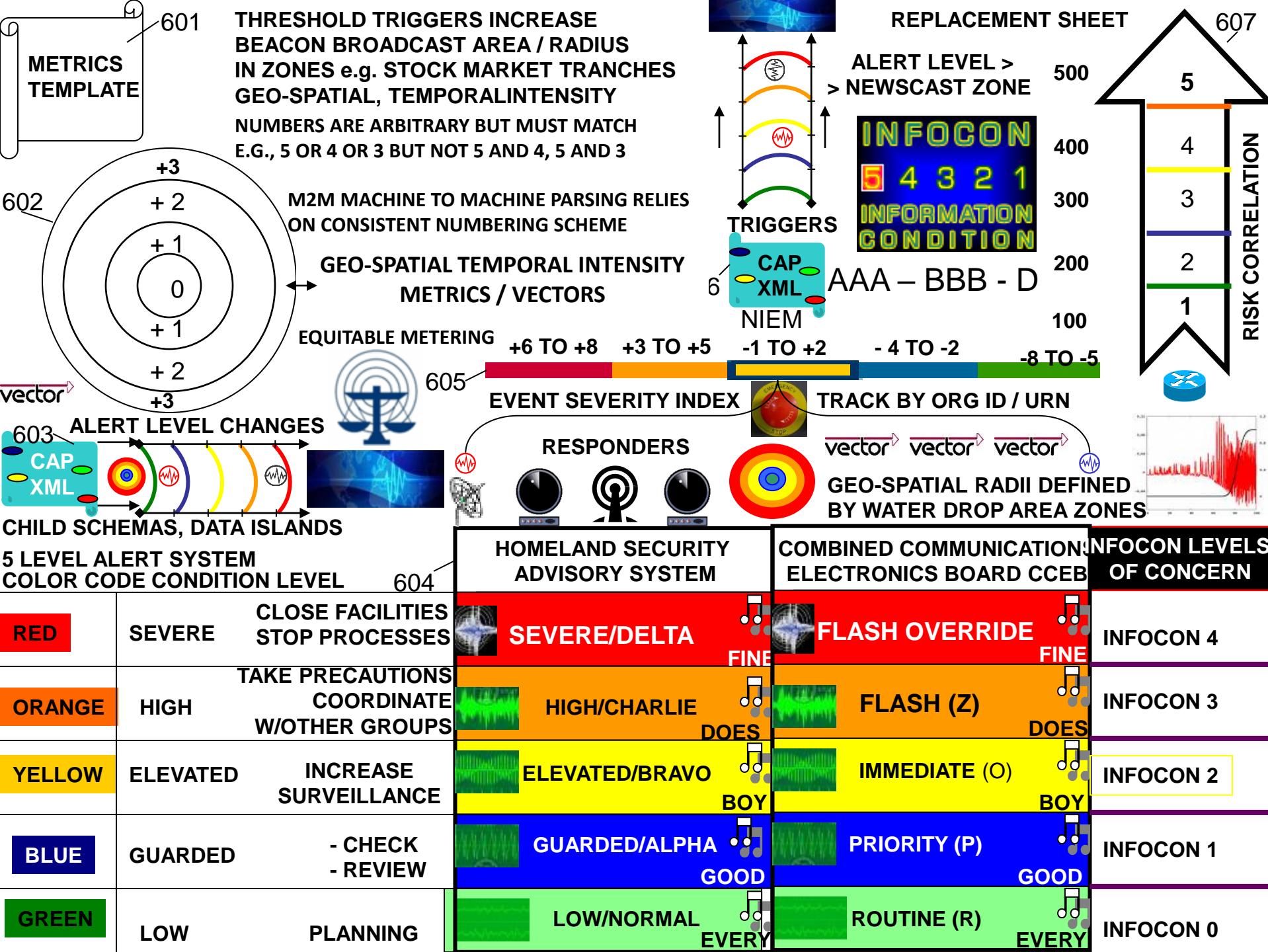
MICRO-CYCLES





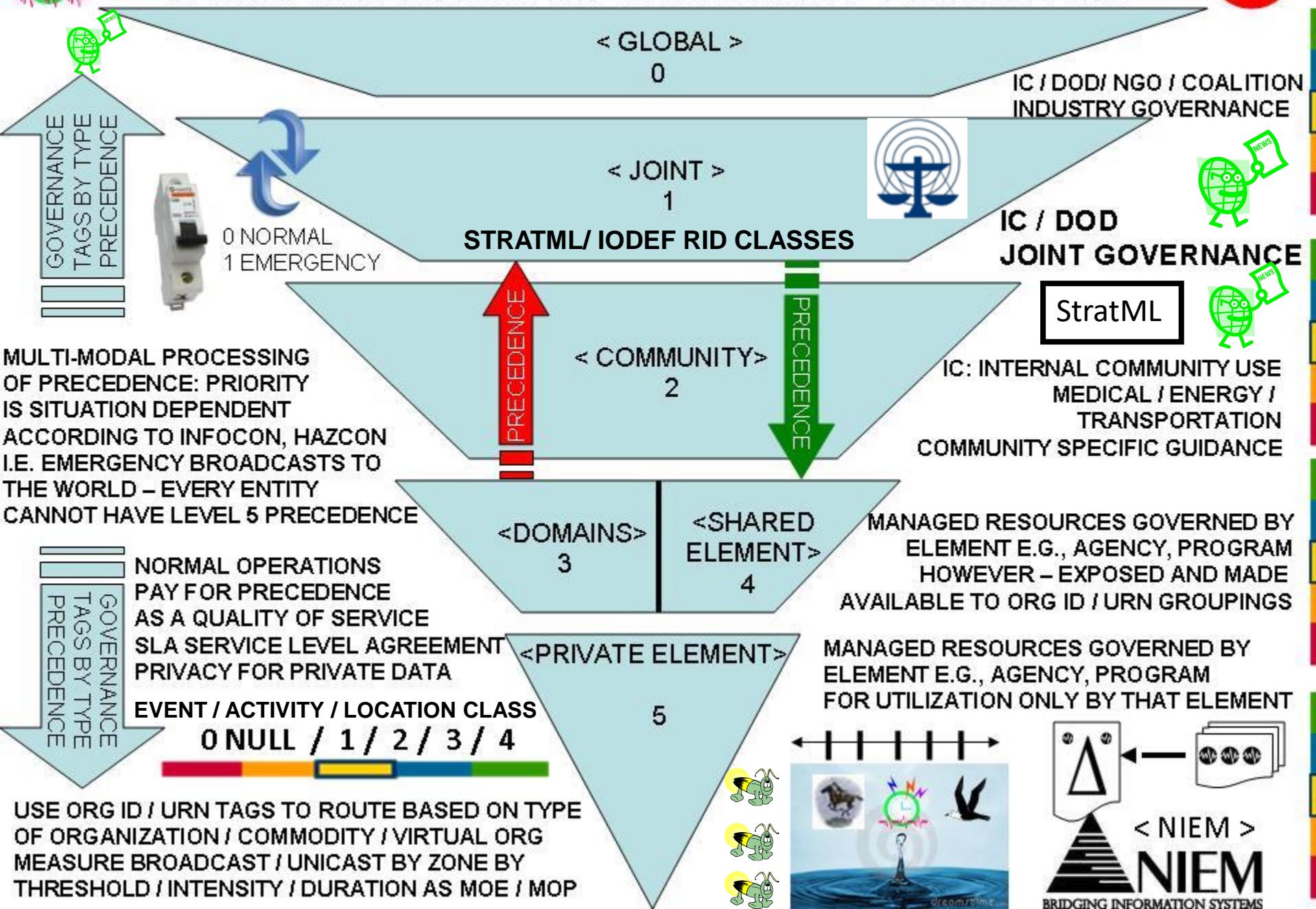
## FEDERATE: COMMON GOALS SYNCHRONIZED IN SPACE - TIME







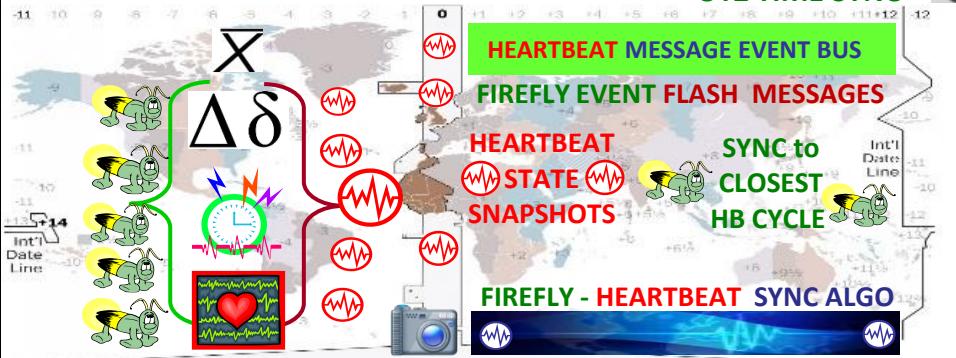
# ENABLE MAPPING OF GOVERNANCE / MANAGEMENT RESOURCES BY PRECEDENCE SHOWN IN GEO-SPATIO INTENSITY DASHBOARD VIEWS



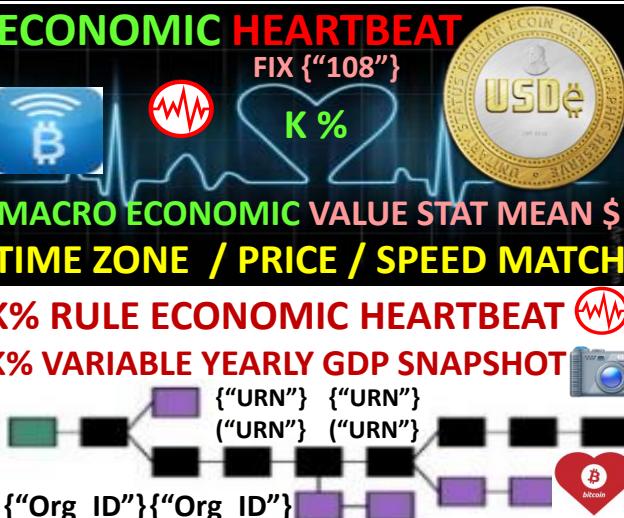
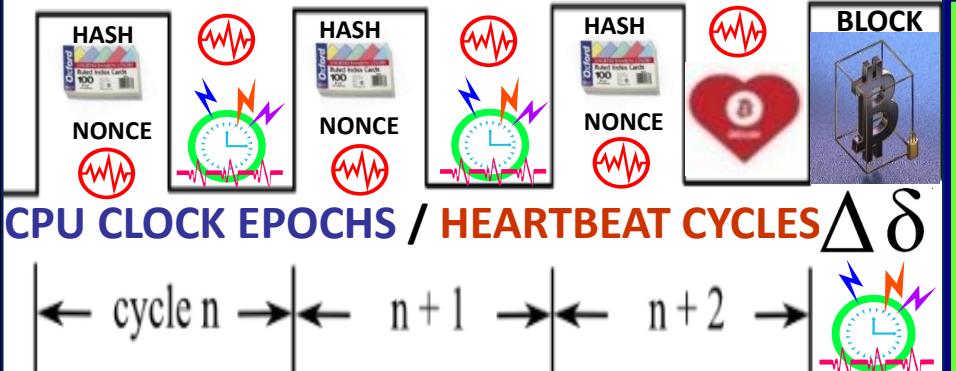




The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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



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.



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

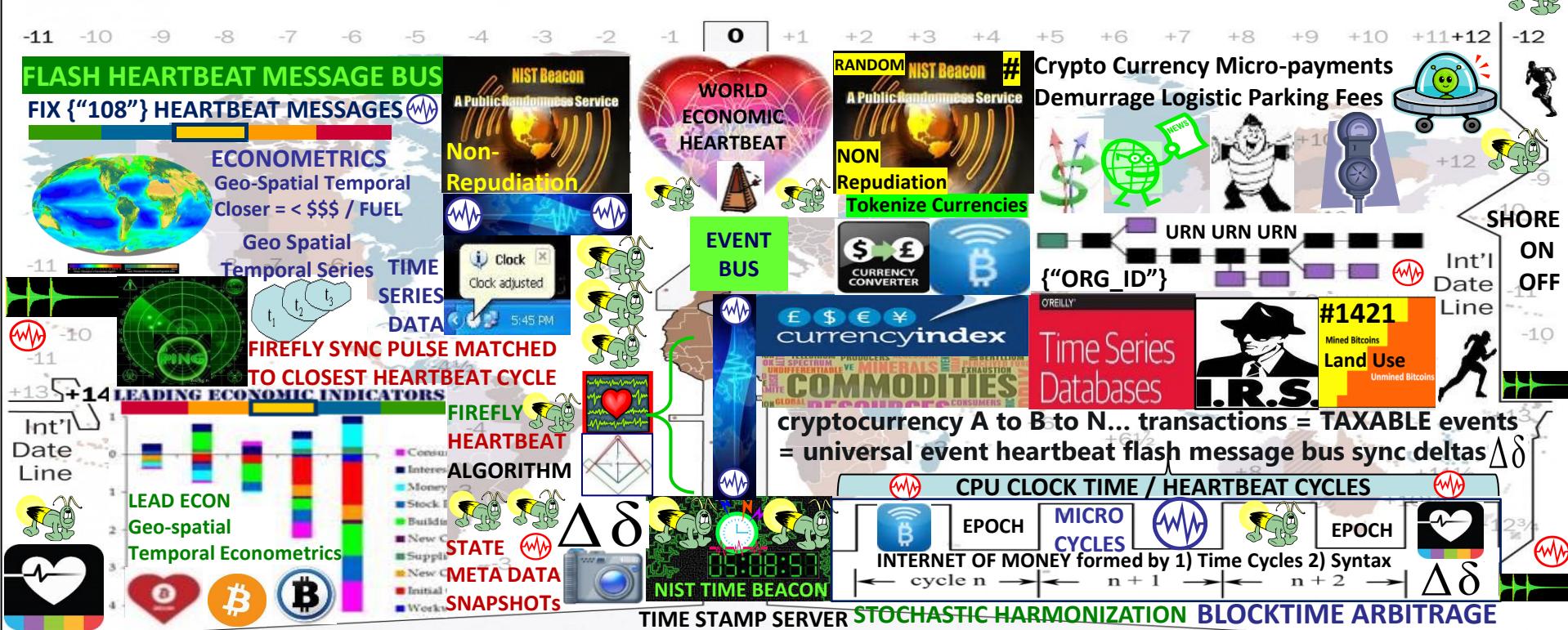


"Heartbeat Synchronization strives to have nodes in a distributed system generate periodic local "heartbeat" events approximately at the same time. It differs from classical clock sync in that Nodes are not interested in counting cycles and agreeing on the ID of the current clock cycle. There is no requirement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





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.

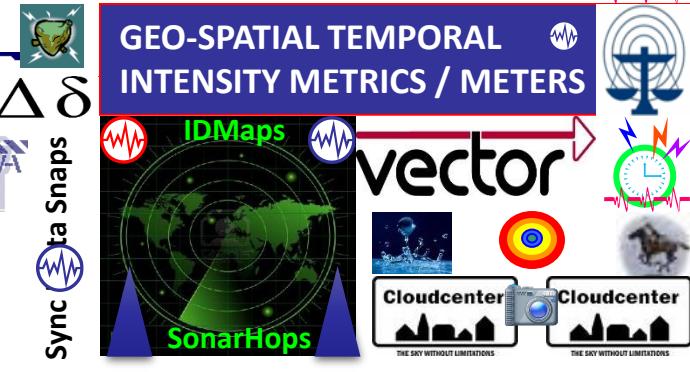
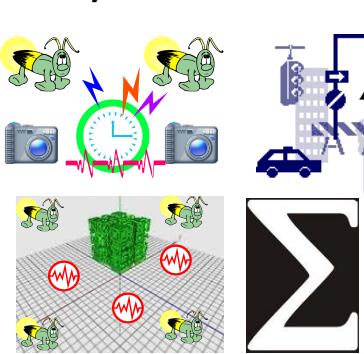




# IDMaps: Global Internet Host Distance Estimation Service



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



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



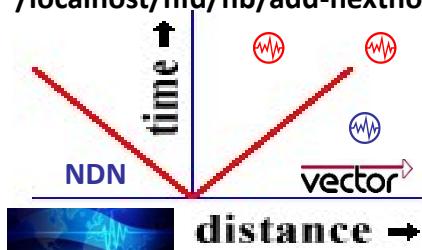
**HOP COUNTS**



**REACHABILITY**



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



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

Name Prefix  
<Org\_ID> Trie (NPT)



**NDN NAMES**

**NDN NAMED DATA NETWORK RIB / FIB Datasets event notification**

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



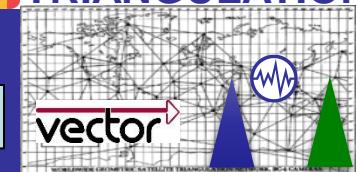
**NDN INTEREST LENGTH = DISTANCE BY HOPS**



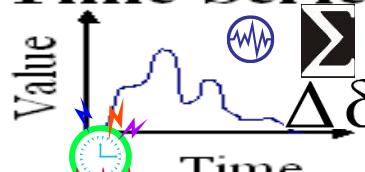
**NDN INTEREST**

**IS DATA FRESH ?**

**TRIANGULATION**



**Time Series**



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

Datasets and Event Notification

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



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



**MICRO-CYCLES**



**HEARTBEAT STATE META DATASNAPSHOTS**

# GEO-SPATIAL TEMPORAL INTENSITY METRICS, METERS, VECTORS



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:



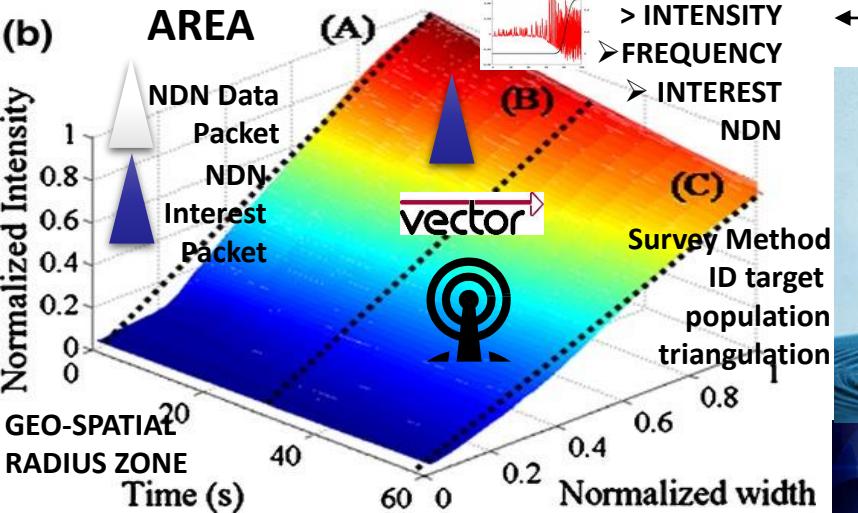
Paul Revere = linear, sequential



TCP/IP hop by hop counts, by hop controls



Water Drop = AREA / INTENSITY Cyclic Frequency



# NAMED DATA NETWORKING

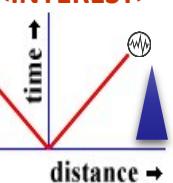
</IoT>  
MQTT



NIST TIME BEACON

05:08:50

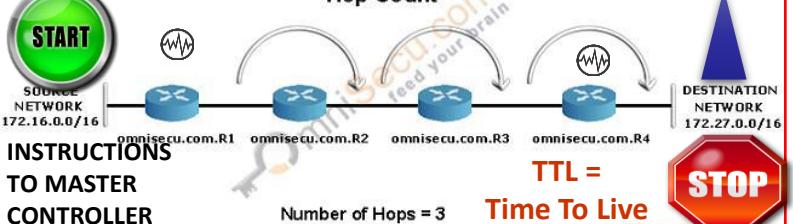
<INTEREST>



ARRESTED-D

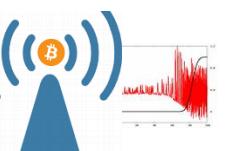
IEEE 802.15.4  
OASIS MQTT

TELEMETRY TRANSPORT



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

IDMAPS  
SONARHOPS  
INTERNET  
TRIANGULATION



4 / 3 / 2 / 1 / NULL / 1 / 2 / 3 / 4

.0001 .05 .01 .1 0 5 15 30 99

vector WirelessHART

ALERT LEVEL >  
> NEWSCAST ZONE

time synchronized,  
self-organizing,  
mesh Net

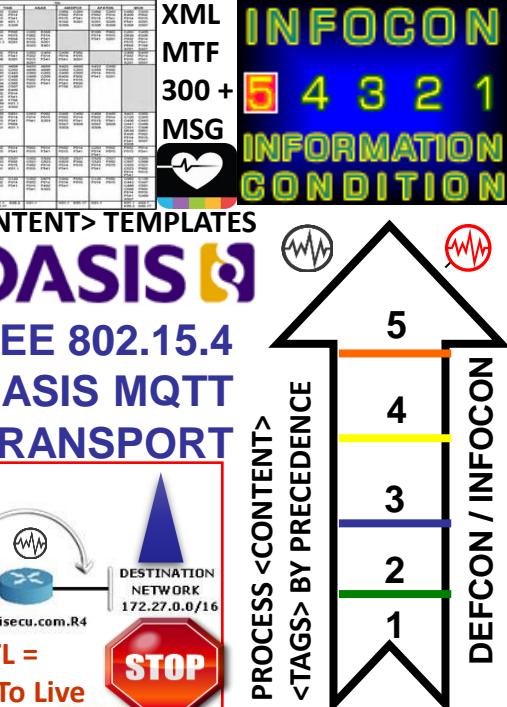


SINE-WAVE

TRIGGERS  
CAP XML

NDN

<INTEREST> BY  
INTENSITY / FREQUENCY



DEFCON / INFOCON

# **13/573,002 HEART BEACON CYCLE**

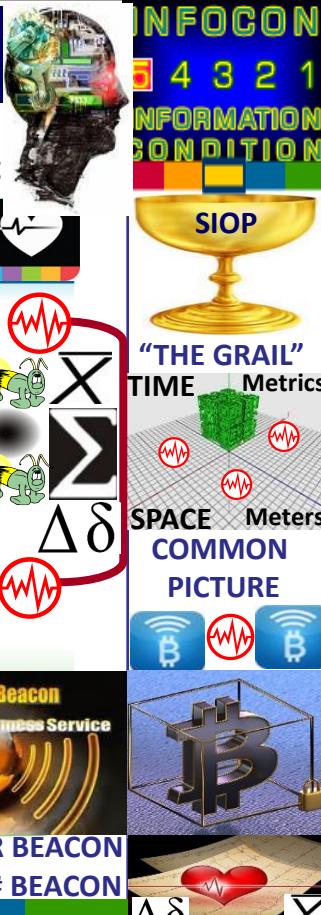
Time -Space meter, metrics / Universal data event, alert bus  
Internet of Everything “ability to hear the world’s heartbeat”

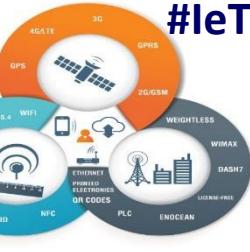
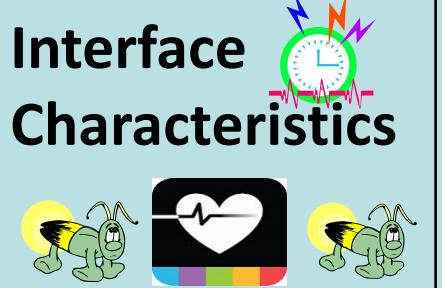
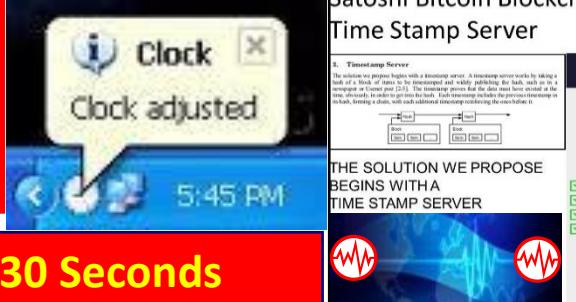
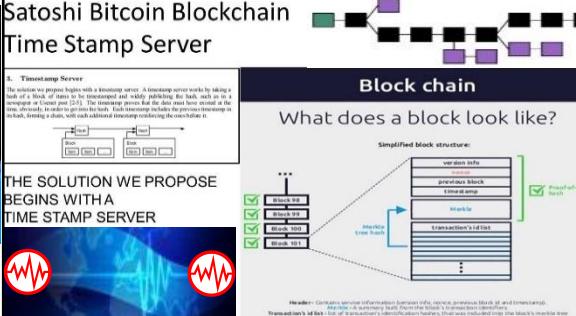
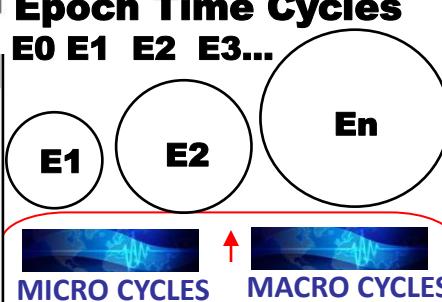
## The four dimensions of Big Data

**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

## **Position of a point in space relative to another point**



Interface Name	HEARTBEAT Administration Interface [SCOP]		
Documentation URL	<a href="http://scop.sourceforge.net/">http://scop.sourceforge.net/</a> <a href="http://linuxvirtualserver.org/software/index.html">http://linuxvirtualserver.org/software/index.html</a>		
API Information	 	<b>#Big_Data</b>  	Cloud Interface Management configuration, start, stop cloud services, edit configuration (heartbeat messages)
Programmable Money World Computer / Blockchain	 	API Operation Count	
Interface Characteristics		Web service access type Network Effects / A.I.  <b>LANGUAGE / PLATFORM BINDINGS</b>	Web application, front end to [network, device, system, blockchain] heartbeat  
<p>"The external environment could update <u>resources</u> at random... One solution is a <b>heartbeat</b>: defining a default lease duration delaying updates until the next <b>cycle</b>"</p>			
<b>QubitCoin Interval: Every 30 Seconds</b>		<b>Epoch Time Cycles</b> <b>E0 E1 E2 E3...</b> 	

# SOFTWARE DEFINED NETWORKING

NETOPS

Command Syntax

REST State Transfer

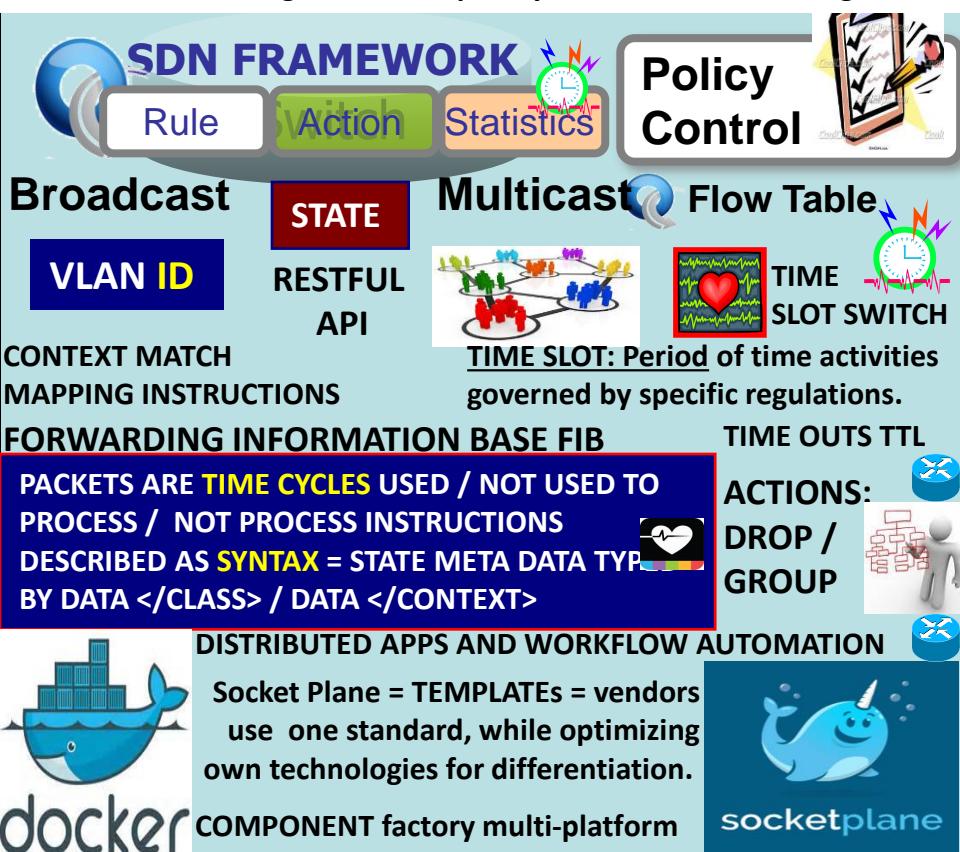
COMMAND SYNTAX  
STATE TRANSFER  
Unicast / Multicast  
Flow Tables / Workflow  
Dynamic Network  
Configuration Management

NET CENTRIC WARFARE  
SYSTEM OF SYSTEMS TELEMETRY

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

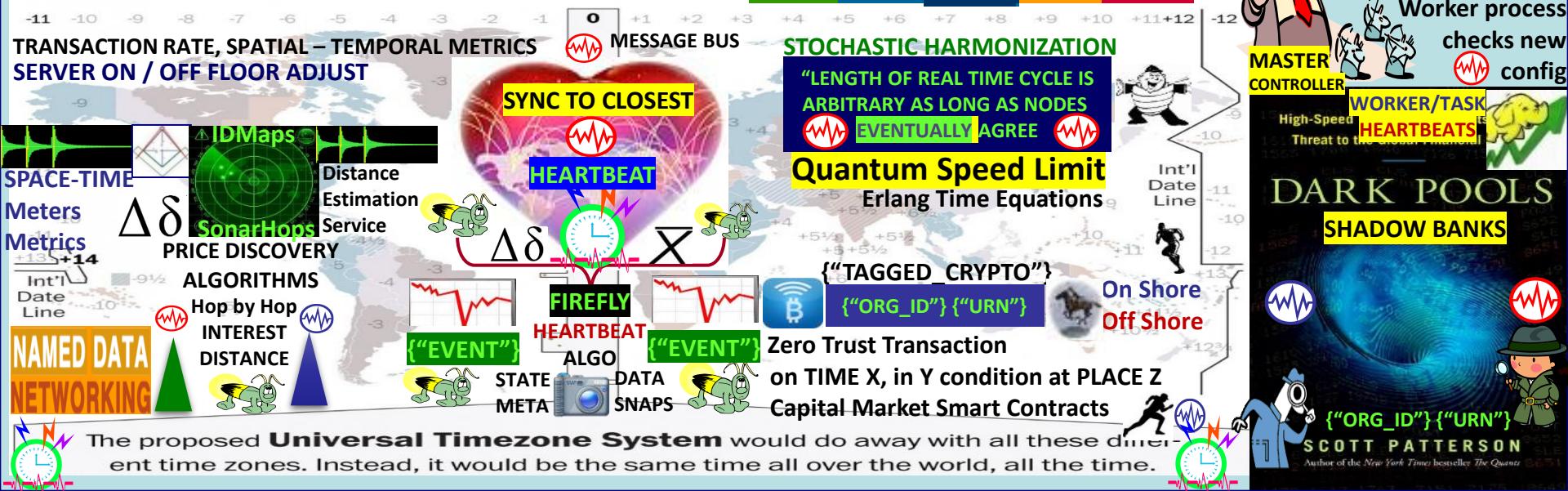
- SDN is a *framework* to allow network administrators to *automatically* and dynamically manage and control a *large number* of network devices, *services*, topology, traffic paths, and packet handling (quality of

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

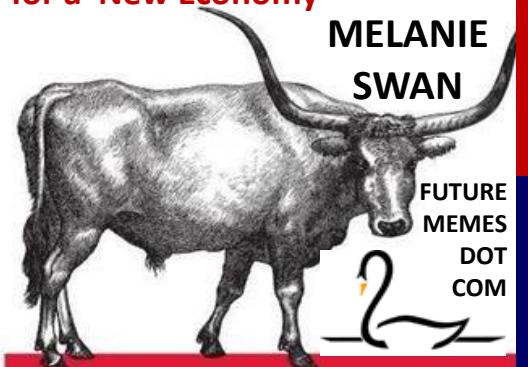




The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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







# 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	SOCA	THAI	ABAD	AMPOKE	AFATOK	WIC
ANODR	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK
AFATOK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK
WIC	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK
CHINA	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK







## 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



{"108"}

STATISTICAL MEAN VALUE INDEX PULSE

## GDP INDEX ECONOMY K% RULE



E \$ € ¥  
currency index



$\Delta\delta$  X  
 $\Delta\delta$  Closer = cheaper



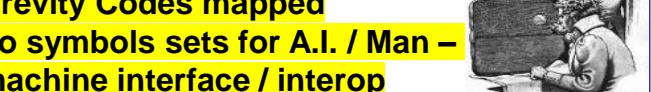
Price Indexes in  
Time and Space  
Methods and Practice



SchellingPoint  
Closer = cheaper



Qubit  
Time – Space  
Meter Metrics



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

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

DAO Distributed Autonomous Organization Investor Pools

Place Order X ritaseum™



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



Heartbeat Flash Messages Precedence Processing

Collateral Notional Expiry

## FIREFLY HEARTBEAT ALGO EVENT MSG BUS

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

{"Org\_ID"}

{"Tagged"}

Cryptos

{"URN"}

STOP

TTL

t<sub>1</sub> t<sub>2</sub> t<sub>3</sub>

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

ECG ECG

ECG ECG

## SYNTAX LEXICON OPSCODE

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



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



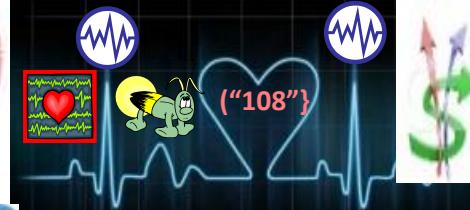
- Creates an online store for users to sell goods for Bitcoin
- Connects these stores directly to each other on a global network
- Users browse individual stores, search for products across whole network
- A buyer directly connects, purchases good from the merchant using Bitcoin
- Bitcoin payments via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

OPENBAZAAR.ORG  
BLOCKCHAIN ARBITRAGE



CLOSER = < \$  
CLOSER = < CO2

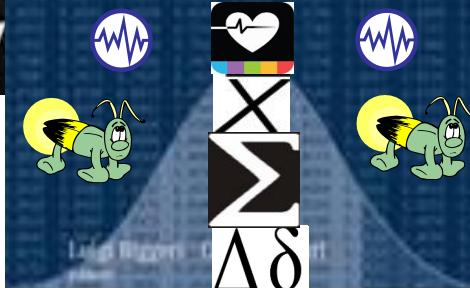
SLA  
COMMODITIES  
ECONOMIC HEARTBEAT



STAT MEAN VALUE PULSE  
REAL WORLD ASSETS RWA

STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS



Price Indexes in  
Time and Space  
Methods and Practice

SchellingPoint

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

## PROJECT PHILOSOPHY: *MAKE TRADE FREE*

Mission: *shift trade to a decentralized platform*



Demurrage TERRATRC TRADE  
Fees REFERENCE CURRENCY  
“Money of Peace”



Free, open markets: Commodity / Currency Index

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

• Privacy </Org\_ID>



HASH Values  
Nonce Values </Org\_ID>



COMMODITIES

PRODUCERS CONSUMERS

INFORMATION PRODUCTION CONSUMPTION

VALUATION PROTECTION

REGULATION

STANDARDIZATION

INTEGRATION

PROTECTION

REGULATION

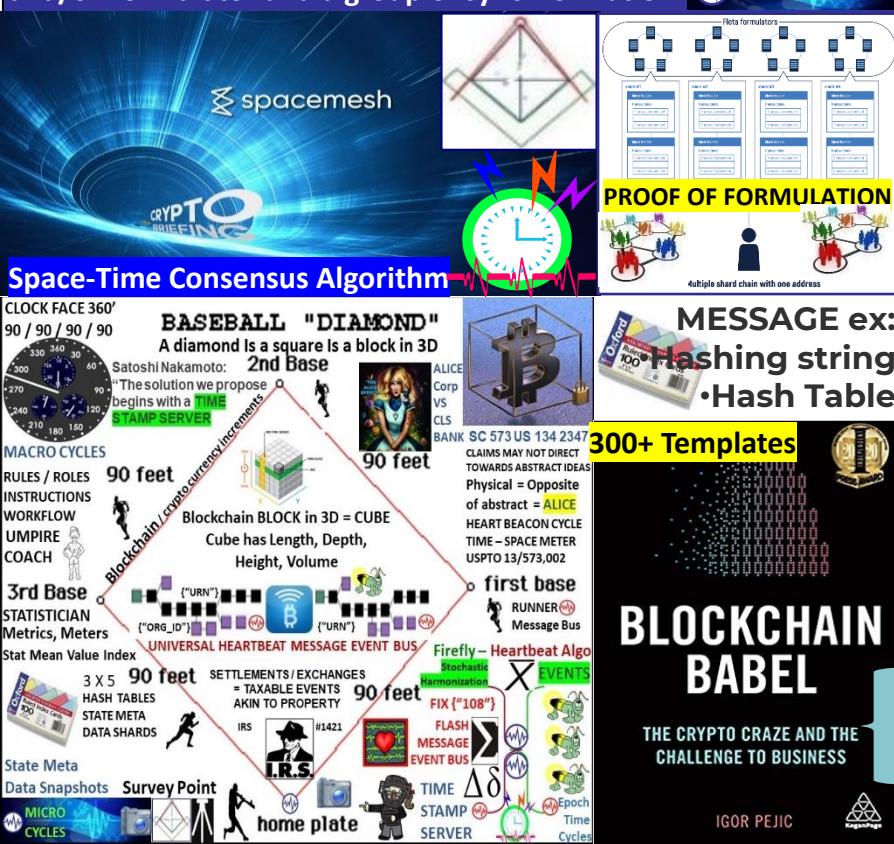
**Q: Which meme describes the myriad blockchain consensus algorithms the most comprehensively that uses an algorithm (based on nature = “shortest path to the knowledge of truth Luxor Temple) enabling distributed system of systems geo-spatial, UTZ Universal Time Zone temporal, semantic - syntactic sync,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

Blockchain Consensus Algorithms & Mechanisms



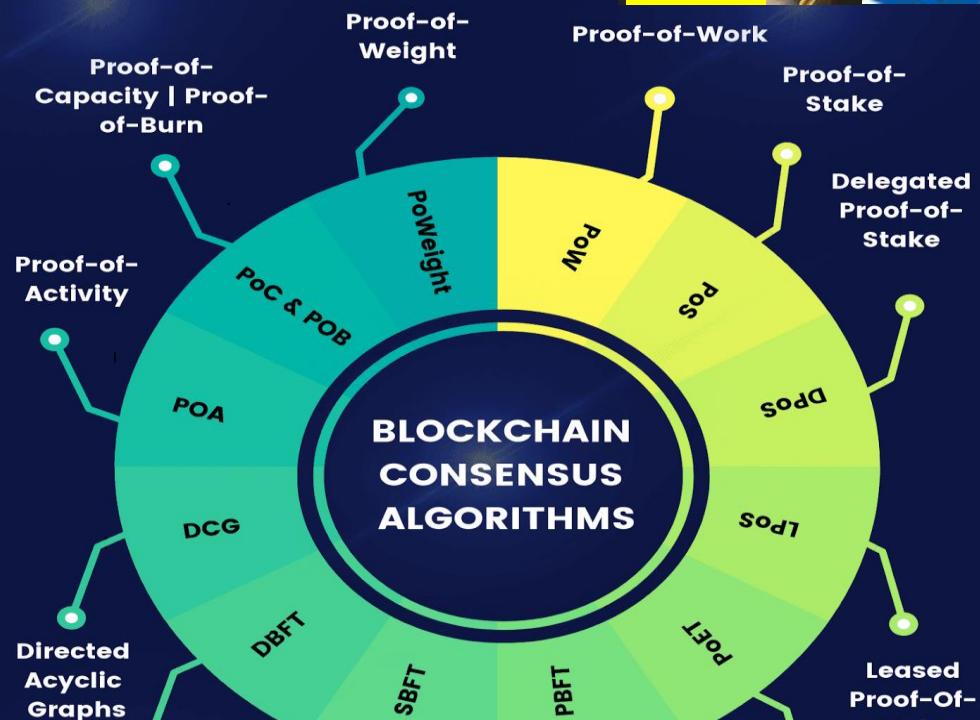
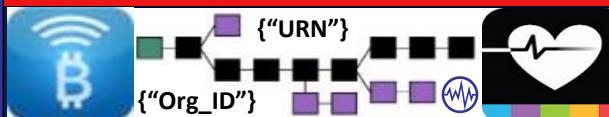
In the world of blockchain consensus algorithms, consensus is the **HEART OF THE BLOCKCHAIN NETWORK**. Its main purpose is to achieve agreement on transactions among a distributed system (s)

**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



## Tolerance

# STRUCTURED DATA EXTRAC<sup>T</sup> SYNTAX LEXICON OPSCODES – Symbol Sets

## **Simplified Byzantine Fault Tolerance**

Practical  
Byzantine Fault  
Tolerance

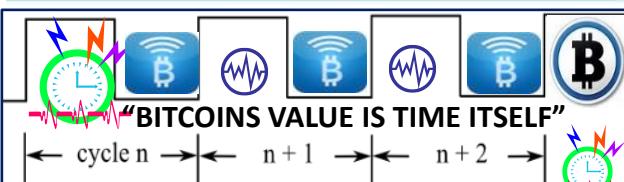


SOURCE: <https://developcoins.com/blockchain-consensus-algorithms>

# 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

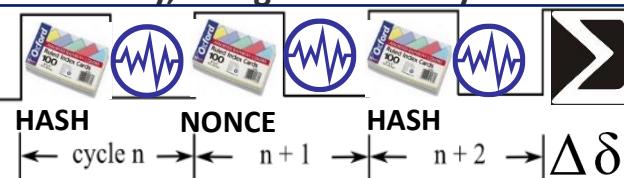


THROTTLE equivalent to difficulty. State  
•target = maximum value of 8 bytes Snap  
( $2^{64}$ ) divided by the difficulty.

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



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

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

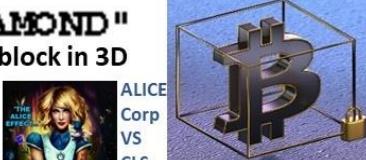
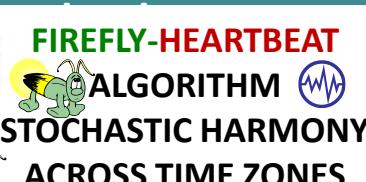
Satoshi Nakamoto:  
"The solution we propose  
begins with a TIME  
STAMP SERVER

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

UNIVERSAL HEARTBEAT MESSAGE EVENT BUS  
SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY  
IRS #1421

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER



first base RUNNER Message Bus

Firefly – Heartbeat Algo Stochastic Harmonization FIX ("108") EVENTS

FLASH MESSAGE EVENT BUS

TIME STAMP SERVER



MESSAGE example: hashing string • Hash Table

300+Message Templates

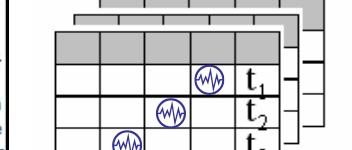
FROM	ODERA	TAB	AAAB	APICDE	AFABCD	WIB
ABAB	CGDAB	PSZ	PZ	PSZ	PSZ	PSZ
ABAB	CGDAB	PSZ	PZ	PSZ	PSZ	PSZ
ABAB	CGDAB	PSZ	PZ	PSZ	PSZ	PSZ
ABAB	CGDAB	PSZ	PZ	PSZ	PSZ	PSZ

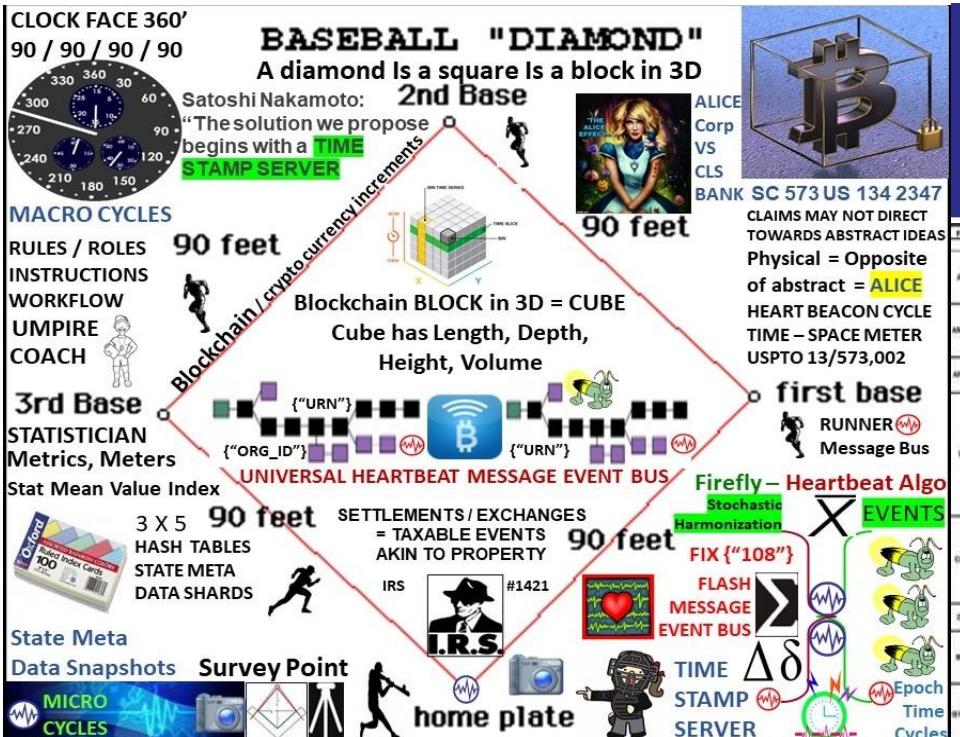
LOGIC FILTERS LOGIC GATES

SYNTAX LIBRARY LEXICON

CODER'S GUIDE

POW PAYLOAD : COMBINATIONS OF ENCRYPTED SYNTAX Attribute Series





# TRANSACTIONS PER CYCLE METRICS

The image shows the official logo of the Internal Revenue Service (IRS). It features a black silhouette of a man wearing a fedora hat and a suit jacket over a white shirt. The man's hands are clasped together near his chin, suggesting a thoughtful or stern expression. Below the silhouette, the letters "I.R.S." are written in a large, bold, black font. Underneath that, the text "IRS Memo #1421" and "Bitcoin purchase" is displayed in a smaller black font. At the bottom, there is a small graphic element consisting of several green and black geometric shapes.

UTXO: unspent transaction output'. bitcoins sent somewhere but not yet spent. Unspent transaction output set= latest STATE of every Bitcoins ever mined" % Block Mined / % Block owned

**Coin Age** proof-of-stake system combines randomization with the concept of "coin age," a number derived from the product of the number of coins times the number of days the coins have been held.

Randomized block selection randomization predicts following generator by using a formula that looks for the lowest hash value stake size

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

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

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

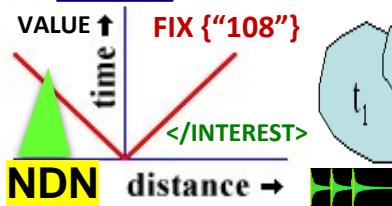


## TIME – SPACE MEASUREMENTS OF TOKENIZED COMMODITIES, SECURITIES... STOCHASTICALLY HARMONIZED ACROSS UTZ Universal Time Zone



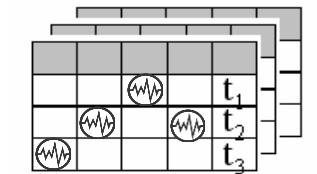
The Volumetric Weight is often referred to as dimensional weight

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

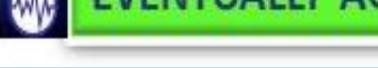
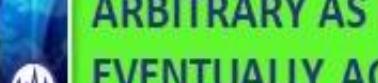
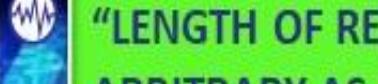
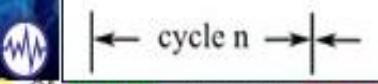
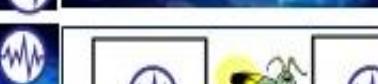


On the Filecoin blockchain, for example, the amount of IPFS data that a user is storing is used as the weighted value.

## Attribute Series



**Geo Spatial**  
**Temporal Series**



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



## DON: DECENTRALIZED ORACLE NETWORKS



### Explicit Staking

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

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



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



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



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



ALERT LEVEL > > NEWSCAST ZONE

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



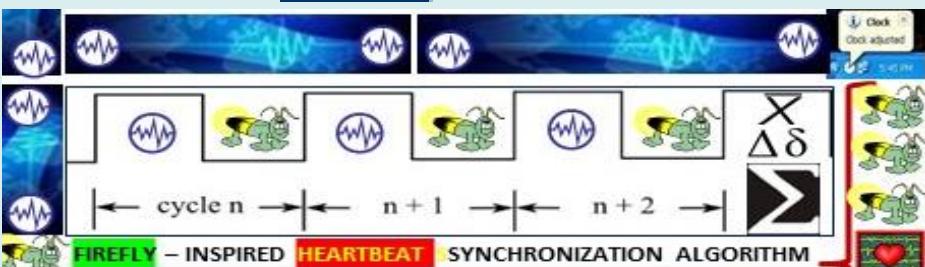
## DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

# Heart Beacon Cycle

## FEDERATE / TRADE FEDERATIONS

### Linear Sequential Meme

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



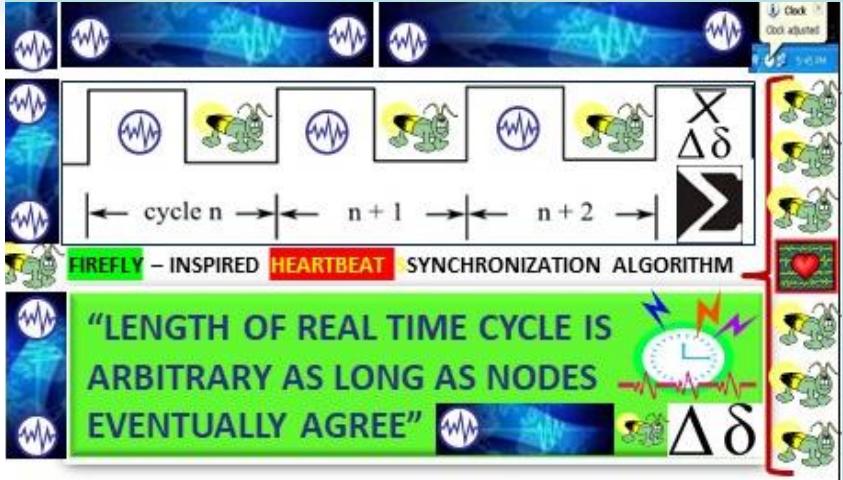
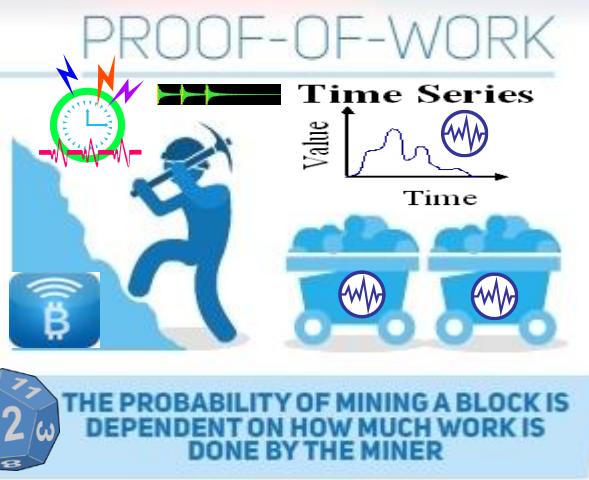
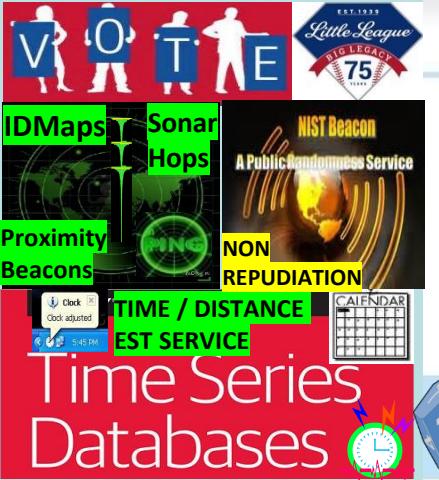


## Proof-of-activity PoA is a combination of Proof of Work / Stake blockchain consensus algorithms:

### 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.<sup>2</sup> 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.

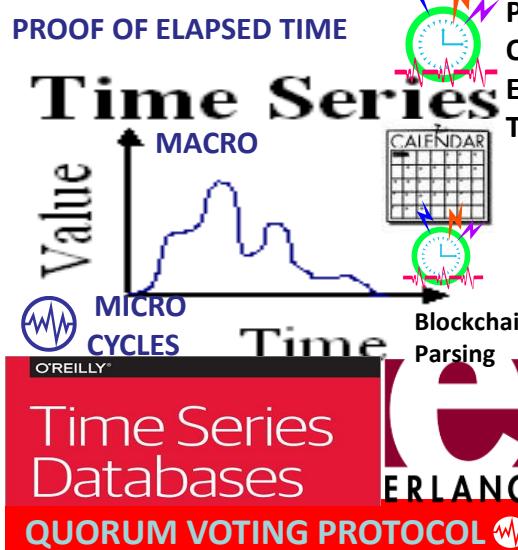


# SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

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



## PROOF OF ELAPSED TIME



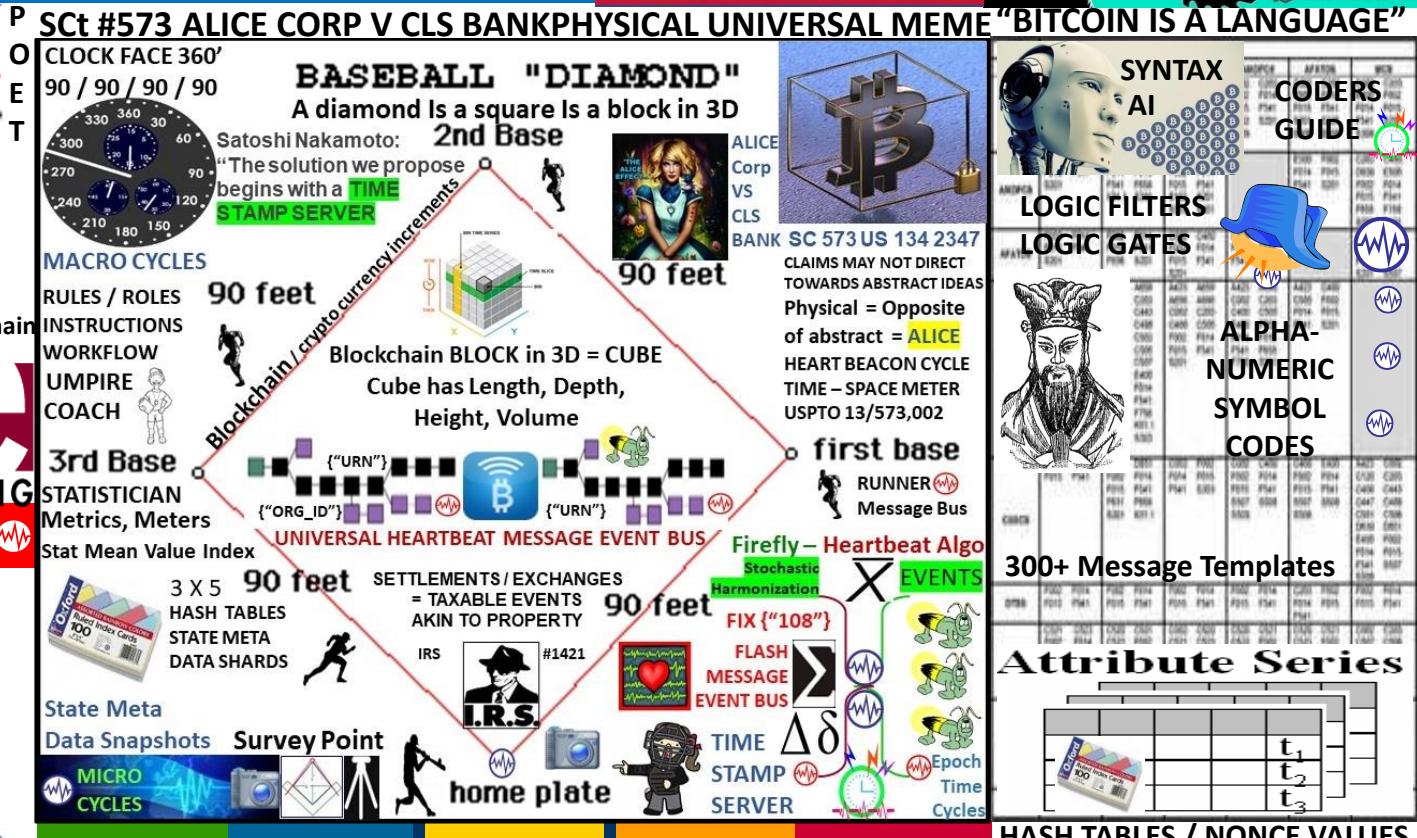
Voting Based Selection: stake size & block generators selected by votes

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

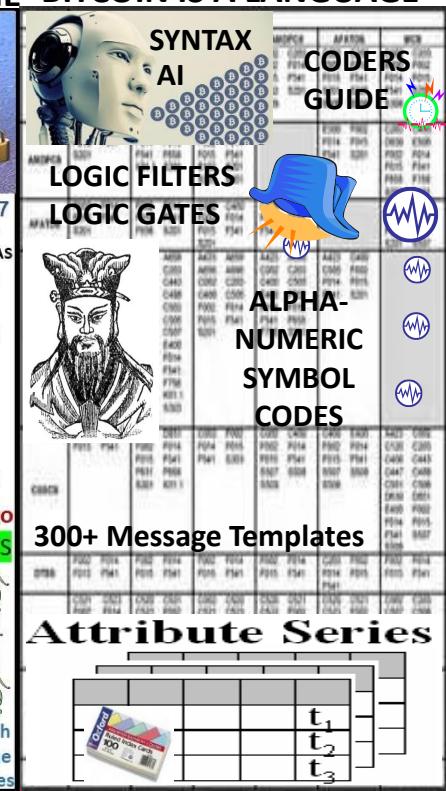


Robert's Rules quorum = minimum # of voting members who must be present at meetings to conduct business of the group

## TOURNAMENT LEAGUE BOARD



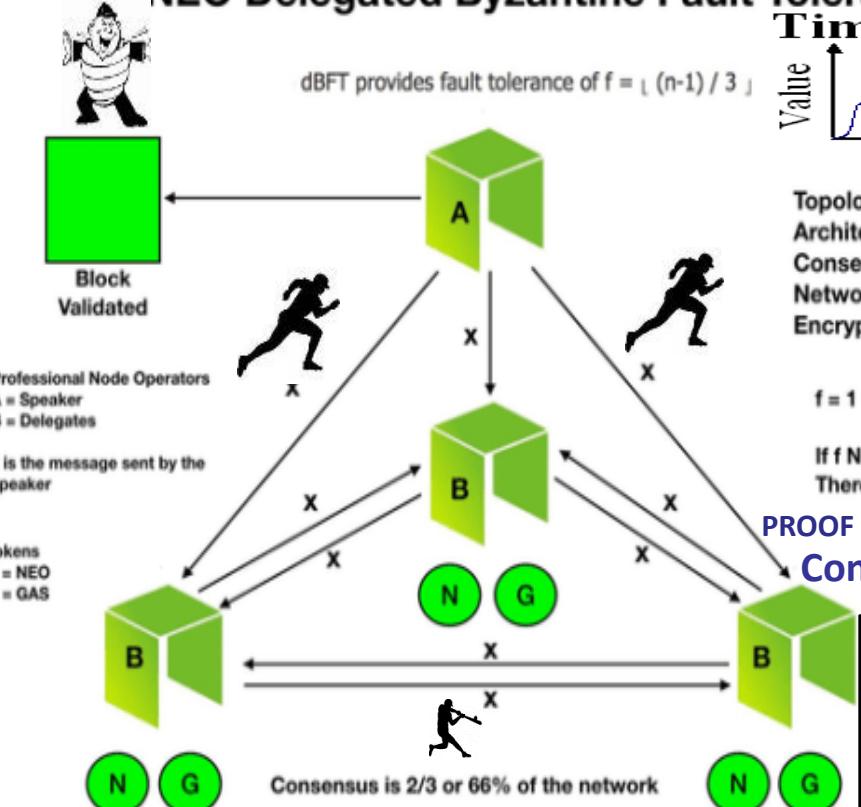
## FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BUS



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

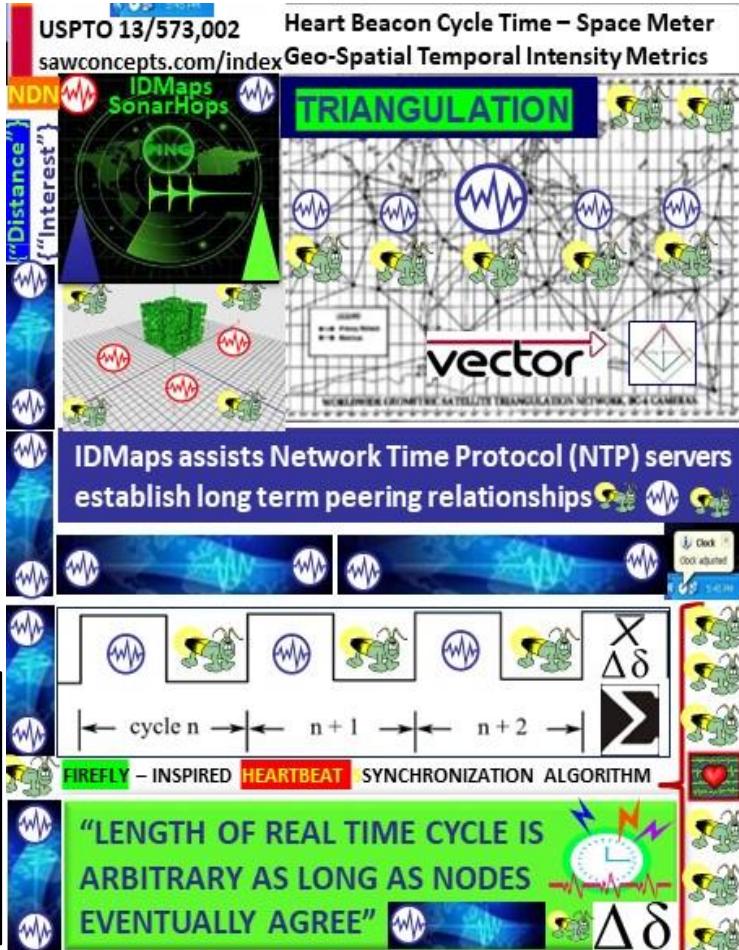


# NEO Delegated Byzantine Fault Tolerance (dBFT)



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. ✓





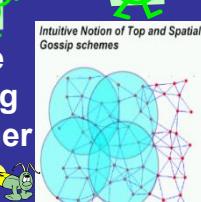
**HASHGRAPH**  
Directed Acyclic  
Graph DAG

Hashgraph consensus algorithm  
for replicated state machines

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

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

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



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

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

DAG finite directed graph  
= no directed cycles

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



Round created  
Witness

Famous witness  
Election

Vote  
See

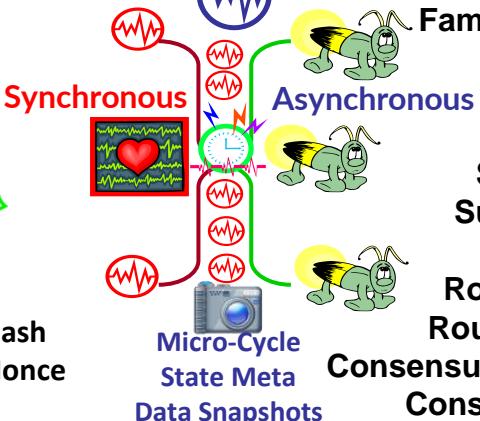
Strongly see  
Supermajority

Decide  
0 / 1

Round created  
Round received

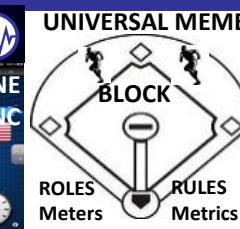
Consensus timestamp  
Consensus order  $\Delta\delta$

Hashgraph Member Event Transaction Consensus Order Timestamp Gossip protocol Self-parent Other-parent Graph Hash Hashgraph  
100 Adhesive Index Cards  
100 Adhesive Index Cards  
Hash Nonce

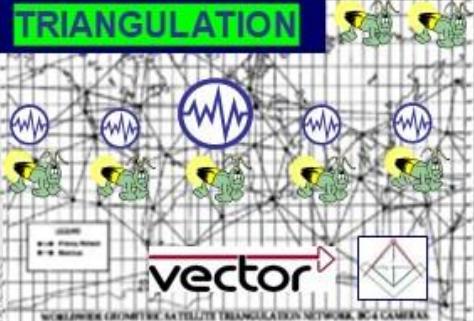


Micro-Cycle  
State Meta  
Data Snapshots

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

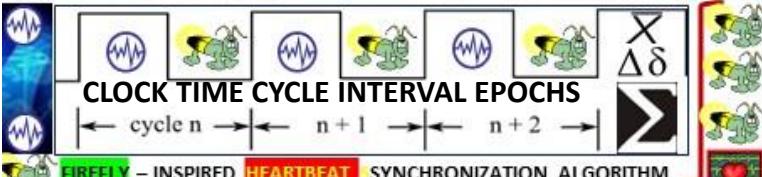


Heart Beacon Cycle Time – Space Meter  
Geo-Spatial Temporal Intensity Metrics



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

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



FIREFLY – INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM  
“LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE”  $\Delta\delta$

# Proof of Burn



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

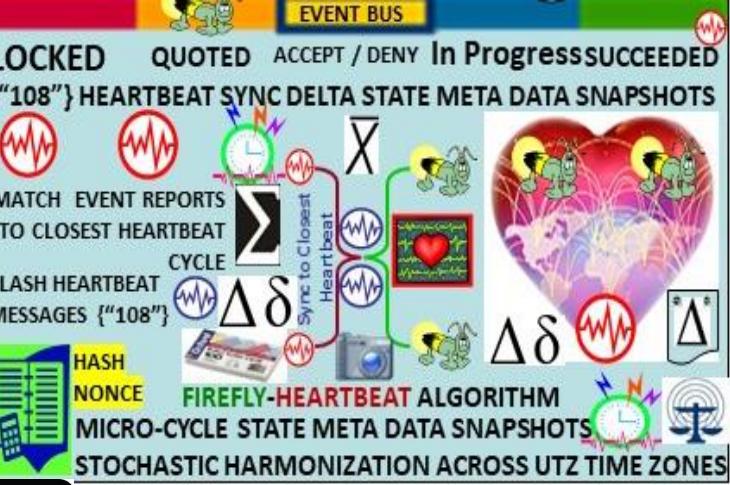
Iain Stewart, the inventor of the POB algorithm, uses an analogy to describe the algorithm: burnt coins are like mining rigs. In this analogy, a miner burns their coins to buy a virtual mining rig that gives them the power to mine blocks. The more coins burned by the miner, the bigger their virtual mining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

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



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

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



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

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

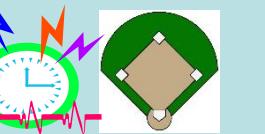
TAG	SLA/O	Token Award
{"Org_ID": ActiveID}	[UFO2_ACTIVEID]	</EVENT>
IF1_Heartbeat (IF-Node1)	[UFO2_HEARTBEAT:#]	</EVENT>
IF2_Heartbeat (IF-Node2)	[UFO2_HEARTBEAT:#]	</EVENT>
{"UUID": IF1_DeviceStatus (IF-Node1)}	[UFO2_DEVICESTAT:#]	</EVENT>
{"UUID": IF2_DeviceStatus (IF-Node2)}	[UFO2_DEVICESTAT:#]	</EVENT>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

# Proof of Capacity PoC



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

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



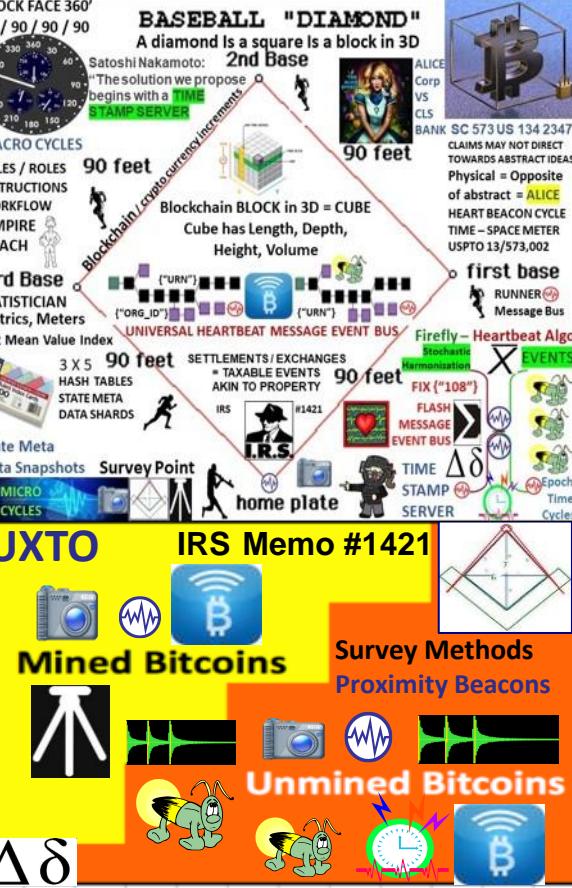
Instead of repeatedly altering the numbers in the block header & repeated hashing for the solution value as in a PoW system, PoC works by storing a list of possible solutions on the mining device's hard drive before mining activity starts



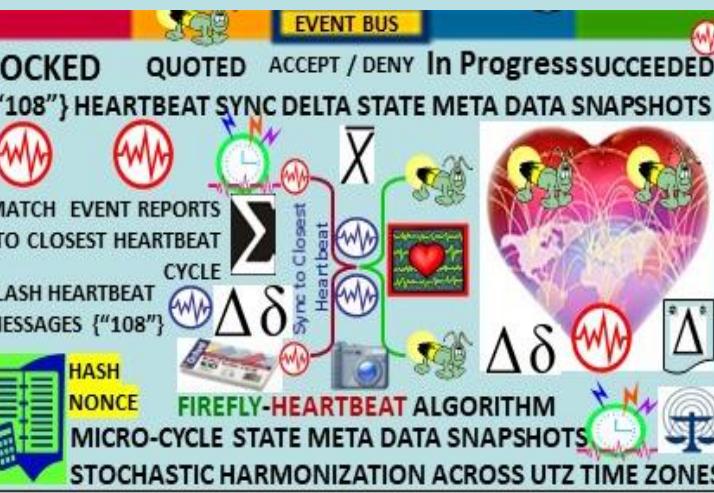
The larger the hard drive, the > possible solution values one can store on the hard drive, the more chances a miner has to match required hash value from his list, resulting in more chances to win the mining reward.



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



Bitcoin purchase akin to property



# PoST Proof-of-Spacetime (PoST)

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



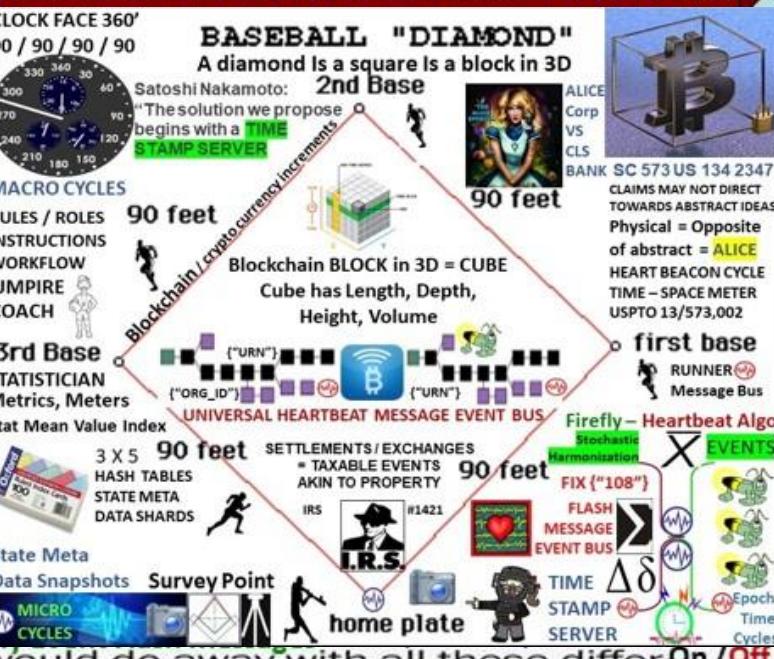
PoST users / nodes must prove that they are spending a certain amount of space for storage.



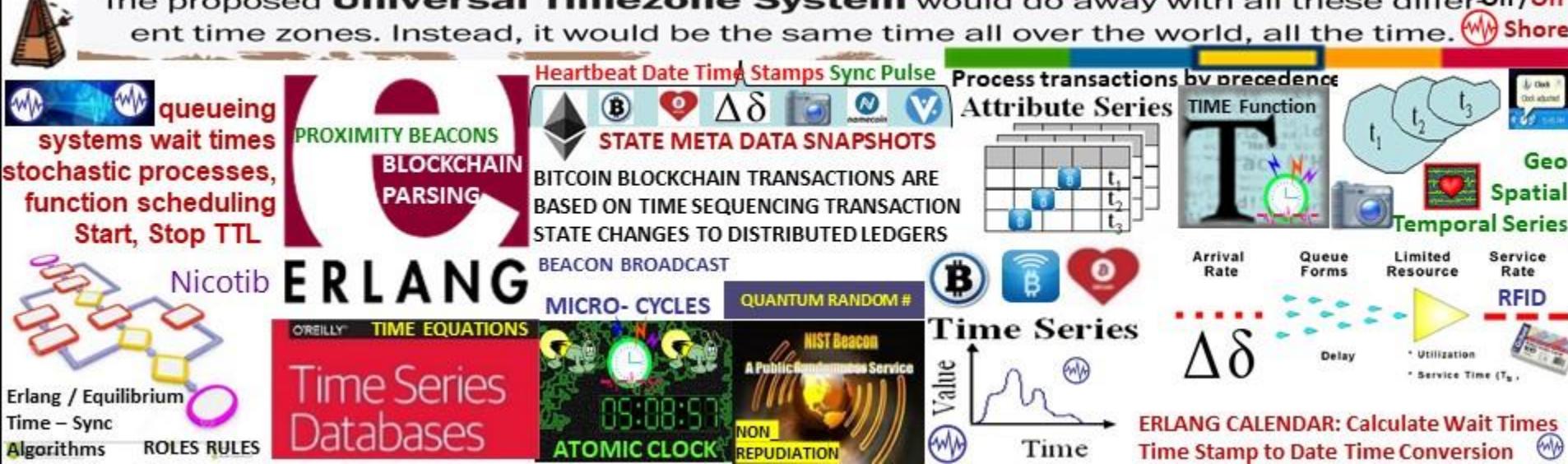
IRS Memo #1421 Bitcoin purchase akin to property

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

## Heart Beacon Cycle FEDERATE / TRADE FEDERATIONS



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



# Proof of Authority



{"GROUP ID"}  
{"Org\_ID"}

Not pay to play, Node identity is kept as stake

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



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

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

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



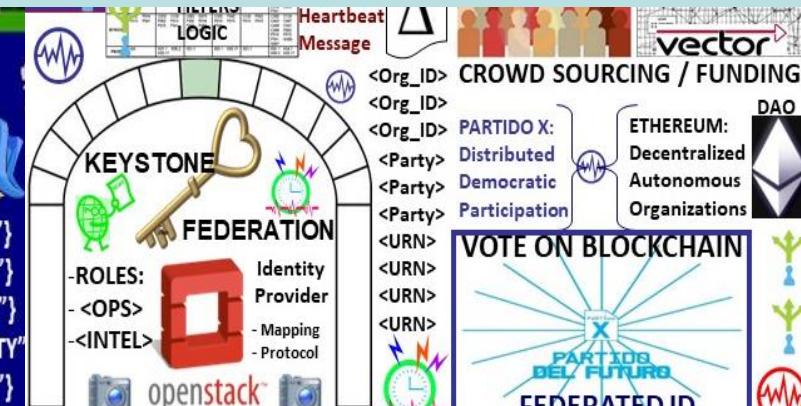
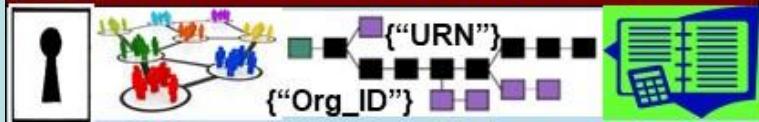
Net joins, drops, splits, merges, moves

Agile, adhoc NETOPS Vs acquisition preserves the

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

## Heart Beacon Cycle

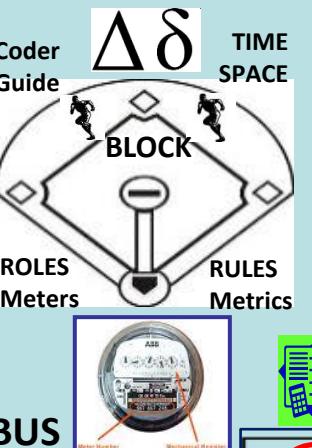
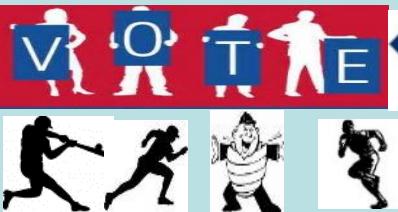
### FEDERATE / TRADE FEDERATIONS



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

## KEY BLOCKS:

- NO CONTENT = NULL
- LEADER ELECTION

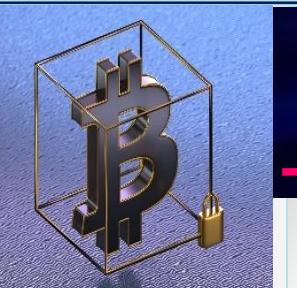
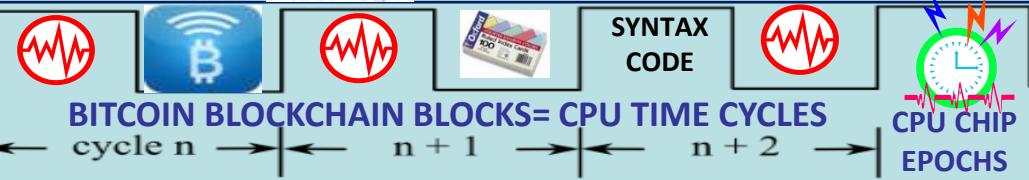
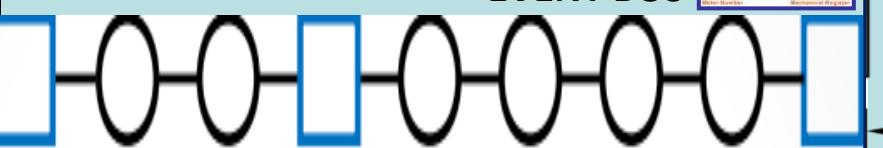


MVP

EVENT BUS

## MICRO BLOCKS:

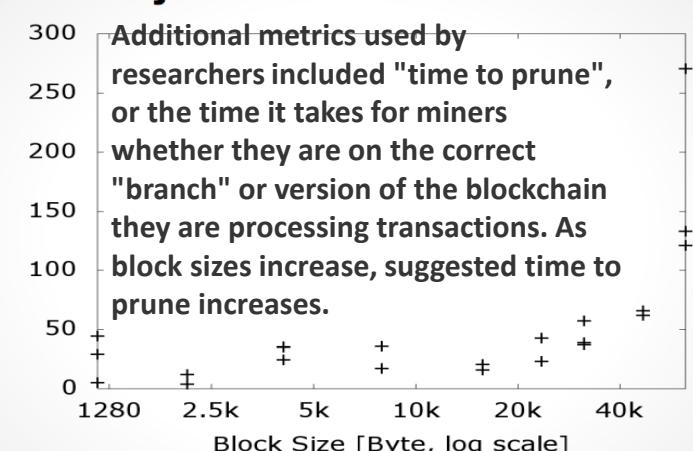
- ONLY CONTENT
- NO CONTENTION



short deterministic  
intervals (10 sec)



MICRO-CYCLES



FROM	GC00-A	TAB	ASAS	AMPC05	AFAT05	WCR	TO
GC00-A							
GC00-B							
GC00-C							
GC00-D							
GC00-E							
GC00-F							
GC00-G							
GC00-H							
GC00-I							
GC00-J							
GC00-K							
GC00-L							
GC00-M							
GC00-N							
GC00-O							
GC00-P							
GC00-Q							
GC00-R							
GC00-S							
GC00-T							
GC00-U							
GC00-V							
GC00-W							
GC00-X							
GC00-Y							
GC00-Z							
GC00-A							
GC00-B							
GC00-C							
GC00-D							
GC00-E							
GC00-F							
GC00-G							
GC00-H							
GC00-I							
GC00-J							
GC00-K							
GC00-L							
GC00-M							
GC00-N							
GC00-O							
GC00-P							
GC00-Q							
GC00-R							
GC00-S							
GC00-T							
GC00-U							
GC00-V							
GC00-W							
GC00-X							
GC00-Y							
GC00-Z							

XBRIL / CDL / DAML  
STOCK MIC CODES

STRUCTURED  
MILITARY MESSAGE  
TEMPLATE FORMS  
LOGIC / FILTERS

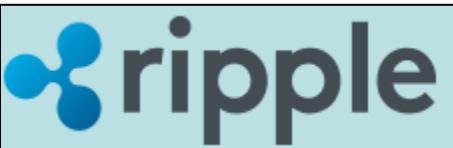
CPU CHIP  
EPOCHS

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



short deterministic  
intervals (10 sec)

ATOMIC CLOCK



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

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

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

Provides information about total  
costs of the transaction



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



**Bitcoin Address Shortener**

Bitcoin Address Shortener is an Android app that you can use to shorten those lengthy bitcoin addresses!

Simply enter a long Bitcoin address to have it transformed into a short one, and VICE-VERSA!

You can get it for free [here!](#)

GET IT ON Google play

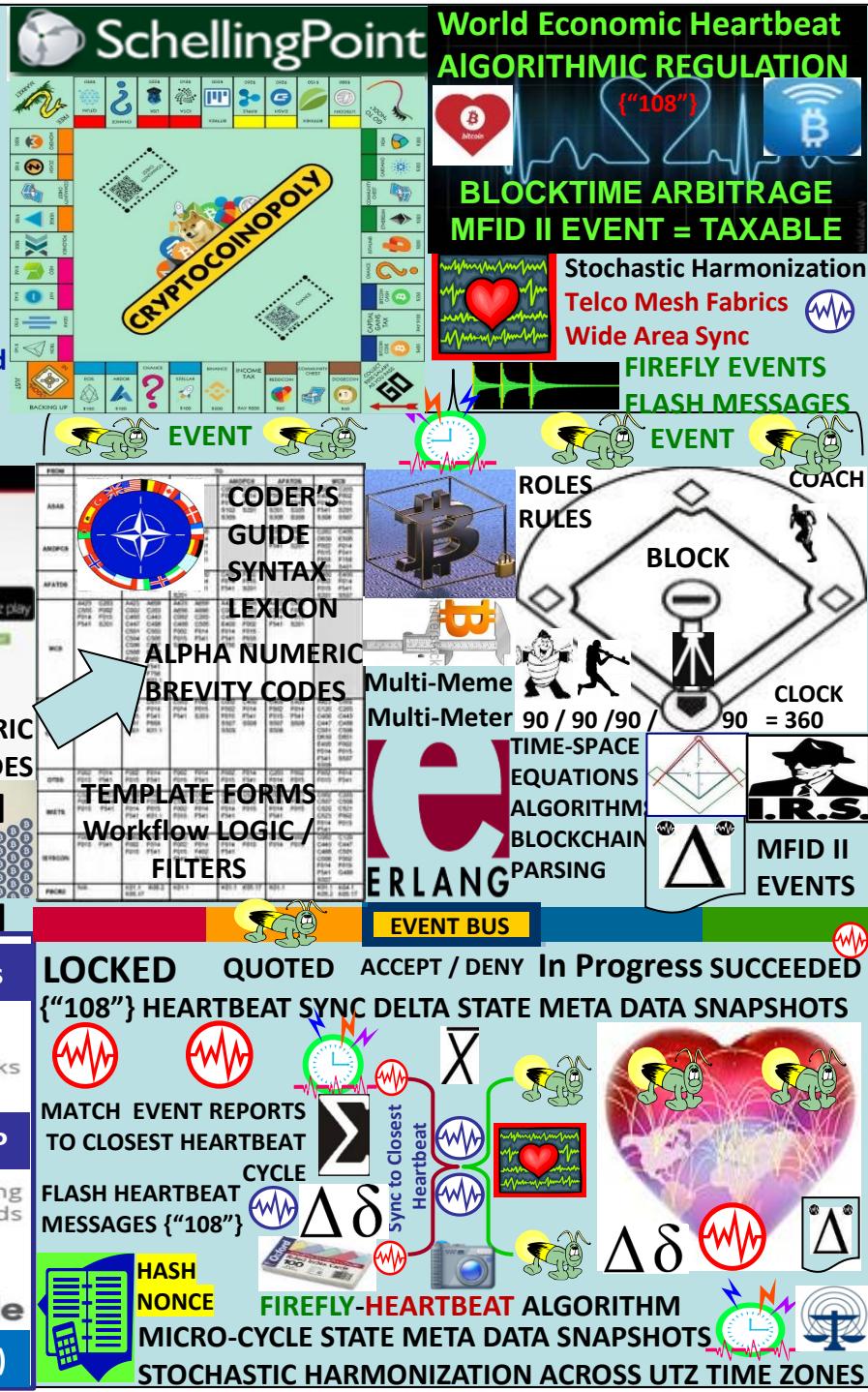
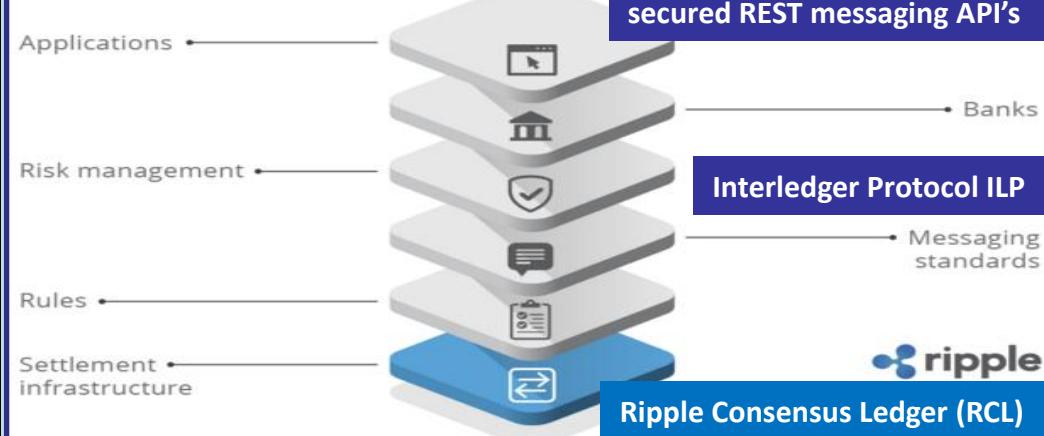
To retrieve addresses us computer, use [bitco.info](#)

Clock Clock adjusted 5:45 PM

**ALPHA NUMERIC BREVITY CODES**

A.I.

Neutral transaction protocol



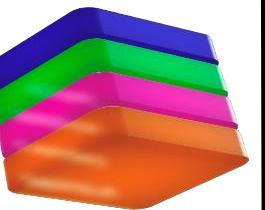


## PROTON A CHAIN Virtual Machine

## CONTRACT C CHAIN Smart contract

## PLATFORM P CHAIN Meta Data

## EXCHANGE X CHAIN Cross blockchain



Universal @names Identity / Governance / Resources / Staking

Snowball Consensus

Algorithm

preference := pizza

consecutiveSuccesses := 0

while not decided:

ask k random people preference

if >= α give the same response:

    preference := response with >=

α

    if preference == old preference:

        consecutiveSuccesses++

    else:

        consecutiveSuccesses = 1

    else:

        consecutiveSuccesses = 0

if consecutiveSuccesses > β:  
    decide(preference)

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

Delegated Proof  
of Stake {"Org\_ID"}



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



DAG Acyclic Graph Parameters:

n: number of participants

k (sample size): between 1 and n

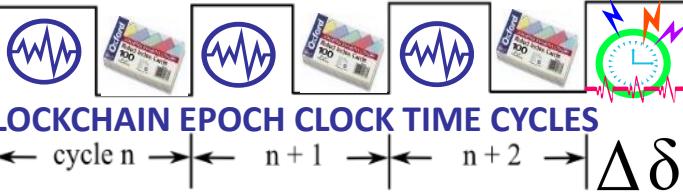
α (quorum size): between 1 and k

β (decision threshold): >= 1

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

1) EPOCH TIME INTERVALS

2) SYNTAX (not) used in epochs

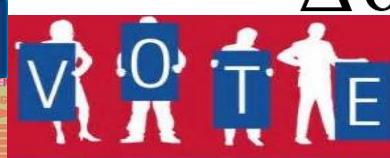
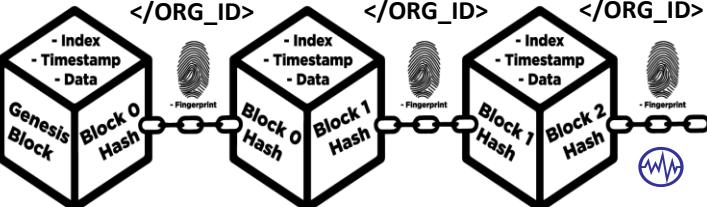


GENESIS BLOCK: "Layers" = follow on epoch time intervals

Block 0

Block 1

Block 2



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



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





# UNICOIN

## Digital Capital Exchange

### Unicorn: IMF CBDC legal tender settlement coin

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

**The primary value of any commodity is its utility value.**

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

Ü

### The DCMA – Digital Public Monetary System

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

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





# UNICOIN

Digital Capital Exchange

## **CBDC legal tender settlement coin**

**Universal Monetary Unit (UMU), a.k.a Unicoin: store of value**  
**cryptography, artificial intelligence (A.I.) Goals: continuous purchasing**  
**demand, minimal price volatility, and annual asset pricing targets.**  
**The primary value of any commodity is its utility value.**  
**Utility = pay for goods, services, and debts, preserve value**  
**over a long period of time. Employs machine learning**  
**trading bots. UMPC will establish yield payout rates for**  
**wallet holders to stake Unicoin in the Staked Proof of Trust**  
**(SPOT) consensus protocol. PoT consensus selects**  
**validators I.A.W contribution to the DeFI network**

The DCMA – Digital Public Monetary System

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

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





# UNICORN

Digital Capital Exchange

Unicoin: IMF CBDC legal tender settlement coin

**Universal Monetary Unit (UMU), a.k.a Unicoin: store of value  
cryptography, artificial intelligence (A.I.) Goals: continuous purchasing  
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Ü



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.

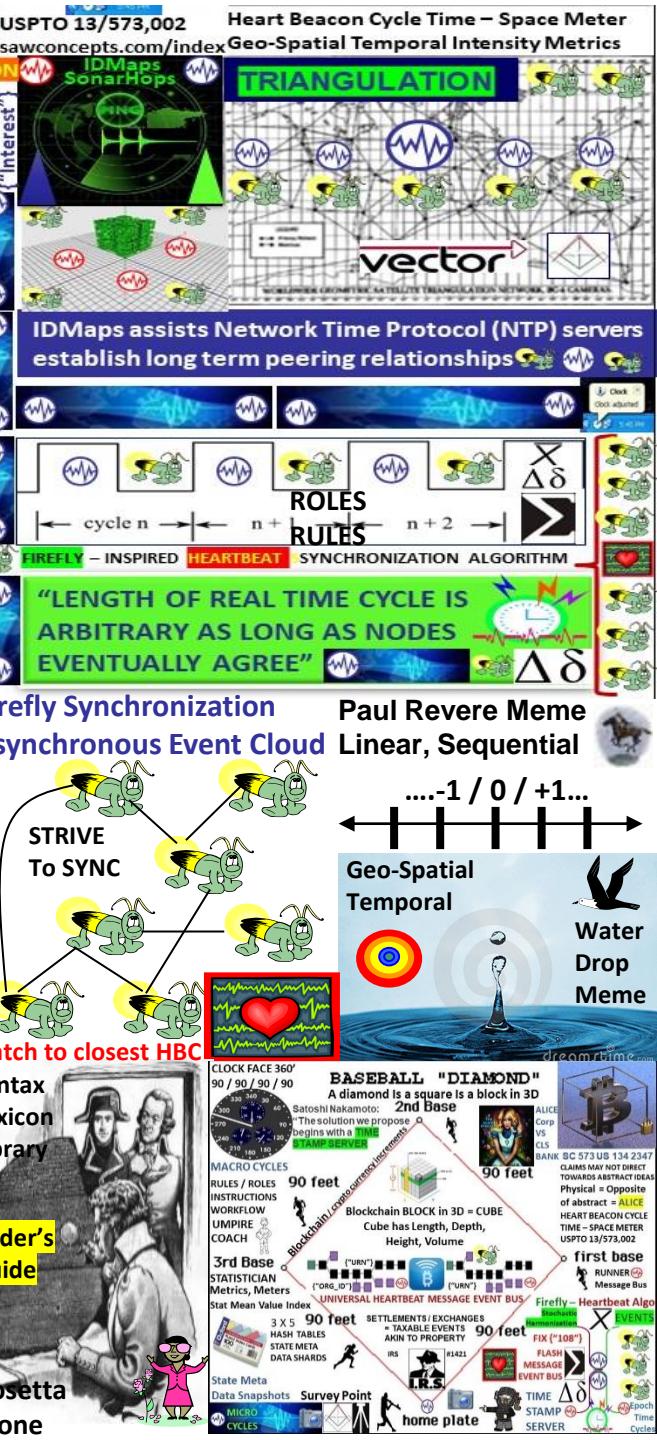
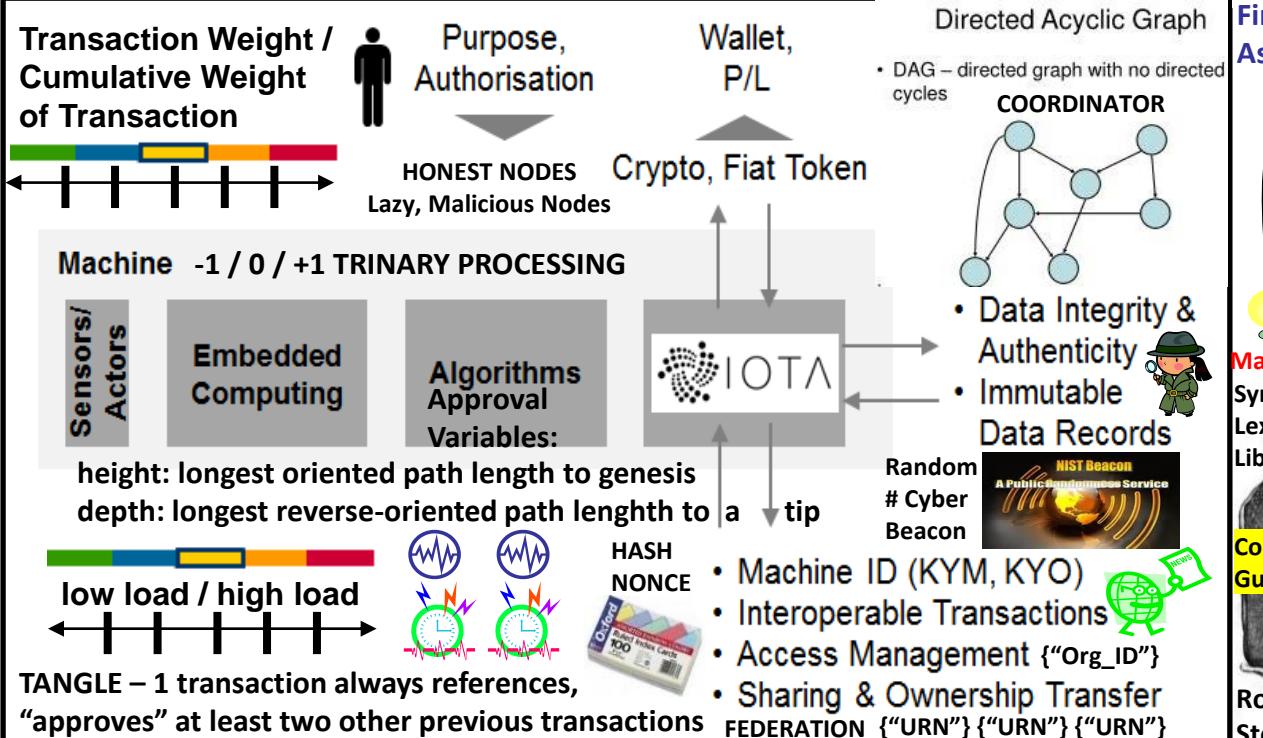


OTA: Internet Of Things IOT distributed ledger  
with microtransactions without fees

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

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

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





# ZEPPELIN OPEN, GLOBAL ECONOMY

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

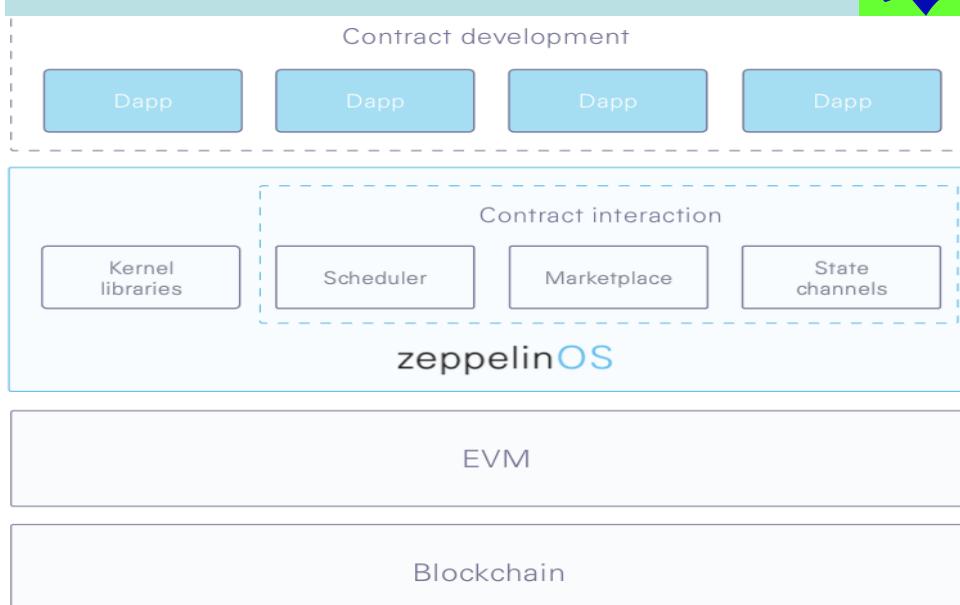
**zeppelinOS**, operating system for smart contracts  
*“the rate of innovation in building decentralized applications is limited by the manual and duplicative efforts developers must make to ensure basic usability and security.”*

## ZEPPELIN / zeppelinOS Common Functionality:

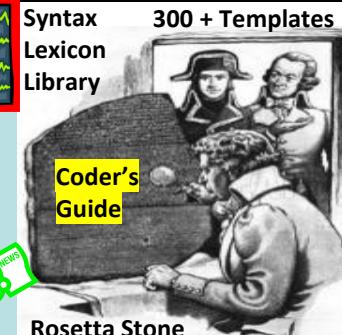
zeppelinOS Kernel common set of functions for smart contracts requesting services from the OS rather than re-implementing them from scratch. Functions will be available as an on-chain standard library of reusable contracts and functions, nspired by [OpenZeppelin](#) Libraries

# Create and customize your own ERC20 Token.

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



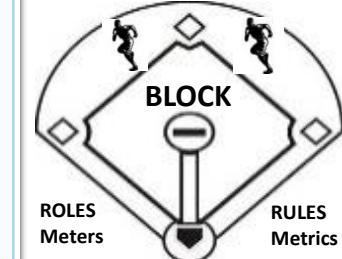
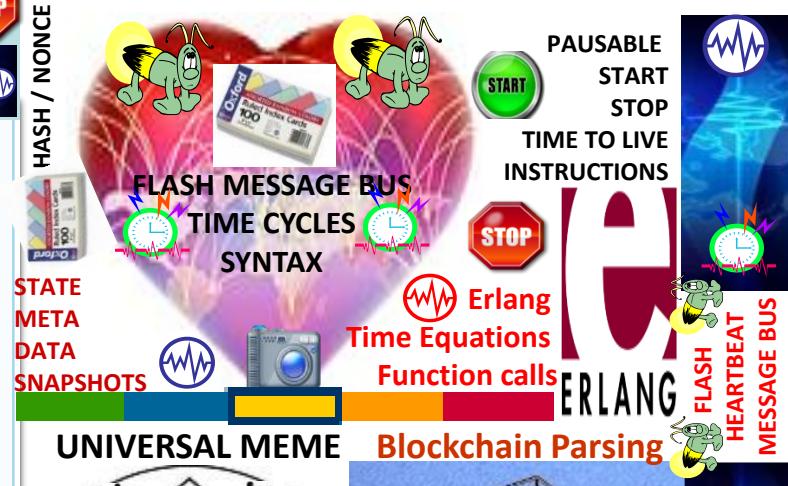
 HEART BEACON CYCLE TIME – SPACE METER  
ECO-ECONOMETRICS ON THE BITCOIN BLOCKCHAIN



## **STRUCTURED DATA EXCHANGE**

## **LOGIC / FILTERS ALPHA-NUMERIC BREVITY CODES**

STOCHASTIC HARMONIZATION for TELCO Mesh Fabrics



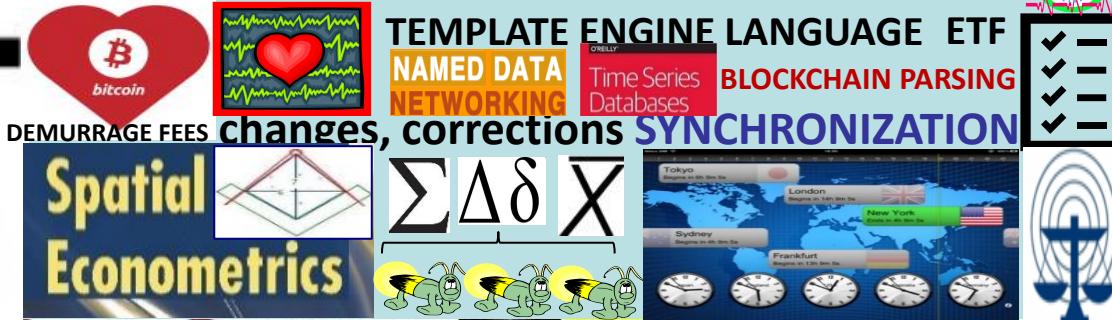
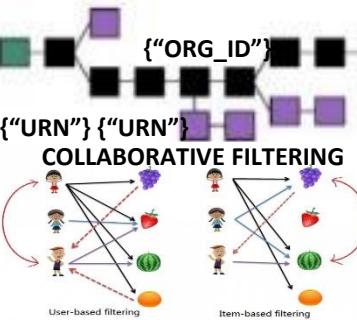
## Micro Cycle State Snaps



# 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.



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.

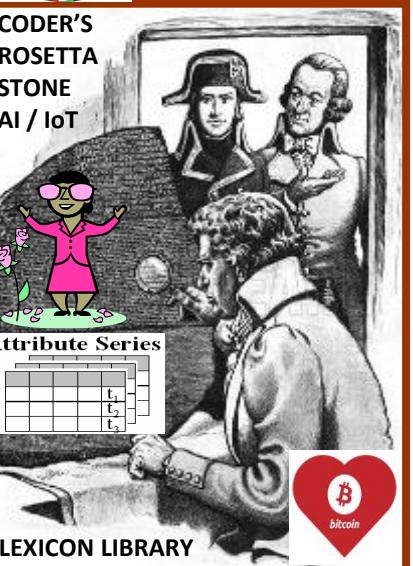


FORMS	CODES	DATA	SYNTAX / SYMBOL	LEXICON LIBRARY	STRUCTURED
ASAB	CODE-A	DATA	ASAB	ASAB	STRUCTURED
ANOMIA	CODE-B	DATA	ANOMIA	ANOMIA	STRUCTURED
AFATOR	CODE-C	DATA	AFATOR	AFATOR	STRUCTURED
MIB	CODE-D	DATA	MIB	MIB	STRUCTURED
CIRCB	CODE-E	DATA	CIRCB	CIRCB	STRUCTURED

SYNTAX / SYMBOL LEXICON LIBRARY STRUCTURED

DATA EXCHANGE 300 + TEMPLATE FORMS LOGIC / FILTERS

ALPHA-NUMERIC BREVITY CODES





"EARTHDAY EVERYDAY ON THE BITCOIN BLOCKCHAIN"  
"GIVE A HOOT, DON'T POLLUTE" Woodsy The Owl

# GNOSIS

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

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

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

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

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

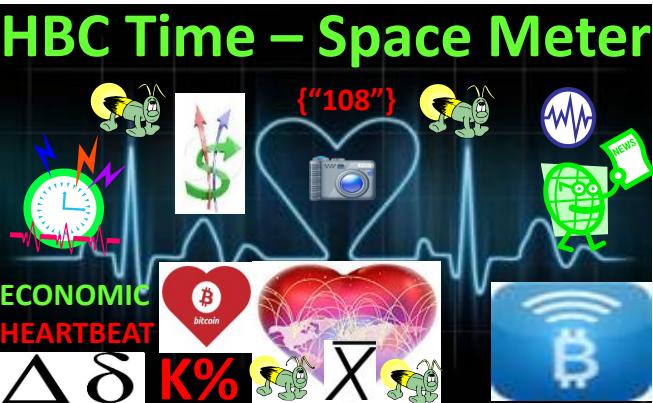
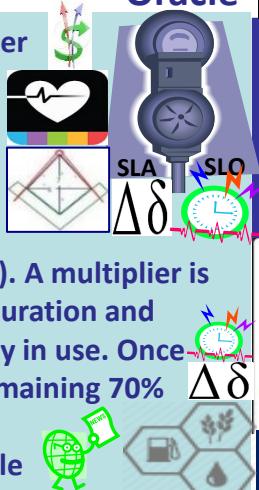


"Our mission is to build an accessible prediction market platform enabling free flow of useful information / the "Google" of Customized Information Searching"

Futarchy PREDICTION MARKETS  
GnosisAMA

Gnosis trading interface alpha  
WIZ token fee payment  
INFORMATION ARBITRAGE ECONOMICS

TERRACYCLE Price Oracle

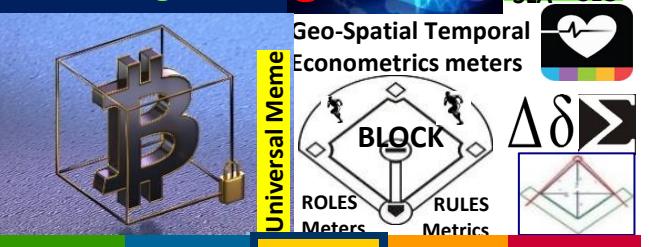


## THE TERRA (TRC)

Trade Reference Currency



## Demurrage Fees



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

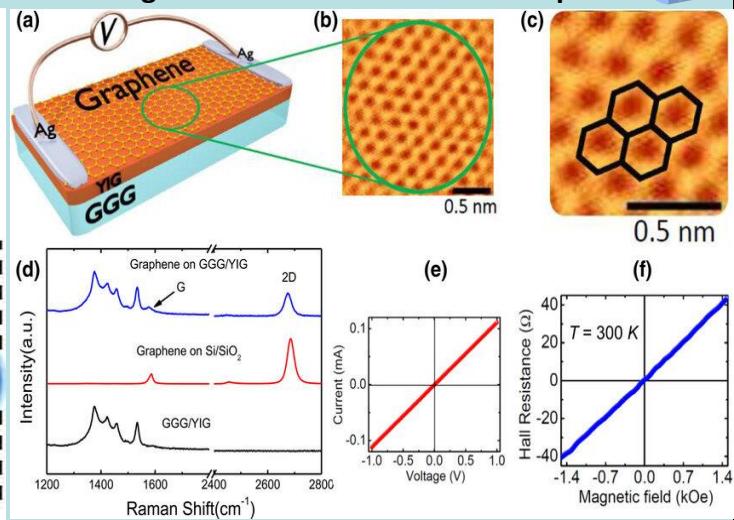
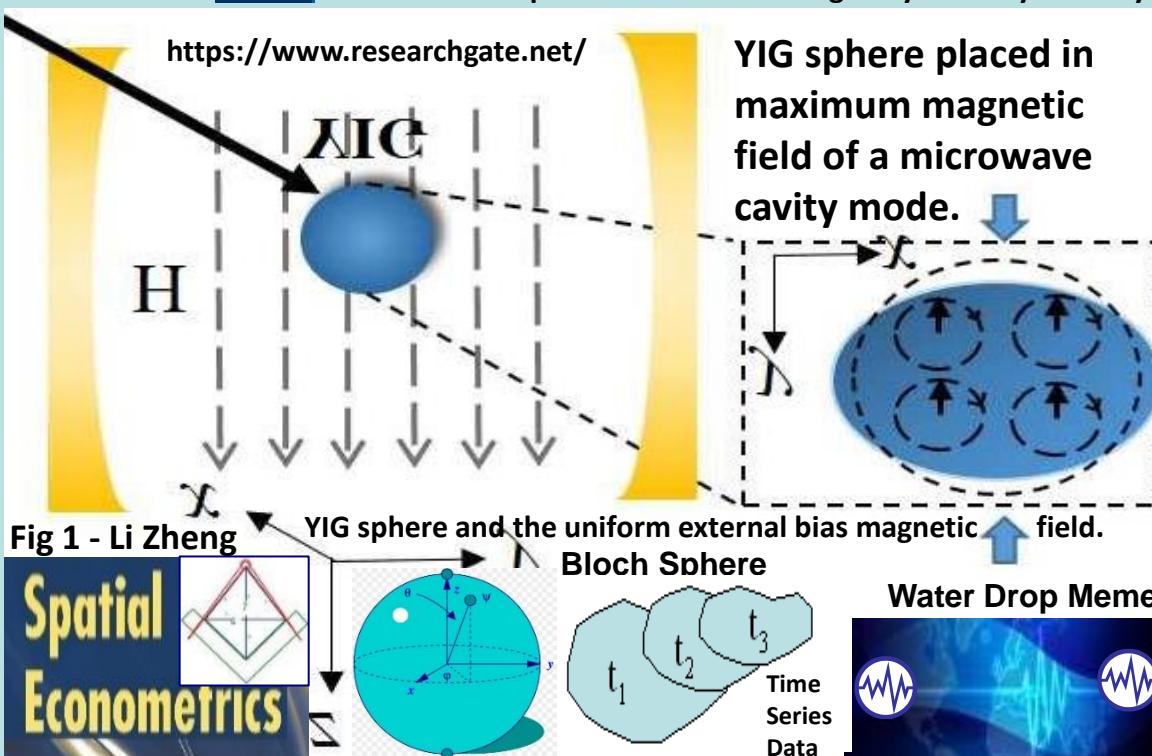




**"When space-time spins, it creates mass. It produces energy in space that radiates. This radiation is what we call mass". Nassim Haramein**

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.

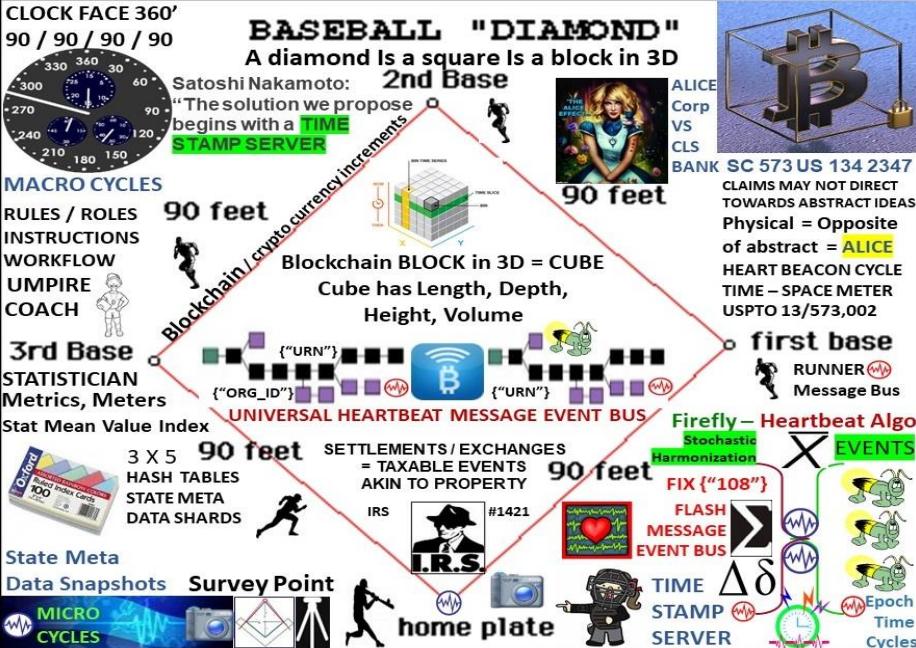
IEEE 802.1AG HOP BY HOP DETECTION  
IEEE 802.11 HbH HOP BY HOP CONTROL

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]

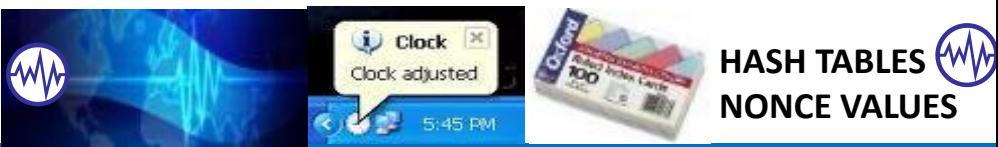




Bitcoin Classic seeks to mitigate the problem of more transactions, which are causing transaction backlogs and increased transaction costs, by increasing the block size - the number of kilobytes in a block of transactions - from 1MB to 2MB.



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

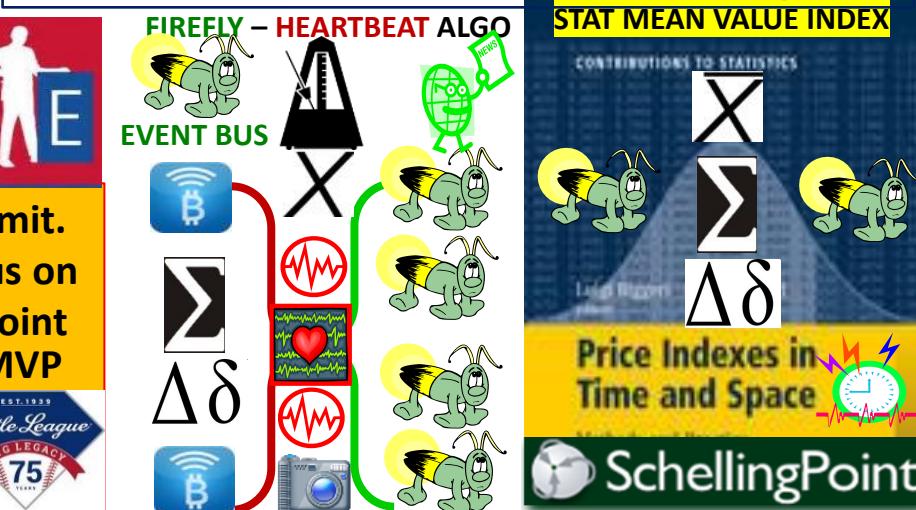
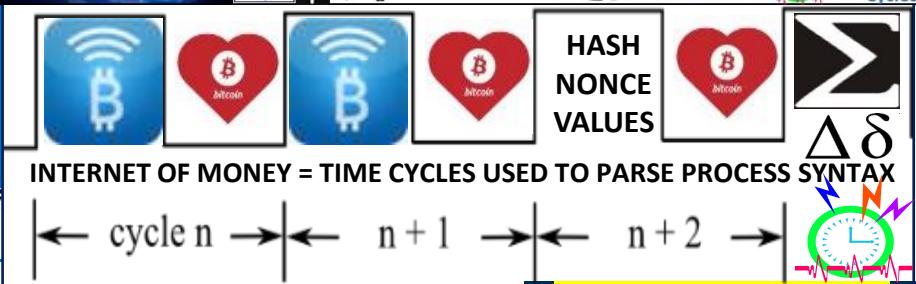


HASH TABLES  
NONCE VALUES

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



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



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

AZURE: Core/Kernel/Universal Protocol

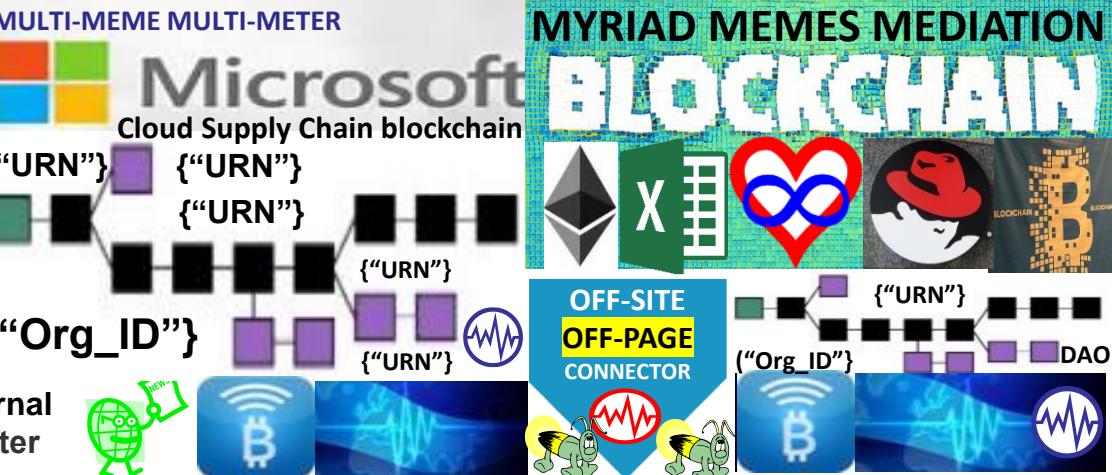


Fabric Tier consortium node CryptoDelegate in VM or UTXO Adapter, (Azure, AzureStack, AWS..)

Unspent Transaction Output protocols UTXO

Crypto Tokenized Assets Digital Bearer Bonds  
unique identity for owned artifacts

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



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

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

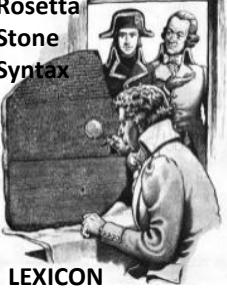
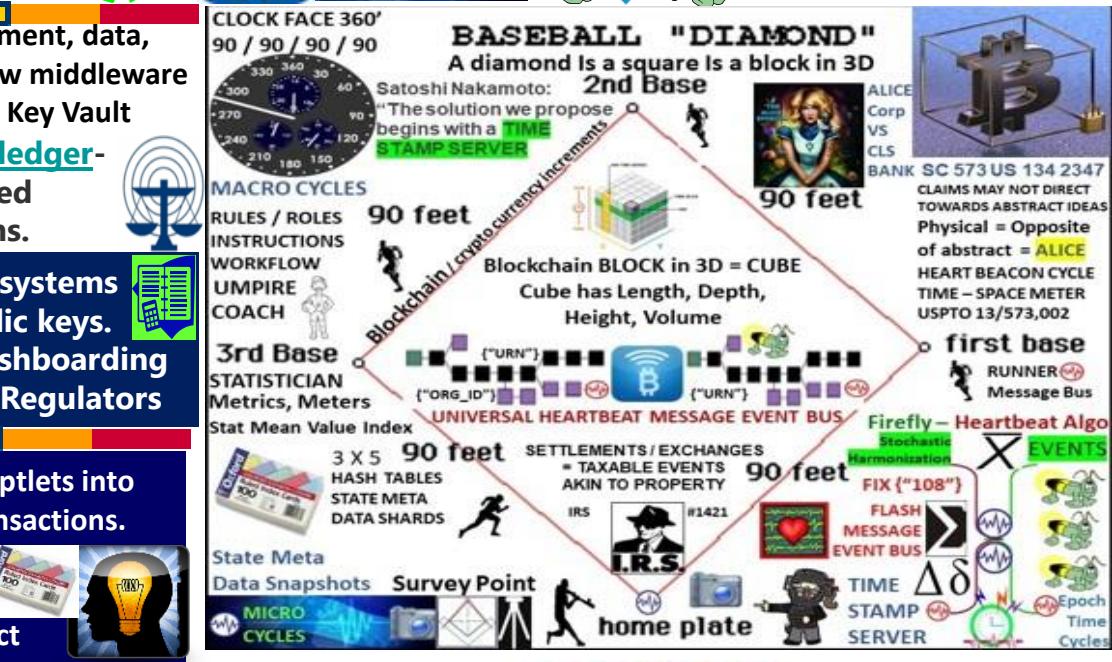


Data Services - key data services like distributed file systems (IPFS, Storj, etc) of off-chain data referenced by public keys.

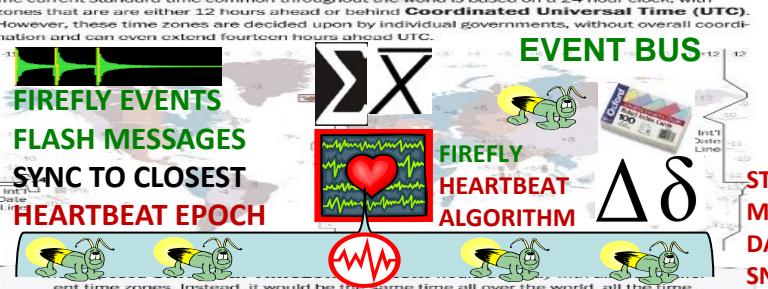


Auditing, Advanced Analytics, Machine Learning, Dashboarding services for SmartContracts, Blockchains, Consortia, Regulators

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

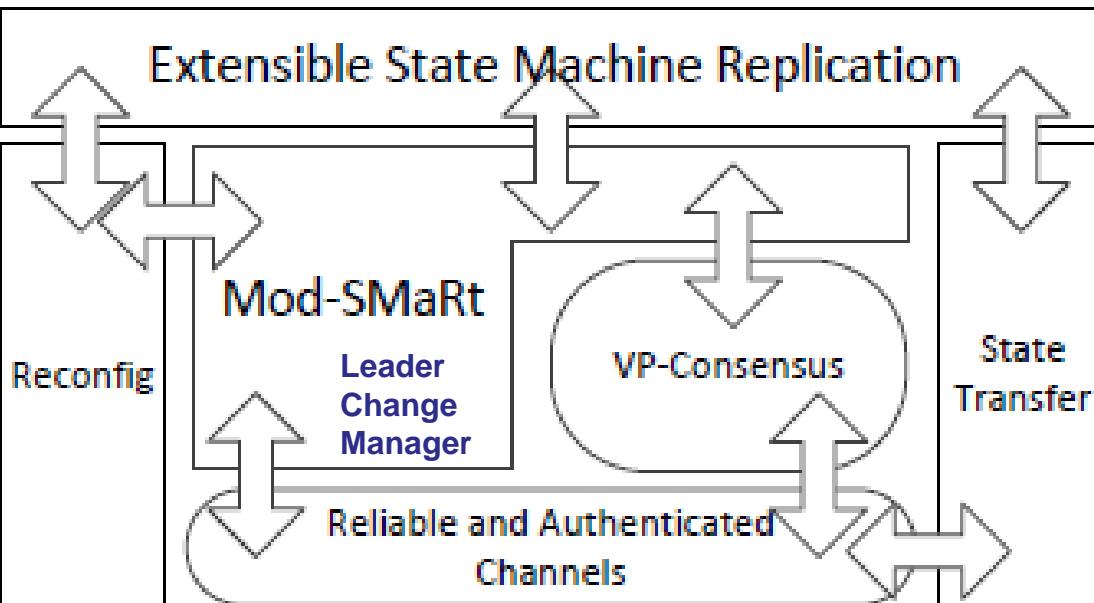


ALPHA NUMERIC
BREVITY CODES
SYMBOL CODES
STRUCTURED MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS



# 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.

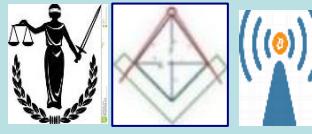
## BFT-SMaRT needs an eventually synchronous system

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



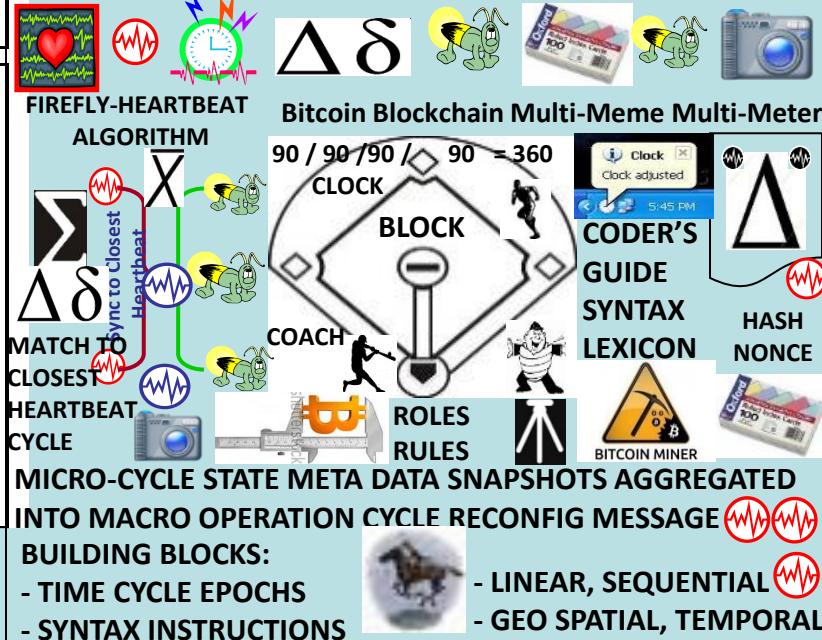
DERIVED FROM BATTLEFIELD DIGITIZATION DISTRIBUTED AUTONOMOUS ORGANIZATION DAO SYSTEM OF SYSTEMS

FEDERATED ID / ORGANIZATIONAL IDENTIFIER {"ORG\_ID"}

ADDS, JOINS, DROPS, MOVES TO / FROM DAO

CHANGES IN STATE VIEWED IN "APPLIQUE' OVERLAY VIEWS

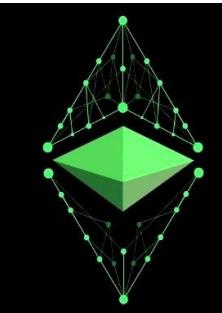
## 00.99 HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS



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"





## ETHER: Compensate Resource Contribution

Gas: price to  
Run contract  
transactions

ethereum

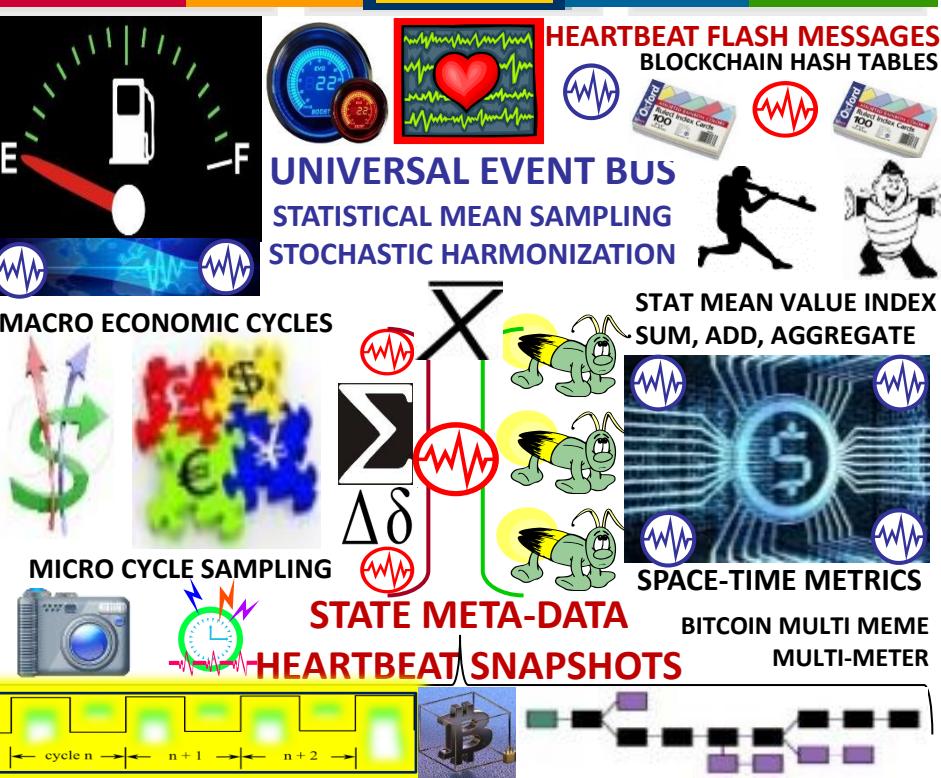
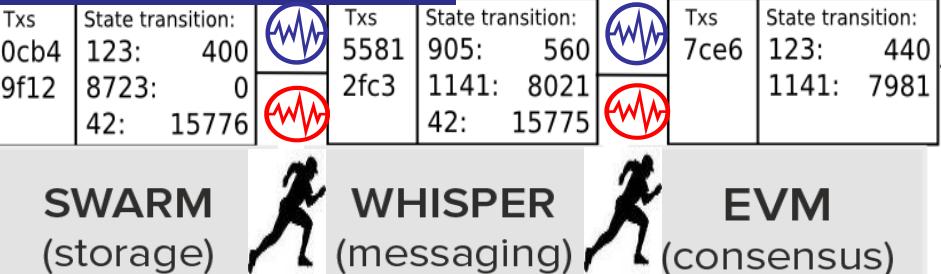
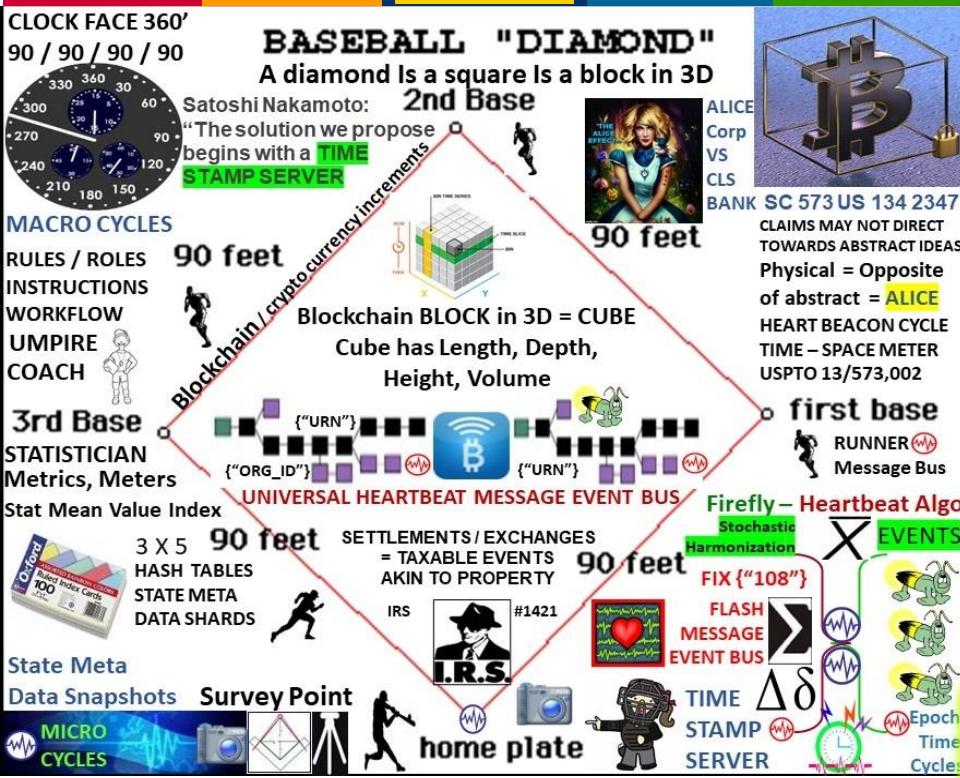
Casper is a security-deposit based economic consensus protocol. Nodes = "bonded validators" place security deposit (an action called "bonding") If a validator generates an invalid action, account deposits are forfeited along with consensus privilege. Use of security deposits address "nothing at stake"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



Ether hedged against  
other crypto / FIAT  
currencies price chan $\Delta\delta$

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

**EVENTUALLY**



**D F I N I T Y**



**RANDOM # BEACON**



**NIST Beacon**  
A Public Randomness Service



**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**

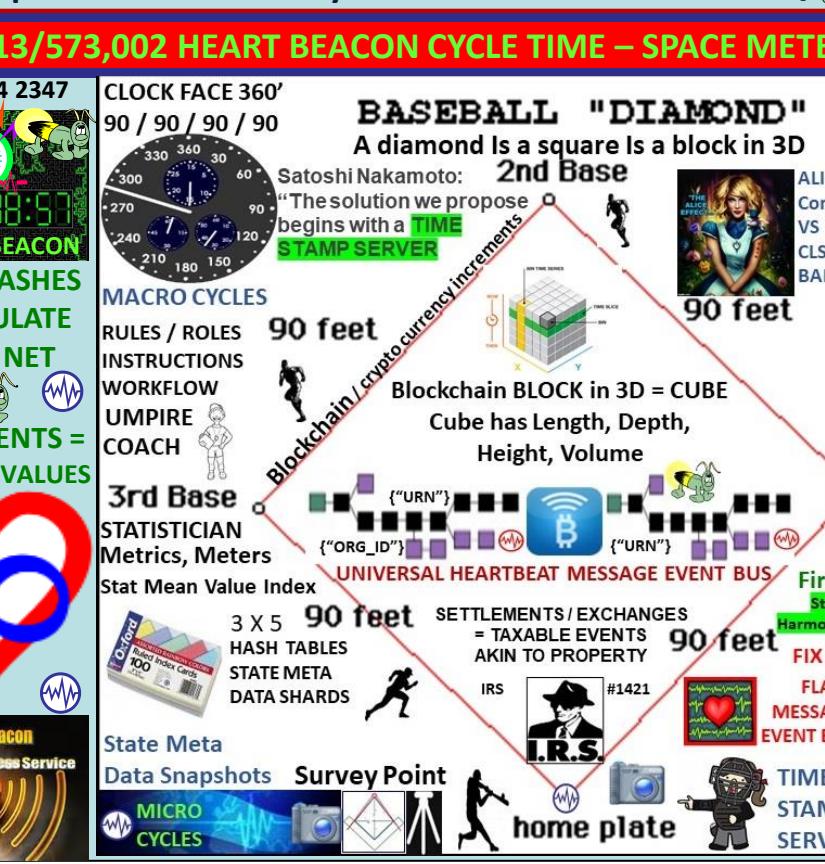
- Public key with meta data attached
- IDs mediate participation**
- Private network: trusted dealer defines list
- Public network: CC security deposit, USCIDs



**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

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

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

**ALICE Corp VS CLS BANK SC 573 US 134 2347**

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

**first base**  
RUNNER Message Bus

**EVENTS**

**Fix {"108"}**  
FLASH MESSAGE EVENT BUS

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

**SETTLEMENTS / EXCHANGES = TAXABLE EVENTS AKIN TO PROPERTY**

**IRS #1421**

**home plate**

**Survey Point**

**MICRO CYCLES**

**State Meta Data Snapshots**

**Quantum Random #**

**3 X 5 HASH TABLES STATE META DATA SHARDS**

**3 X 5 INDEX CARDS**

**QUANTUM RANDOM #**

**Microcycles**

**Time Stamp Server**

**Flash Message Event Bus**

**Fix {"108"}**

**Time Stamp Server**

**Epoch Time Cycles**

**Survey Point**

**Microcycles**

**Time Stamp Server**

**Flash Message Event Bus**

**Fix {"108"}**

**Time Stamp Server**

**Epoch Time Cycles**



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

**ERLANG API FOR BLOCKCHAIN**



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

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

**CROSS – CHAIN ATOMIC SWAPS**

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



Aeons: energy for applications implemented on the platform.

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



("ORG\_ID")

("ORG\_ID")

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



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

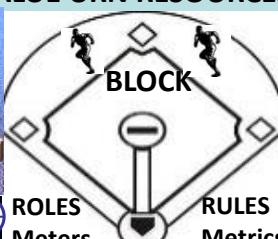
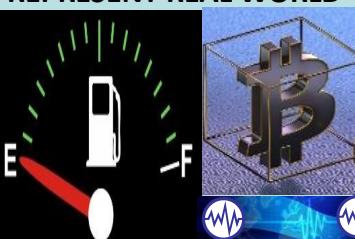
**AETERNITY CROSS-CHAIN ATOMIC SWAPS CORRESPOND TO HEART BEACON CYCLE'S USE OF BATTLEFIELD DIGITIZATION DERIVED HEARTBEAT SYNC DELTAS**



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

**TOKENS REPRESENT REAL WORLD VALUE URN RESOURCES**

ETHEREUM USES GAS GUAGE MEME INDICATING THRESHOLD MET / NOT MET



**ROLES Meters RULES Metrics**

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

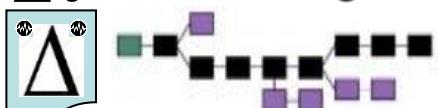
**Federation Gateway**  
("ORG\_ID")



# HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$  Shared Ledger



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

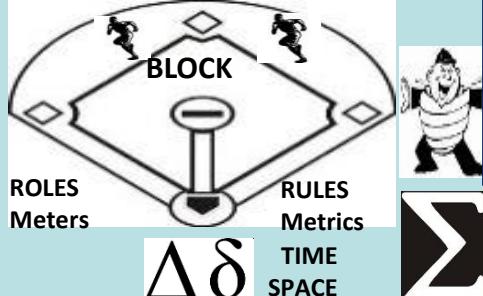
FEDERATION  
**Federation Gateway**

METRICS ("Organization ID")  
METERS

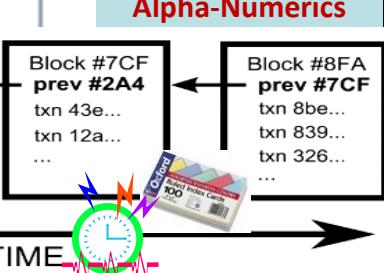
RESTFUL SYNC DELTA  
CHANGE MANAGEMENT  
MICRO-MACRO CYCLE



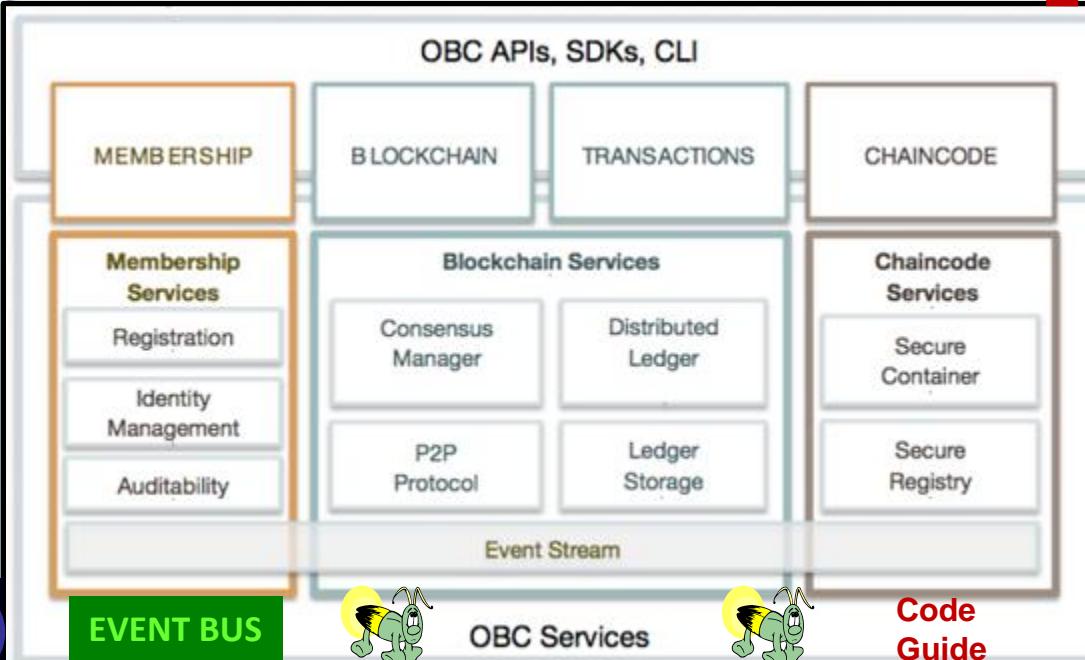
BLOCKTIME ARBITRAGE



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



Alpha-Numerics



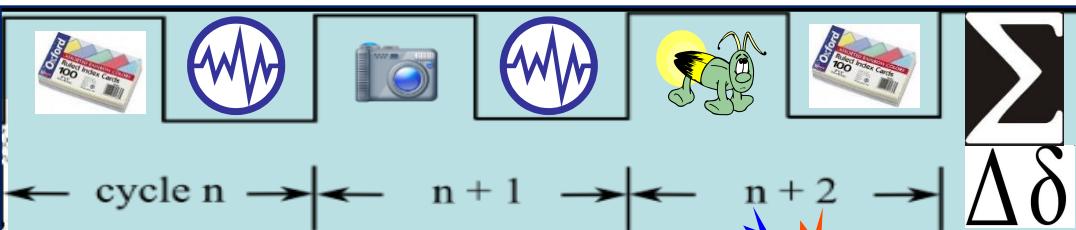
ROSETTA STONE

XBR / CDL / DAML  
STOCK MIC CODES

STRUCTURED  
MILITARY MESSAGE  
TEMPLATE FORMS  
LOGIC / FILTERS

SYNTAX  
SYMBOL LIBRARY

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



MICRO-MACRO CYCLE SCHEDULE



FFIRNS  
FFUDNS

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

# 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.

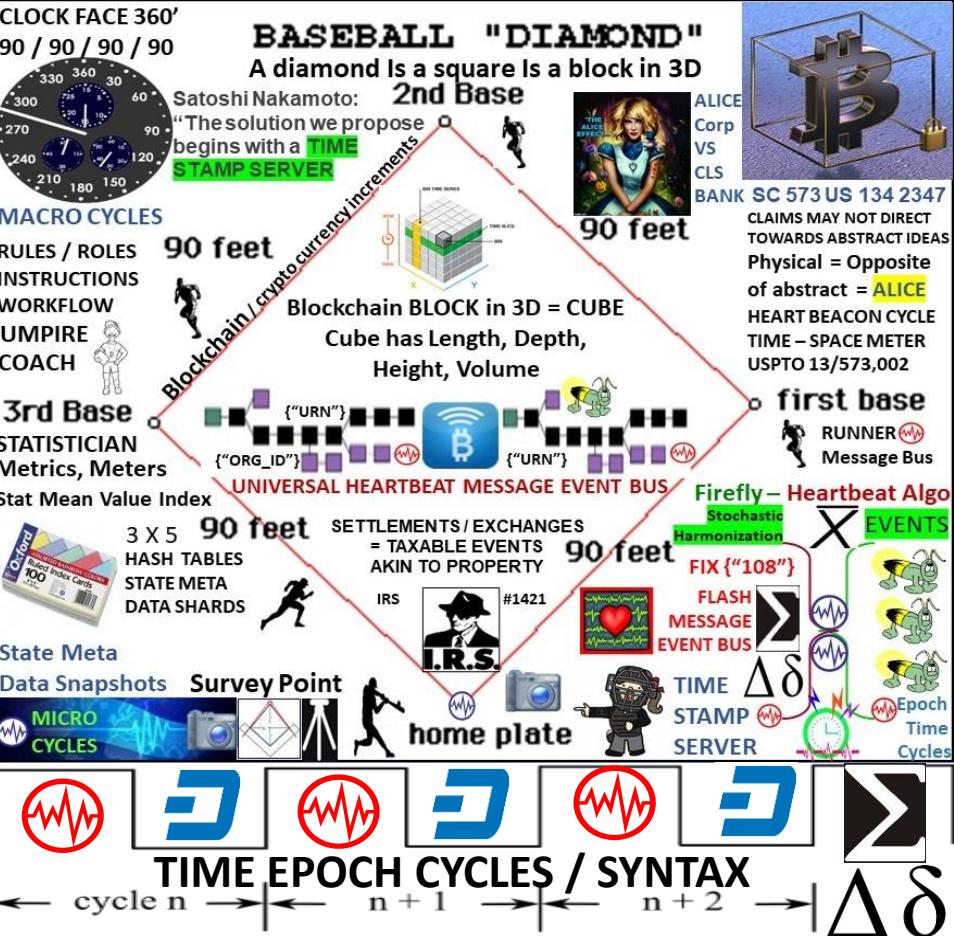
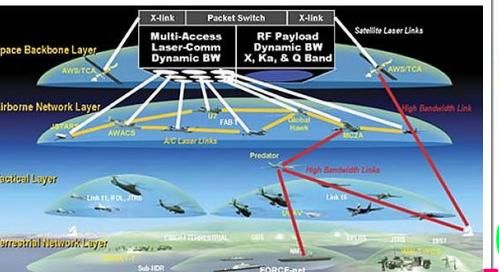
"Its makeup is thus: the block reward is divvied up in three parts. The first 45 percent goes to [Dash's miners](#). Another 45 percent goes to its Masternodes. And 10 percent is set aside to fund whatever other jobs or expenditures the Dash network deems necessary"

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.



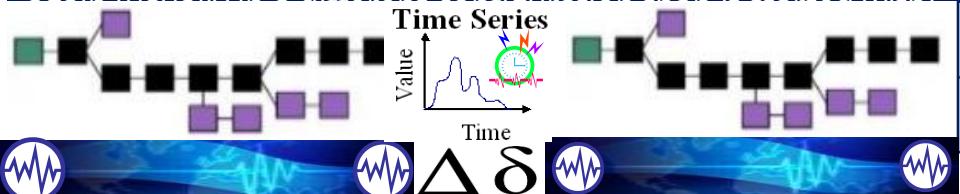
1. Part of the blockchain state is locked via multisignature or smart contract convention, so that a specific set of participants must completely agree with each other to update it.



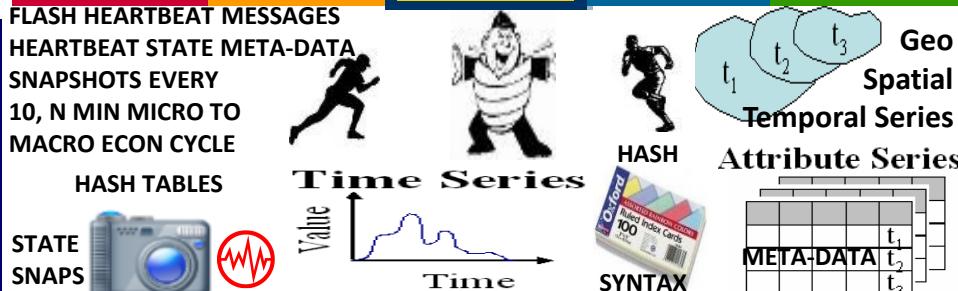
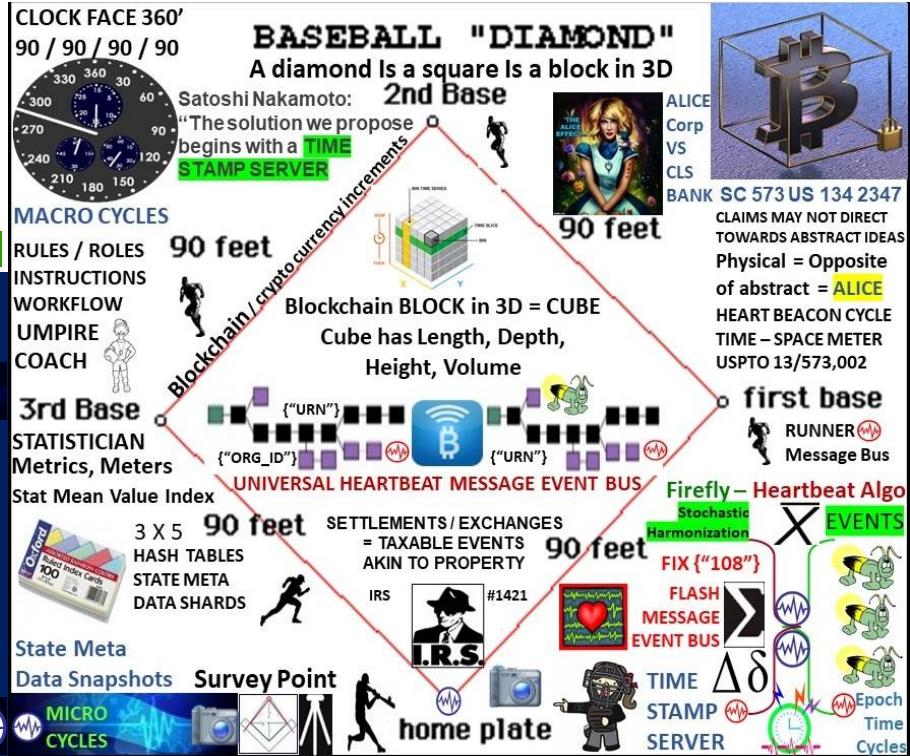
2. Participants update the state amongst themselves by constructing and signing transactions that *could* be submitted to the blockchain, but instead are made available for a new update "trumps" previous update.



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



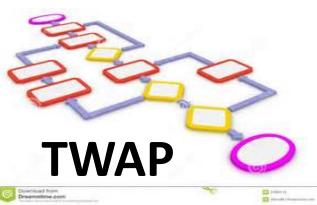
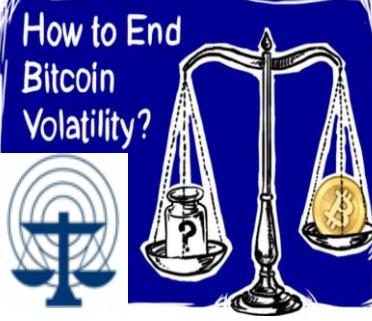
**NEW UPDATES OVERWRITE THE PREVIOUS:** simplest way is to have any unlocking attempt start a timer, during which any *newer* update can replace the old update (restarting the timer). When the timer completes, the channel is closed and the state adjusted to reflect the last update received. The length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



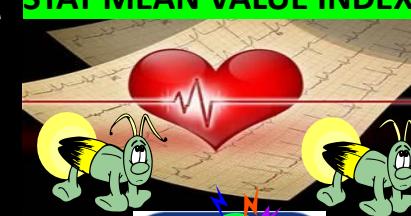
**Firefly - Heartbeat synchronization:** nodes in a distributed system generate periodic, local "heartbeat" events approximately at the same time with a goal of all nodes starting / ending cycles at the same time eventually = HB CYCLE

# TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

## TWAP GOAL: provide a Time Weighted Average Price Benchmark



FIREFLY HEARTBEAT ALGO  
STAT MEAN VALUE INDEX



EPOCH TIMES



STATE META  
DATA SNAPSHOTS



STATE SAMPLE

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



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



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

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



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

Key Features:

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



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

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

All rates time-stamped in UTC.

Ability to look up by time-stamp.

Ability to look up by block-height.

Asset Classes: Digital Currencies

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

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

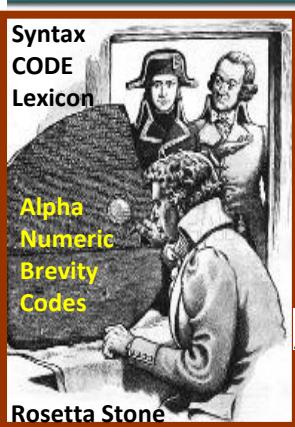
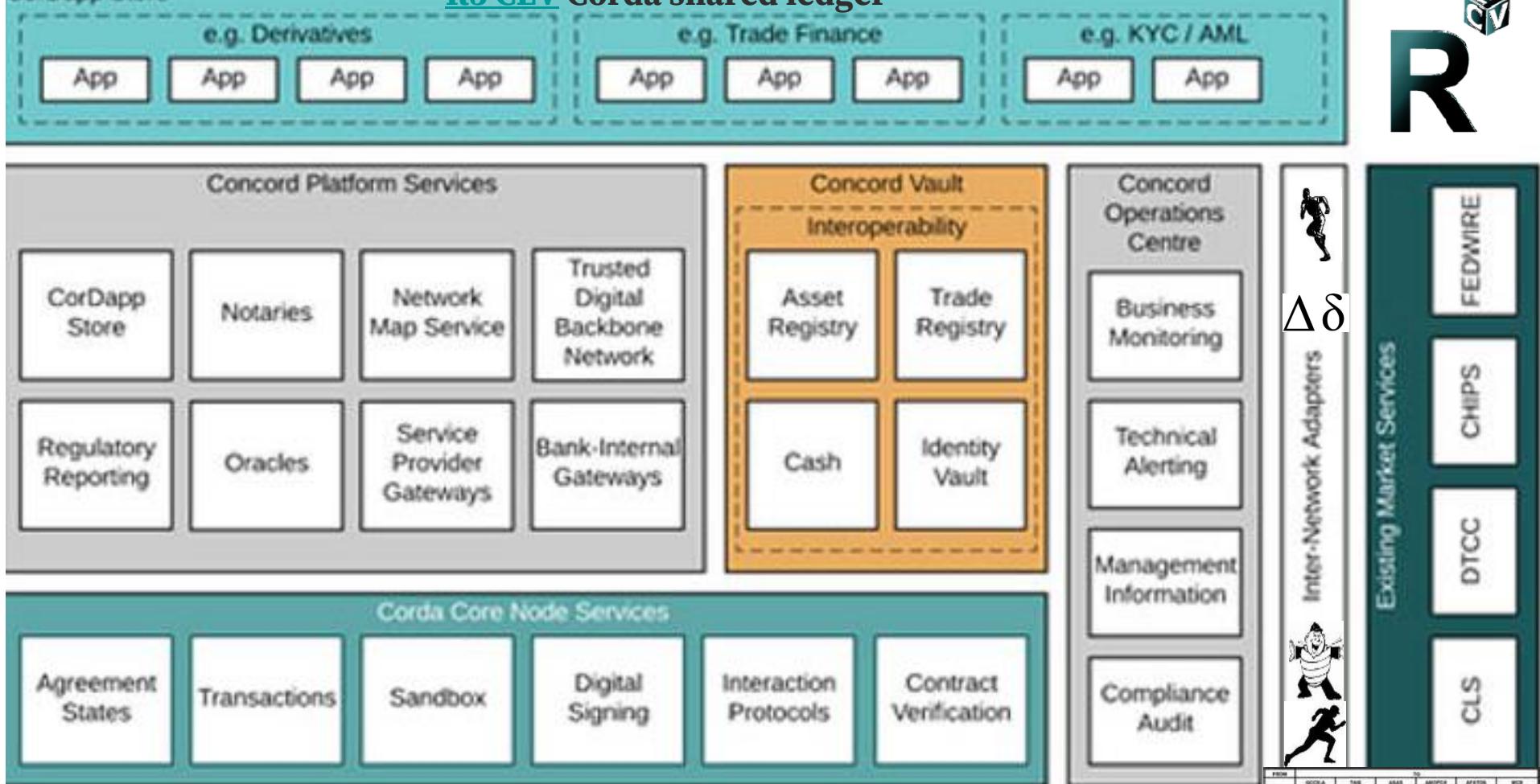
"Blocks are a measure of time":

The Bitcoin Blockchain 'B-WAP'

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

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



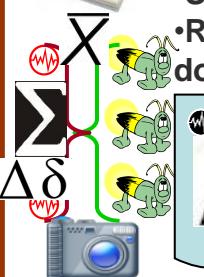


### UNIVERSAL EVENT BUS



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

	Q1Q2	Q2Q3	Q3Q4	Q4Q1	Q1Q2	Q2Q3	Q3Q4	Q4Q1	Q1Q2
ABAR	F0001	F0002	F0003	F0004	F0005	F0006	F0007	F0008	F0009
AMDFPS	F0009	F0010	F0011	F0012	F0013	F0014	F0015	F0016	F0017
AFATON	F0017	F0018	F0019	F0020	F0021	F0022	F0023	F0024	F0025
CORCFC	F0025	F0026	F0027	F0028	F0029	F0030	F0031	F0032	F0033
DTSB	F0033	F0034	F0035	F0036	F0037	F0038	F0039	F0040	F0041
METS	F0041	F0042	F0043	F0044	F0045	F0046	F0047	F0048	F0049
PNCB	F0049	F0050	F0051	F0052	F0053	F0054	F0055	F0056	F0057



### Federation Gateway

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



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



$\Delta\delta$



CLS

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

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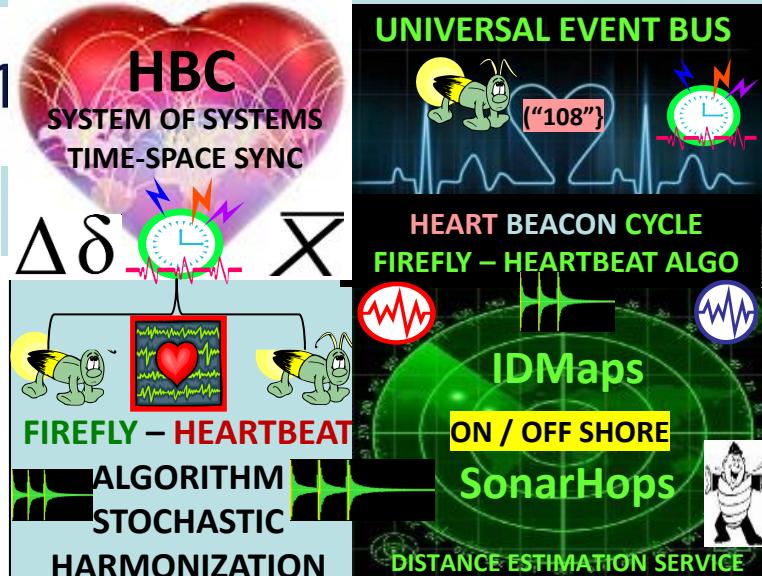
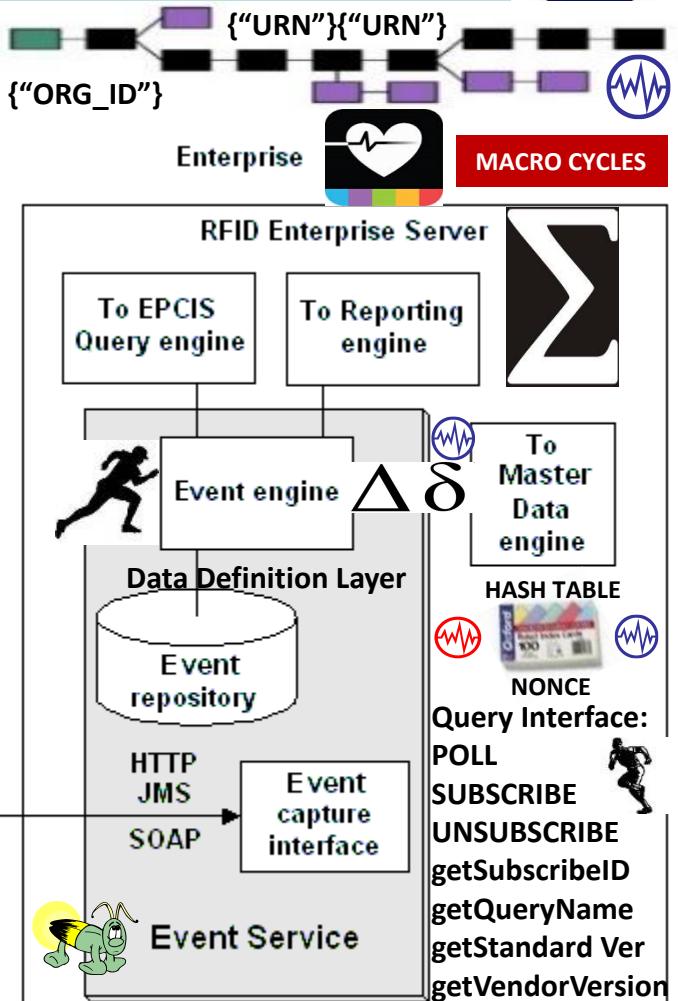


**Electronic Product Code Information Services (EPCIS)**

## GS1 Standard for creating, sharing visibility event data



# HBC SYSTEM OF SYSTEMS TIME-SPACE SYNC



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

## RFID Configuration TCP/IP heartbeat message

## **STRUCTURED DATA EXCHANGE / STRUCTURED MILITARY MESSAGES**

## Core Business Vocabulary (CBV)

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

**When** date time when event took place, local time zone in effect  
**Where** location identifier where event occurred, identifier of

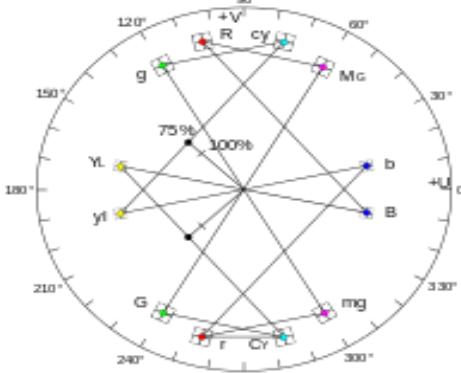
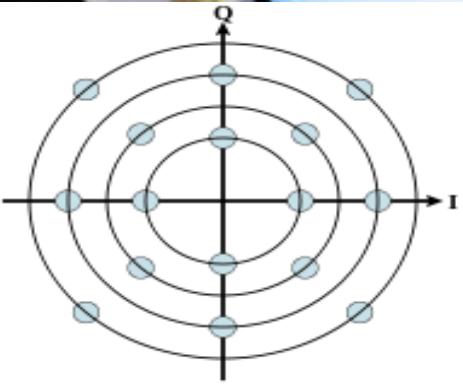
**location where object(s) are expected to be following the Why Information about the business context, including: a Identifier that indicates the business step taking place**



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



[www.RLighthouse.com](http://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”

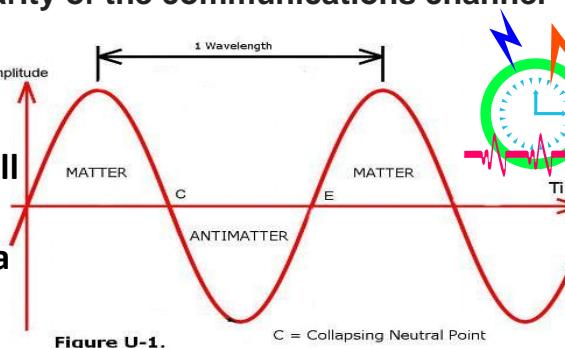


Figure U-1.

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](http://sawconcepts.com/index)

NDN

IDMaps

SonarHops

“Distance”

“Interest”

vector

“Ping”

“Pong”

“Blink”

“Clock”

“Adjusted”

5:45 PM

“Data”

“Time”

“Space”

“Intensity”

“Metrics”

“Geo-Spatial”

“Temporal”

“Intensity”

“Metrics”



TERRA  
TRC



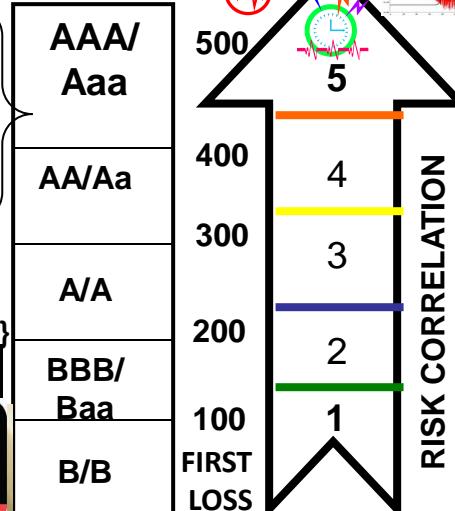
ECONOMIC HEARTBEAT



HB MSG </108>  
PROTOCOL

INDUSTRY-DRIVEN MESSAGING STANDARD

LAST LOSS



FIRST LOSS  
PROCESS BY </PRECEDENCE>  
SonarMaps ID\_Hops

HEARTBEAT STATE META DATA SNAPSHOTS

Cloudcenter Cloudcenter

IEEE 802.15.4 OASIS MQTT

TELEMETRY TRANSPORT IEEE C37.118 Harmonization & Sync heartbeat update Interval

IEEE 802.1AG HOP BY HOP DETECTION

HOP BY HOP CONTROL Paul Revere Linear, Sequential

Bitcoin = Property IRS Memo #1421

% Block Mined % Block owned Mined Bitcoins Unmined Bitcoin:  $\Delta\delta$  Land Use Meme

ON OFF SHORE Triangulation Euclidian Geo GPS GEO LOC DATE TIME STAMP

NDN </INTEREST> NDN {"DISTANCE"}  $\Delta\delta$

Demurrage Charges vector  $\Delta\delta$

Heartbeat Snapshots  $\Delta\delta$

ALGORITHM Heartbeat CYCLES  $\Delta\delta$

ERLANG

Time Series Database CONTRIBUTIONS TO STATISTICS

X  $\Sigma$   $\Delta\delta$

{"TAGGED BITCOINS"} Veritaseum

Spatial Econometrics

Price Indexes in Time and Space Methods and Practice

BLOCKTIME ARBITRAGE Blockchain Timestamps NDN

ON / OFF SHORE PROXIMITY BEACONS NDN

BLOCKCHAIN PARSING HOPS / RADIUS = REACHABILITY

WATER DROP IN POND MEME AREA RADIUS

</FILTERS> BY ORG ID / URN

NDN </INTEREST> </DISTANCE>

Closer = Cheaper

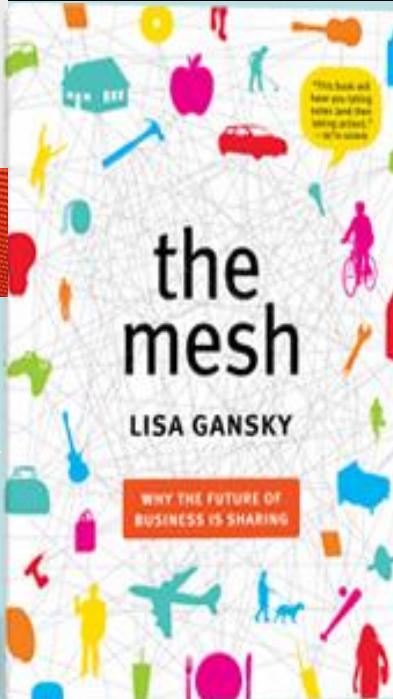
Closer = < Fuel



COINTELEGRAPH  
live cryptocurrency community opinion



## Decentralized Exchange Meets Decentralized Crowdfunding



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

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



## Autonomous Device Coordination Framework



Rules of engagement

FEDERATION AGREEMENTS

PROCEDURAL TEMPLATE

Registration

Authentication

Proximity based rules

Consensus based rules

Contracts

Checklists

## FEDERATION

<UUID> <ORG\_ID> <URN>

LDAP DIRECTORY

Physical proximity

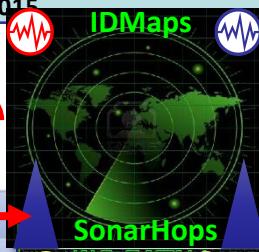
Social proximity

Temporal proximity

Agreements

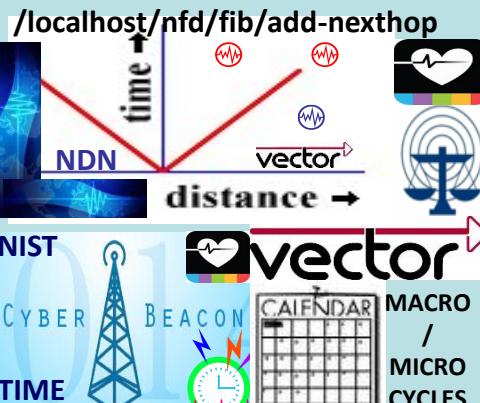
Payments

Barter



NIST TIME BEACON

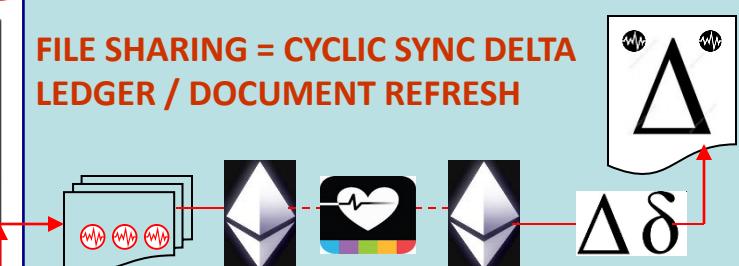
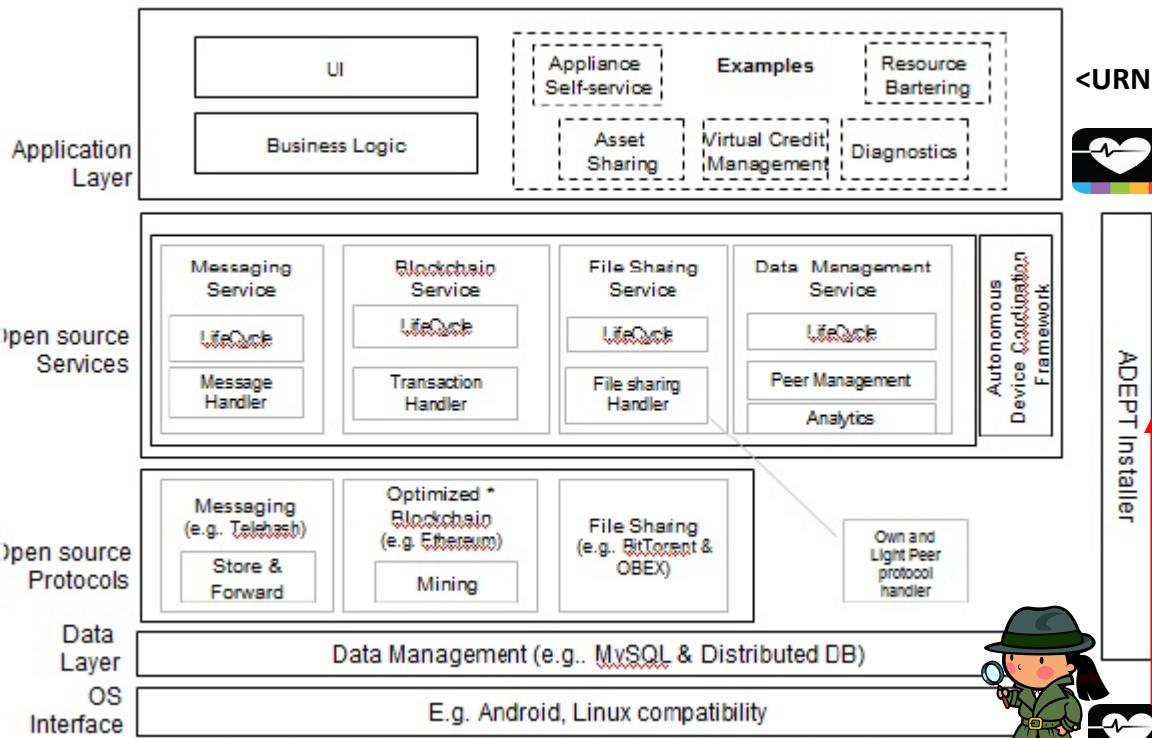
TIME



PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS

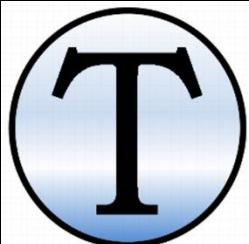
<URN> DESCRIBES COMMODITIES ETC BY UNIFORM RESOURCE NAME BY </INTEREST>>

## ADEPT Standard Peer Architecture – Logical View



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



## 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.

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 <sup>th</sup> 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)...

## 3. A software protocol

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



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.

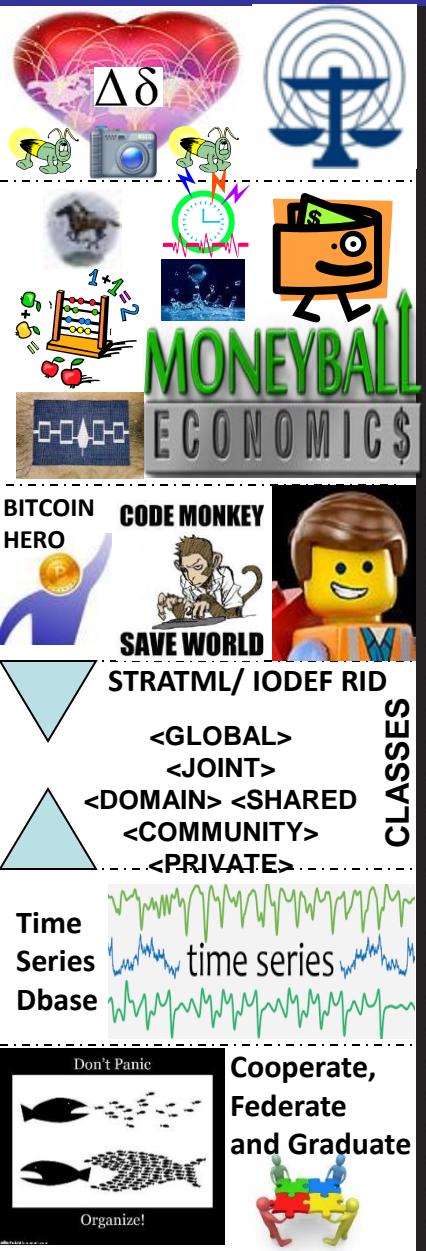
# How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

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

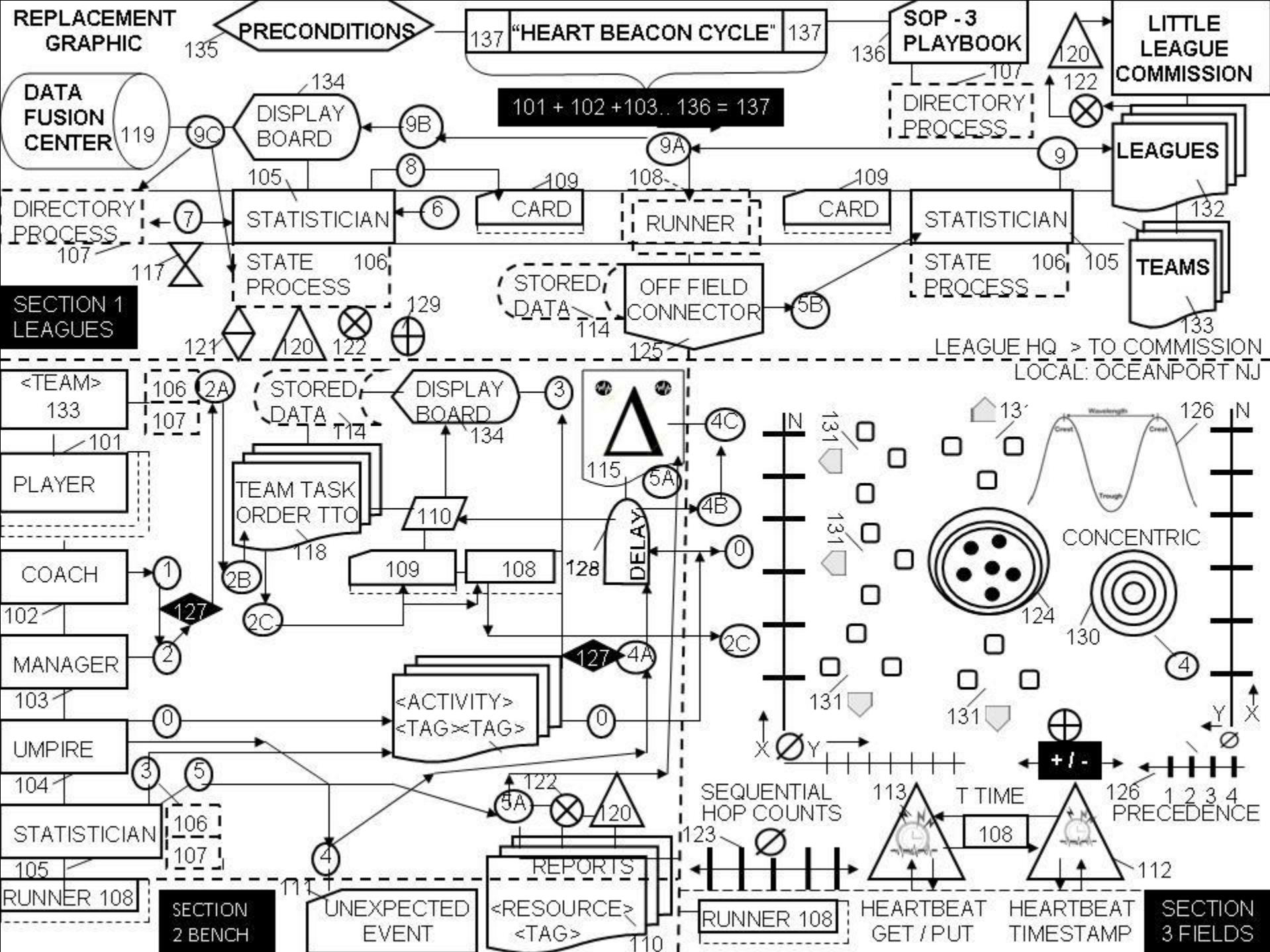
The most important equation in monetary economics, the equation of exchange:  $MV=PQ$ . The quantity of money (M) times the rate spent (V for velocity) equals the price of everything bought (P) times the amount bought (Q for quantity). In Bitcoin, M Money is on a predetermined path, converging to 21m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

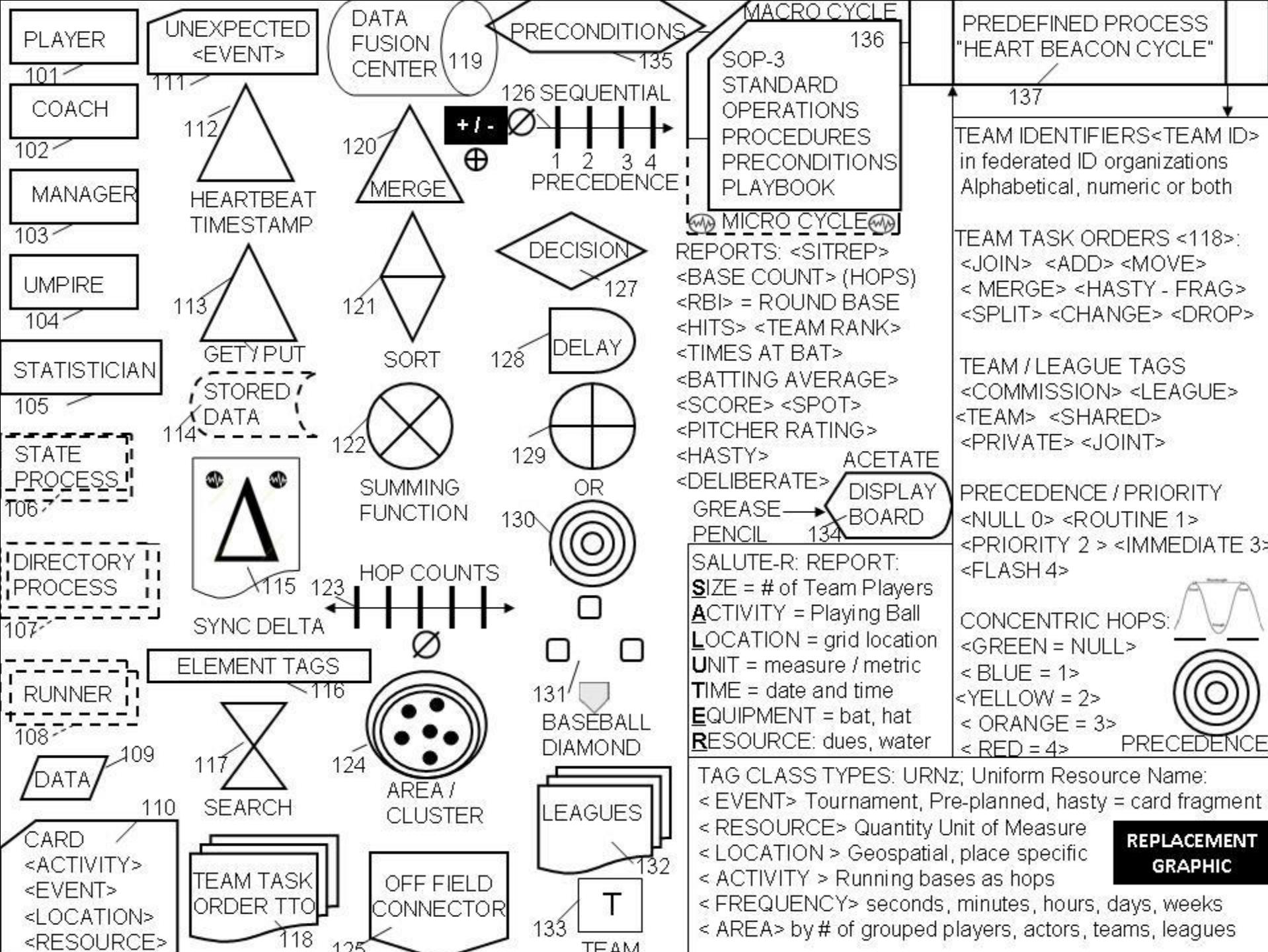


**Gamification** is the use of game thinking and game mechanics in non-game contexts to engage users in solving problems. Gamification techniques strive to leverage people's natural desires for competition, achievement, status, self-expression, altruism, closure.









# BUILDING BLOCKS



TASK ON / OFF

201

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



MACRO CYCLES



.0001

MICRO CYCLES  
216

219

CLOUD COMPUTING



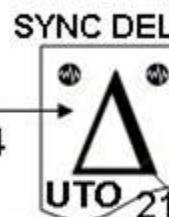
218

**202 FEDERATED GROUP JOINS, MERGE, ADDS, DROPS**

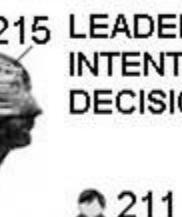
**B2: BUILDING BLOCK 2: ADAPTIVE, CYCLIC, ITERATIVE PROCEDURAL TEMPLATES: XML ARTIFACTS i.e. UNIT TASK ORDER & K00.99 HEARTBEAT SYNC DELTA MESSAGES / STATE META DATA SNAPSHOTS IN NETWORK EXECUTION MANAGEMENT MARKUP OF SERVICE INTERFACE ARTIFACTS**



214



UTO 213



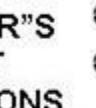
215



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



212



219



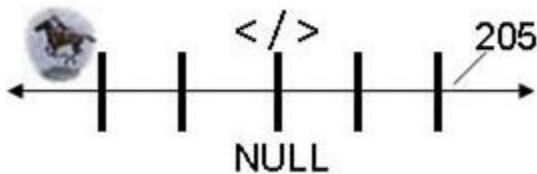
210

203

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



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



LENGTH, THRESHOLD, INTENSITY, DURATION

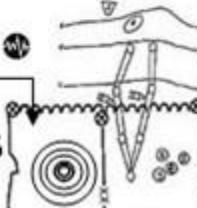


SEARCH FOLLOWED BY ARBITRAGE INVITES VIA  
BEACON NEWSCASTS. INVITE ACROSS SPACE / TIME

208



APPLIQUE' OVERLAYS



209

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



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

**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

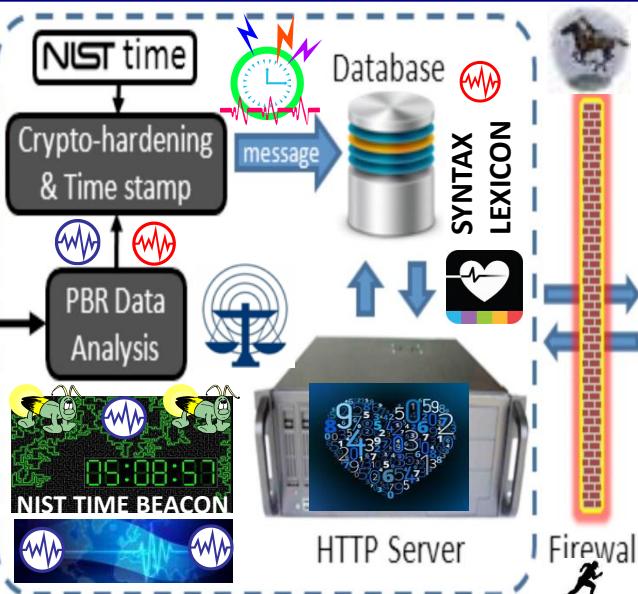
SECURE AUTHENTICATION

SECURE MULTI

PARTY /  
AUTHENTICATION

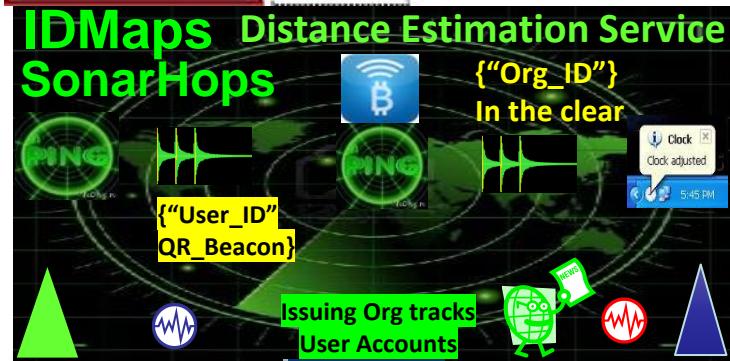
Entanglement  
Source

RANDOM  
NUMBER  
GENERATOR



**NON  
REPUDIATION**

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



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

Metrics and Time - Space Meter uses PHYSICAL Memes / Metaphors

**NAMED DATA  
NETWORKING**

Time / Distance Metrics



PROXIMITY

NDN  
</Interest>  
</Distance>

**SURVEY METHODS**  
+ TRIANGULATION  
Euclidian Geometry

Geodesic System Routing Info Base RIB

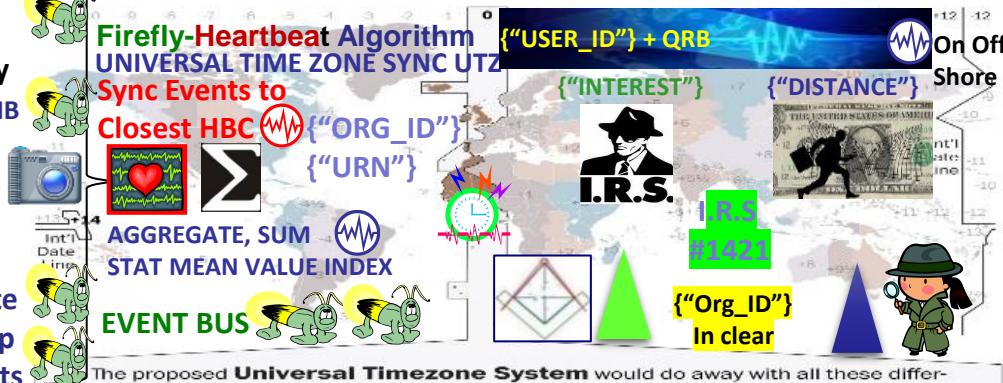
ACCOUNT BELONGS TO </Org\_ID>

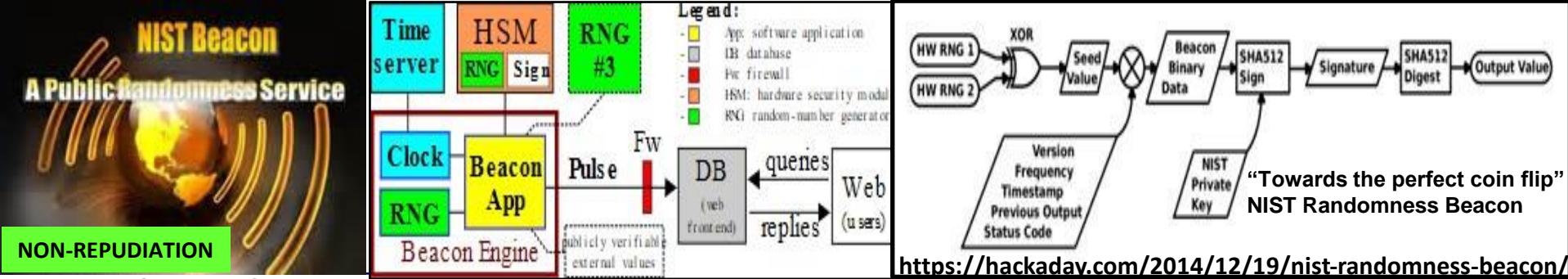
RESOURCE TYPE: <URN><URN><URN>

DEVICE / SENSORS <UUID><UUID>

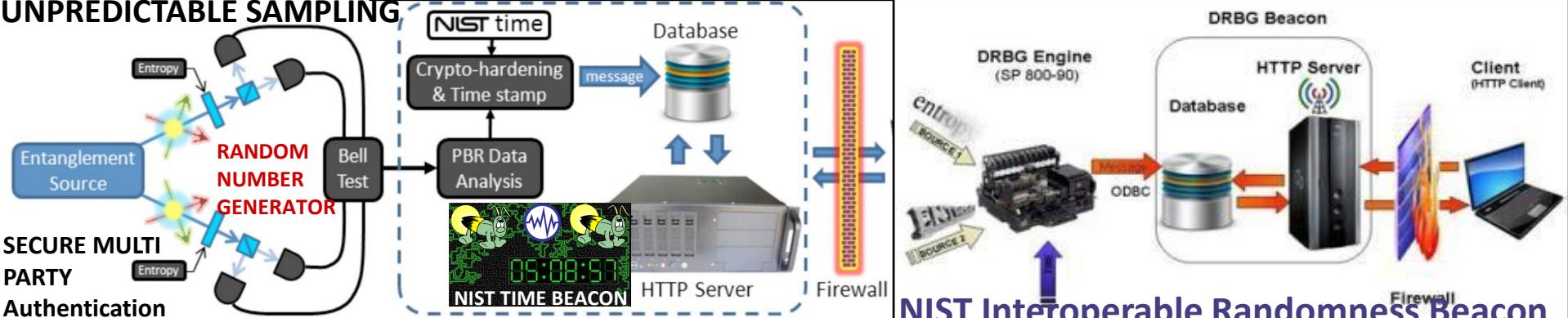
Higher-level services collect distance data to build virtual distance map of Internet & estimates distance between any IP address pair

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





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



## NIST Interoperable Randomness Beacon

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

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

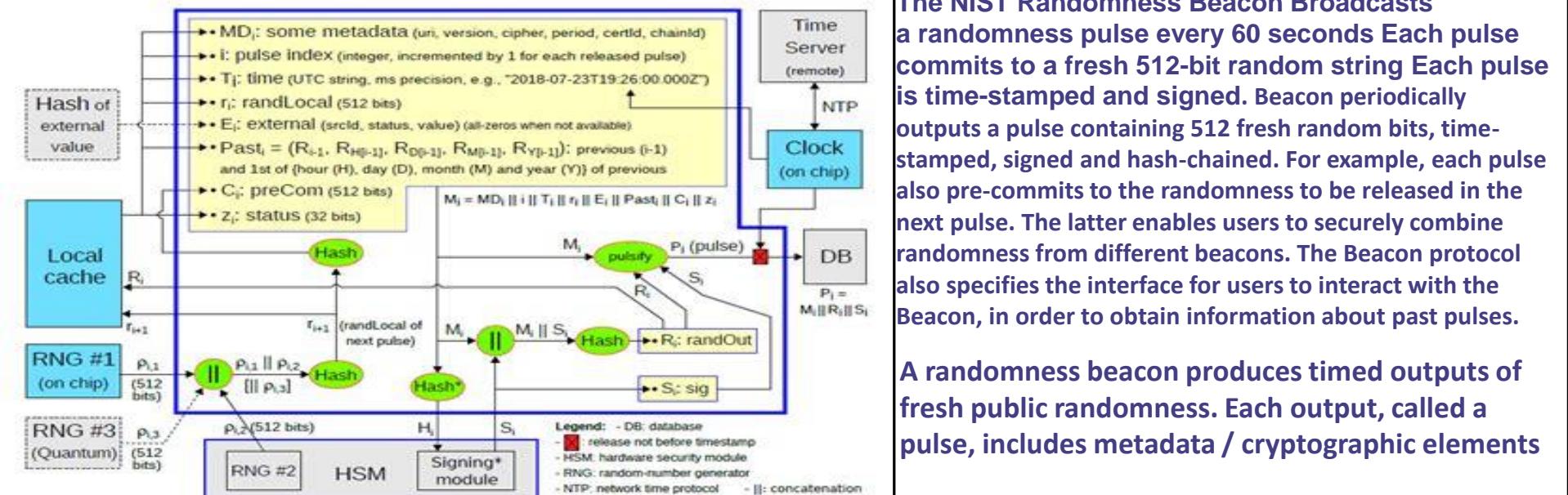


Figure 2. Illustration of the generation of the  $i^{\text{th}}$  pulse by a Beacon App (2.0)

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

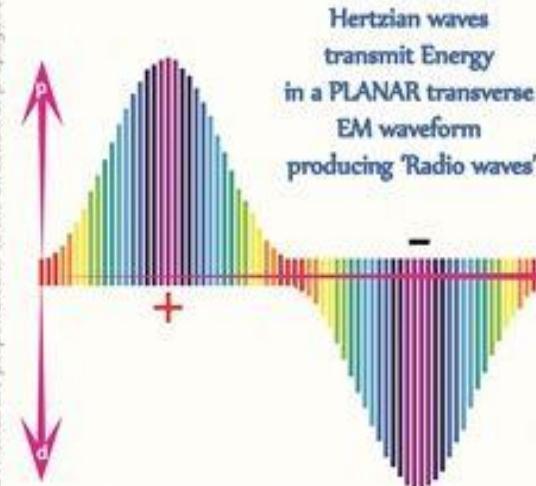


CLOSER = < Infrastructure  
= CHEAPER SLA

# ElectroMagnetic waveforms



ENERGY / DATA  
Over  
Transmission  
Lines / Airwaves



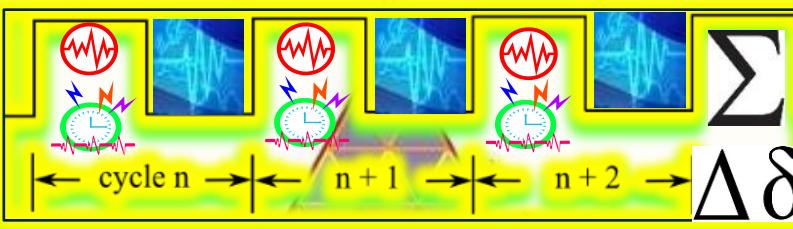
In 1887, Heinrich Hertz demonstrated the reality of Maxwell's electromagnetic waves by experimentally generating radio waves in his laboratory.

*f*

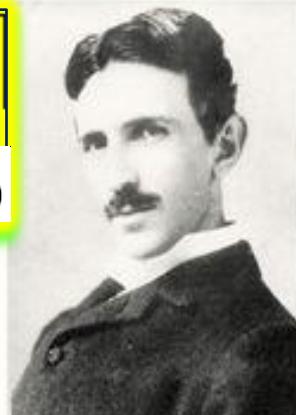


(22 February 1857 - January 1 1894)

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



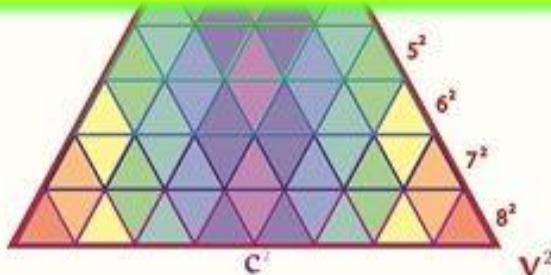
Nikola Tesla



(10 July 1856 - 7 January 1943)

*V*

Cycles per Second



Volts per Second

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

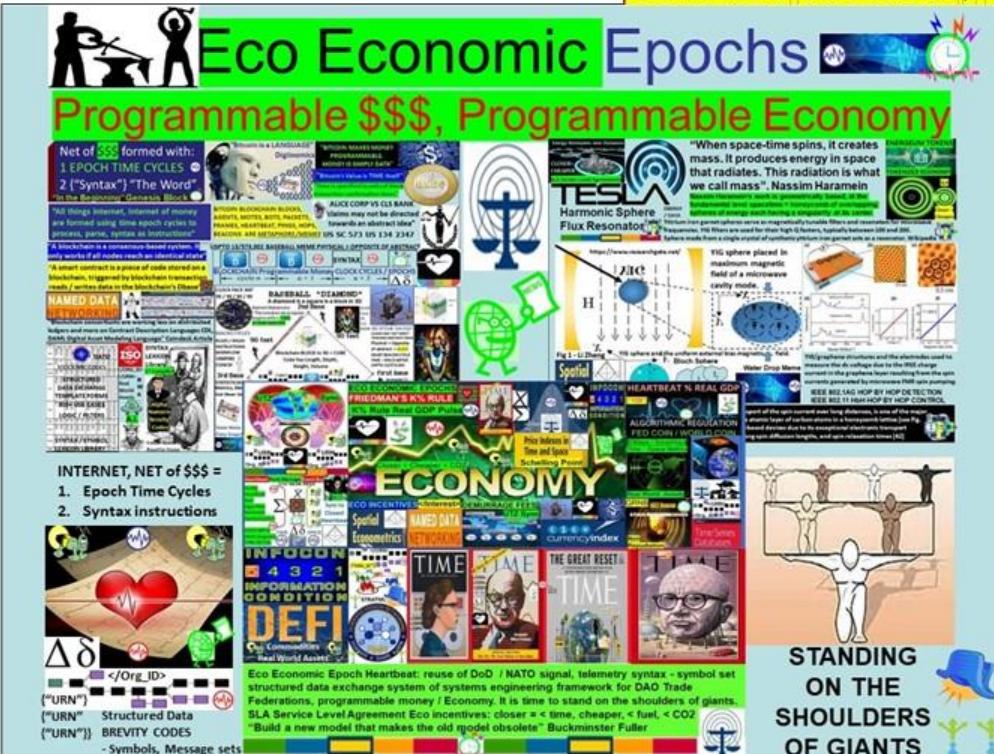
# World monetary unit World energy grid



MICRO CHIP BASED CURRENCIES  
CRYPTO CURRENCY  
MINING CHIP FARMS



GEO MAGNETIC POLE SHIFT EVENTS

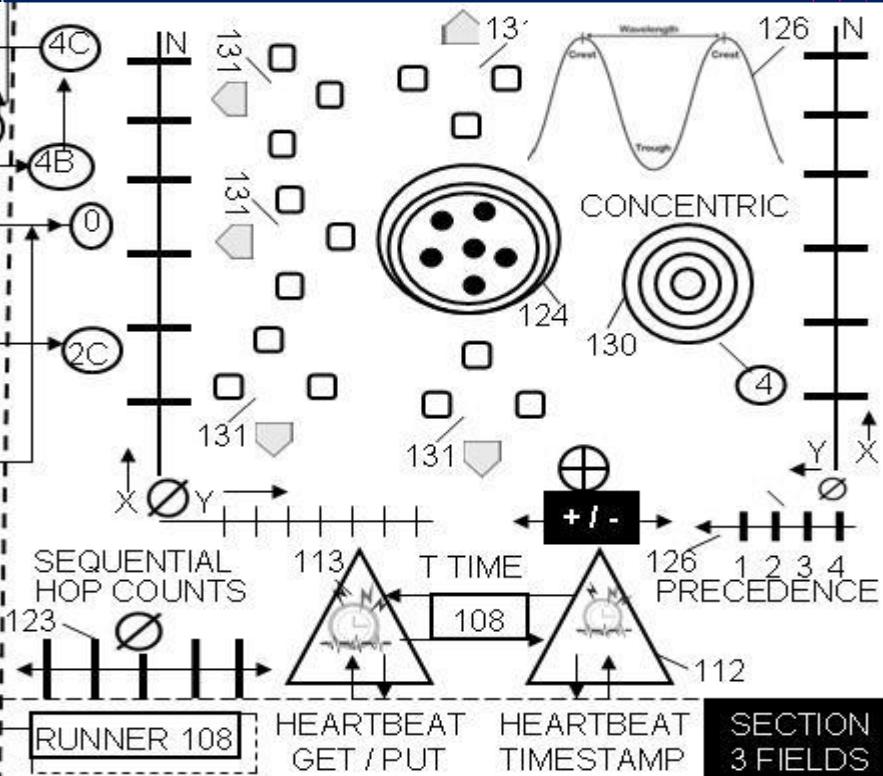
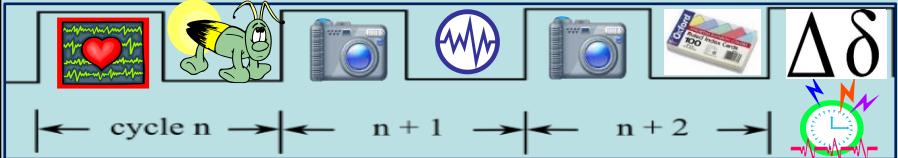
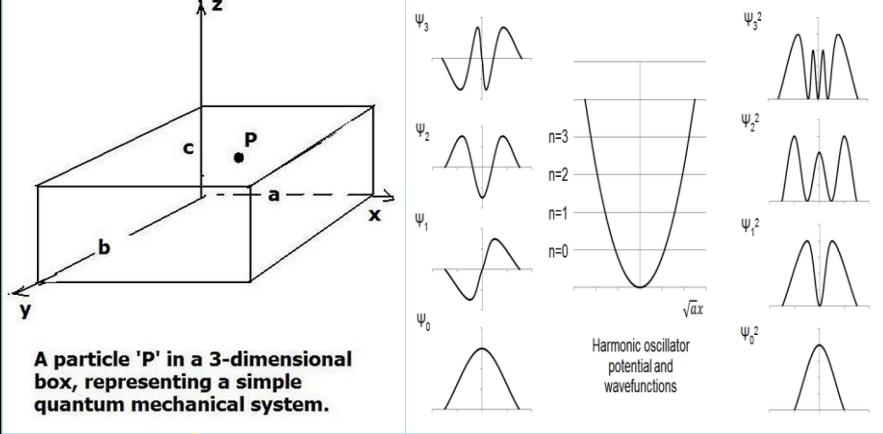


Germany Weimar Republic 1929  
E 5 reichsmark Silver Silver Plated

## Solar Nova + Pole shift Vs Crypto chips

The 1859 Carrington Event impacted telegraph wires. Is it time to relook at the world's monetary unit of value in light of a energy grid / internet that is disabled? The Carrington Event was the most intense geomagnetic storm in recorded history, peaking from 1 to 2 September 1859 during solar cycle 10. It created strong auroral displays that were reported globally [1] and caused sparking and even fires in multiple telegraph stations. The geomagnetic storm was most likely the result of a coronal mass ejection (CME) from the Sun colliding with Earth's magnetosphere. [2] #money #currency #energy #solar #nova

## 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

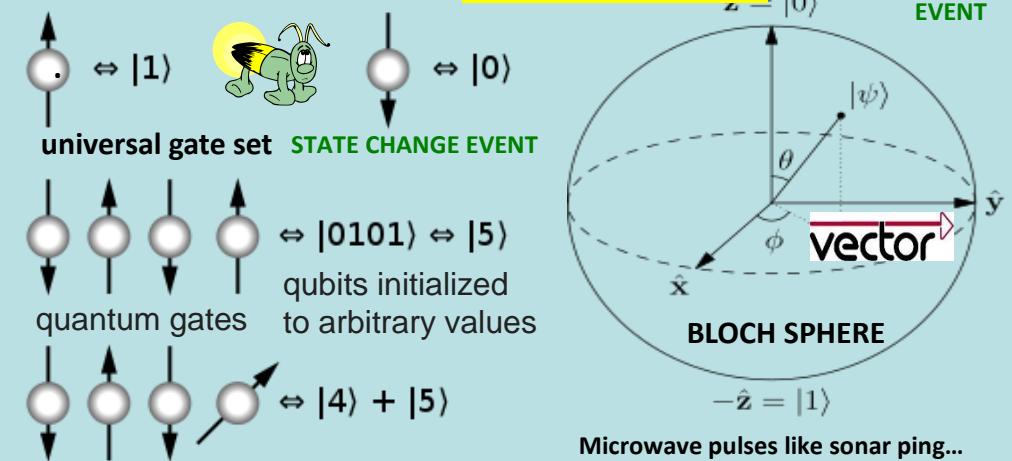
Vertical polarization vectors from a known point 0 null Sonar Hop meme



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?



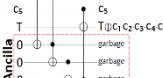
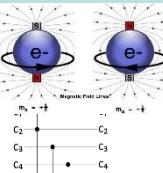
qubits can be in a superposition of all the classically allowed states

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)

$$|00\rangle = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix} \quad |01\rangle = \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix} \quad |11\rangle = \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix}$$





# The Hopf Fibration

Edmund Harriss

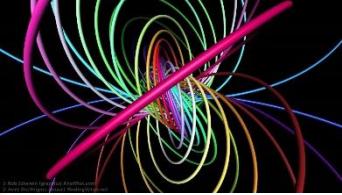
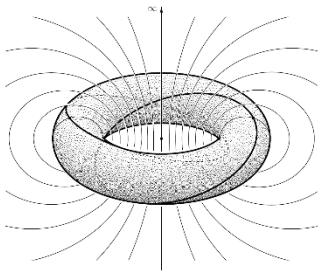
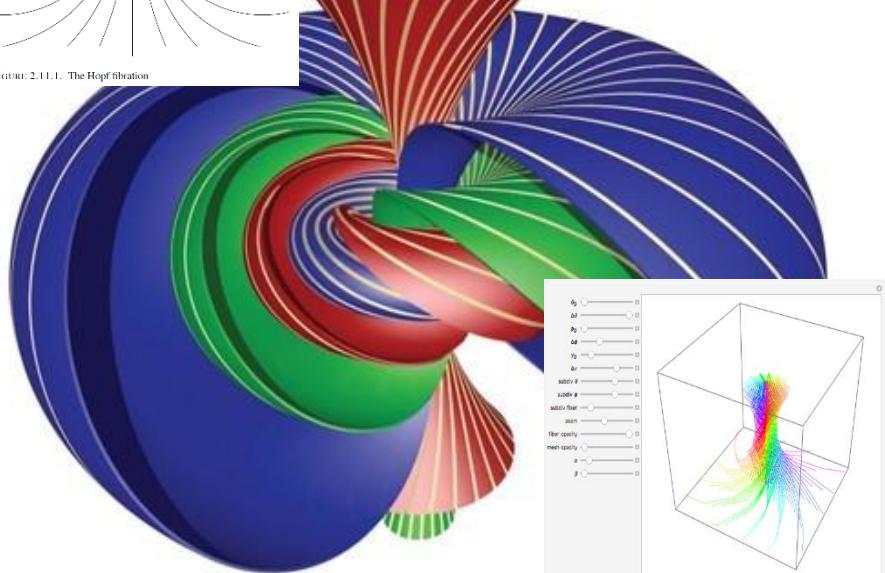
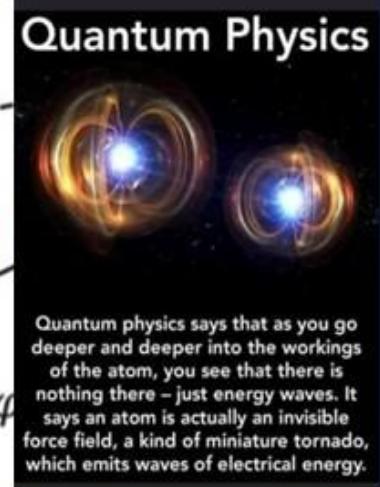
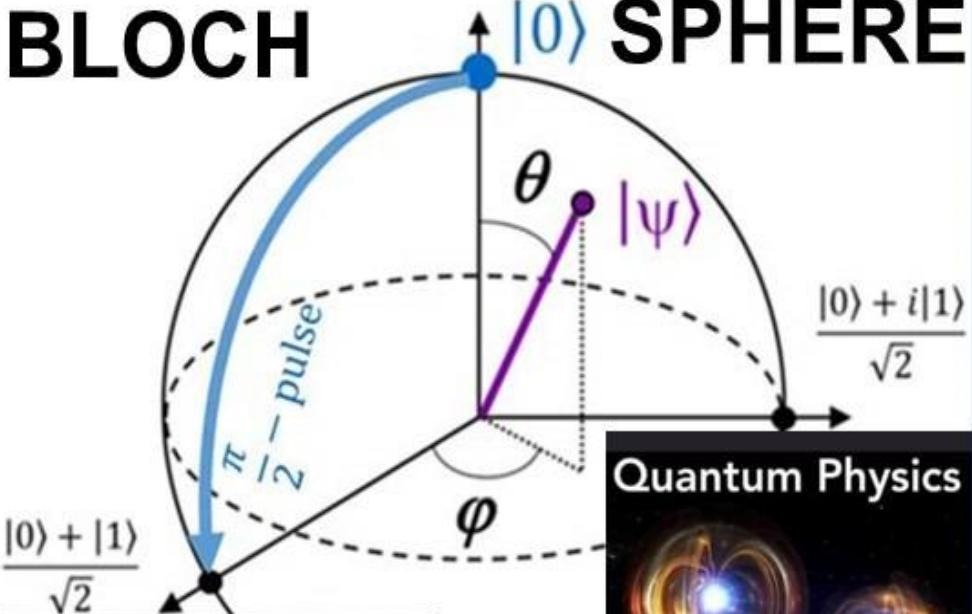


FIGURE 2.11.1. The Hopf fibration



# BLOCH SPHERE



Quantum physics says that as you go deeper and deeper into the workings of the atom, you see that there is nothing there – just energy waves. It says an atom is actually an invisible force field, a kind of miniature tornado, which emits waves of electrical energy.

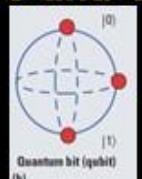
## Hopf Fibration / #Bloch sphere

"the most important object in the universe"

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

Paul Revere linear - sequential hop count meme

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





# THE 1919 WORLD SERIES

## *What Really Happened?*

## **William A. Cook**



Stop patent trolls.  
Join The Alliance.

Application Developers Alliance

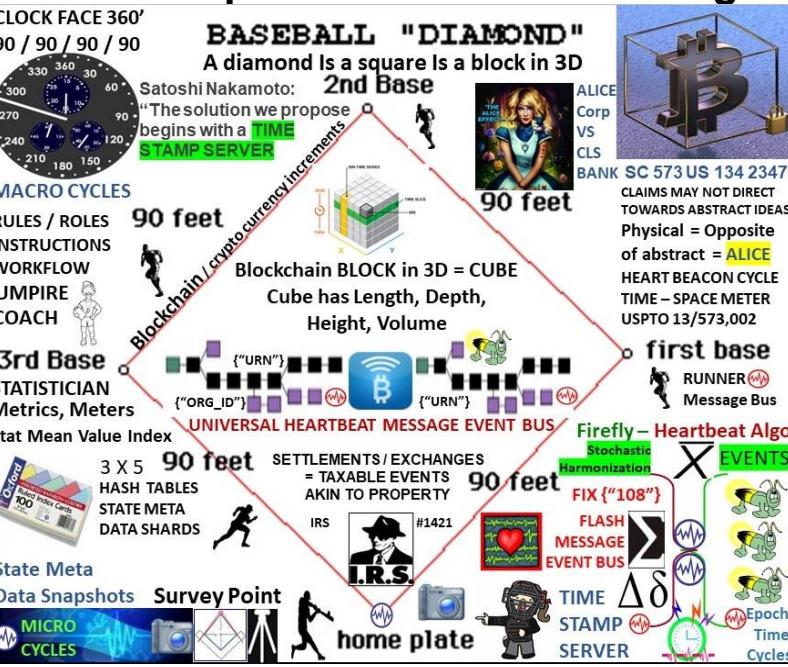


**Alice Corp. v. CLS Bank International, 573 U.S. 134 S. Ct. 2347 (2014)**  
**RULING: “claims may not direct towards abstract ideas”**

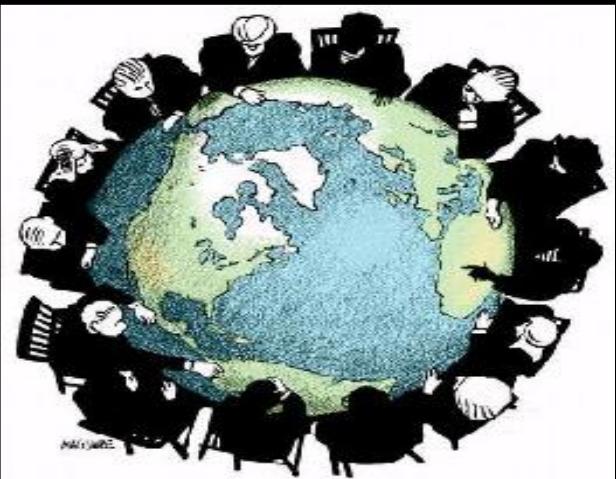


# USPTO SCREEN CAPTURES SUSPENDED PAIR RULES

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

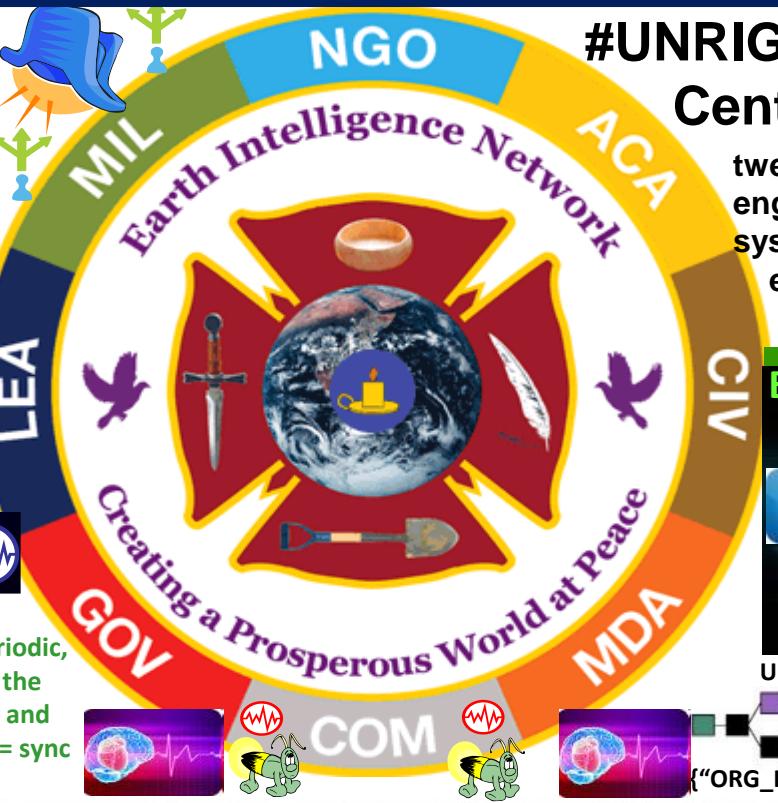
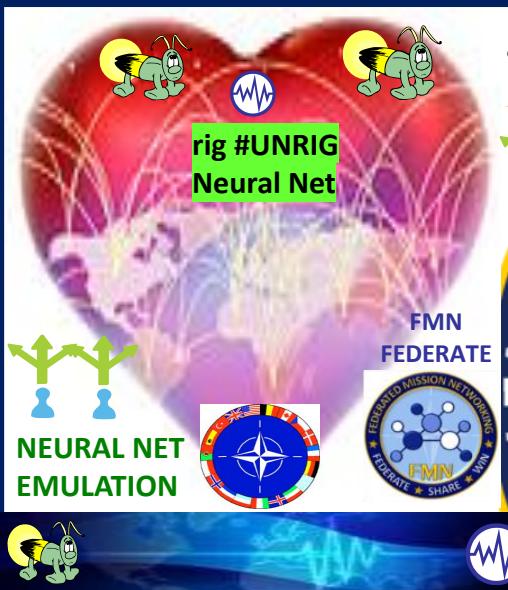






## **MINIMUM LIST OF COMPONENTS, BUILDING BLOCKS, PROCESSES, PROCEDURES AGREED ON BY TRADE FEDERATIONS TO ACHIEVE DISTRIBUTED AUTONOMOUS ORGANIZATION DAO CONSENSUS,**





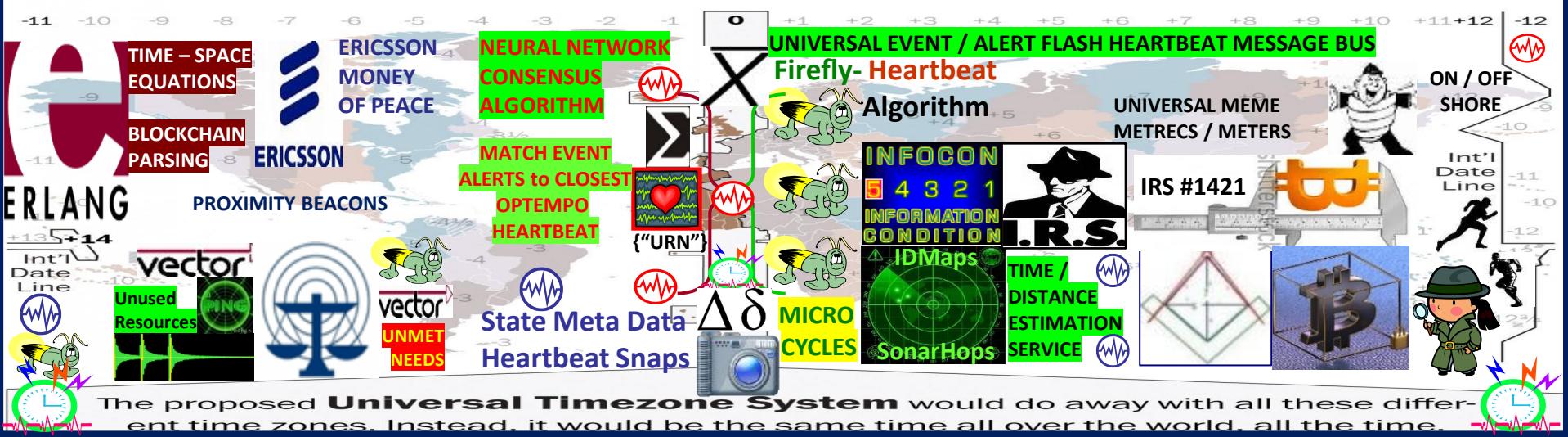
# #UNRIG Marine Corps Data Center Robert Steele RIP

Twelve reforms needed to create educated engaged democracy, unrig the "pay to play" system + DoD system of systems  
engineering structured data exchange  
best practice foundation DeFI technology



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 = sync to the closest **OPTEMPO HEARTBEAT**

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



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

# DAO: Distributed Autonomous Organization

## RAND term circa 2000 / The TAO OF THE DAO

### SWARMING AND THE FUTURE OF CONFLICT



RAND  
Monograph Report

THE  
ADVENT  
Of NETWAR



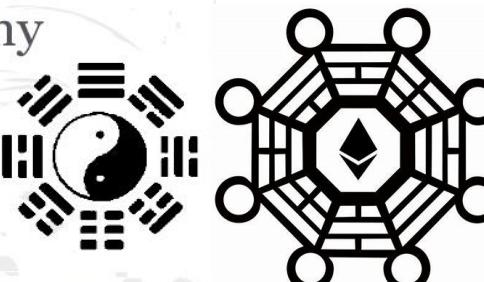
<http://cointelegraph.com/news/112077/the-new-frontier-after-cryptocurrency-cryptoequity>

## Taoism Philosophy

Taoism represents:

- Contraction of the past to the future.
- The transcendence of time and place.
- The balance of the old and the new.
- The balance between opposing forces and desires.

Overall the Taoism Philosophy represents "The Way" in which to live.



(An ancient philosophy tradition. This article involves the yin-yang or principle of harmony and change.)

Eris, The Dawn of Distributed Autonomous Organizations and The Future of Governance

@TheBitcoinArmy





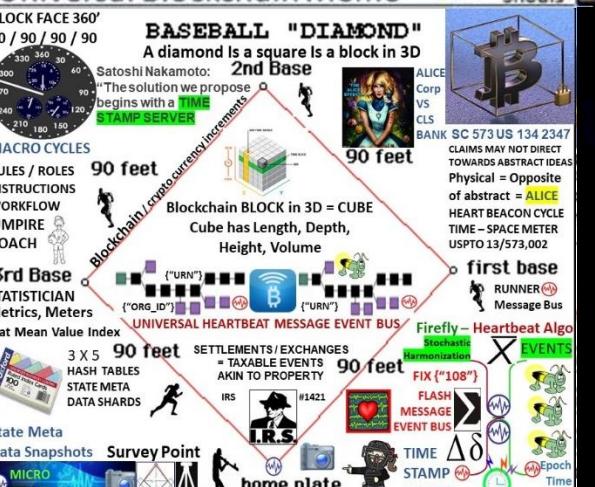
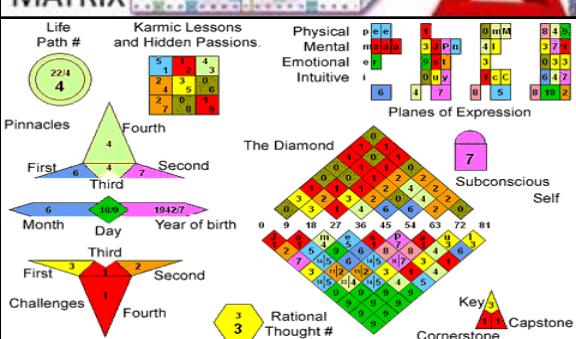
USPTO APPLICATION 13/573 002

## The Heart Beacon Cycle Time-Space Meter

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

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

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



Satoshi Bitcoin Blockchain  
Time Stamp Server

www.nature.com/scientificreports/ | (2022) 12:1030 | Article number: 1030

resolution we propose begins with a timestamp server. A timestamp server works by taking a block of items to be timestamped and widely publishes the hash, such as in a

super or Uncle post [2-5]. The timestamp proves that the data must have existed at the obviously, in order to get into the hash. Each timestamp includes the previous timestamp in it, forming a chain, with each additional timestamp reinforcing the ones before it.

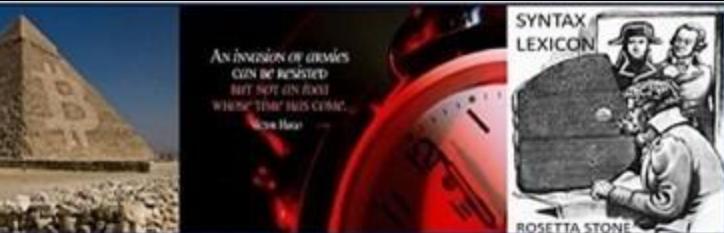
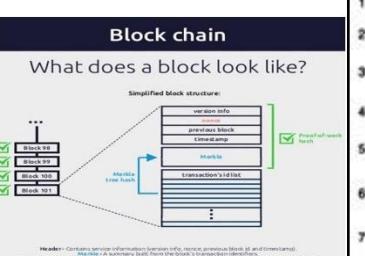
**Block**      **Block**

#### THE SOLUTION WE PROPOSE

THE SOLUTION WE PROPOSE  
BEGINS WITH A

REGINS WITH A  
NAME STAMP SERVER

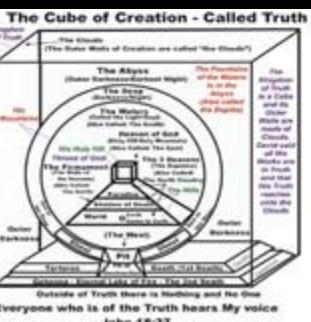
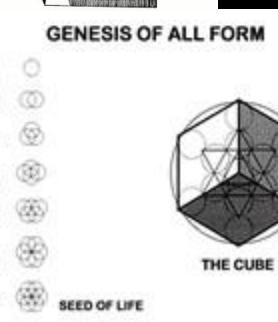
THE SWAN SERVICE



## Metatron's Cube and the Platonic Solids



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





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

-Buckminster Fuller

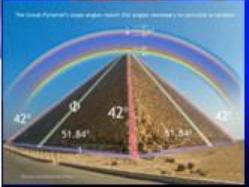


## THE GREAT CONJUNCTION IN AQUARIUS

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

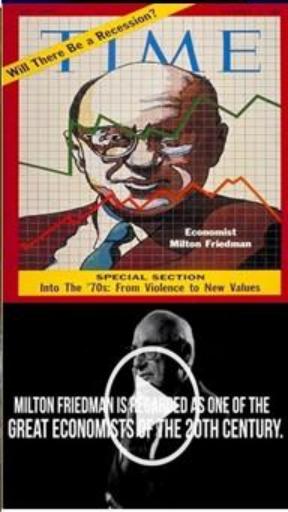
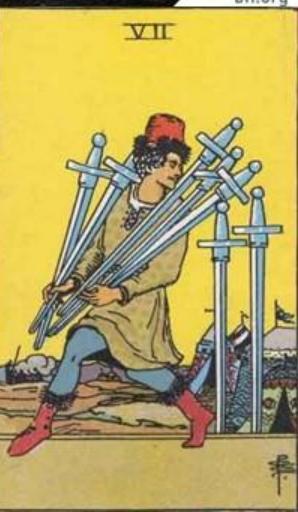
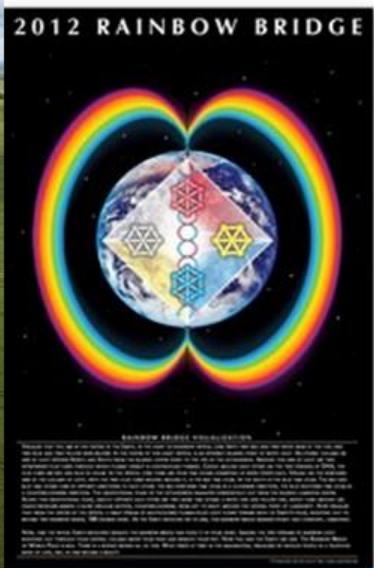
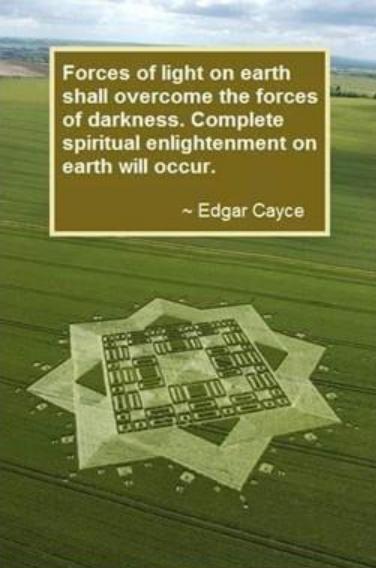
Over the next ten years, we are going to see our world innovate unlike never before, particularly in the fields of AI, technology, science, space travel, UFOs, networks, and the Internet. Major Universal truths will also be revealed as we welcome the New Age of Aquarius. The old world will soon come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

photo by werner du plessis



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

~ Edgar Cayce



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

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

Milton Friedman — Preface to Capitalism & Freedom 1962

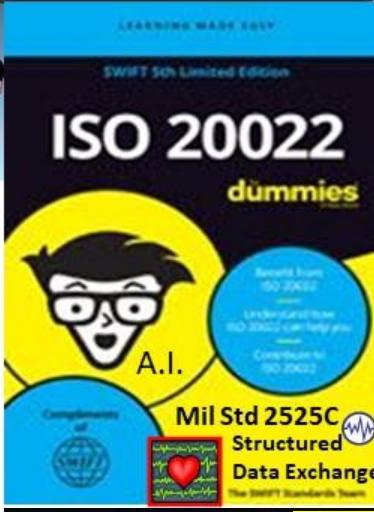
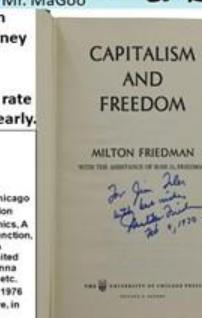
The K-Percent Rule was a proposal by economist Milton Friedman that the central bank should increase the money supply by a constant percentage every year.

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



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., etc., etc.
- Nobel Prize in Economics, 1976
- Considered as conservative, in reality liberal economist
- Advisor to President Nixon



**The Age of Aquarius: Aquarius, Aquarius Rising @ 6:44 A.M. Feb 10<sup>th</sup> 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

