



The Heart Beacon Time – Space Meter

- 300+ Structured Data Template Use Cases
- Syntax Lexicon Library Code Repository
- IeT / IoT, Big Data, net of \$ Bitcoin Blockchain Sync
- Ecologically supportive Econometrics Metrics, Meters
- Swords To Plowshare Network Enabled Operations NEO Reuse





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 by assigning Organization Identifiers {"Org_ID"}
- 2) Track Resources by Uniform Resource Name </URN>
- 3) Take State Meta Data heartbeat snapshots @ 15 / N min
- 4) Honor Satoshi's intent for Bitcoin to be paired w markets
- 5) Use NIST Quantum Random Non-Repudiation Beacon
- 6) Earth Day Everyday / Spaceship Earth's Signals & Telemetry Annex

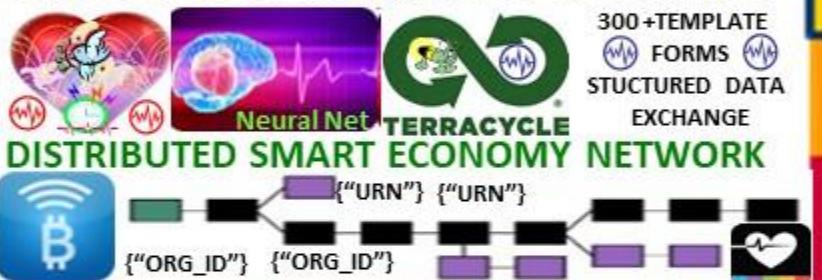


Humanitarian Assistance Networked Donor System

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 : concepts of "Network Centric Warfare" in the United States of America, "Network Enabled Operations" in Great Britain or "Vernetzte Operationsführung" in Germany



<https://neo.org>



Reuse best practice procedural template guides from Battlefield
Digitization describing when, where, how, how often systemically
among a systems of systems improving synergy and synchronicity



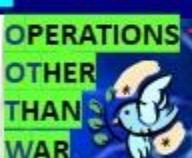
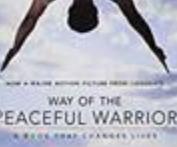
Federation Gateway



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



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

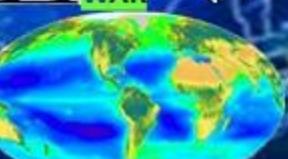


Beacon Communities

Vernetzte Operationsführung



Closer < \$\$\$ < FUEL



Proximity Beacons
JAEGERS



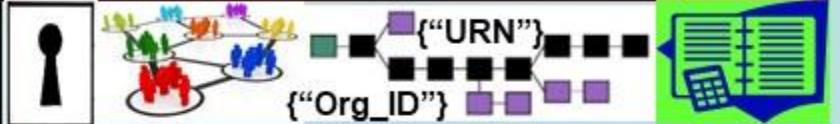
FIREFLY
HEARTBEAT ALGORITHM
EVENT / ALERT Flash Heartbeat Message Bus



KAIJU

Heart Beacon Cycle

FEDERATE / TRADE FEDERATIONS



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

Net joins, drops, splits, merges, moves

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

Federation

Gateway



CHANNEL

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



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

Bitcoin Mining Pools
MEME / METAPHOR MEDIATION



DISTRIBUTED AUTONOMOUS ORGANIZATION = DAO RAND Corp

term coined circa 1991 now in use by Blockchain tech corporations

Uniform_Resource_Name



FIREFLY FLASH
HEARTBEAT MESSAGES

IoT DEVICE / PLATFORM

{"Asset_Type"}

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

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

123e4567-e89b-12d3-a456-426655440001

123e4567-e89b-12d3-a456-426655440002

STOCK EXCHANGE

MIC MARKET IDENTIFIER
CODES / BREVITY CODES



Office 365 Groups

Microsoft Teams

QR CODE



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

EVENT BUS



Signal



Telemetry





Firefly - Heartbeat Algo

University of Bologna Italy / Hungary



THE HEART BEACON CYCLE

(“108”)



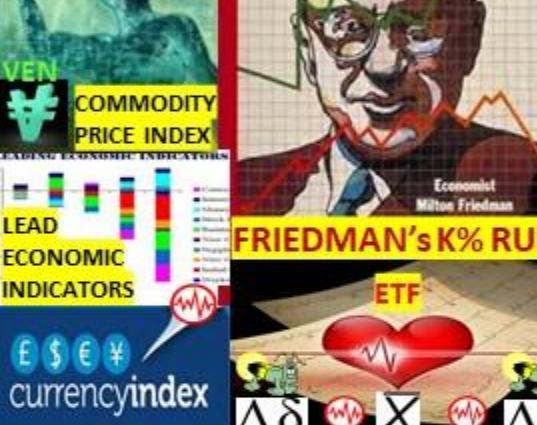
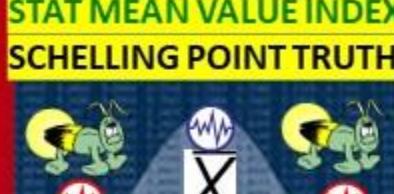
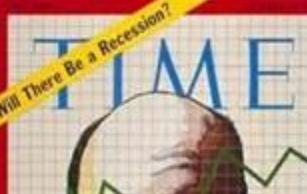
KO



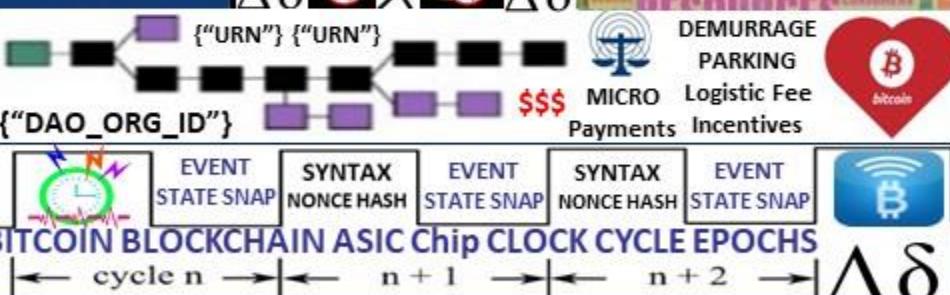
LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE

K% GDP ECONOMIC PULSE FEDCOIN WORLDCOIN

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



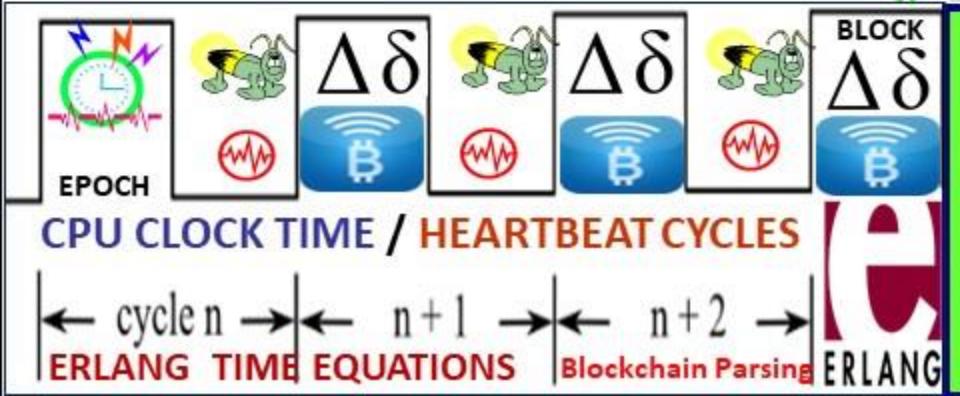
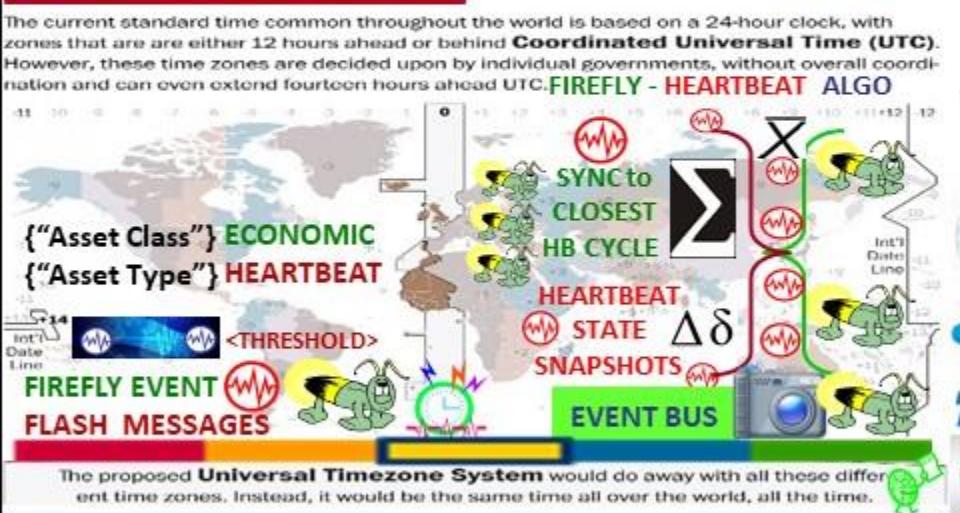
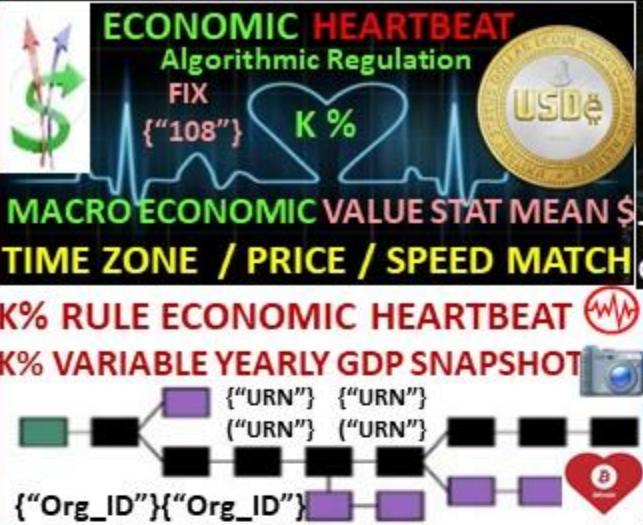
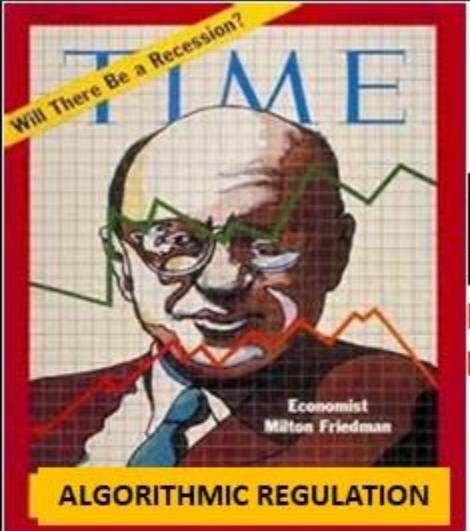
The current standard time common throughout the world is based on a 24-hour clock, with zones that are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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



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







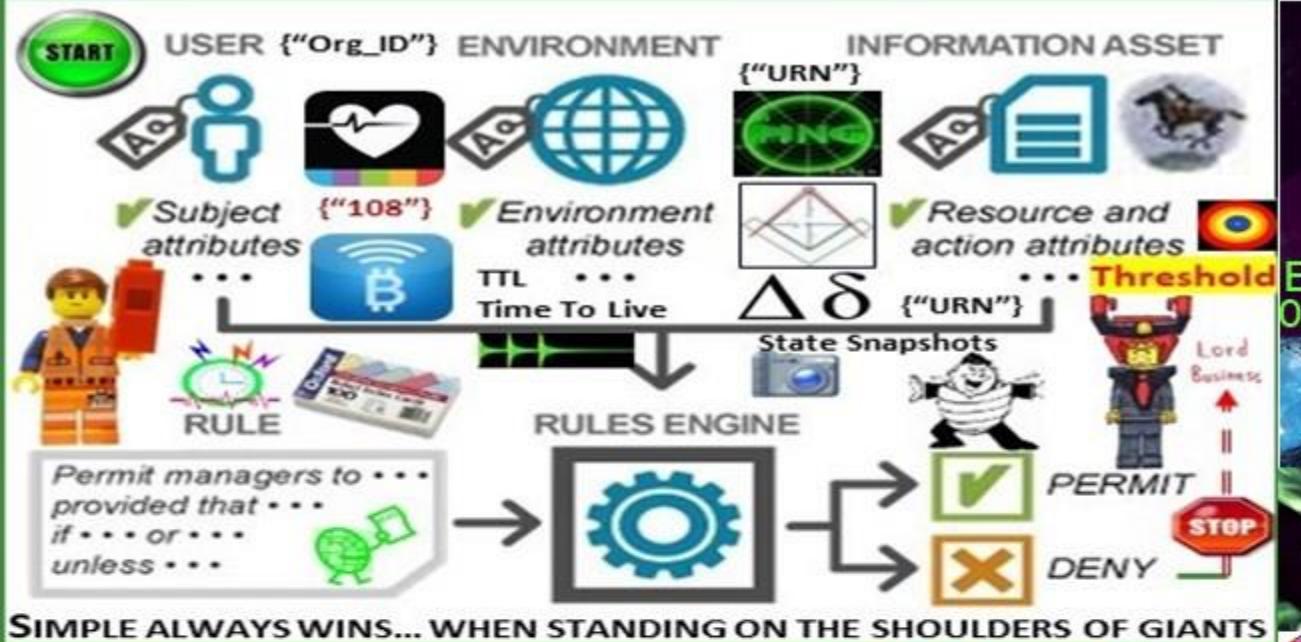
"Heartbeat Synchronization strives to have nodes in a distributed system generate periodic local "heartbeat" events approximately at the same time. It differs from classical clock sync in that Nodes are not interested in counting cycles and agreeing on the ID of the current clock cycle. There is no requirement 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**

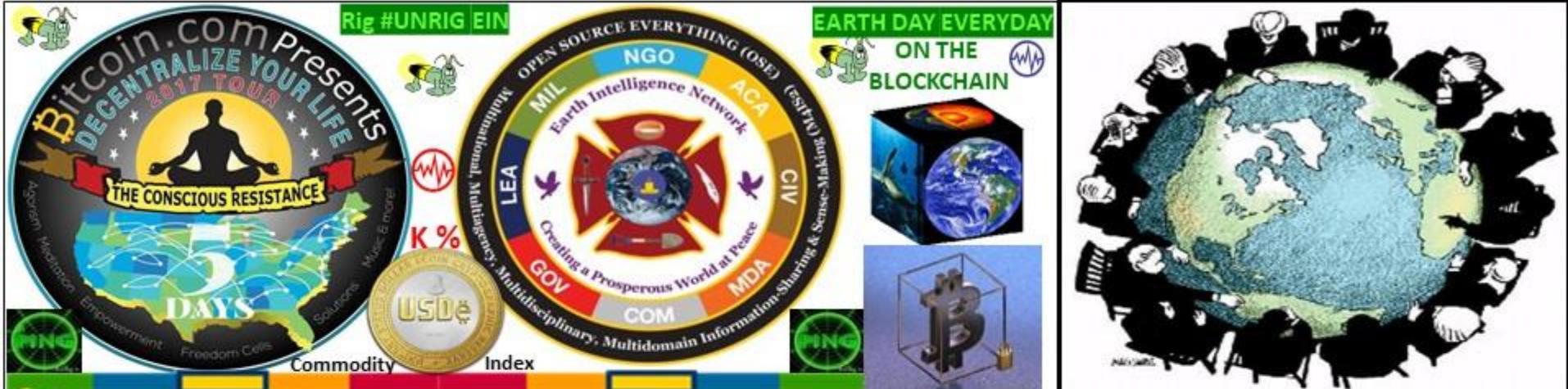


The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.



DAO TRADE FEDERATIONS USE COMMON COMPONENTS,
PROCESSES, METHODS, METRICS, METERS SIGNALING
TELEMETRY SCHEDULE IN SMART CONTRACTS,
SERVICE LEVEL AGREEMENTS / OPERATIONS SLA/O





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





NAMED DATA NETWORKING

<CONTENT> CENTRIC NETWORKING



<ORG_ID>
<ORG_ID>
<ORG_ID>
<URN>
<URN>

<GLOBAL> <JOINT> <COMMUNITY> <DOMAINS> <SHARED> <PRIVATE>
</INTEREST> <STRAT_ML> <IODEF_RID> </DISTANCE>

Situational Awareness Reference Architecture (SARA) IDENTITY, Inventory, Activity, and Sharing

<Federated ID> <URN> <type_event> <Data Class Types>

STRUCTURED MILITARY MESSAGING FORMS: FIELD TYPES, FILTERS, TAGS

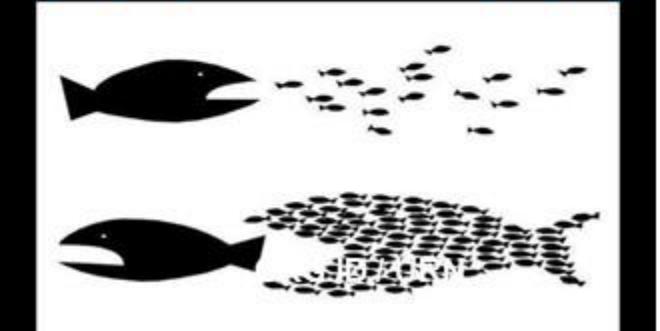
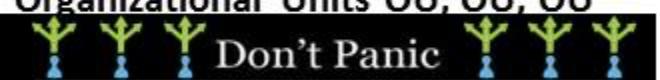
PARSED, PROCESSED, COMPILED TELEMETRY SIGNALING STANDARDIZATION

USMTF / XML MTF FORMATTED MESSAGE CATALOG

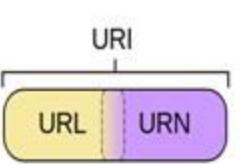
Catalog has over 300 messages to choose from have a wide number of information exchange requirements using common, CONSENSUS Message Text Formats MTFs. MTFs specify <CONTENT> / information agreed by group consensus presenting information in a logical, well specified and unambiguous layout resulting in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

</Organizational_Identifier_Org_ID>

Organizational Units OU, OU, OU



FEDERATE



ARIN
American Registry for Internet Numbers

Uniform Resource Names (URNs): A Uniform Resource Identifier (URI). Both URNs (names) and URLs (locators) are URIs, and a particular URI may be a name & locator. Each plays a specific role:

- URNs IDENTIFICATION (SENSORS, DEVICES) <DATA CLASS TYPES>
- URCs INCLUDE META-INFO
- URLs LOCATE / FIND RESOURCES



SITUATION AWARENESS

NEWSCAST



DISTANCE ESTIMATE SERVICE

IDMaps
SonarHOPS

K00.99
Heartbeat Message

SURVEY METHOD
ID <ITEMS><INTEREST>
GEO-SPATIAL AREA
TEMPORAL INTENSITY
MEASURES / METRICS

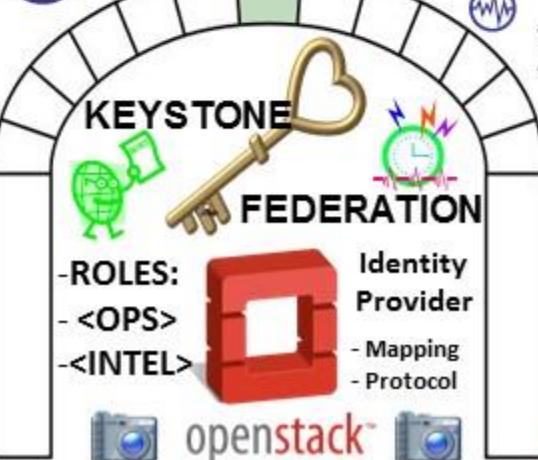
BY <TAG_TYPES>
Ledgers
Contracts
Trade SLA
Agreements



TRIANGULATION
TELCO MESH FABRIC

vector

CROWD SOURCING / FUNDING



<Org_ID>
<Org_ID>
<Org_ID>
<Party>
<Party>
<Party>

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

PARTIDO X:
Distributed
Democratic
Participation

ETHEREUM:
Decentralized
Autonomous
Organizations



VOTE ON BLOCKCHAIN



PARTIDOS DEL FUTURO
FEDERATED ID



Satoshi Nakamoto Bitcoin Paper

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.



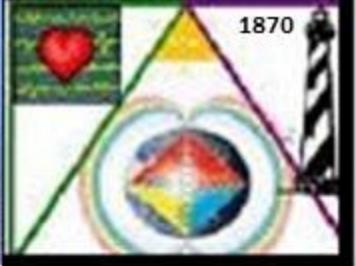
Satoshi
Nakamoto



Craig WRIGHT a.k.a.
Satoshi Nakamoto



PHYSICAL =
OPPOSITE
OF ABSTRACT



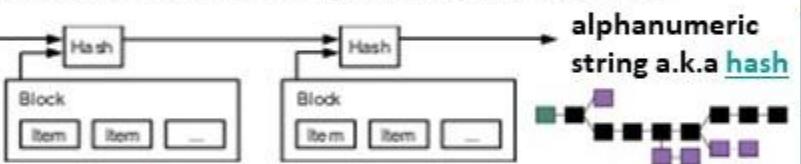
Wright Brother's 1st Flight
Cape Hatteras Outer Banks

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

3. Timestamp Server

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

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



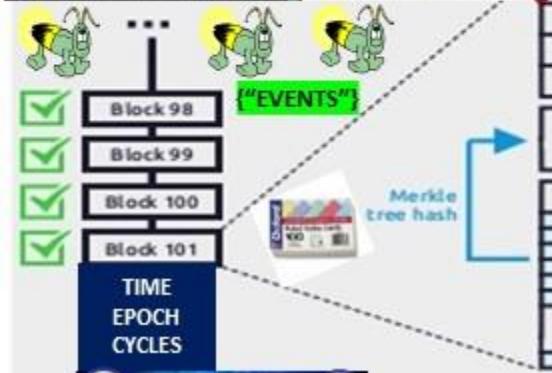
Heartbeat {"108"}
Heartbeat Message

JapanNet Crypto Time Authentication Service (Timestamp Service)

Alice Corp v CLS Bank
Physical = opposite
of Abstract



peer-to-peer time stamp distributed server generates computational proof of the chronological order of transactions



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

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

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

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

US Sct 573 US 134 2347 USPTO 13/573,002

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



CLOCK FACE 360'
90 / 90 / 90 / 90
MACRO CYCLES

HASH TABLE
Nonce /
Syntax
3 X 5

90 feet
RULES / ROLES

INSTRUCTIONS
UMPIRE
COACH

3rd Base
STATISTICIAN
Metrics, Meters
State Meta

Data Snapshots
90 feet

Survey Point
MICRO-CYCLES

90 feet

UMPIRE

home plate

BASEBALL "DIAMOND"
A diamond is a square is a block
2nd Base

Runner =
Messages
Signals /
Telemetry
90 feet

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

Crypto currency fractions
#1421 Org ID

Blockchain Blocks / Coins Awarded

EVENT BUS
first base

Fix {"108"} Heartbeat
Algo

90 feet

Firefly

Sync

Deltas



SC 573 US 134 2347
Physical = Opposite
Of abstract

Euclidian Geometry
TRIANGULATION..

first base

fix {"108"} Heartbeat

algo

sync

deltas

Net / Net of \$\$\$ formed: Time Epoch Cycles {"Syntax"} Instructions

"In the beginning"

"The Word"

"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"

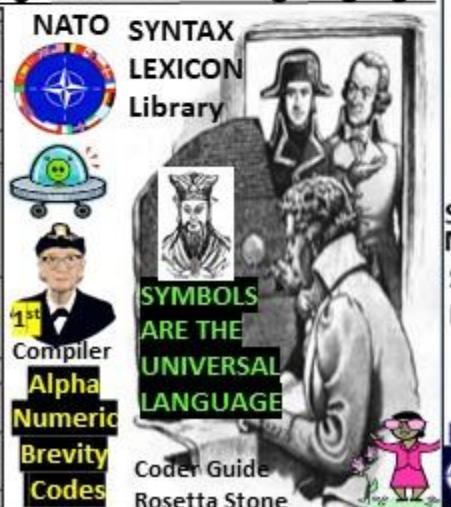
"A smart contract is a piece of code stored on a blockchain, triggered by blockchain transaction reads / writes data in the blockchain's Dbase"

Gideon Greenspan "Beware the impossible smart contract"



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

XBRL / CDL / DAML	NATO SYNTAX LEXICON Library
STOCK MIC CODES	
STRUCTURED DATA EXCHANGE TEMPLATE FORMS	
300+ USE CASES	
LOGIC / FILTERS	
SYNTAX / SYMBOL LEXICON LIBRARY	



DIGINOMICS

"Bitcoin is a LANGUAGE" "Bitcoin's Value is TIME itself"

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



"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA"

ALICE CORP VS CLS BANK

"claims may not be directed towards an abstract idea"



US SC 573 US 134 2347

BTC 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



HASH TABLE
Nonce / Syntax
3 X 5

RULES / ROLES
INSTRUCTIONS
UMPIRE
COACH

STATISTICIAN Metrics, Meters
State Meta Data Snapshots

90 feet
Survey Point

MICRO-CYCLES

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

Runner = Messages Signals / Telemetry
90 feet

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

#1421 Org ID
Blockchain Blocks / Coins Awarded

90 feet
Event Bus

Survey Point
home plate

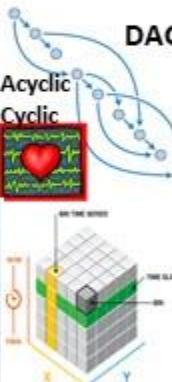


SC 573 US 134 2347
Physical = Opposite Of abstract

Euclidian Geometry TRIANGULATION..

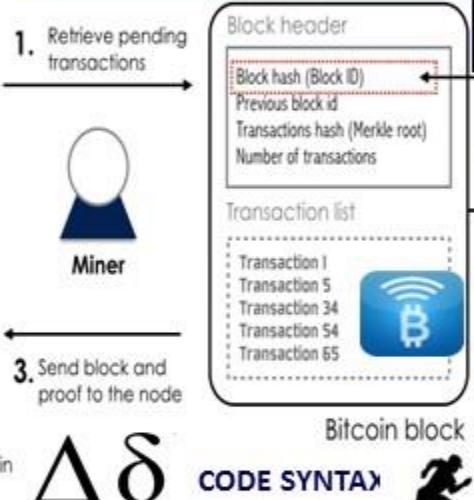
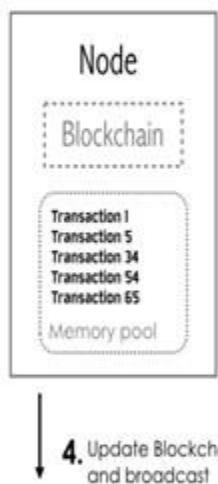
first base

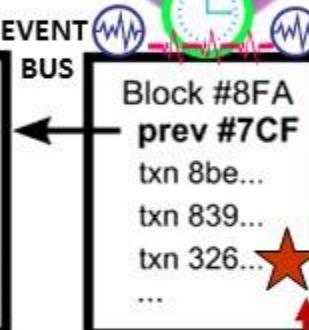
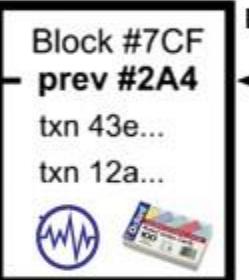
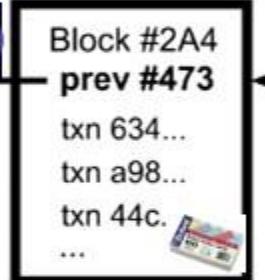
Fix {"108"} Heartbeat Algo



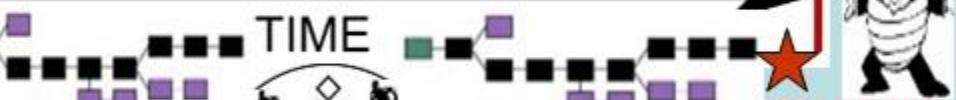


Alice Corp. v. CLS Bank International, 573 U.S. __, 134 S. Ct. 2347 (2014),[1] was a 2014 decision of the United States Supreme Court about patentable subject matter (patent eligibility).[2] The issue in the case was whether certain claims about a computer-implemented, electronic escrow service for facilitating financial transactions covered abstract ideas ineligible for patent protection. The patents were held to be invalid because the claims were drawn to an abstract idea, and implementing those claims on a computer was not enough to transform that idea into patentable subject matter.


 $\Delta\delta$
CODE SYNTAX

CODE RUNNER
 $\Delta\delta$


BLOCKCHAIN = TIME / SYNTAX

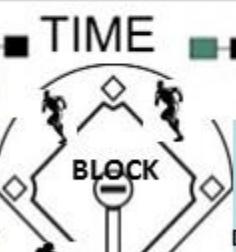

DATA ELEMENTS
ID'd by Alpha-Numerics

USPTO 13/573,002
PHYSICAL MEME
MAIN EMBODIMENT

RULES
Metrics

 $\Delta\delta$

Multi-Meme Multi-Meter



State Meta Data Snapshots	XBRL / CDL / DAML STOCK MIC CODES
ROLES Meters	STRUCTURED MILITARY MESSAGE TEMPLATE FORMS LOGIC / FILTERS

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS



TIME EPOCHS

← cycle n → ← n + 1 → ← n + 2 →



ATOMIC CLOCK



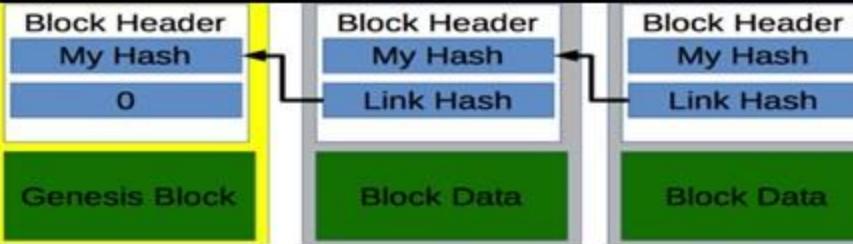
SYNTAX LEXICON LIBRARY



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



Blockchain: linked list of records of transactions involving data state changes over time. Linkage of blocks of records is done using cryptographic algorithms, that merge together information about transactions recorded in the current block, and information about the preceding block.



BLOCK: container (or simply a descriptor) of data relevant to this blockchain. The data is typically a collection of transactions that describe changes to the data. Blocks contain a header holding meta-information about blocks, including a reference to the preceding block.

HASH: value computed by an algorithm uniquely identifying input data without revealing the contents of that data. Hash values are used to ensure the veracity of data on the blockchain. Block headers contain the previous block's hash, ensuring integrity of entire chain

GENESIS BLOCK: first block in the chain created when a blockchain is first deployed, serving as the anchor to which all other blocks link.

TRANSACTION: record of change to data set (s). Transactions are based on rules defined by the blockchain e.g., rules comprise contracts

SMART CONTRACT: may include behavior / actions to trigger events that independently create transactions.

Node: host in a network capable of adding blocks to chain (s). The way nodes are able to do this varies based on the needs of the chain.

Distributed Ledger: recording of transactions shared across nodes. A blockchain on which many nodes contribute blocks

Consensus: distributed ledger blockchain nodes strategy determines chain's correctness

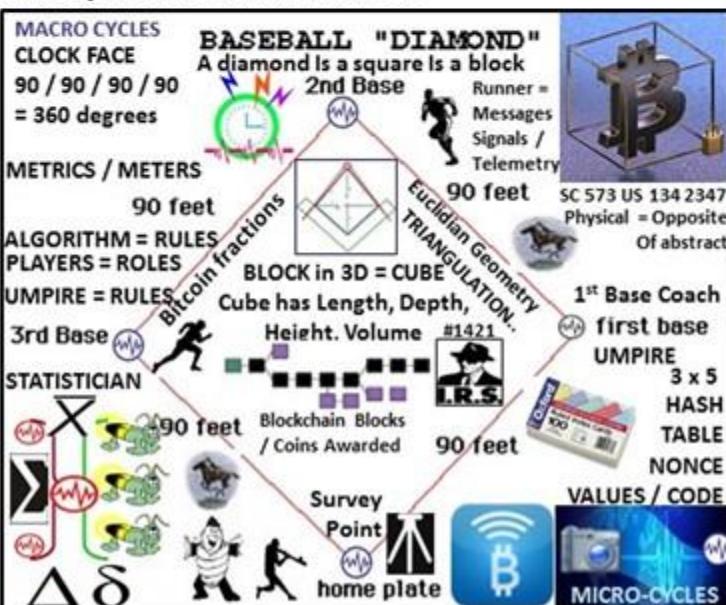
Consensus strategies: "proof of work," "proof of stake," and "delegated proof of stake"

Proof of work (PoW)— A consensus strategy with a computationally difficult challenge to solve to find the hash of a new block, the discovered solution is easy to verify, allowing the other participating nodes to quickly agree that new block is correct

Proof of stake (PoS)— A consensus strategy that relies on nodes which hold collateral to participate in contributing blocks to the chain.

Delegated proof of stake (DPoS): variation of proof of stake where responsibility of the creating blocks is delegated to third party nodes, known as "witnesses."

Witness— A node in a DPoS blockchain that performs the task of creating new blocks.

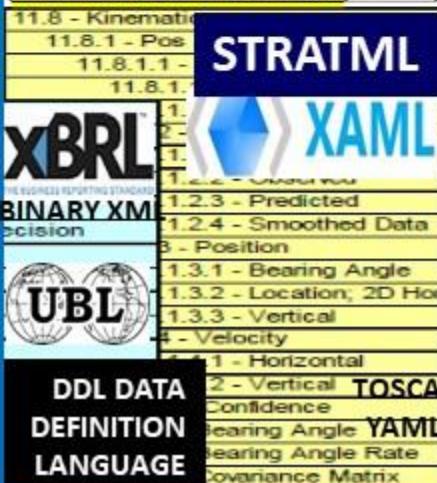


Structured
Data
Exchange

ALPHA NUMERIC
SYMBOL SETS

Coder's Guide

lexicon:



Signal operating instructions (SOI): technical control coordination of signaling, telemetry Current situational awareness, data dictionary, network identification, channels, network directory, brevity code-words, signals. Units maintain 2 SOI copies: PEACE TIME version "Go-To-War" version = BIZ COA (s) <Org_ID1><Org_ID2><Org_ID3>



NATO MESSAGE TEMPLATES USE DATA SETS FOR STRUCTURED DATA EXCHANGE // POSITION FIELD IN MESSAGE PROCESSED BY TABLE, FIELD # IN A CONSISTENT, PREDICTABLE ORDER = AI FRIENDLY M2M AI

GOAL: vide a common lexicon / syntax / term library used among FEDERATIONS identified by Federated ID
GOAL: Provide a common, consistent, reliable schedule to share signaling and telemetry within federations.



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

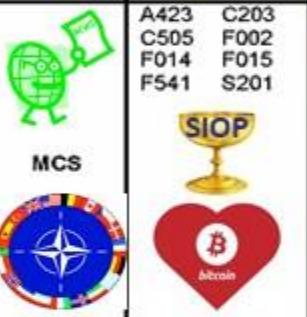
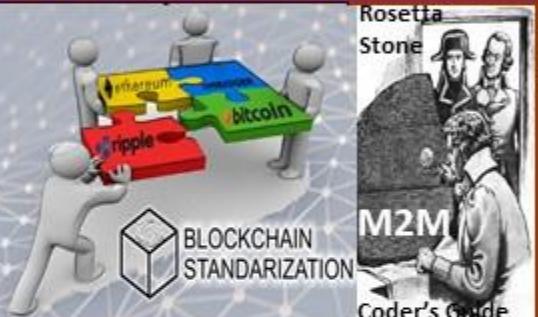
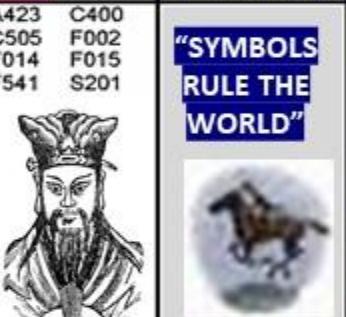
NUMBERS ARE THE UNIVERSAL LANGUAGE / Symbols Rule the World"



FILTERS INFOCON
5 4 3 2 1
INFORMATION CONDITION

STOCK NDN NAMED DATA
EXCHANGE NETWORKING
PRECEDENCE
MIC CODES PROCESSING

INFOCON
5 4 3 2 1
INFORMATION CONDITION

FROM	GCCS-A	ALPHA-Numeric BREVITY CODES			CODE GUIDE	
ASAS	C002 C203 F002 F014 F015 F541 S201 S309	C002 C203	C002 C203	C002	ATDS	MCS
		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 F014 F541 S305 S309	C002 C203 E400 F002 F014 F015 F541 S201 S309 S507	F002 F015 S201	C203 C400 D630 E500 F002 F014
		A423 C203 C505 F002 F014 F015 F541 S201		Rosetta Stone M2M Coder's Guide	A423 C400 C505 F002 F014 F015 F541 S201	INFOCON 5 4 3 2 1 INFORMATION CONDITION
						"SYMBOLS RULE THE WORLD"
						HEARTBEAT MESSAGE = K00.99

MESSAGE CATALOG 300 + Use Cases

Data Elements: entity, attribute, relationship equivalents

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

- Information Elements Roles**
- COI Determination Org Interaction
 - Search and Discovery
 - Ontologies STANDARDS
 - Taxonomies REFERENCE
 - Metadata Attributes / Filters ("Org_ID") {"URN"}
- FILTERS**

FFUDN: Field Format Unit Designator #

FFIRN Field Format Index Reference #

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



PROCESS MESSAGE BY PRECEDENCE
UNIVERSAL EVENT / ALERT MESSAGE BUS

OPERATIONAL NODES / ACTIVITIES

DATA	SYSTEM FUNCTIONS	PERFORMANCE
11.4 - Classification	11.8 - Kinematics	11.8.1 - Pos / Vel / Acc (PVA)
11.4.1 - Category	11.8.1.1 - Acceleration	11.8.1.1.1 - Angular
11.4.1.1 - Confidence Level	11.8.1.1.1.1 - Linear	11.2 - Linear
11.4.1.2 - Estimate Type	11.8.1.1.1.2 - Estimate Type	2 - Estimate Type
11.4.1.2.1 - Alternative	11.8.1.1.1.3 - Estimated	1.2.1 - Estimated
11.4.1.2.2 - Evaluated D	11.8.1.1.1.4 - Observed	1.2.2 - Observed
11.4.1.3 - Value	11.8.1.1.1.5 - Predicted	1.2.3 - Predicted
	11.8.1.1.1.6 - Smoothed Data	1.2.4 - Smoothed Data
	PURCHASE CODES	
SYMBOL	Friend	Neutral
2525C	Partner	
		Hostile
		Competitor
		4 - Velocity
		1.4.1 - Horizontal
		1.4.2 - Vertical
		VA Confidence
		1 - Bearing Angle
		2 - Bearing Angle Rate
		3 - Covariance Matrix





Dogezer software development platform allows team members to become product investors by investing their time, labor. The Dogezer Platform combines the functionality of Kickstarter, UpWork, GitHub, Slack, Jira, Google Docs, Dropbox and ICO analogues with a set of defined processes how these solutions relate to each other in a clear, transparent and predictable way. Dogezer gives an opportunity to start a project in minutes; organize a set of teams working on the project; define how project contributions are rewarded, driving a project to completion by using independent contributor skills around the world.

Syntax Lexicon Library

TOOLSET: Kickstarter, UpWork, GitHub, Slack, Jira, Google Docs, Dropbox, ICO...

KICK STARTER

Upwork™

GitHub

JIRA

OPEN SOURCE SOFTWARE

slack

ICO
Initial Coin Offering

Dropbox

CODER'S GUIDE

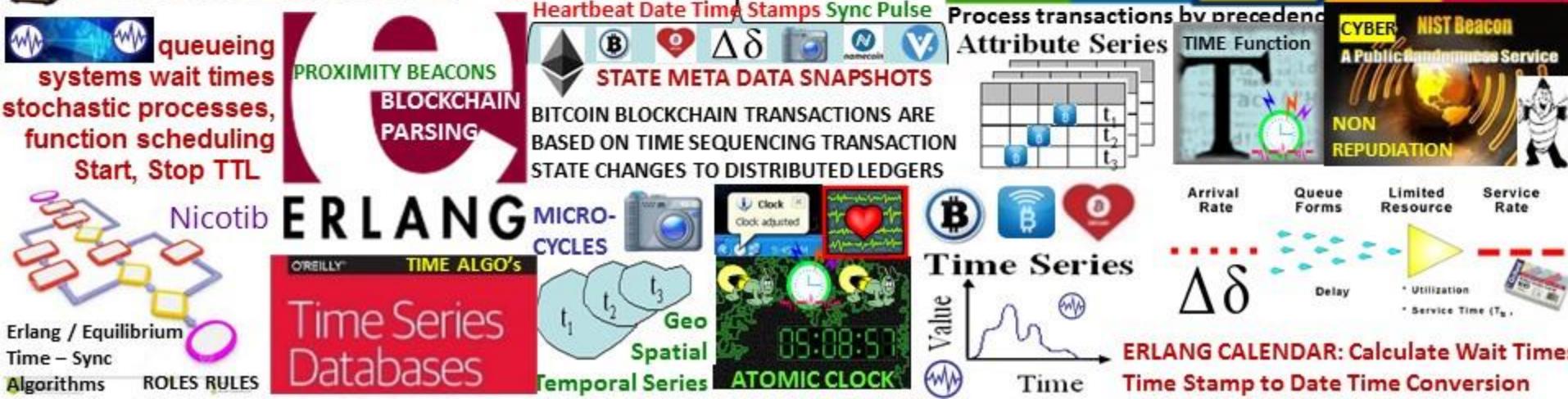
NATO

STRUCTURED DATA EXCHANGE

PROJECT HBCnet: build artificial intelligence neural network supporting #UNRIG's Earth Intelligence Network EIN with Signals, Telemetry Mesh

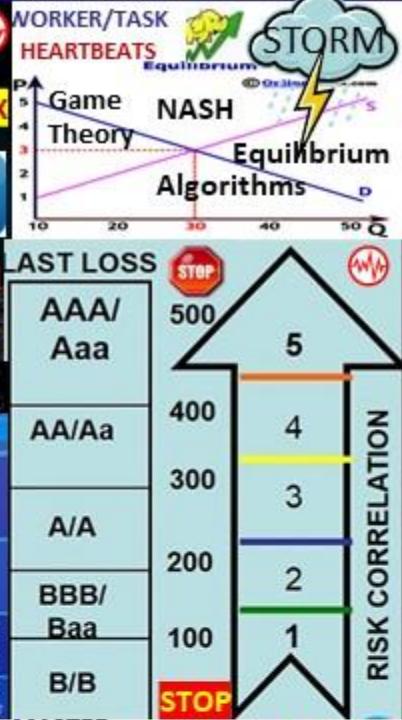
300+ TEMPLATES

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 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.



High-Speed Traders, A.I. Bandits, and the Threat to the Global Financial System



SCOTT PATTERSON

Author of the New York Times bestseller *The Quants*

B 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. Shots

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



GUESS stores the guess
Effectively, it begins at infinity.



Proof-of-Work: users perform some form of work to participate. Work must be difficult for the client but easy for the server/network to verify. POW determines the approximate time between blocks = rate that new bitcoins are created. Work is submitted as a message/timestamp payload with a nonce value. Payloads are made unique through use of public key encryption or address. Nonce allows checking the work without retracing all the procedural steps.



FIREFLY-HEARTBEAT ALGORITHM
STOCHASTIC HARMONY ACROSS TIME ZONES

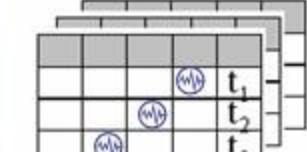


- MESSAGE ex:
 - Hashing string
 - Hash Table

300+Message Templates



POW PAYLOAD :
COMBINATIONS OF
ENCRYPTED SYNTAX
Attribute Series



CLOCK FACE 360°
90 / 90 / 90 / 90

MACRO CYCLES

HASH TABLE

Nonce /
Syntax
90 feet

RULES / ROLES

INSTRUCTIONS

UMPIRE

COACH

3rd Base

STATISTICIAN
Metrics, Meters

State Meta
Data Snapshots

MICRO-CYCLES

TRANSACTIONS
PER CYCLE
METRICS

IRS Memo #1421
Bitcoin purchase
= property

BASEBALL "DIAMOND"

A diamond Is a square Is a block

2nd Base

Runner =
Messages
Signals /
Telemetry



SC 573 US 134 2347
Physical = Opposite
Of abstract
Euclidian Geometry
TRIANGULATION..

3 X 5

Crypto currency fractions

BLOCK in 3D = CUBE

Cube has Length, Depth,
Height, Volume



#1421

Org ID

Blockchain Blocks

/ Coins Awarded

EVENT BUS

first base

Fix {"108"}

Firefly Heartbeat

Algo

Σ

Sync Deltas

90 feet

UMPIRE

home plate

Bitcoin

Survey Point

90 feet

TRANSACTIONS

PER CYCLE

METRICS

COMPUTER CHIP EPOCHS

cycle n

n + 1

n + 2

SPATIAL

TEMPORAL Series

Series

Survey Methods

Proximity Beacons

MICRO-CYCLES

Unmined Bitcoins



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

$$\Delta \Sigma$$

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!

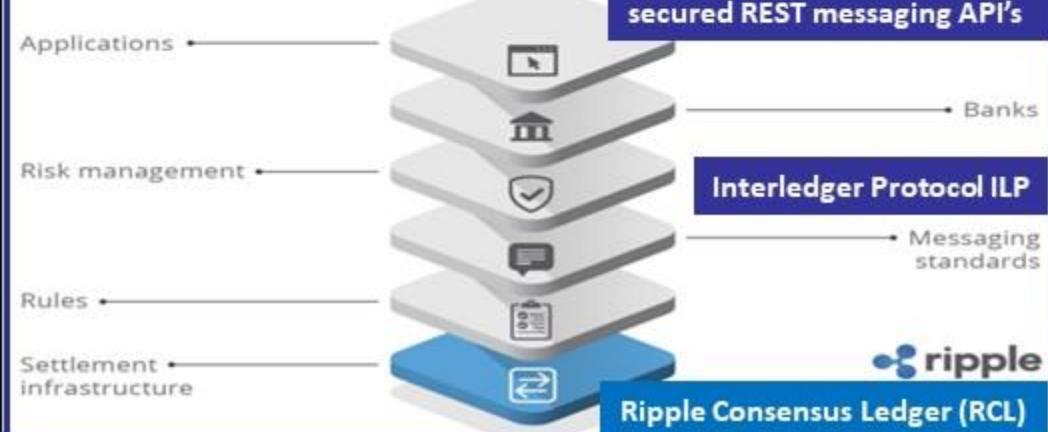
Simply enter a long Bitcoin address to have it transformed into a short one, and vice-versa!

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

GET IT ON Google play

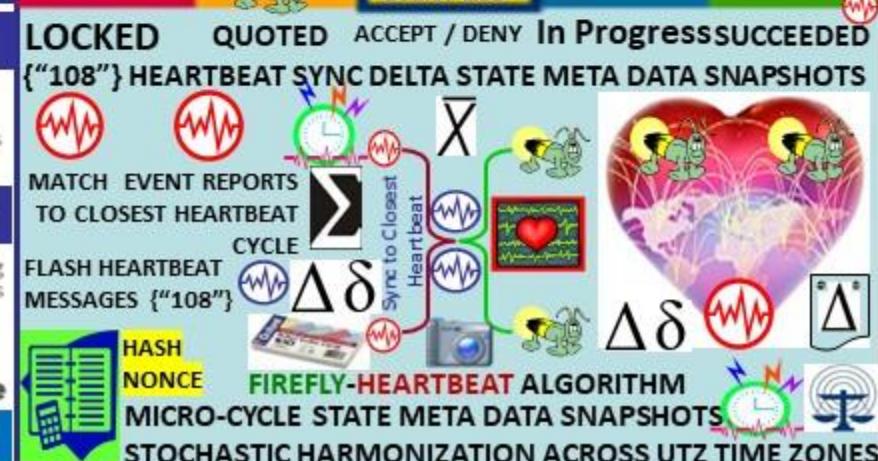
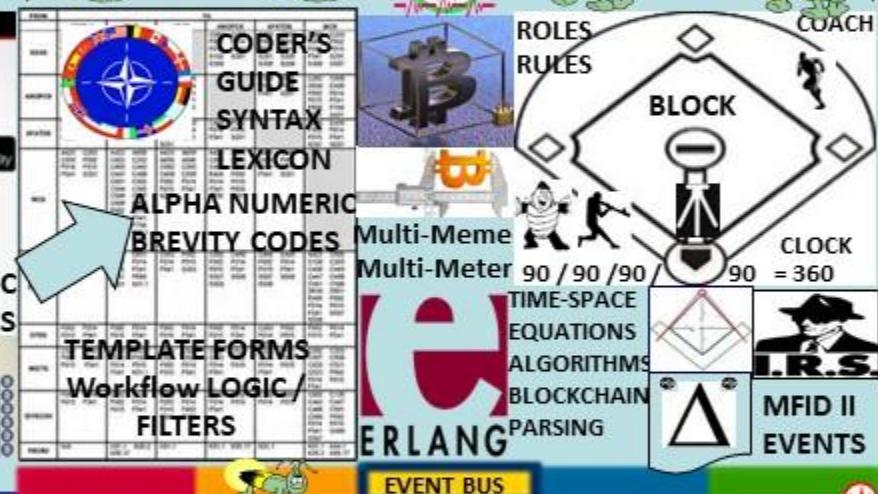
ALPHA NUMERIC BREVITY CODES A.I.

Neutral transaction protocol



World Economic Heartbeat
ALGORITHMIC REGULATION
("108")
BLOCKTIME ARBITRAGE
MFID II EVENT = TAXABLE

Stochastic Harmonization
Telco Mesh Fabrics
Wide Area Sync
FIREFLY EVENTS
FLASH MESSAGES
EVENT COACH





Hashgraph

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
 $\Sigma \Delta\delta \times$

Round created
Witness
0/1

Famous witness
Election

Vote
See

Strongly see
Supermajority

Decide
0/1

Round created
Round received

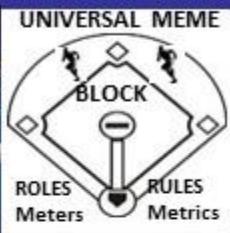
Consensus timestamp
Consensus order $\Delta\delta$

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

Synchronous
Asynchronous
Micro-Cycle State Meta Data Snapshots

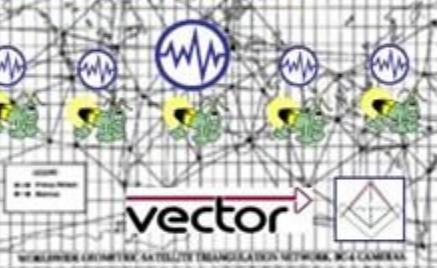
Consensus timestamp
Consensus order $\Delta\delta$

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



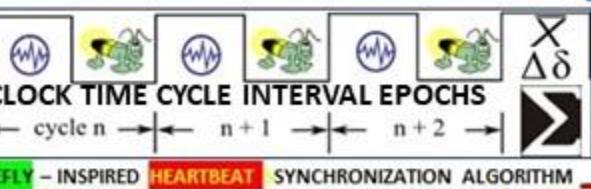
USPTO 13/573,002
sawconcepts.com/index
Heart Beacon Cycle Time – Space Meter
Geo-Spatial Temporal Intensity Metrics

TRIANGULATION



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

FIREFLY HEARTBEAT Synchronization Algorithm



FIREFLY – INSPIRED HEARTBEAT SYNCHRONIZATION ALGORITHM

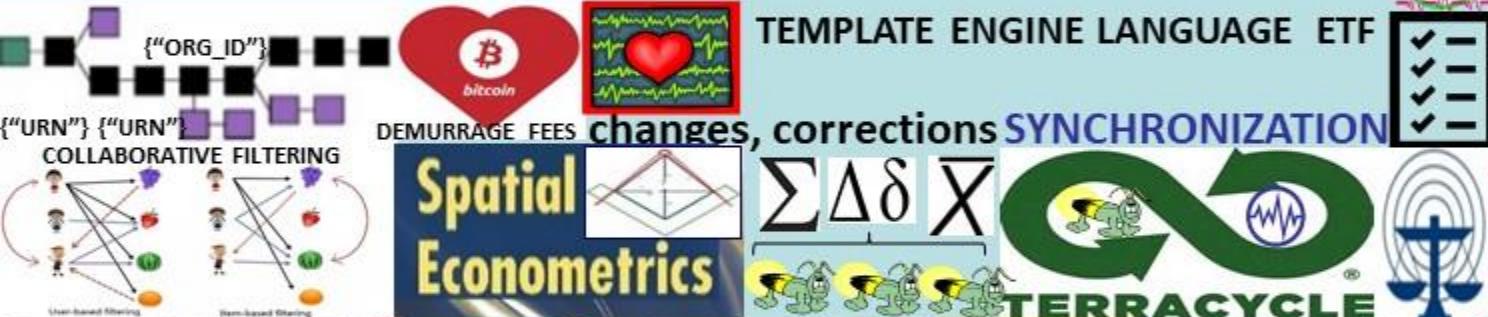
"LENGTH OF REAL TIME CYCLE IS ARBITRARY AS LONG AS NODES EVENTUALLY AGREE" $\Delta\delta$



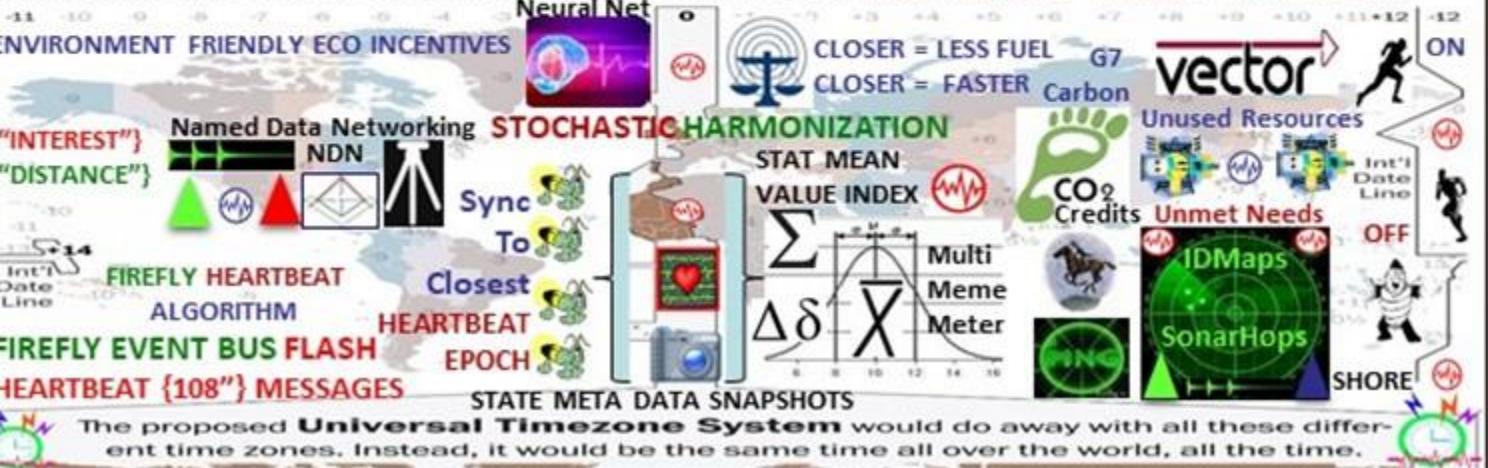
eGaaS: international blockchain platform for organizing economic, state, social activities of citizens, communities on the basis of smart law, smart contract system. eGaaS offers a comprehensive solution needed for state and business management on the blockchain platform.

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

Distributed digital asset registries were the first projects that used blockchain systems such as databases designed for secure storage of records on real estate property, stocks, copyright and so on. It is assumed hosting any document on the blockchain is equivalent to notarization of its content at a fixed time point.



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



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	TYPE	NAME	VERSION	SIZE	FORMAT	LAST UPD.
API	API	SYNTAX / SYMBOL	LEXICON LIBRARY	1.0	100 MB	JSON	2023-01-01
API	API	STRUCTURED	DATA EXCHANGE	1.0	100 MB	JSON	2023-01-01
API	API	300 +	TEMPLATE FORMS	1.0	100 MB	JSON	2023-01-01
API	API	LOGIC / FILTERS		1.0	100 MB	JSON	2023-01-01
API	API	ALPHA-NUMERIC	BREVITY CODES	1.0	100 MB	JSON	2023-01-01
API	API	ERLANG	Time Series Databases	1.0	100 MB	JSON	2023-01-01







"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

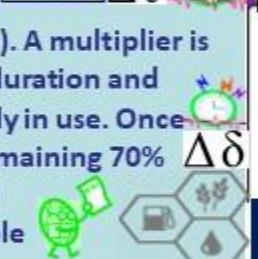
Gnosis Wisdom (WIZ) pay platform fees in Services layer, Wiz subsidize other participants fees, provide initial subsidies for markets, or market trading.



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.

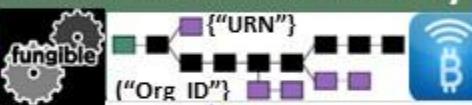


The proposed **Universal Timezone System** would do away with all these different time zones. Instead, it would be the same time all over the world, all the time.



THE TERRA (TRC)

Trade Reference Currency



\$0.49 USD
0.001076 BTC

MICRO PAYMENTS
Bitcoin
Need Bitcoin?



Demurrage Fees

UNIVERSAL METER

Geo-Spatial Temporal Econometrics meters



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"

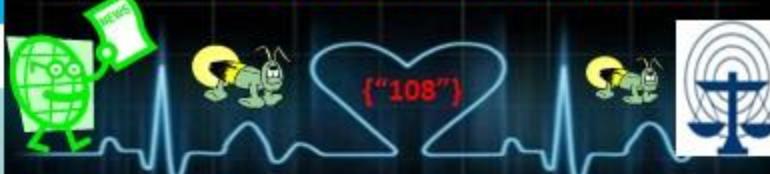
ZEPPELIN



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."

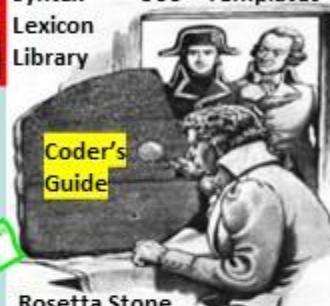
WORLD ECONOMIC HEARTBEAT



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

Syntax
Lexicon
Library

300+ Templates



STRUCTURED DATA EXCHANGE



LOGIC / FILTERS
ALPHA-NUMERIC
BREVITY CODES



Rosetta Stone

STOCHASTIC HARMONIZATION for TELCO Mesh Fabrics

HASH / NONCE



PAUSABLE
START
STOP
TIME TO LIVE
INSTRUCTIONS



STATE
META
DATA
SNAPSHOTS

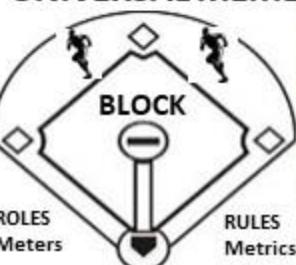
Erlang
Time Equations
Function calls



FLASH
HEARTBEAT

MESSAGE BUS

UNIVERSAL MEME



ROLES Metrics
RULES Metrics

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 crowd sale contracts
- Create a trustless bug bounty.
- Create pausable, ownable, balance-limited contracts
- Set up a token vesting or token locking contract.



Contract development



Contract interaction



Off chain tools

EVM

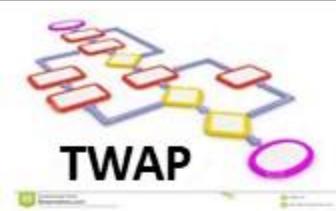
Blockchain



TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

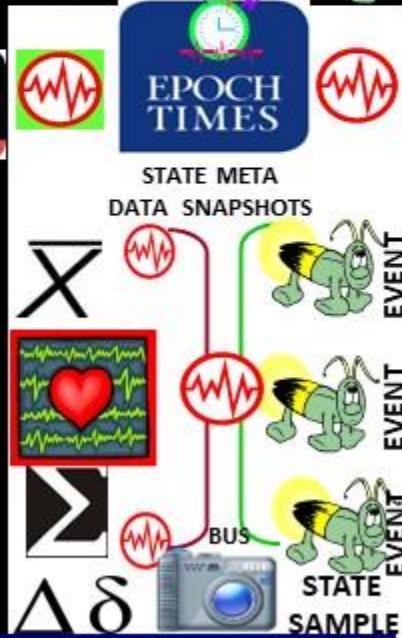
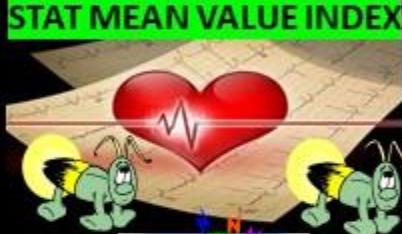


TWAP GOAL: provide a Time Weighted Average Price Benchmark



FIREFLY HEARTBEAT ALGO
STAT MEAN VALUE INDEX

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



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..

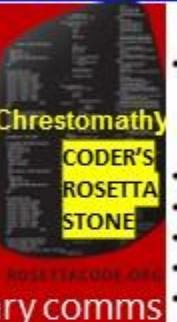




Erlang programming language / mini OS
massively scalable high availability, real-time
Erlang's runtime system built-in
concurrency distribution, fault tolerance



- 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 comms



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)



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 $\frac{\text{Arrival Rate } \Delta \delta}{\text{Service Rate per unit time}}$



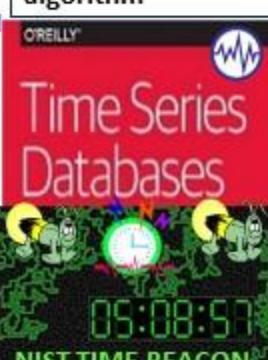
distributed "noSQL" database, embedded right into Erlang,
supports indexing, replication, transactions, and fail-over

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

Mnesia database ("Organization_ID")

Global name resolution

XBRL / CDL / DAML
ALPHA NUMERIC
BREVITY CODES
AZURE BLETCHLEY
STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS



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.



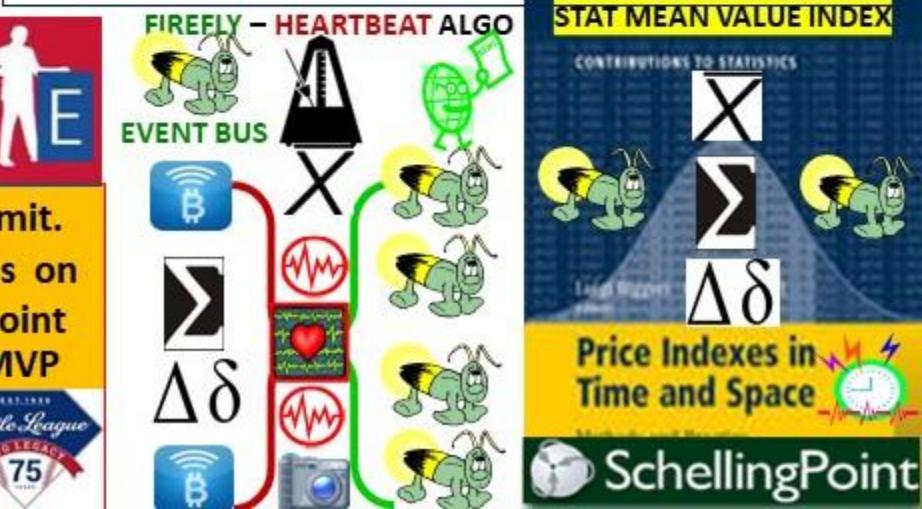
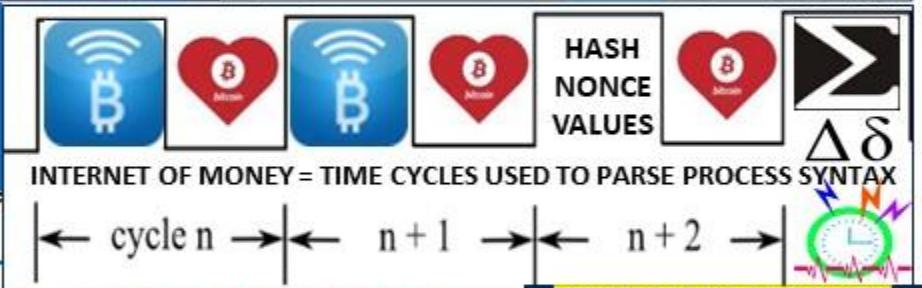
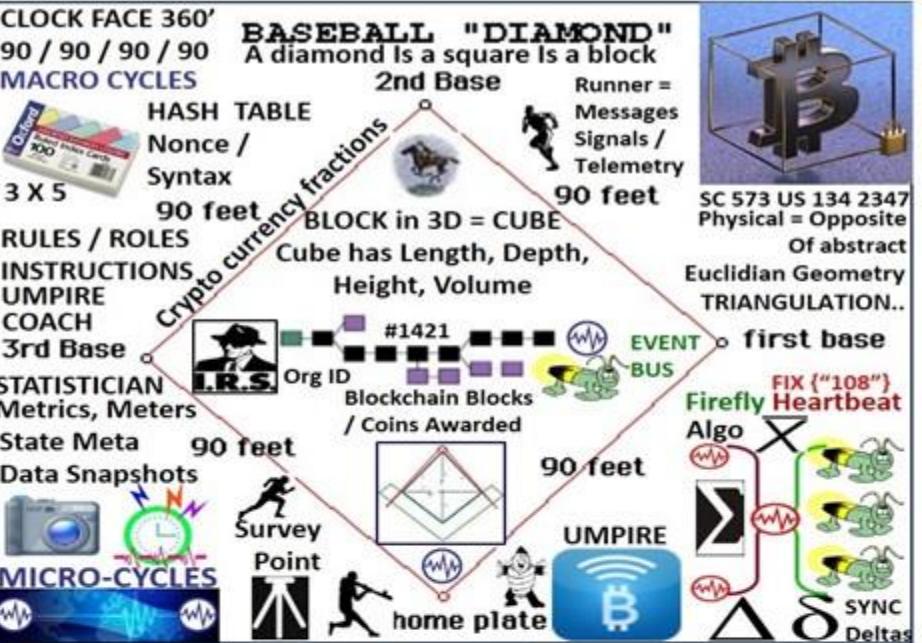
ALL THINGS INTERNET FORMED W 1) TIME EPOCHS 2) SYNTAX



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.  



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 MVP development, management of the implementation, . the community votes on changes.



Microsoft Bletchley modular framework: choose combination of technologies best fits Biz domain

AZURE: Core/Kernel/Universal Protocol

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

Unspent Transaction Output protocols UTXO

Crypto Tokenized Assets Digital Bearer Bonds
unique identity for owned artifacts

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

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

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

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

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

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



ALPHA NUMERIC
BREVITY CODES
SYMBOL CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

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

FIREFLY EVENTS
FLASH MESSAGES
SYNC TO CLOSEST
HEARTBEAT EPOCH

EVENT BUS

FIREFLY HEARTBEAT ALGORITHM

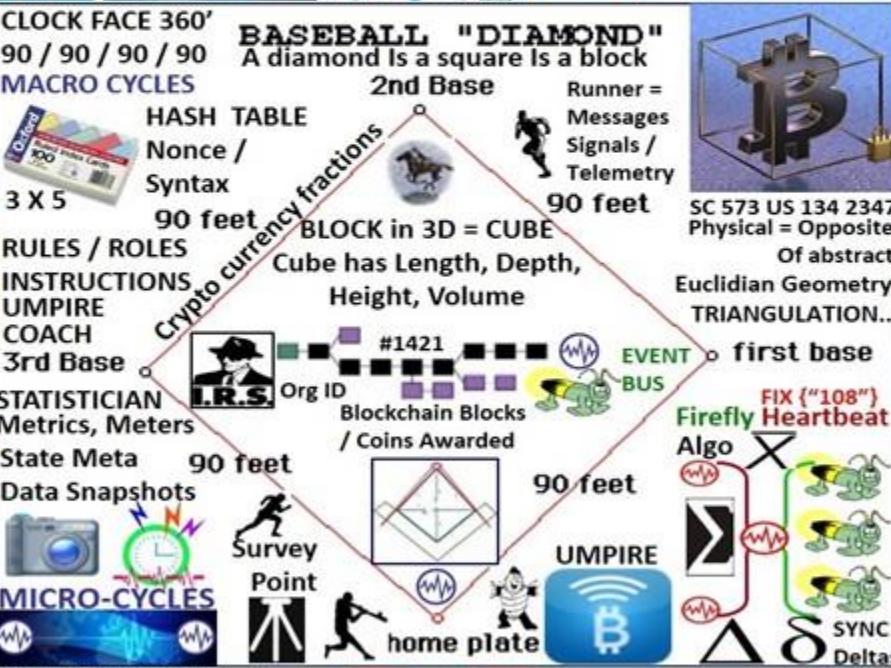
 $\Delta\delta$

STATE META DATA SNAPSHOTS

MULTI-MEME MULTI-METER
MYRIAD MEMES MEDIATION
BLOCKCHAIN



Blockchain Startups
Top Blockchain startups disrupting non-financial markets

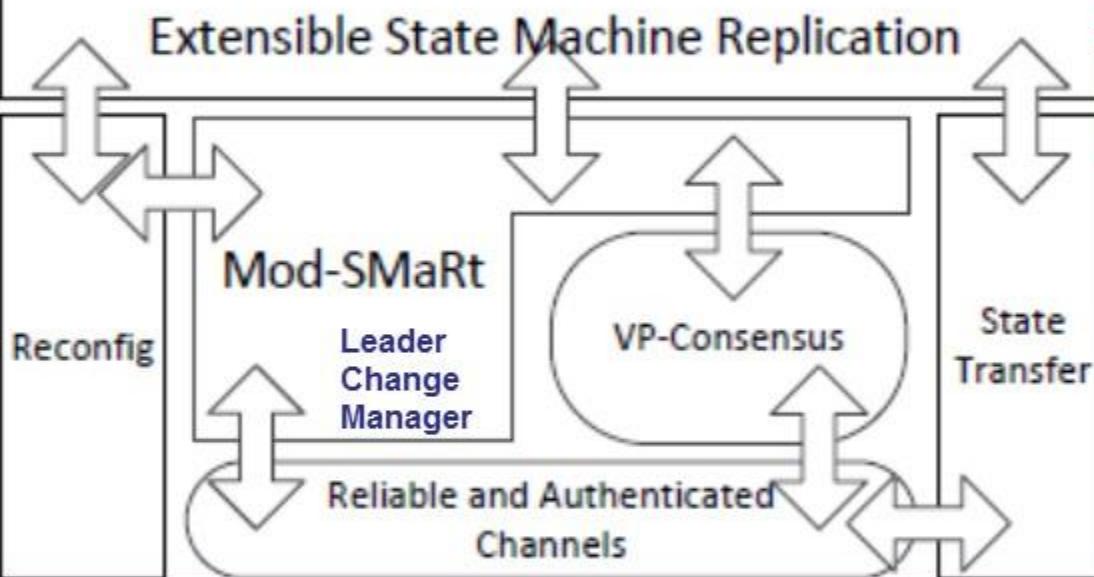


IoT
Microsoft Orleans

TIME-SPACE
EQUATIONS
ALGORITHMS
BLOCKCHAIN
PARSING
ERLANG

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 METE

USCt ALICE CORP V CLS BANK

PHYSICAL = OPPOSITE OF ABSTRACT

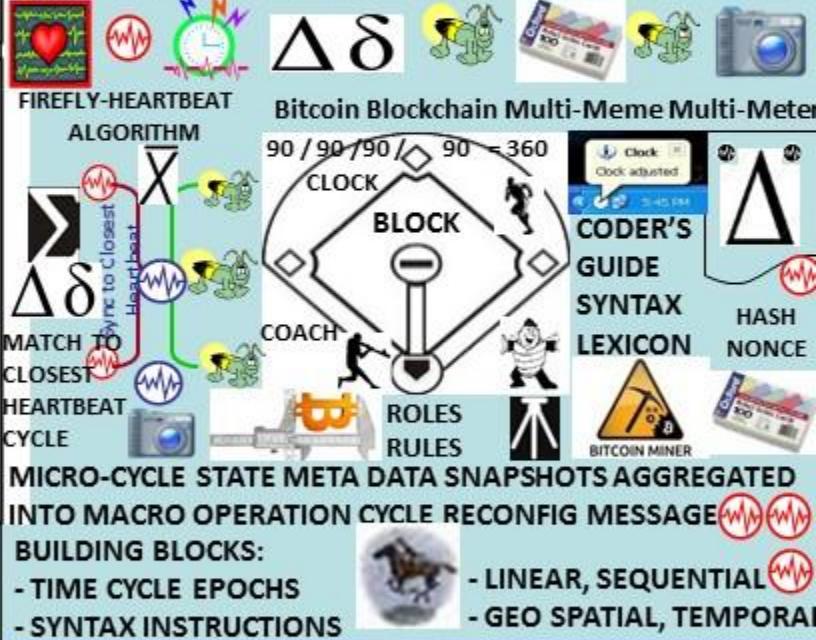


DERIVED FROM BATTLEFIELD DIGITIZATION DISTRIBUTED AUTONOMOUS ORGANIZATION DAO SYSTEM OF SYSTEMS

FEDERATED ID / ORGANIZATIONAL IDENTIFIER {"ORG_ID"} ADDS, JOINS, DROPS, MOVES TO / FROM DAO

CHANGES IN STATE VIEWED IN "APPLIQUE' OVERLAY VIEWS

K00.99 HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOT



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"

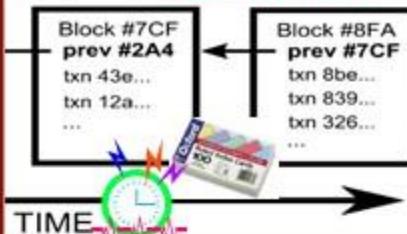
HYPER LEDGER OPEN SOURCE BLOCKCHAIN

Core APIs, & SDKs

$\Delta\delta$ Shared Ledger



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



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

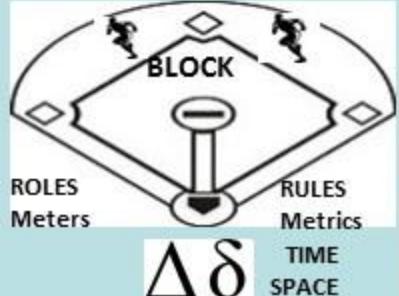
FEDERATION
Federation Gateway

METRICS ("Organization ID")
METERS

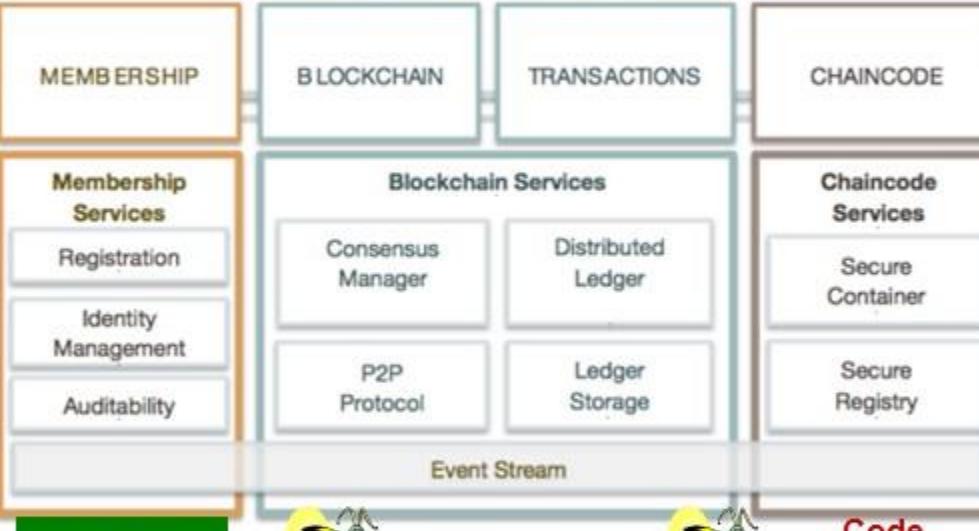
RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE



BLOCK TIME ARBITRAGE



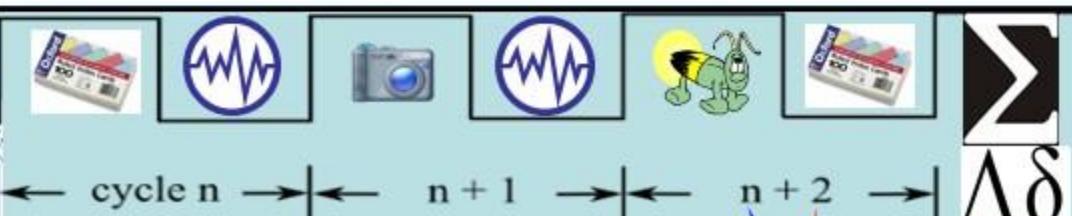
OBC APIs, SDKs, CLI



ROSETTA STONE



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

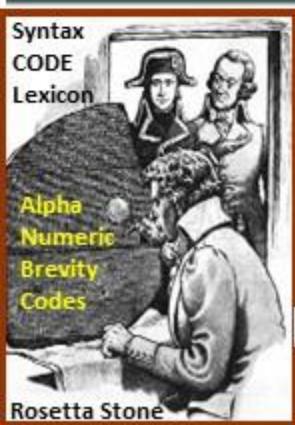
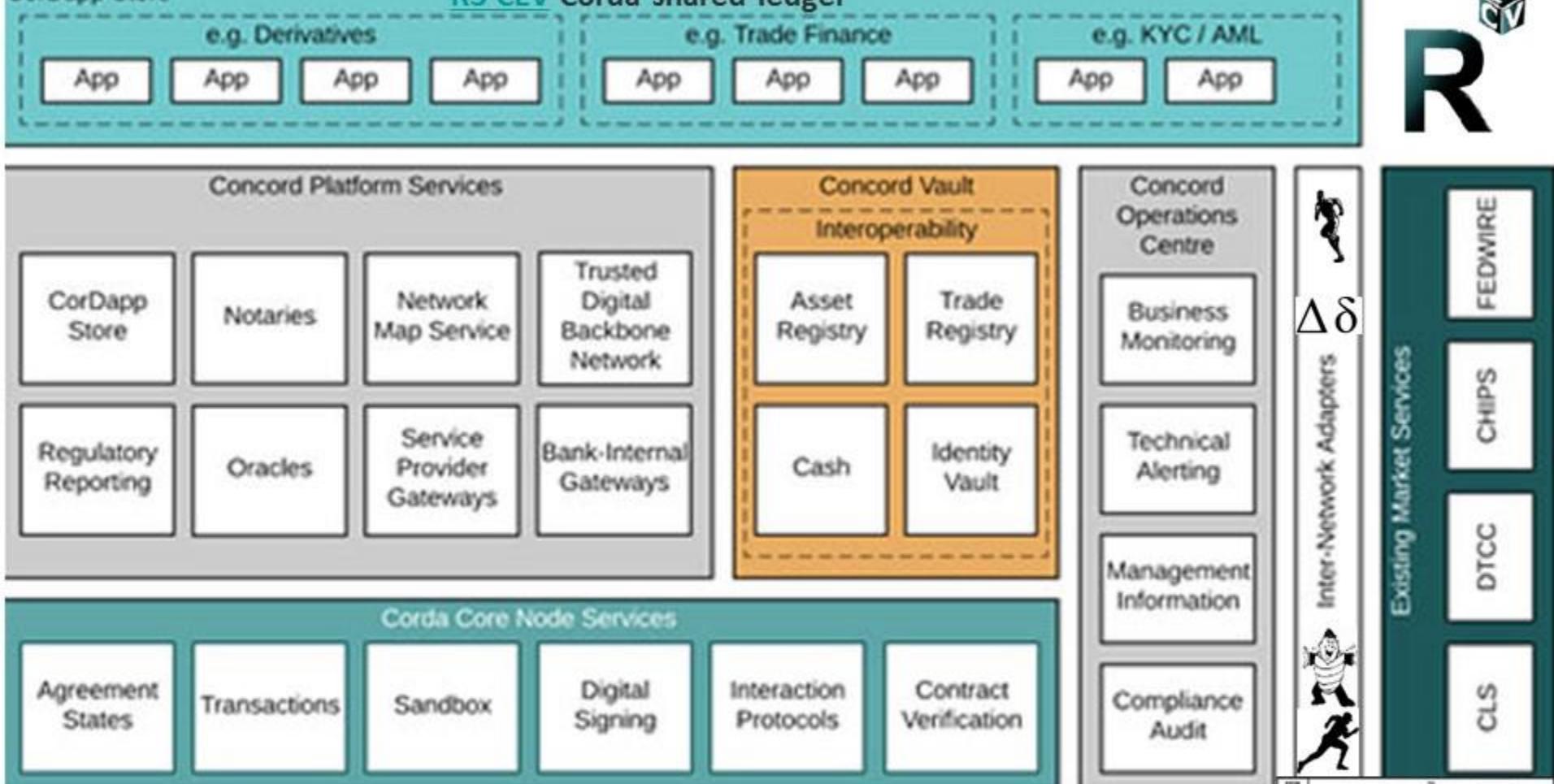


MICRO-MACRO CYCLE SCHEDULE



FFIRNS
FFUDNS

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


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



Federation Gateway

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



XBRL / CDL / DAML STOCK MIC CODES

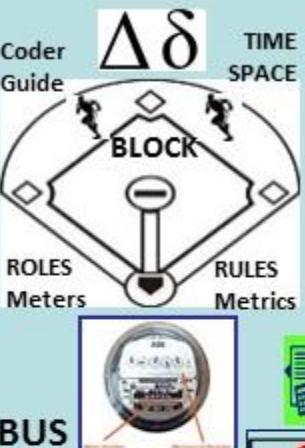
STRUCTURED MILITARY MESSAGE TEMPLATE FORMS LOGIC / FILTERS

300+ Use Case Templates



KEY BLOCKS:

- NO CONTENT = NULL
- LEADER ELECTION

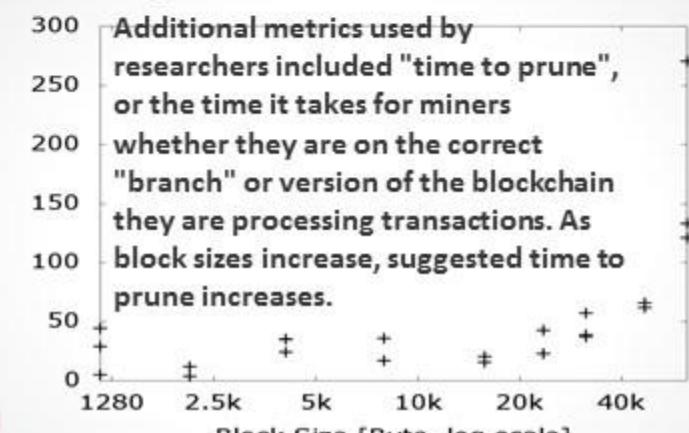


MICRO BLOCKS:

- ONLY CONTENT
- NO CONTENTION



	FROM	TO	INFO
XBRL	CDL	DAML	
STRUCTURED	STOCK	MIC CODES	
MILITARY MESSAGE	TEMPLATE	FORMS	
LOGIC / FILTERS			
NDN			
SYNTAX			
LEXICON LIBRARY			





ETHER: Compensate Resource Contribution

Gas: price to
Run contract
transactions

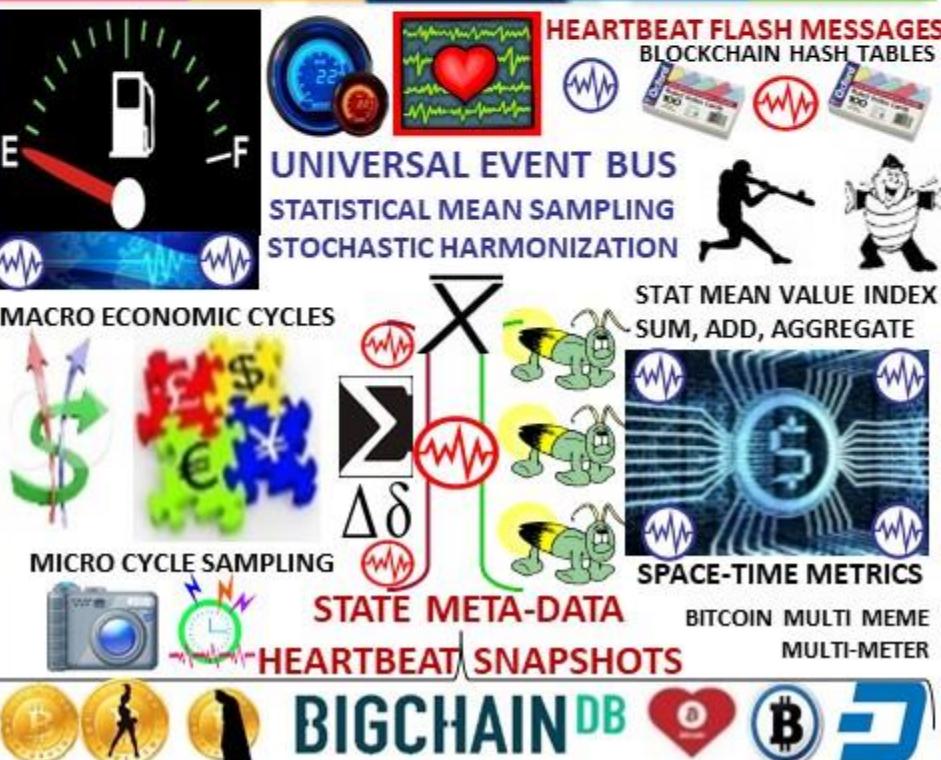
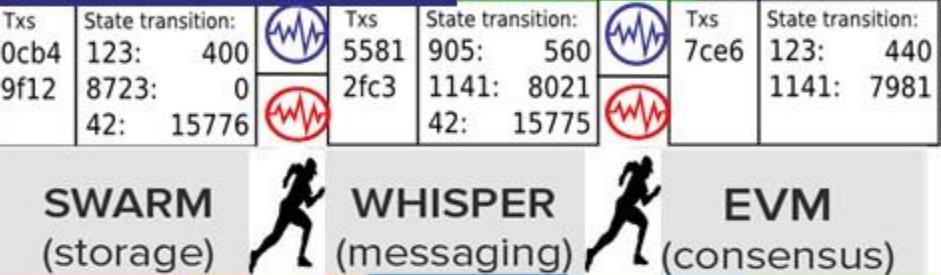
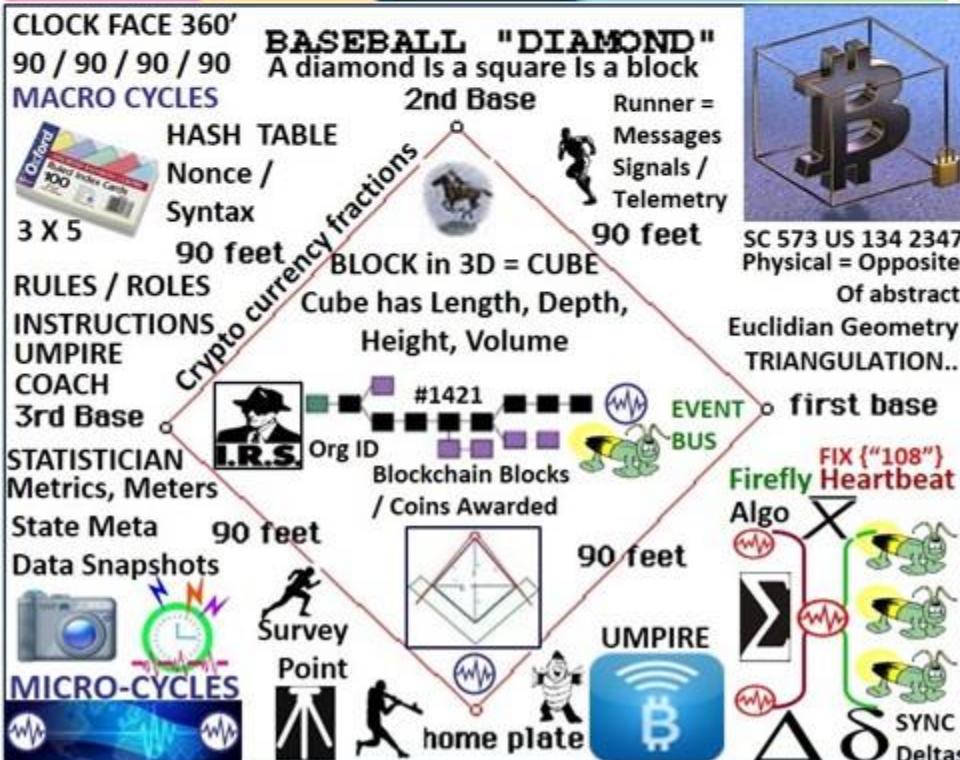
ethereum

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 (see the CAP theorem).



Ether hedged against other
crypto / FIAT currencies
price changes

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**



STATE: stored data at a given instant in time

STATE CHANNELS: blockchain interactions

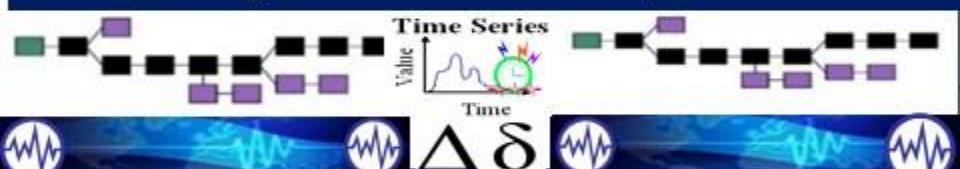
which could occur on the blockchain, but instead get conducted off of the blockchain, without significantly increasing the risk of any participant.



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

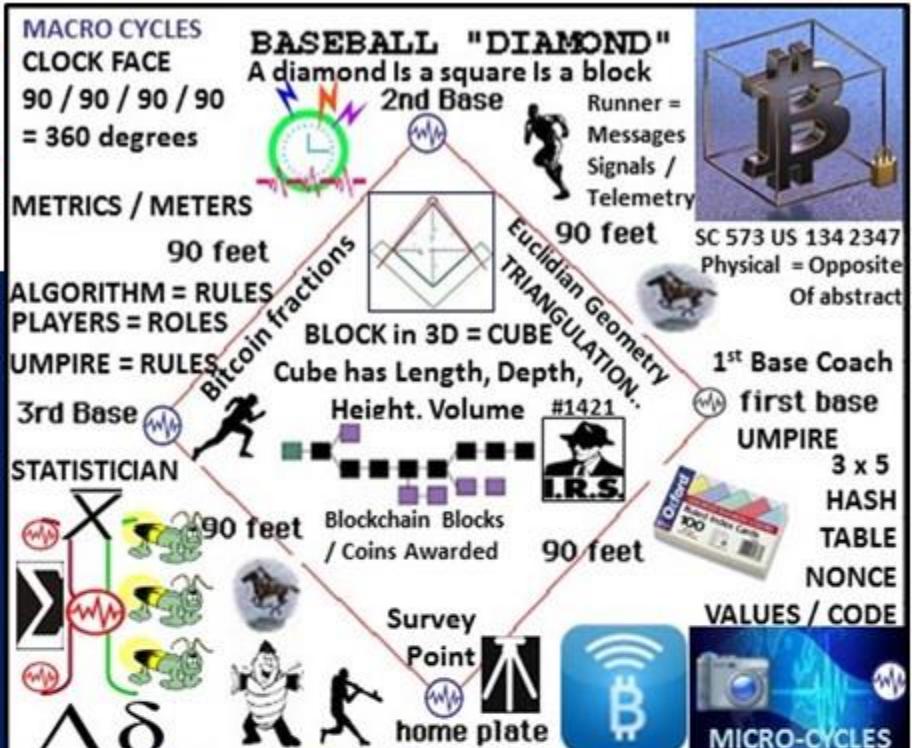
2. Participants update the state amongst themselves by constructing and signing transactions that *could* be submitted to the blockchain, but instead are merely held onto for now. Each new update "trumps" previous updates.

3. Finally, participants submit the state back to the blockchain, which closes the state channel and unlocks the state again (usually in a different configuration than it started with).



EACH NEW UPDATE TRUMPS 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 transactions didn't happen.

[LINK: http://jeffcoleman.ca/state-channels/](http://jeffcoleman.ca/state-channels/)



FLASH HEARTBEAT MESSAGES
HEARTBEAT STATE META-DATA
SNAPSHOTS EVERY
10, N MIN MICRO TO
MACRO ECON CYCLE

HASH TABLES

A cartoon illustration of two ants carrying a large heart-shaped balloon. The balloon is filled with colorful, wavy lines and features a brain icon in the center. The ants are smiling and appear to be working together to carry the balloon.

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





ETHER: Compensate Resource Contribution

Gas: price to
Run contract
transactions

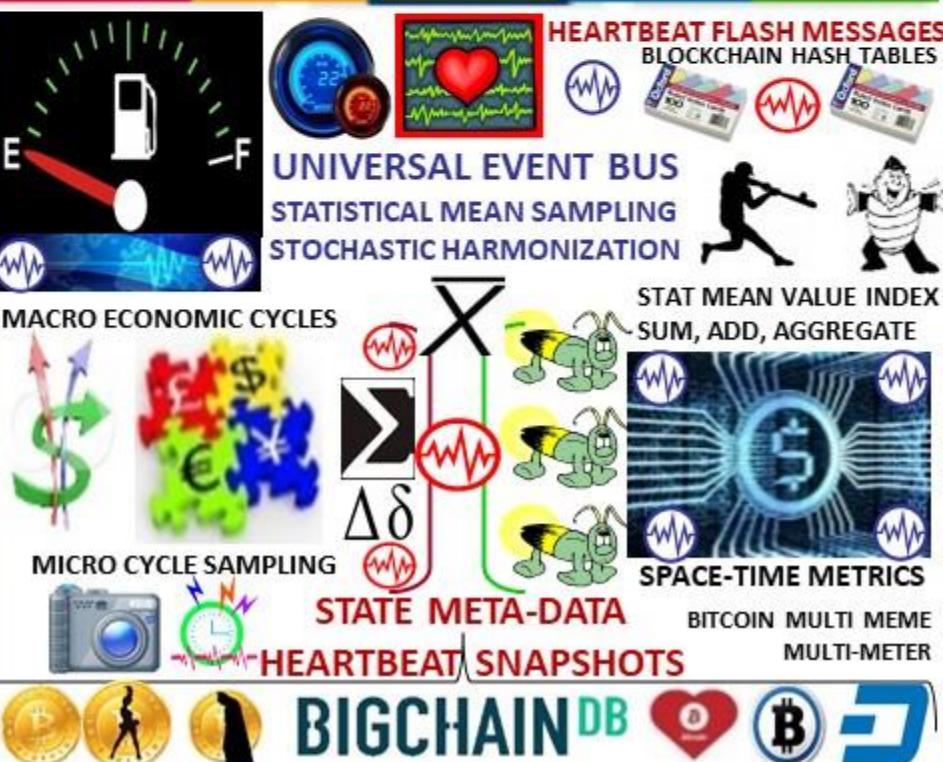
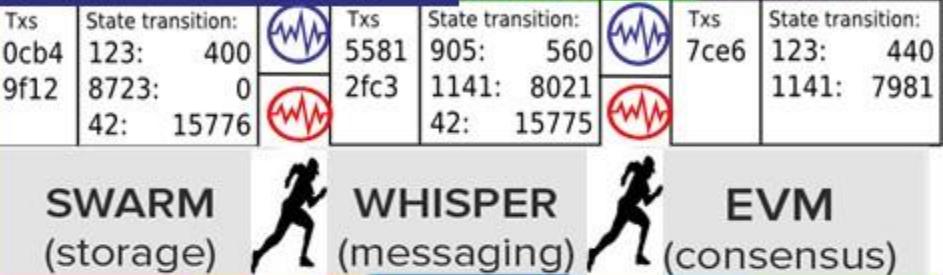
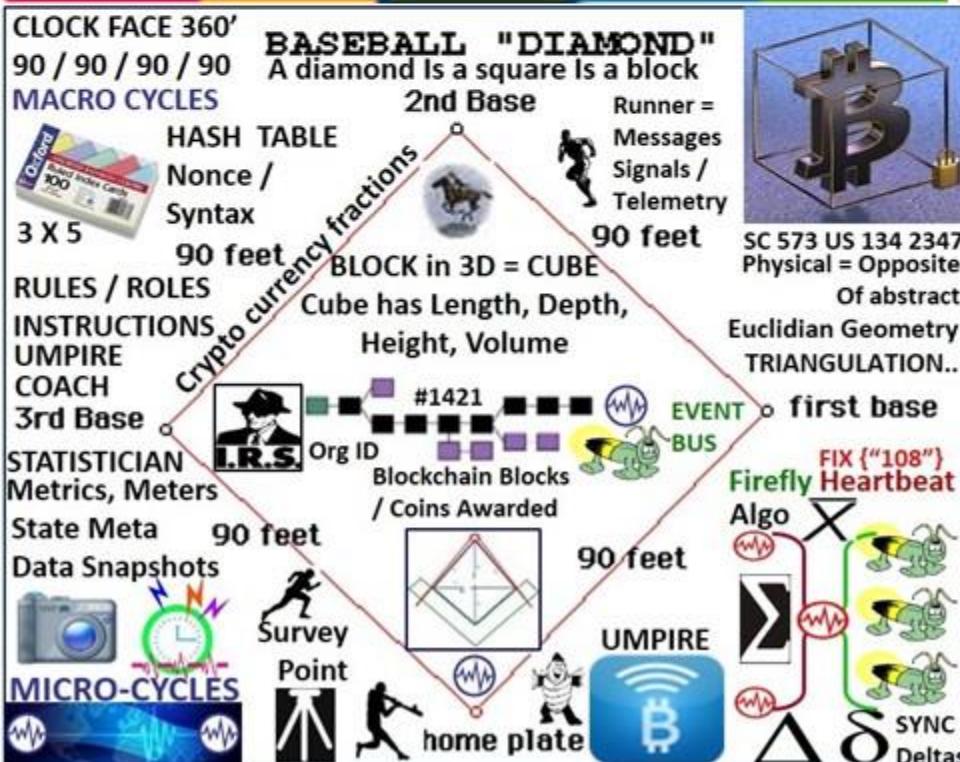
ethereum

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 (see the CAP theorem).



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





PROJECT LIGHTING

FIREFLY - HEARTBEAT ALGORITHM

FIREFLY - HEARTBEAT

ERLANG

Time Series Databases

UTZ UNIVERSAL TIME ZONE SYNC

OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/ Random # BEACON

Payment channels multi-hop hub spoke model like internet routing

CLOCK FACE 360'
90 / 90 / 90 / 90
MACRO CYCLES

HASH TABLE
Nonce / Syntax
3 X 5

RULES / ROLES
INSTRUCTIONS
UMPIRE
COACH
3rd Base

STATISTICIAN
Metrics, Meters

State Meta
Data Snapshots

MICRO-CYCLES

Time Series

Value
Time

Sync Delta
State Meta
Data Snaps

Server nodes, miners only keep recent blocks

Time

Event Reporting Across Time-Space

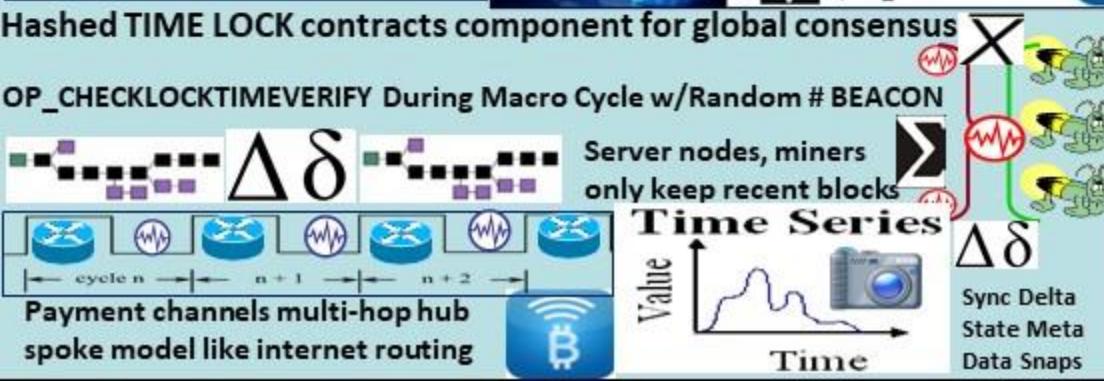
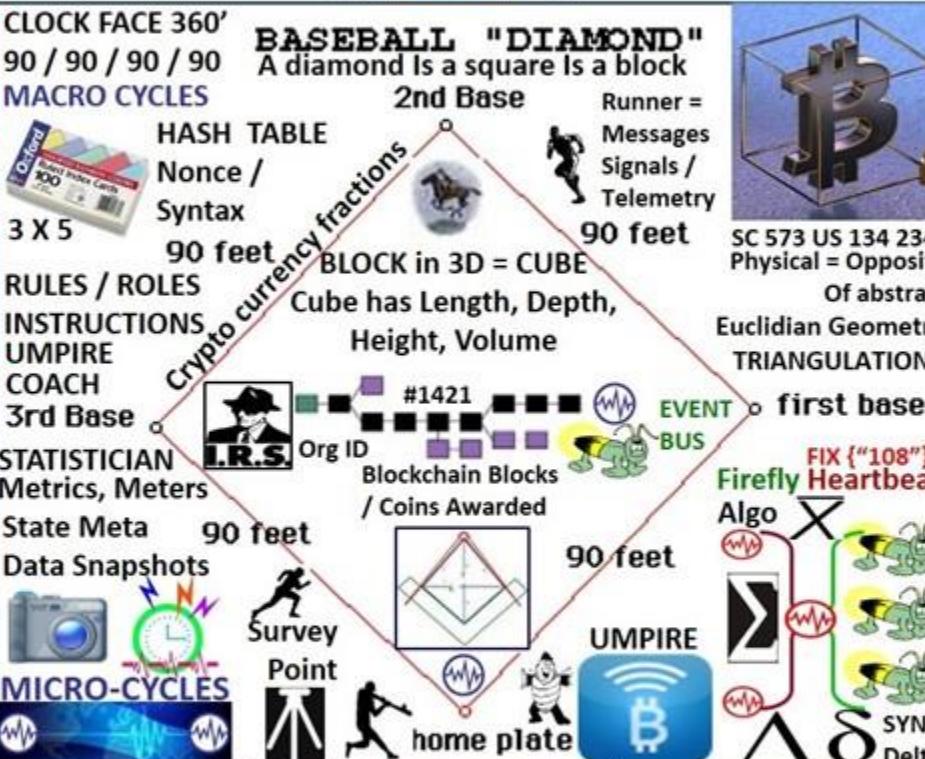
MESSAGE EVENT BUS

SEGREGATED WITNESS SegWit

NONCE SYNTAX / SYMBOL TAGS

OUT OF BAND / CHANNEL

Sync Delta
State Meta
Data Snaps



Segregated witness = Separated signatures

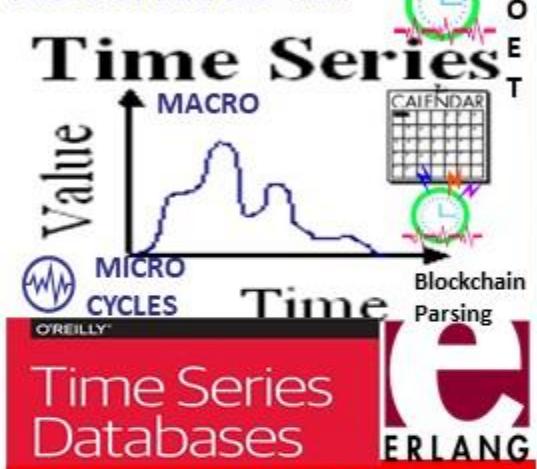
- signatures are cryptographic proofs also known as witnesses
 - moving signatures out of transactions
 - keeping a separate repository of the signatures
 - making them optional in propagation and storage
 - signature are the biggest part of transactions
 - can be implemented as a **soft-fork** vs a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

SAWTOOTH LAKE POETIC CONSENSUS PROOF OF ELAPSED TIME: POET

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



PROOF OF ELAPSED TIME



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

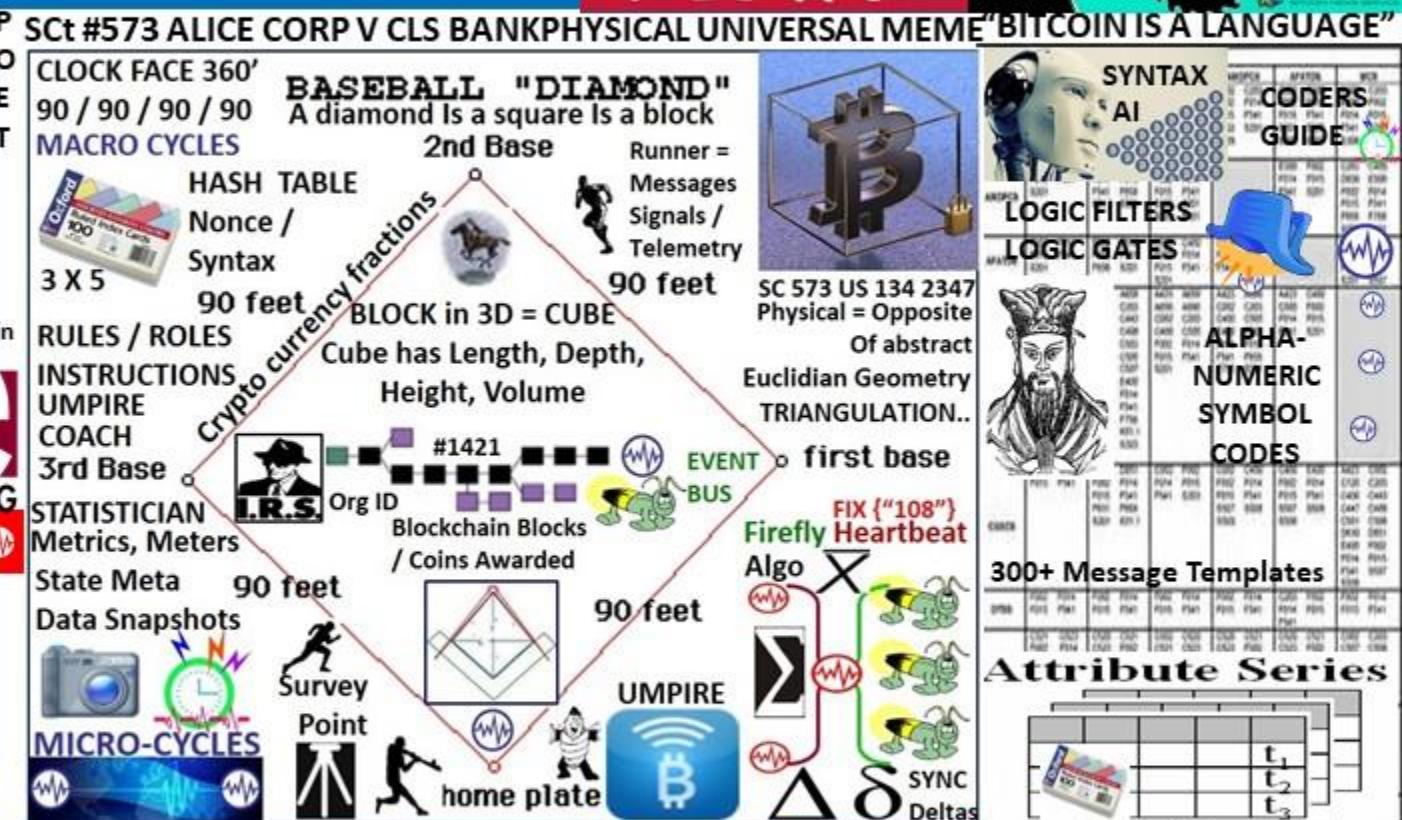
Voting based selection Instead of only using the stake size, the block generators can be selected by votes
ex: League MVP

MVP



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

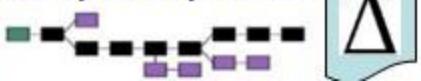
TOURNAMENT LEAGUE BOARD



FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BUS



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



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

Key Features:

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



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

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

All rates time-stamped in UTC.



Ability to look up by time-stamp.

Ability to look up by block-height.

Asset Classes: Digital Currencies

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

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

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

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

BRAVE NEW COIN.
Digital Currency Insights

"Blocks are a measure of time":
The Bitcoin Blockchain 'B-WAP'



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/>

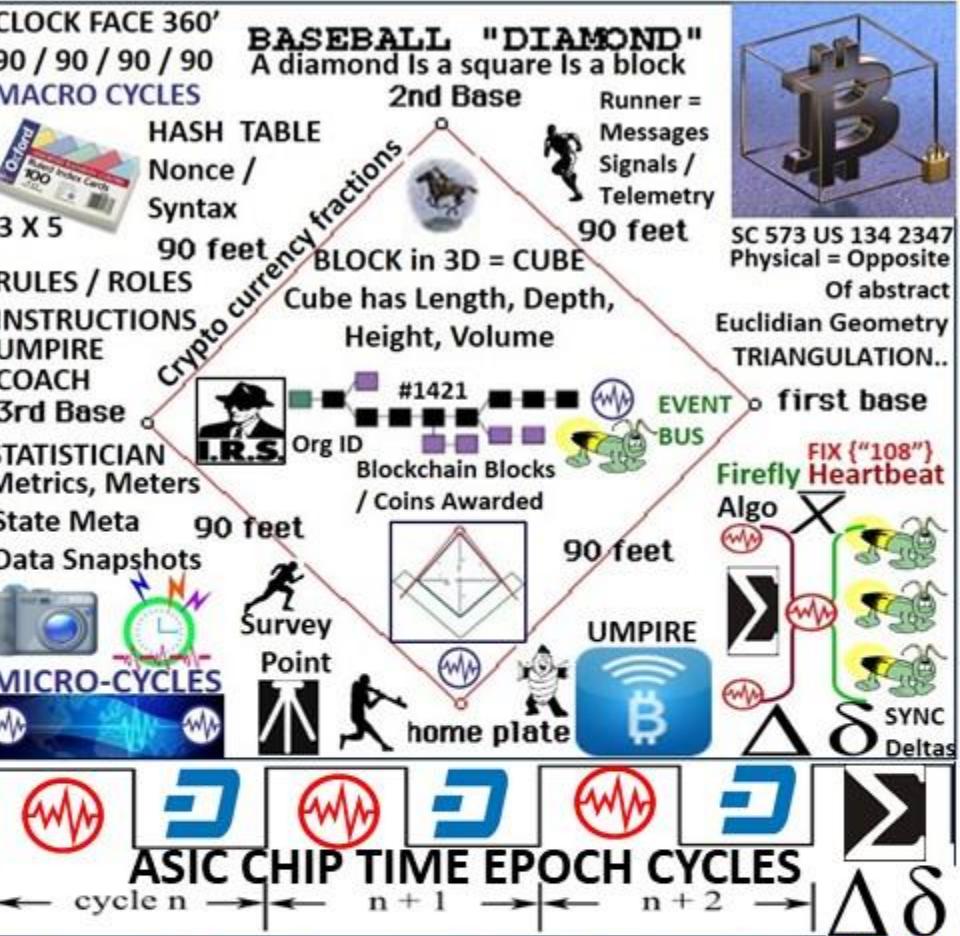
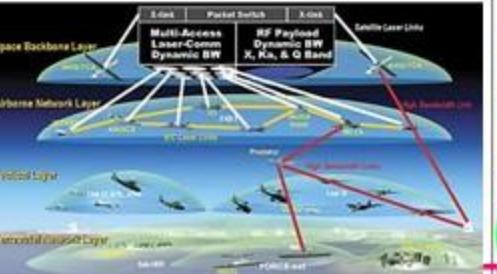
"all digital currency networks, the base layer of people generating the blockchain — "miners," "stakers," "witnesses," "validators," or "forgers" — all get paid to do so" "consensus," or an agreement upon what the rules should be; and second, the execution of said rules.

"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.

Masternodes receive payments for their service to the network.

DAO: RAND THINK TANK TERM COINED + / - 2001



STOCHASTIC HARMONIZATION FIREFLY-HEARTBEAT EVENT BUS

HEART BEACON CYCLE = IMPROVEMENT TO NETWORK CENTRIC WARFARE



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



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

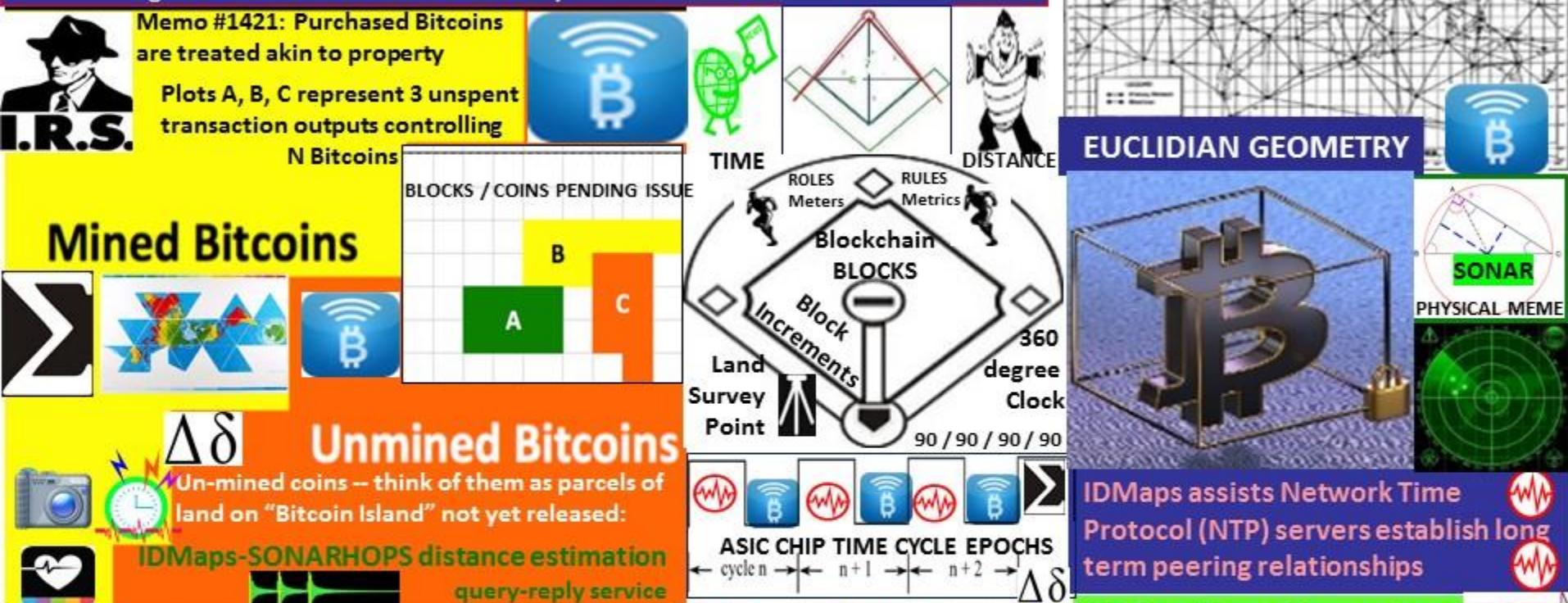
HEART BEACON CYCLE

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.



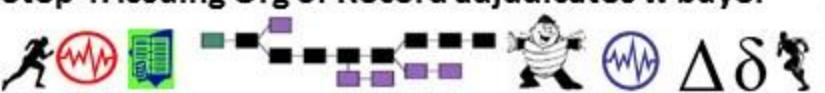
- End-state Bitcoin quantity will be fixed like land
"Bitcoin as protocol of ownership, not transfer"
Coins never travel, but simply switch owners"

Step 1: prove coin ownership <Org_ID> Coin Issuer

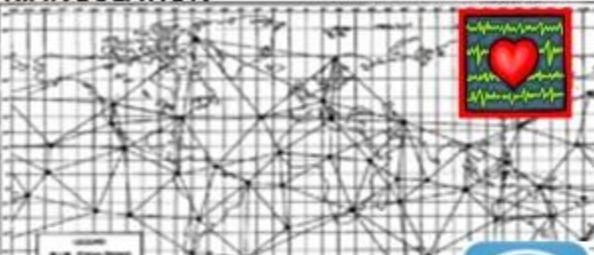
Step 2: coins sent where, when Lat-Long, Time Stamp

Step 3: specify ownership <Org_ID> issuing agent

Step 4: Issuing Org of Record adjudicates w buyer



TRIANGULATION



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

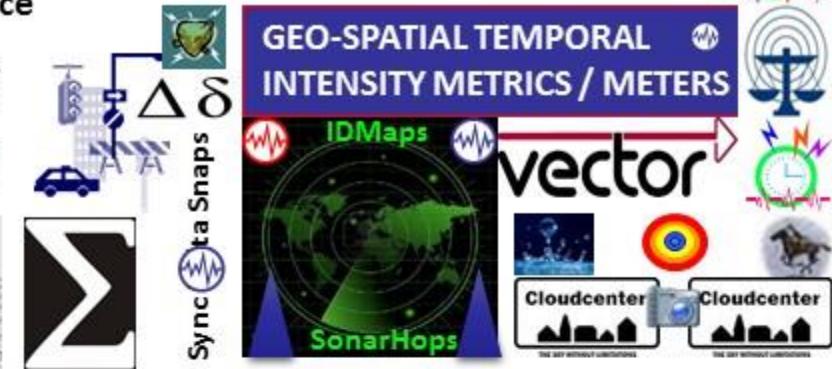
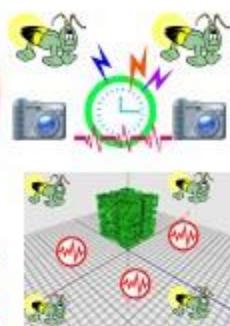




IDMaps: Global Internet Host Distance Estimation Service



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



IDMaps scalable Internet-wide architecture measures, disseminates distance information



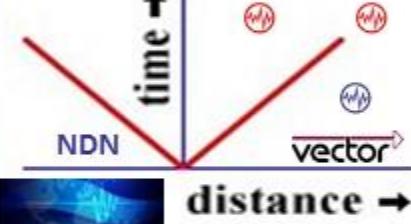
HOP COUNTS



REACHABILITY



/localhost/nfd/fib/add-nexthop



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

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

Name Prefix
<Org_ID> Trie (NPT)



NDN NAMES

NDN NAMED DATA NETWORK RIB /
FIB Datasets event notification

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



NDN RIB



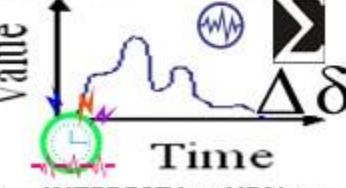
NDN INTEREST LENGTH
= DISTANCE BY HOPS

TRIANGULATION

NDN
INTEREST

IS DATA
FRESH ?

Time Series



INTEREST in <URNs>

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.



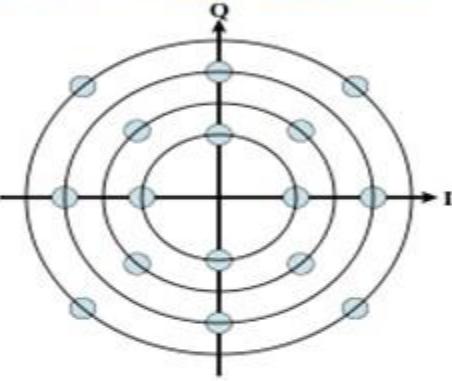
MICRO-CYCLES



NDN INTEREST LIFETIME = TTL Time To Live
HEARTBEAT STATE META DATASNAP SHOTS



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"

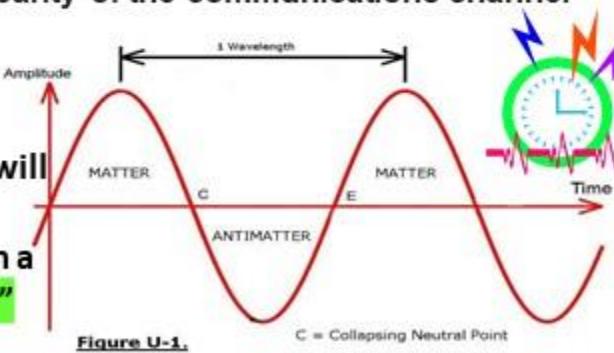


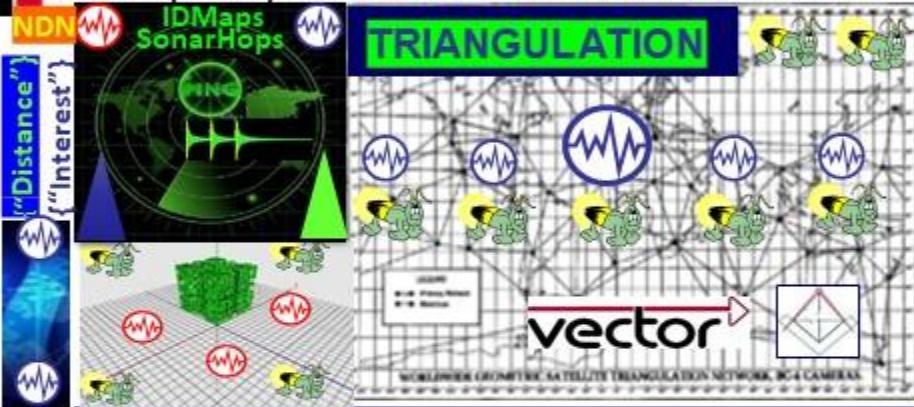
Figure U-1.

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

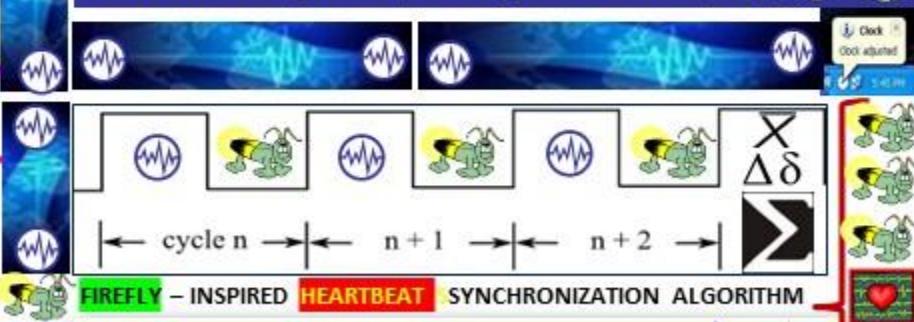


USPTO 13/573,002
sawconcepts.com/index

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



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



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

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



INFOCON
4 3 2 1
INFORMATION
CONDITION



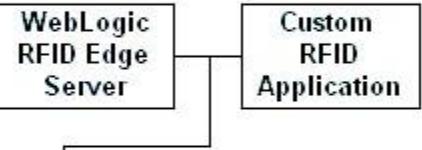
Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data

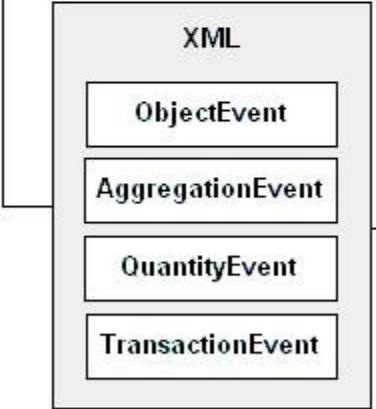


Epcis

EPCIS DATA MODEL



SERVICE LAYER



Core Business Vocabulary (CBV)

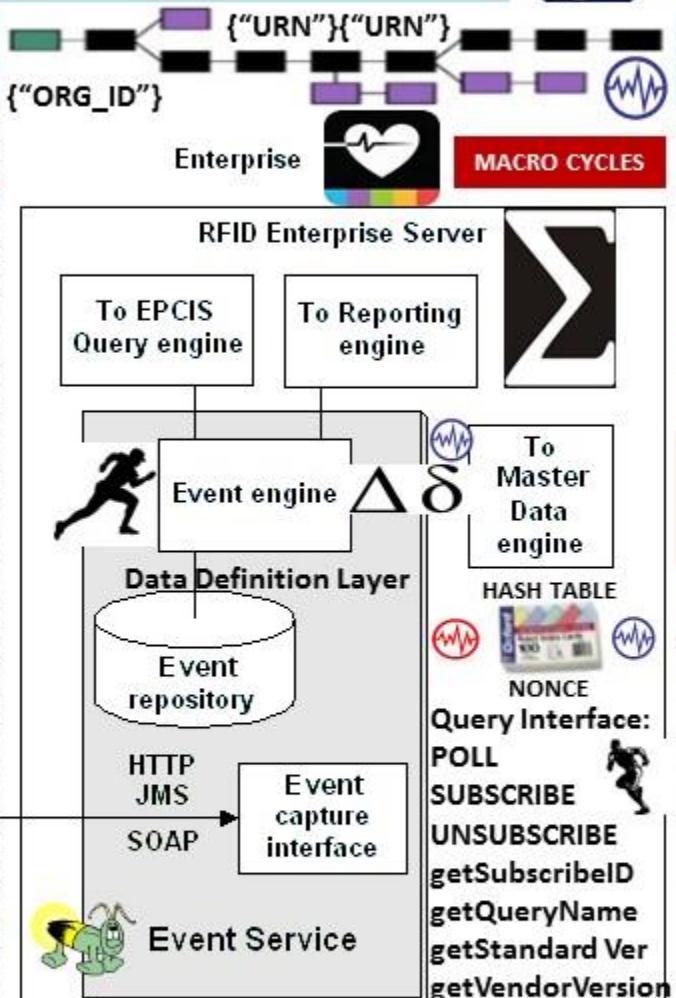
What identifiers of object(s) or entities / subject of the event

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

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

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

MICRO CYCLES



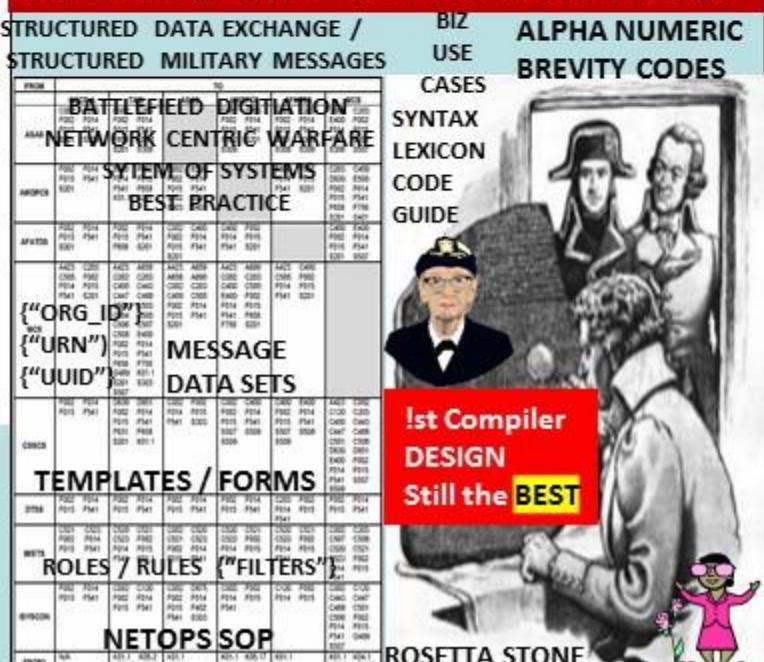
CLOSER IS CHEAPER
CLOSER IS FASTER

$\Delta\delta$



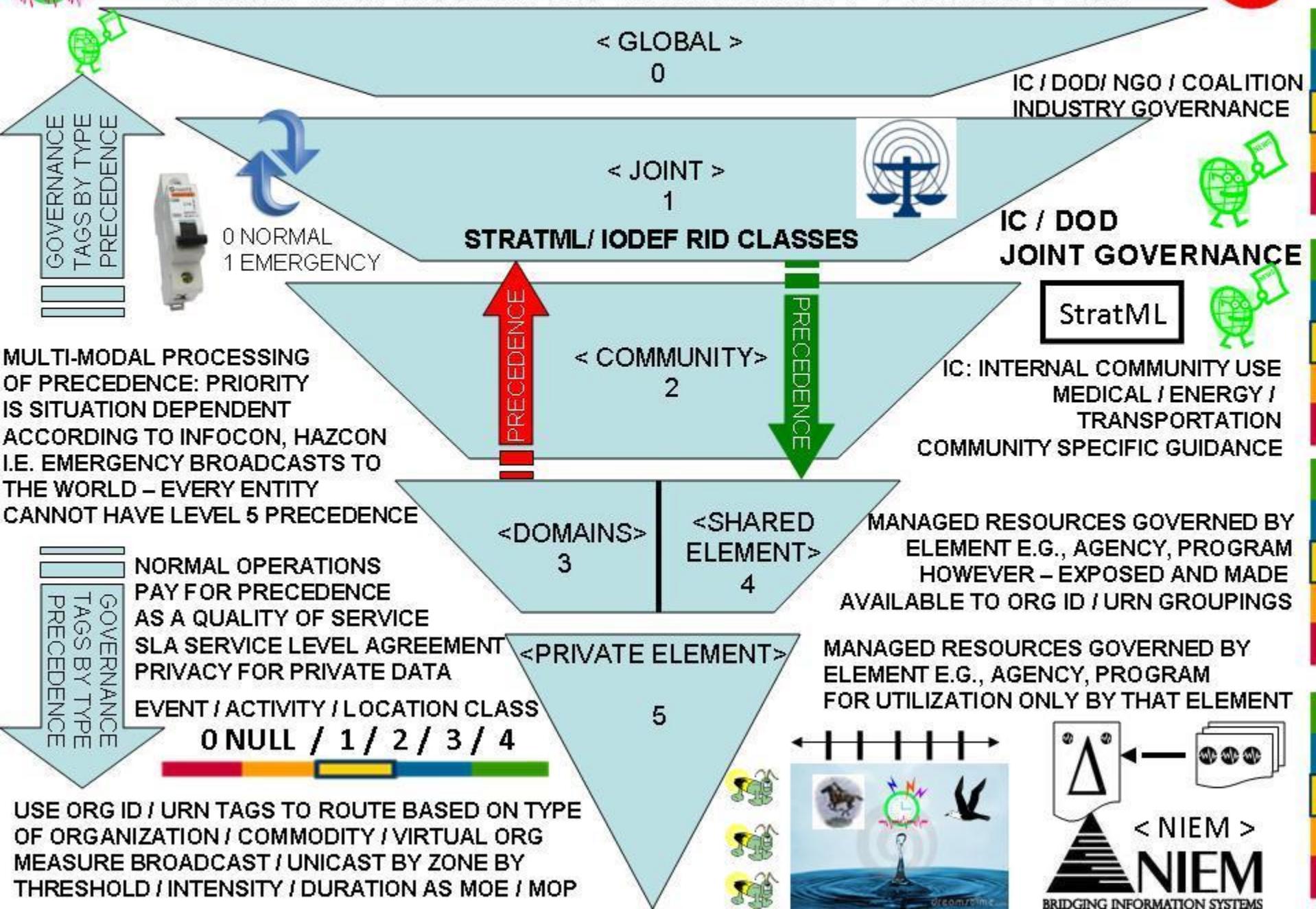
Proximity Wireless Sensor Networks in Combination With RFID ... on reading tag in RF-field the router sends heartbeat message

RFID Configuration TCP/IP heartbeat message





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



Situational Awareness Reference Architecture (SARA)

Identity, Inventory, Activity, and Sharing

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



Industrial Control System
Information Sharing and
Analysis Center

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

<ELEMENTS>

STRATEGIC
MARKUP

StratML

LANGUAGE

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

INVENTORY: Uniform Resource Name <URN>

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



vector

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

GEO-SPATIAL TEMPORAL INTENSITY METRICS

UNIFIED EVENT / ALERT TRIGGER / THRESHOLDS

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

CONTENT LEXICON
ROSETTA STONE

NDN

<GEO_LOC_GPS><STATUS>



<Halt><Moving><Stale><Ready>



STIX

NDN

<INTEREST>



<INTEREST>

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

MIL-STD
2525A

STRUCTURED
<CONTENT>
TEMPLATES

<TAG>
LIBRARY

USMTF / XML MTF FORMATTED MESSAGE CATALOG

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



NAMED DATA
NETWORKING
<Content> Centric





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



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

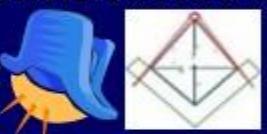
OPENBAZAAR.ORG
BLOCKCHAIN ARBITRAGE



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

PROJECT PHILOSOPHY: *MAKE TRADE FREE*

Mission: *shift trade to a decentralized platform*



Demurrage Fees TERRATRC TRADE
REFERENCE CURRENCY
"Money of Peace"
Commodity / Currency Index



Free and open markets:

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

STAT MEAN VALUE PULSE
MACRO CYCLE AGGREGATE

STAT MEAN VALUE INDEX

• Privacy



HASH Values
Nonce Values

SCT Alice V Cls Bank



- Users should fully control their data. **Users** have freedom to reveal as much personal identifiable information as they want, when they want

Bitcoin: OpenBazaar transactional currency



Cryptographic Security

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



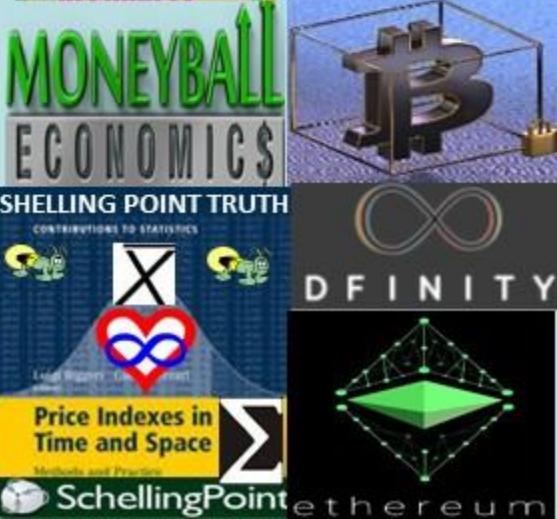
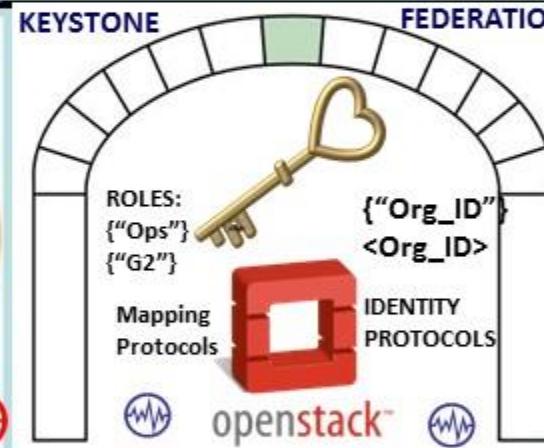
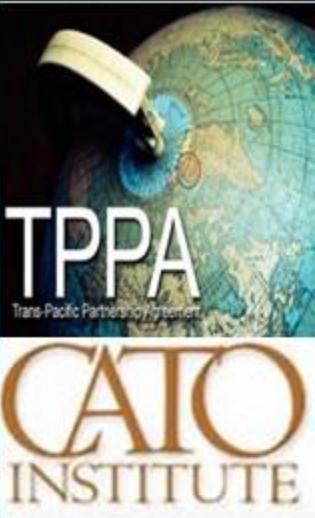
Non-
Repudiation

SchellingPoint



Trans-Pacific Partnership is great for elites. Is it good for anyone else? by [Timothy B. Lee](#) on April 17, 2015

How the TPP empowers elites. The nature of trade agreements has shifted. They're no longer just about removing barriers to trade. They've become a mechanism for setting global economic rules more generally. This system for setting global rules has some serious defects. We expect the laws that govern our economic lives will be made in a transparent, representative, and accountable fashion. The TPP negotiation process is none of these — it's secretive, it's dominated by powerful insiders, and it provides little opportunity for public input. Attributed to CATO Institute



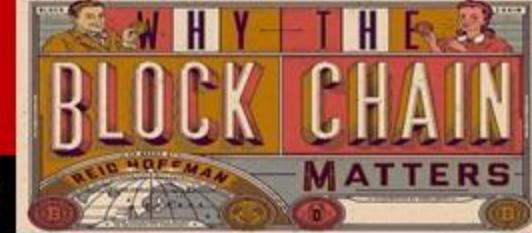
HEART BEACON CYCLE: ALL THINGS INTERNET ARE PROGRAMMED USING TIME CYCLES USED / NOT USED TO PROCESS / NOT PROCESS SYNTAX



TradeNet

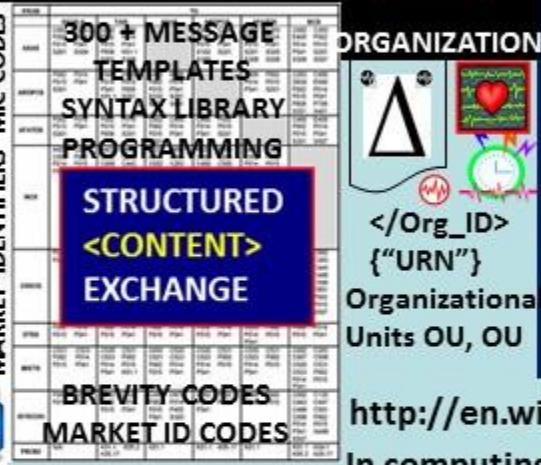
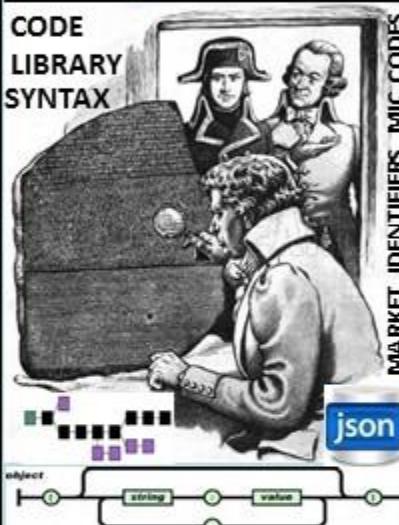


Programmable Money \$\$\$



RIED HOFFMAN 15 May 2015 [LINK](#)

"The CODE that secures Bitcoin could also power an alternate Internet [LINK](#)

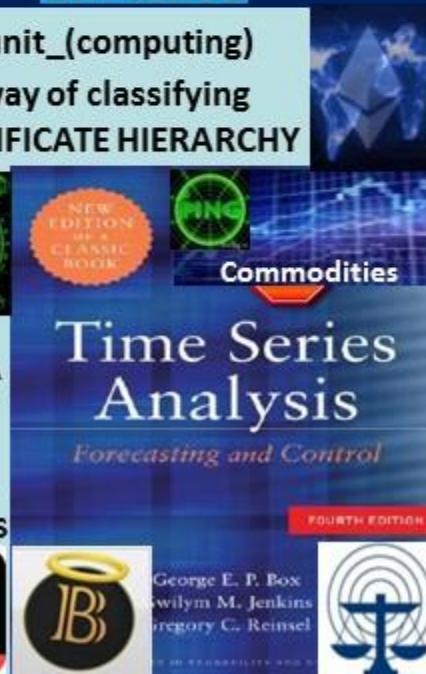


Bitcoin and the blockchain function as a medium of exchange, a store of value, a unit of account. Bitcoin adds digital, cryptographic, distributed server functions to currencies. Because it functions simultaneously as a currency, an asset and a platform, Bitcoin is better described as a global cryptoCAP (currency, asset, platform) — a synergistic form of "cryptocapital" to unleash the full economic power of the networked age. **Bitcoin makes money PROGRAMMABLE. MONEY IS SIMPLY DATA** - a simple way to measure and keep track of exchanges in value wealth accumulation. Bitcoin aggregates data in a distributed global ledger accessible to anyone, and software. First open platform for financial services. Color coins represent stocks, bonds, currencies, properties as E-assets.

WIRE

[http://en.wikipedia.org/wiki/Organizational_unit_\(computing\)](http://en.wikipedia.org/wiki/Organizational_unit_(computing))

In computing, an organizational unit (OU) is a way of classifying directories objects, or names in a DIGITAL CERTIFICATE HIERARCHY





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

Zero Trust Transaction: money performs according to terms agreed to by the 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. Global stock, currency, commodities exchanges, letters of credit, insurance underwriting, trading, intellectual property...

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

VERITAS TOKENS = KEYS TO P2P Capital Market! Proprietary P2P smart contracts combined with the transformational power of blockchain, allow the entire world to participate in the reimagining of global capital markets.
Purchasing Veritas tokens is analogous to purchasing keys to the internet of money – the most monumental paradigm shift since the advent of the net

Principal:	\$100.00	Place Order
Collateral:	0%	X ritaseum™
Leverage:	10x	FIREFLY HEARTBEAT ALGO EVENT BUS
Notional Amount:	\$1000.00	
Receive:	QCOM	
Pay:	INTC	
Denominating Asset:	~BTC:SATOSHIS	
Contract Expiry:	16w	UTZ TIME SYNC
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	

Collateral Notional Expiry

Heartbeat Flash Messages Precedence Processing
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.

FINANCIAL
NOSTRADAMUS
REGGIE MIDDLETON



ECONOMIC HEARTBEAT
STATISTICAL MEAN VALUE INDEX PULSE



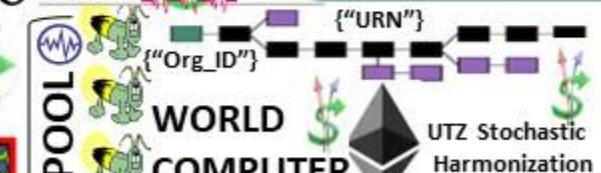
ALGORITHMIC REGULATION



SHELLING POINT TRUTH



Price Indexes in Time and Space



SchellingPoint



UTZ Stochastic Harmonization



DFINITY





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.





- 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



Autonomous Device Coordination Framework



Registration

Authentication

Proximity based rules

Consensus based rules

FEDERATION AGREEMENTS

PROCEDURAL TEMPLATE

Contracts

Checklists

FEDERATION

<UUID><ORG_ID><URN>

LDAP DIRECTORY

Physical proximity

Social proximity

Temporal proximity

Agreements

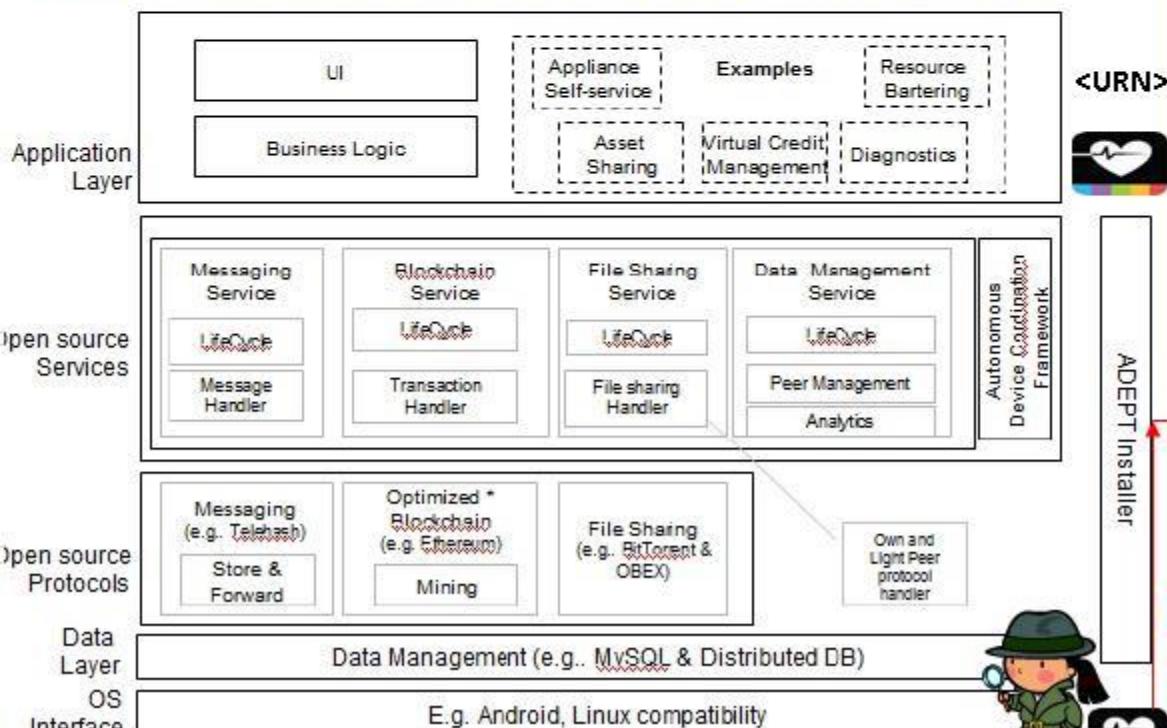
Payments

Barter



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

ADEPT Standard Peer Architecture – Logical View



<URN>

ADEPT Installer



ASSET SHARING WITHIN FEDERATION

BUSINESS LOGIC = WORKFLOW <XML_Wf>

FILE SHARING = CYCLIC SYNC DELTA LEDGER / DOCUMENT REFRESH

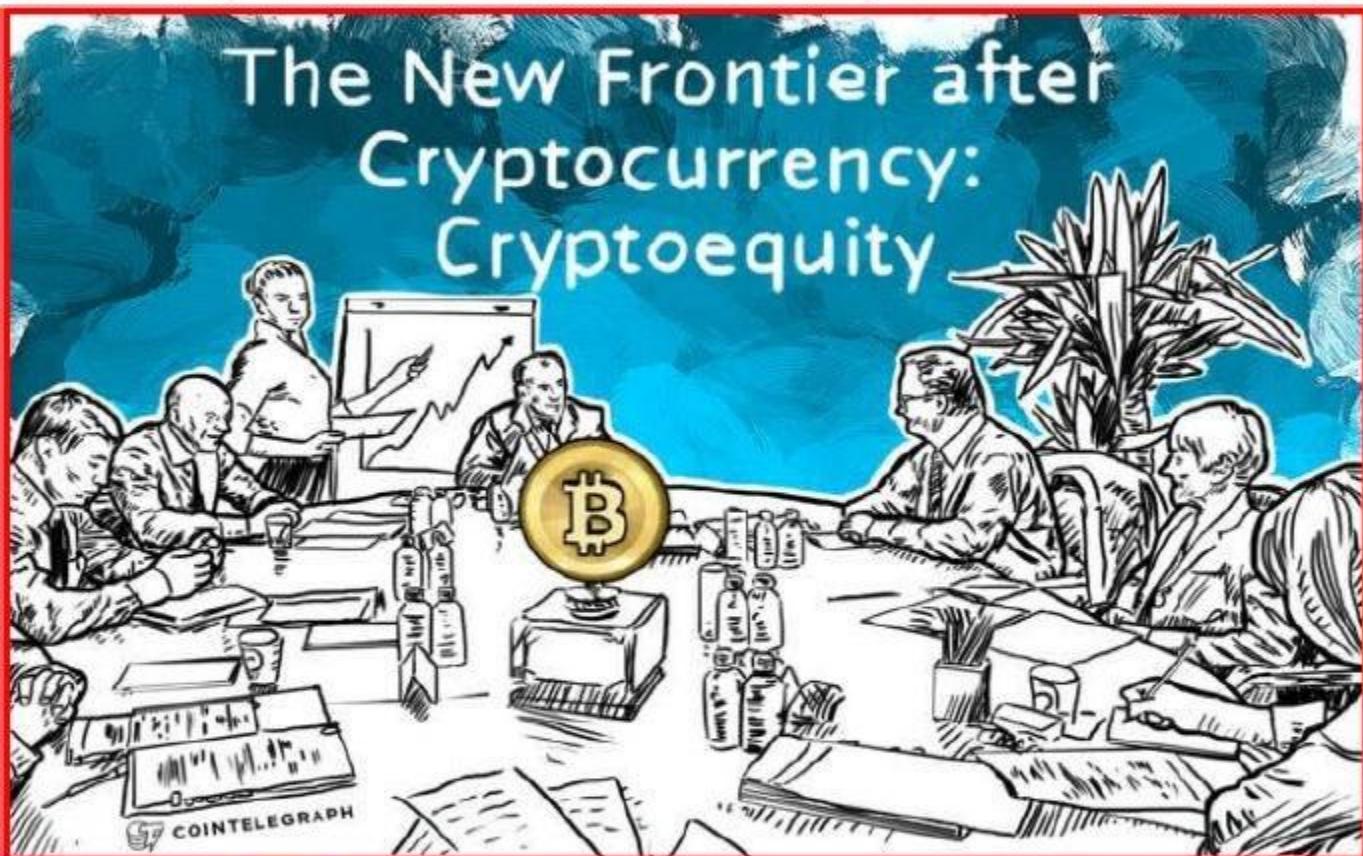


OPEN SOURCE = HBC = PROTOCOL AGNOSTIC

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

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

DAO: Distributed Autonomous Organization. RAND Corporation first used in a military context in 2000 http://rand.org/pubs/documents_briefings/DB311.html
[Swarming and the Future of Conflict | RAND www.rand.org](#)

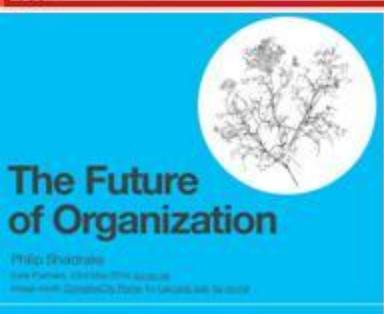


RAND
Monograph
Report

THE
ADVENT
Of NETWAR

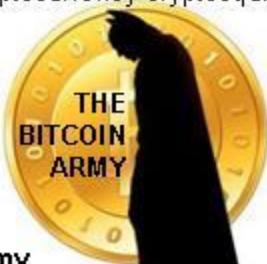


Eris -- The Dawn of Distributed Autonomous Organizations and The Future of Governance



Ethereum: use of DAO in crypto coin sphere
BitShares.org too ☺

<https://twitter.com/TheBitcoinArmy>



ERIS: GODDESS OF DISCORD
DISRUPTIVE TECHNOLOGIES:

- BITCOIN ETHEREUM
- BITCOIN STELLAR
- BITCOIN NAMECOIN
- BITCOIN RIPPLE



<http://hplusmagazine.com/2014/06/17/eris-the-dawn-of-distributed-autonomous-organizations-and-the-future-of-governance/>

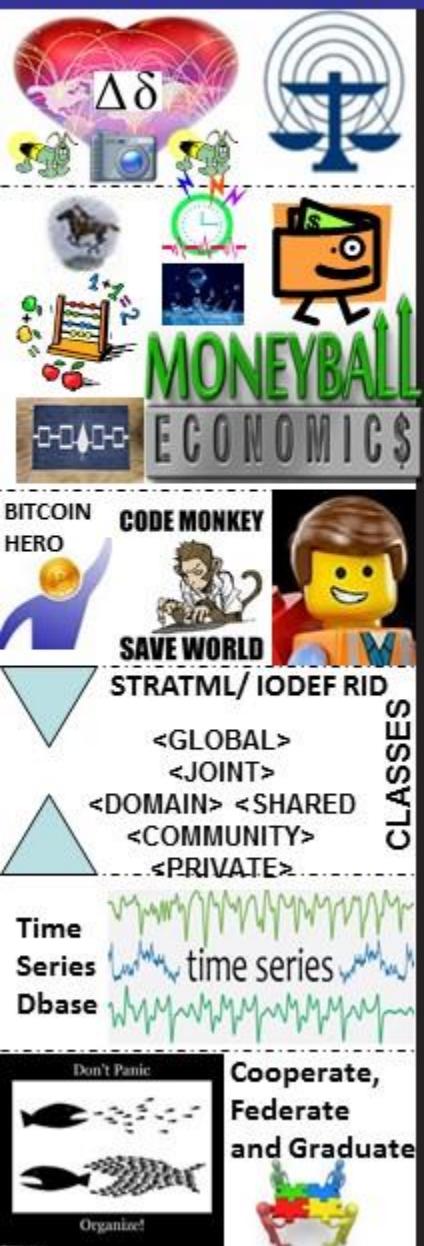
How 'Bitbanks' Could Solve Bitcoin's Volatility Problem

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

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



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



HOW GAMIFICATION WORKS:

5 COMMON MECHANICS

POINTS



Measure a user's achievements
in relation to others
Can double as currency to
exchange for rewards

BADGES



Reward achievements visually

LEVELS



Encourage users to progress
and unlock new rewards

LEADERBOARDS

Organise players by rank

CHALLENGES

Encourage engagement by
offering specific tasks to complete

4 MAIN WAYS TO DRIVE ENGAGEMENT

ACCELERATED FEEDBACK CYCLES

CLEAR GOALS AND RULES OF PLAY

A COMPELLING NARRATIVE

CHALLENGING BUT ACHIEVABLE TASKS





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

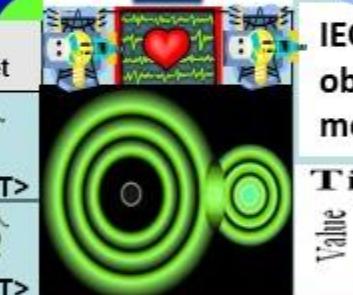
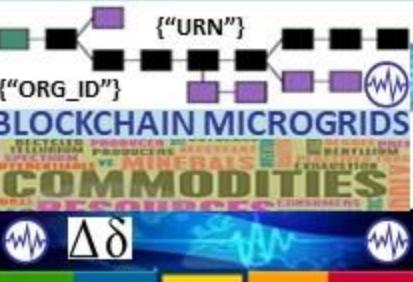
Phase 2: Shared file stores data for 5 tags:

- (1) Active ID
 - (2) Heartbeat 1.
 - (3) Heartbeat 2.
 - (4) Device Status 1.
 - (5) Device Status 2.
- | | | |
|--|--|-------|
| | | SLA/O |
| | | |

TAG	vector	ENERGY TOKENS ExDesc / COMMODITIES	digitalset
{"Org_ID"} ActiveID		[UFO2_ACTIVEID]	
IF1_Heartbeat (IF-Node1)		[UFO2_HEARTBEAT:#]	
IF2_Heartbeat (IF-Node2)		[UFO2_HEARTBEAT:#]	
{"UUID"} IF1_DeviceStatus (IF-Node1)		[UFO2_DEVICESTAT:#]	
{"UUID"} IF2_DeviceStatus (IF-Node2)		[UFO2_DEVICESTAT:#]	
IF1_State (IF-Node1)	$\Delta\delta$	[UFO2_STATE:#]	
IF2_State (IF-Node2)	$\Delta\delta$	[UFO2_STATE:#]	



Paul Revere = Linear, Sequential meme



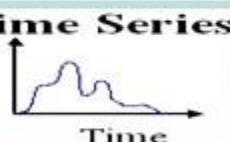
Unilnt does not examine the remaining attributes, the point source and location must match
Micro Payments
Demurrage Fees

Heartbeat
State meta
Data snapshots

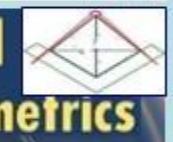
BLOCK TIME – SPACE ARBITRAGE TRADE
ENERGY TOKENS FOR FOOD, WATER,
TRANSPORTATION LOCALLY, REGIONALLY



IEC 61850 Objects logical nodes, data objects or data attributes resends message with the heartbeat cycle



Spatial Econometrics

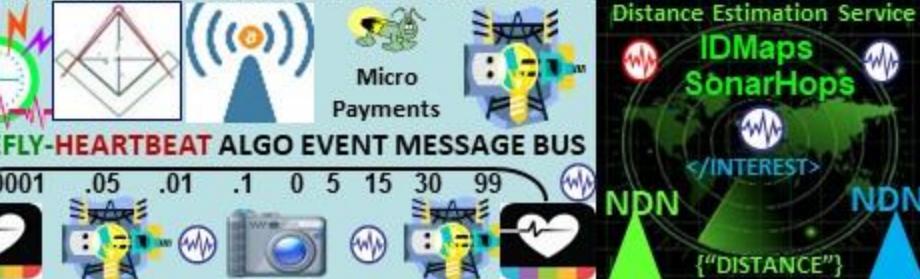


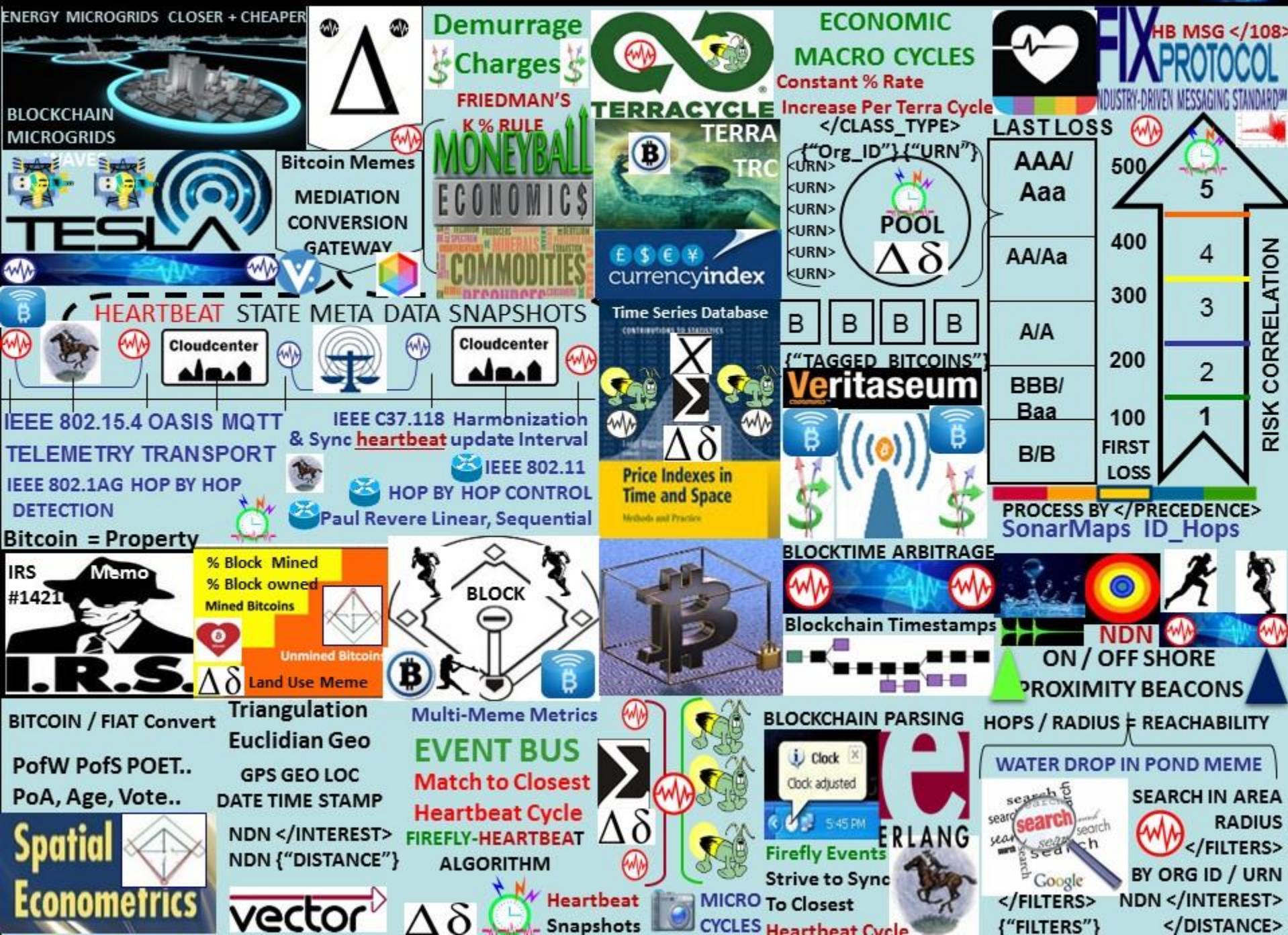
IEEE 802.1AG HOP BY HOP DETECTION
IEEE 802.11 HbH HOP BY HOP CONTROL

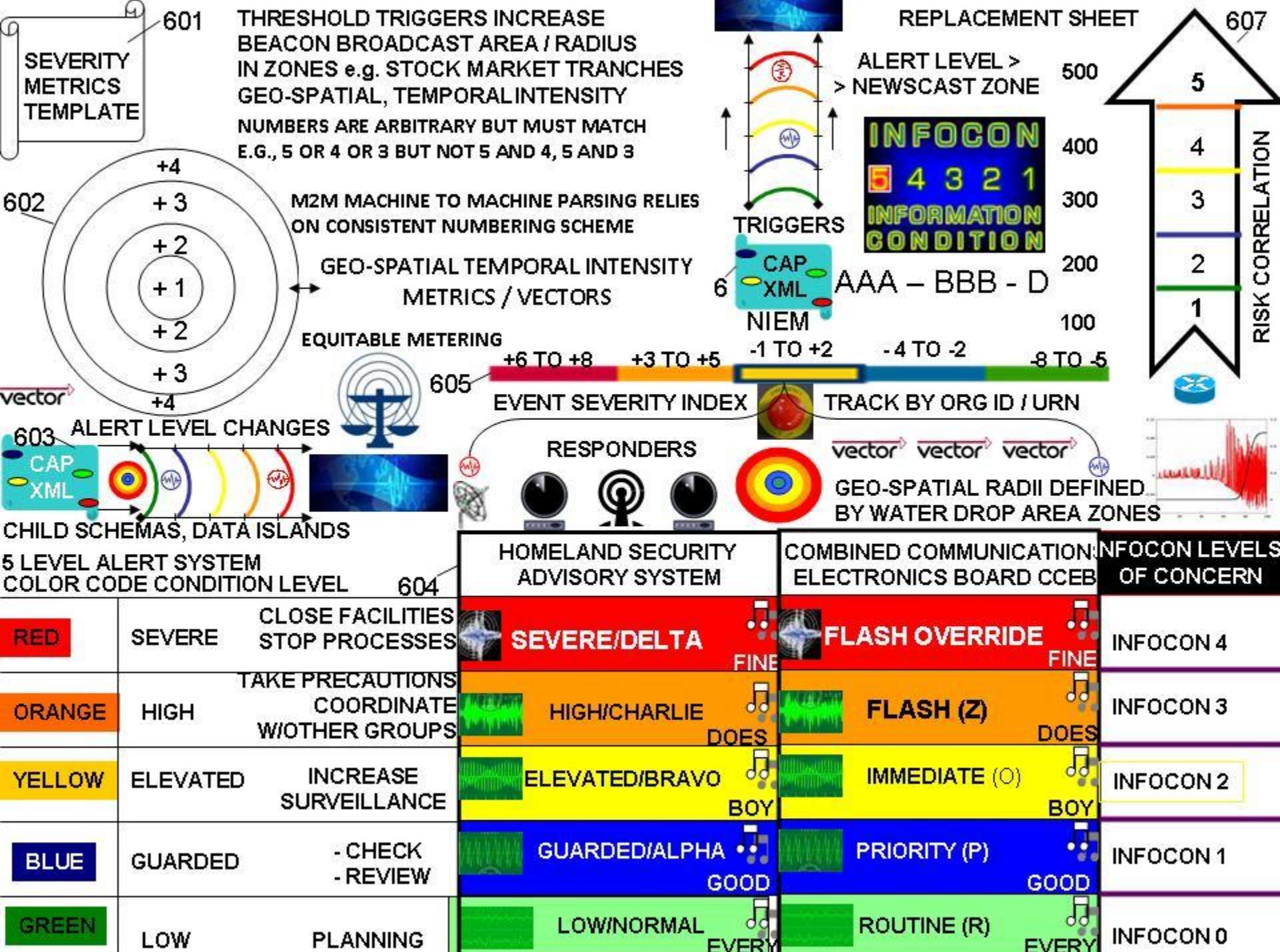
< HOPS = CHEAPER Sync Delta Heartbeat Messages

CROSS LEVEL OVERAGES / SHORTAGES ADJUST FOR

TIME / DISTANCE BETWEEN NETWORK NODES

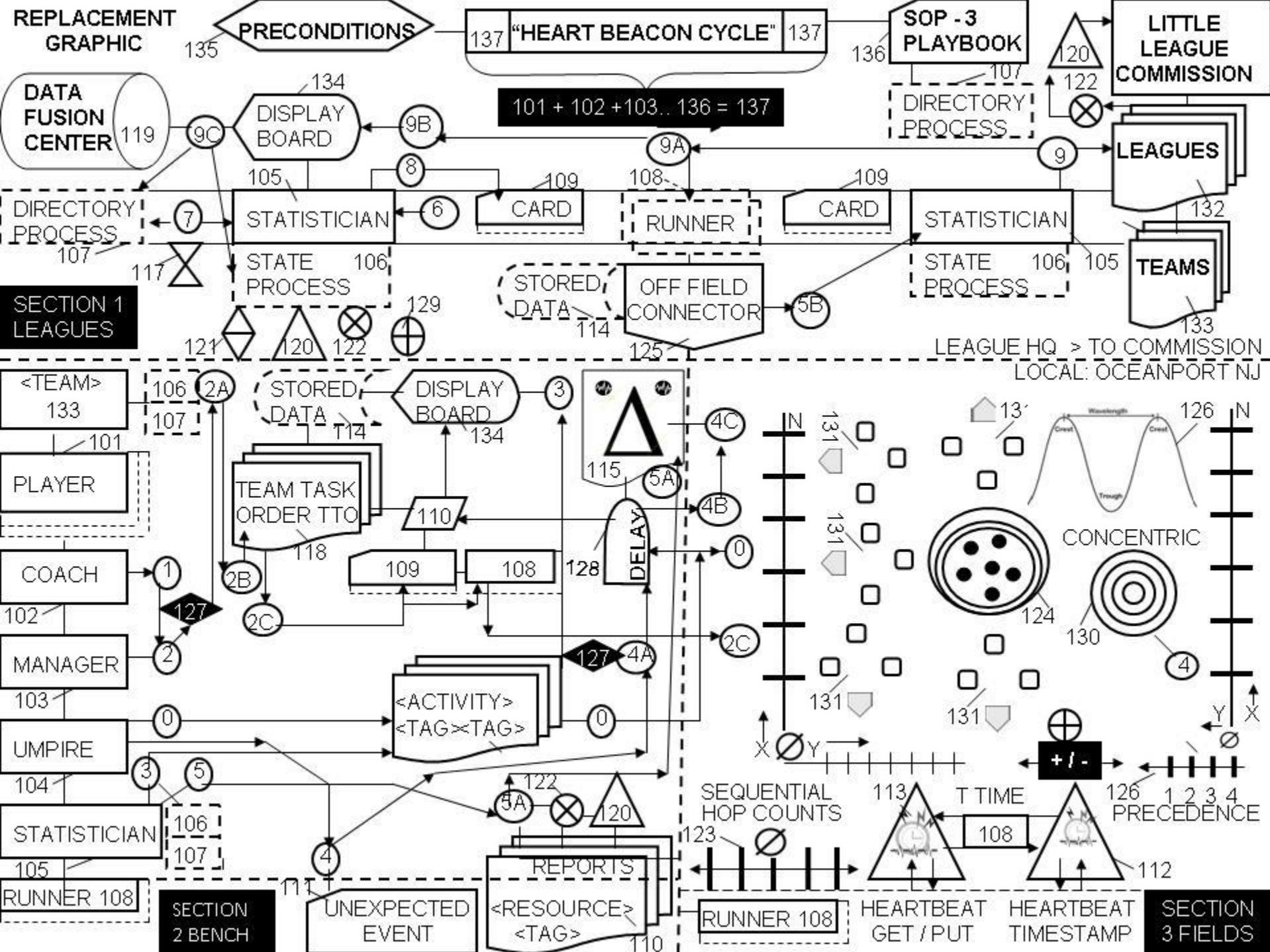


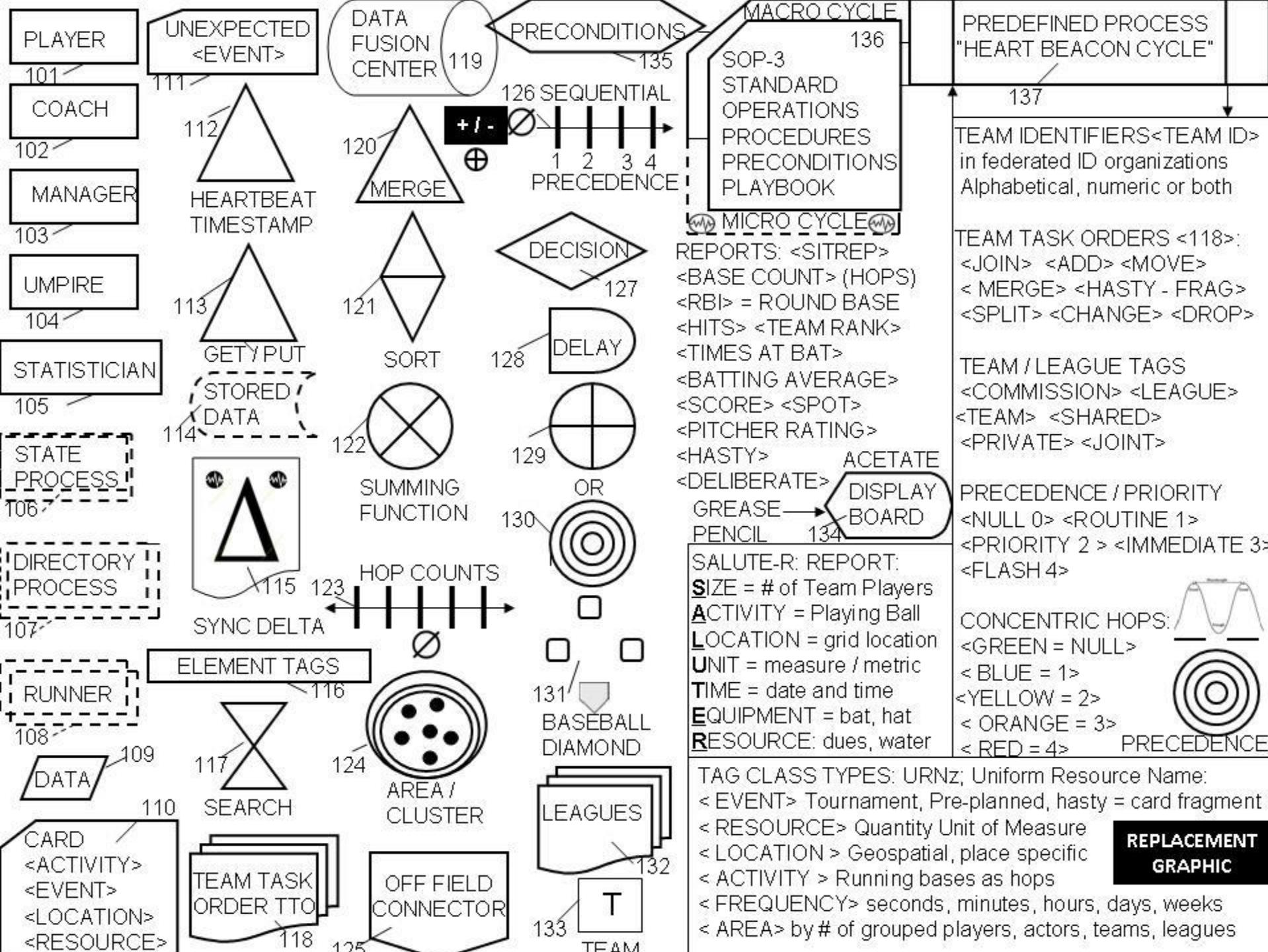




Interface Name	HEARTBEAT Administration Interface [SCOP]		
Documentation URL	http://scop.sourceforge.net/ http://linuxvirtualserver.org/software/index.html		
API Information	     #Big_Data		
#IeT	Functionality Areas	Cloud Interface Management, configuration, start, stop cloud services, edit configuration (heartbeat messages)	
	API Operation Count		
	Web service access type	Web application, front end to [network, device, system] heartbeat	
	LANGUAGE / PLATFORM BINDINGS	PHP	 
Interface Characteristics	<p>SCOP is a web application, PHP based, that is a front-end to heartbeat, IP Virtual Server ipvs and Idirectord [check interval e.g., every 5 seconds] software. With SCOP you can start/stop services, view/ edit configuration files e.g., heartbeat message state management snapshots, make backups, take a server online/offline, add/ remove virtual/real servers, etc.</p>		

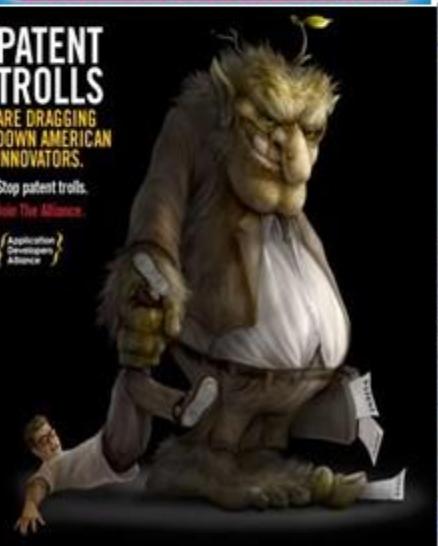
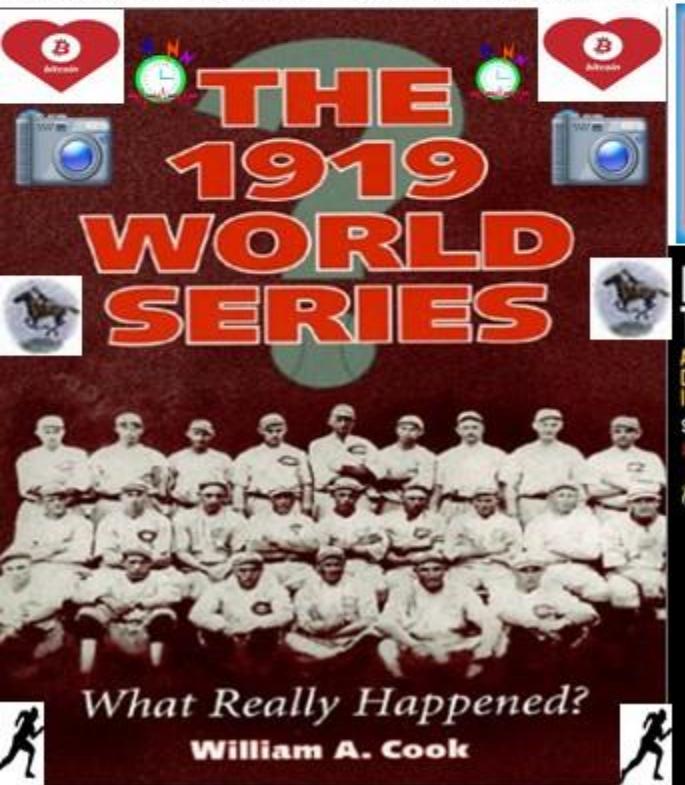




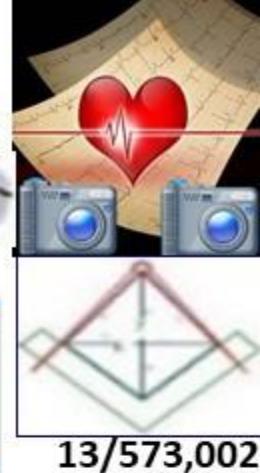




SAW Concepts LLC Owner's Father is from Blackfoot First Nation Native American Indian



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

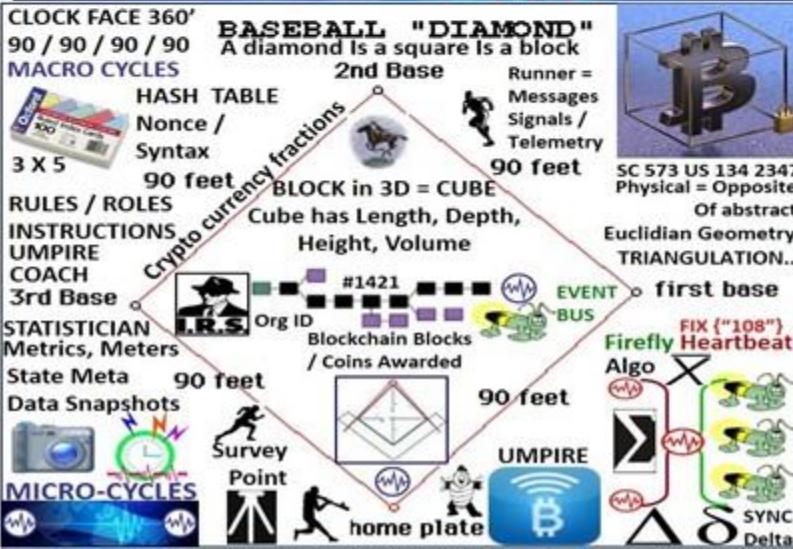


13/573,002



USPTO SCREEN CAPTURES SUSPENDED PAIR RULES

- Moved Examination outside PAIR
- No need for forms, fees, amendments
- No Time Stamps = Temporal Ambiguity
- Screen captures before / after filing





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

GIZMAG: New NASA network poised to bring internet to entire solar system SCt 573 ALICE CORP VS CLS BANK PHYSICAL MEMES

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



TIME / DISTANCE SERVICE LEVEL
AGREEMENT SLA / O Operations

IEEE 802.15.4 OASIS MQTT

IEEE 802.11



TELEMETRY TRANSPORT

HOP BY HOP CONTROL

IEEE 802.1AG HOP BY HOP
DETECTION

Unused Resources / Unmet Needs

/localhost/nfd/fib/add-nexthop

Geo-Spatial Temporal

Metrics, Meters

DISTANCE
INFO SERVICE

Time Series

RISK

Value

Time

WATER DROP IN POND MEME IS

SONAR NAVY METAPHOR / MEME

NDN </INTEREST>

NDN {"DISTANCE"}

NAMED DATA

NETWORKING

IEEE C37.118

Harmonization

& Sync heartbeat

update Interval

CLOSER SOURCE

CHEAPER RATE

Energy Attenuates over Distances

TCP/IP HOP BY HOP COUNT

Attribute Series

INTEREST

DISTANCE

Temporal Series

Geo Spatial

Paul Revere

LINEAR, SEQUENTIAL

602

603

NULL

+1

+2

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

603

602

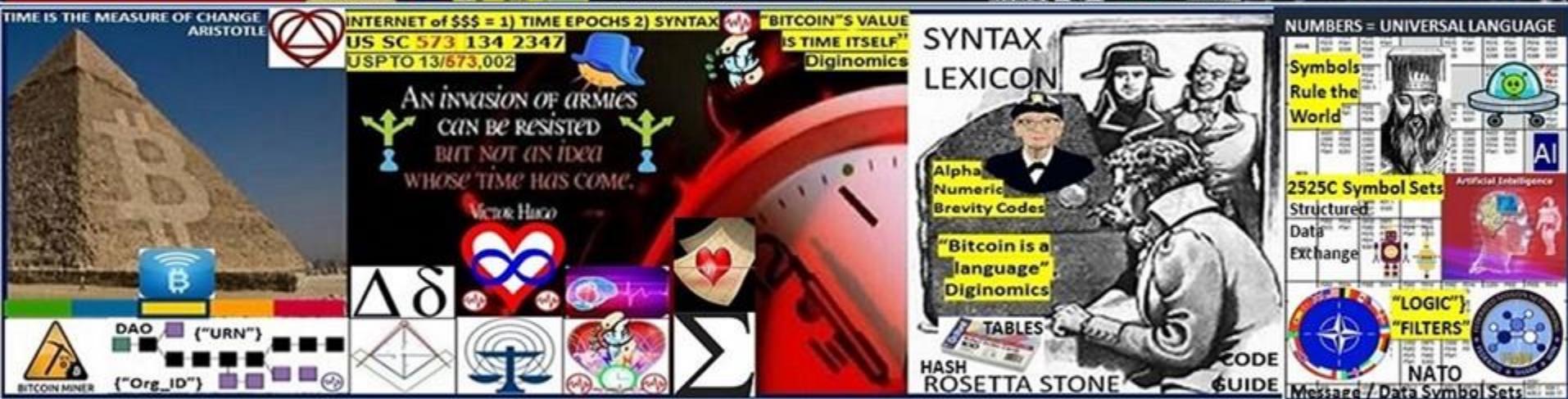
603

602

603

602

<p



SIGNALS
Telemetry
ANNEX

r. buckminster fuller operating manual for spaceship earth

Buckminster Fuller 1968 *Operating Manual for Spaceship Earth*
"we can make all of humanity successful through science's world-engulfing industrial evolution. We have the tools"

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

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

INFOCON

5 4 3 2 1

INFORMATION CONDITION
The World Game



INCENTIVIZE SUSTAINABLE Eco-Econometrics

Eco-Econometrics

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

HEART BEACON CYCLE: SIGNALING, TELEMETRY FRAMEWORK ANNEX
BUCKMINSTER FULLER'S OPERATING MANUAL for SPACESHIP EARTH



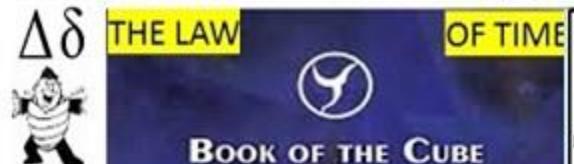
USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter

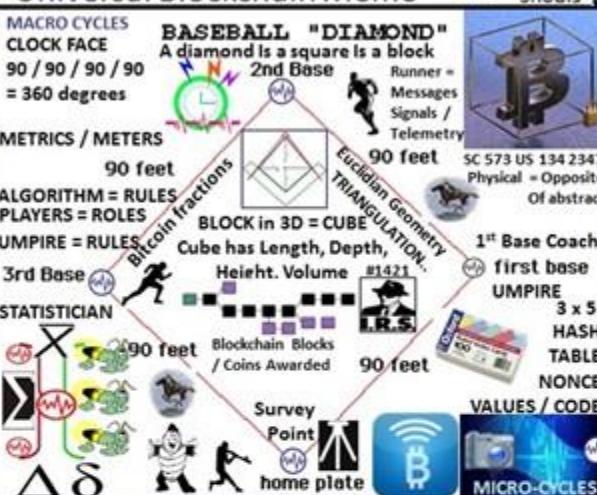
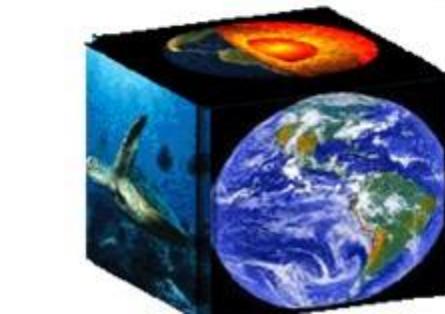
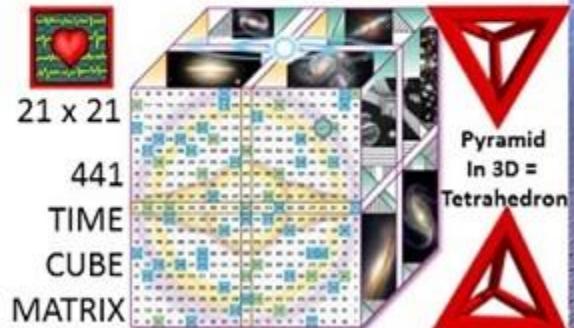
Main Embodiment: Baseball Diamond = block in 3D = cube

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

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



First
Baseball
Players
Union
Formed
1870



INSTITUTE OF HEARTMATH®

Empowering Heart-Based Living
<https://www.heartmath.org>



