The Heart Beacon Cycle and Time – Space Meter

- 300 + Message Templates for Structured Data Exchange
- Syntax Lexicon Library Coder's Guide
- IeT / IoT, Big Data, Internet of Money Bitcoin Blockchain
- Metrics Meters for Ecologically Responsible Econometrics

Swords To Plowshare Re-Use of Battlefield Digitization - Net Enabled Operations

HEART BEACON CYCLE

TERRACYCLE

Series of systemic actions to achieve goals ex: form, maintain ECO sustainable Trade Federations i.e., closer = < fuel, $$

PROCEDURAL TEMPLATE

Checklist Items refers to detailed treatises

{"Org_ID"}
{"URN"}
{"URN"}

Federation Gateway

Off Site connect

PROXIMITY BEACONS

TESLA

Cloudcenter

Sync to Closest Heartbeat

Firefly-Heartbeat Algorithm

{"EVENT_BUS"}

A continuous action, operation, or series of changes, sync deltas i.e., price indexes

Universal Event Bus Algorithm

Process Events by Precedence

Flash Heartbeat

Neural Net messages

Sync geo-spatial temporal Eco econometrics across time-space

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

Erlang Time equation:

MONEYBALL ECONOMICS

{"Org_ID"} {"URN"} {"URN"}
Multi-Meme Multi-Meter

Spatial Econometrics

Satoshi Nakimoto 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

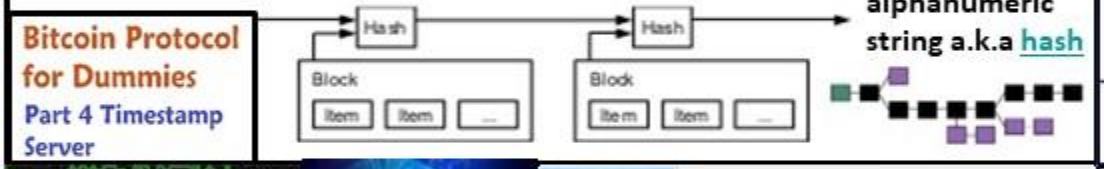
PHYSICAL = OPPOSITE OF ABSTRACT

Wright Brother's 1st Flight Cape Hatteras Outer Banks

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

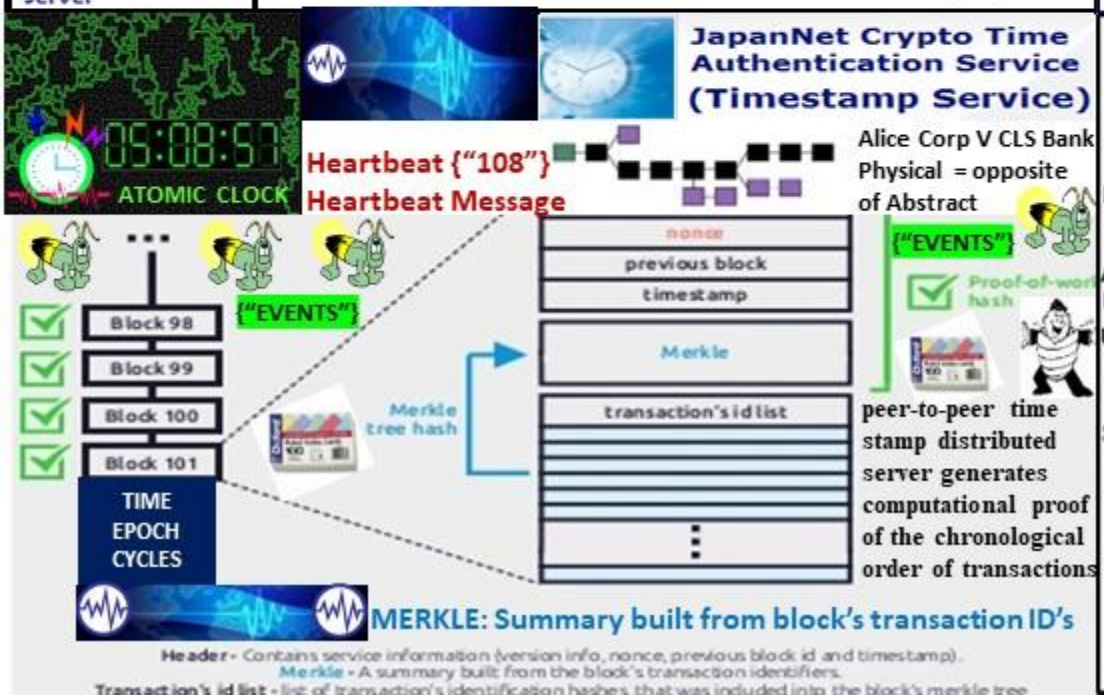
3. Timestamp Server

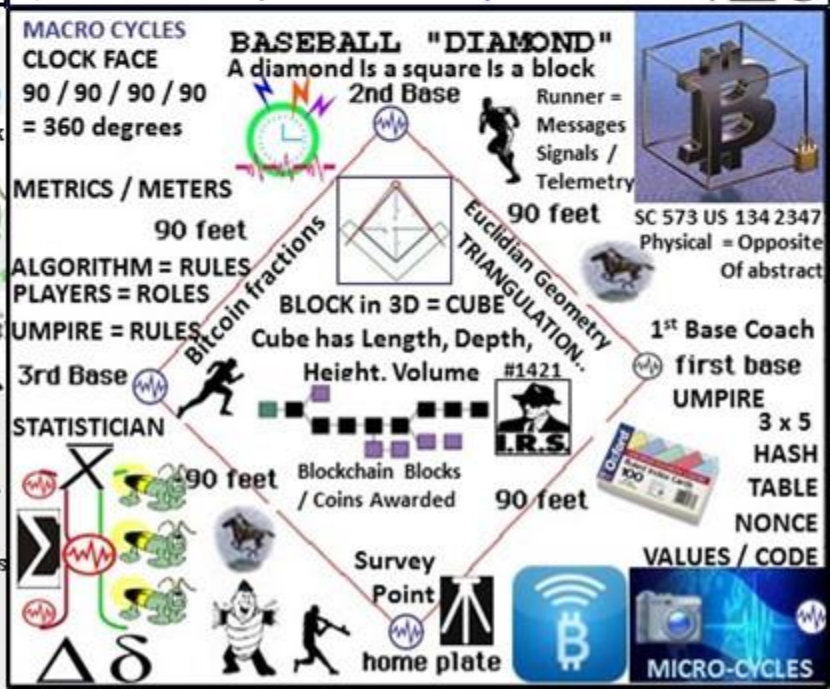
The solution we propose begins with a timestamp server. A timestamp server works by taking a hash of a block of items to be timestamped and widely publishing the hash, such as in a newspaper or Usenet post [2-5]. The timestamp proves that the data must have existed at the time, obviously, in order to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



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"





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

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

JBFSA "PAINT IT A DIFFERENT COLOR" Joint Blue Force Situational Awareness

Federation Gateway

FMN

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

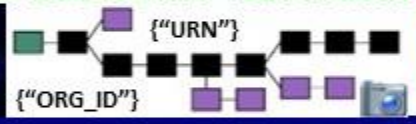
TERRACYCLE

300 +TEMPLATE FORMS STUCTURED DATA EXCHANGE

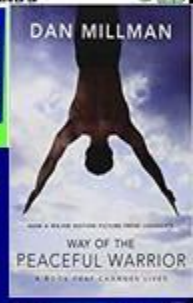
https://neo.org

DISTRIBUTED SMART ECONOMY NETWORK

NEO



WORLDBEYONDWAR.org
a global movement to end all wars



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

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

Spatial Econometrics

BFI

THE WORLD GAME ANNEX

SIGNALS & TELEMETRY

r. buckminster fuller

"Build a new model operating manual for spaceship earth"

EVENT / ALERT BUS

MONEYBALL ECONOMICS

Heart Beacon Sculpture Oregon USA

LINK

DAO

OPERATIONS OTHER THAN WAR

Beacon Communities

Vernetzte Operationsführung

Closer < $ <FUEL

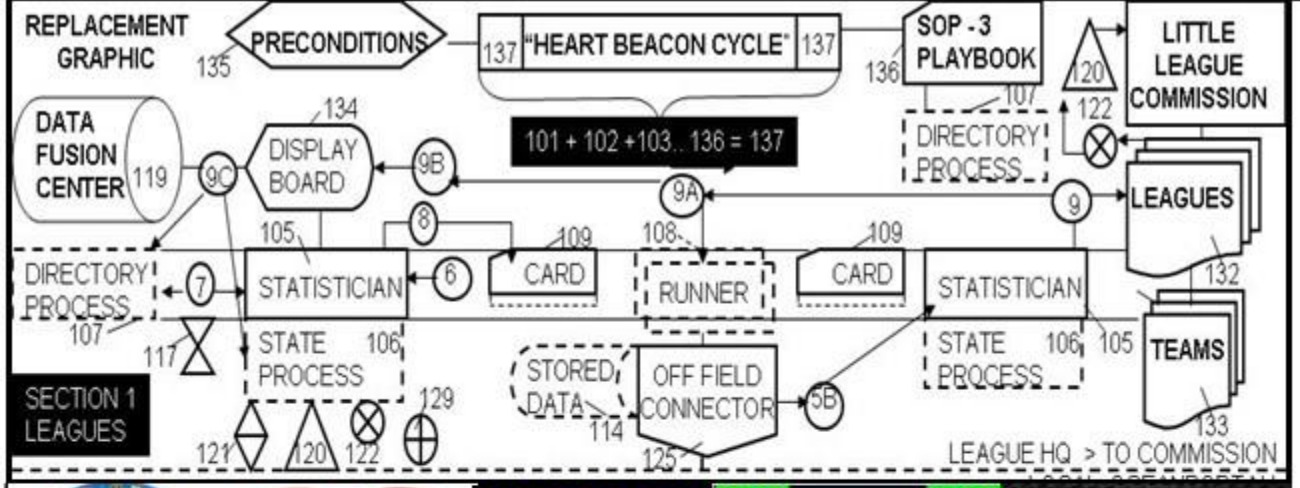
Proximity Beacons

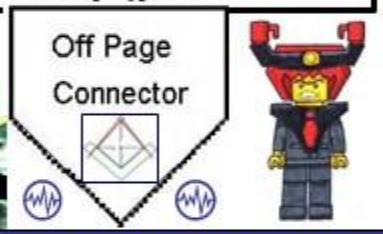
JAEGERS

Credit Unions CULedger

OFF SHORE OUTER BANKS

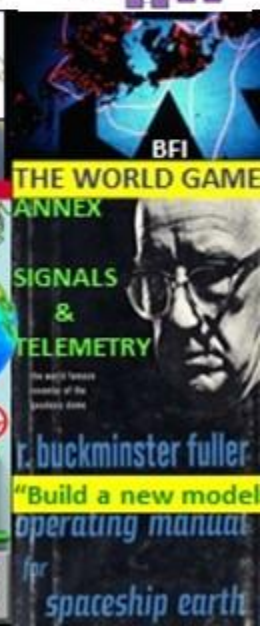
KAIJU





EARTH DAY EVERYDAY ON THE BLOCKCHAIN

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



START

USER {"Org_ID"} ENVIRONMENT INFORMATION ASSET

{"URN"}

✔Subject attributes {"108"} ✔Environment attributes ✔Resource and action attributes

• • • TTL • • • Time To Live • • • Threshold

Δδ {"URN"}

State Snapshots

RULE RULES ENGINE

Lord Business

Permit managers to • • •
provided that • • •
if • • • or • • •
unless • • •

PERMIT

STOP

DENY

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

TERRA TRADE REFERENCE

CURRENCY

Demurrage Fees

EARTHDAY EVERYDAY
On the Bitcoin Blockchain

MICRO-PAYMENTS

Net Enabled Operations

NEO
smart economy

NEO

DISTRIBUTED SMART ECONOMY NETWORK

PROXIMITY BEACONS

{"URN"}
{"Org_ID"}

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

HEART BEACON

Sculpture

Δδ

Beacon Communities

Federation Gateway

TERRACYCLE

Vernetzte Operationsführung

OOTW: Operations Other Than War

JAEGER

FIREFLY HEARTBEAT ALGORITHM

EVENT / ALERT Flash Heartbeat Message Bus

OFF SHORE OUTER BANKS

KAIJU

Spatial Econometrics

BFI

THE WORLD GAME

EVENT / ALERT BUS

ANNEX

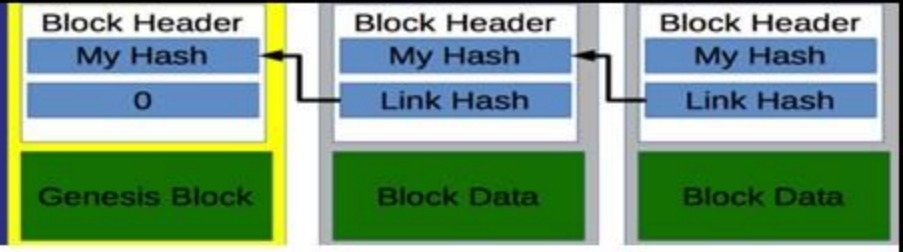
SIGNALS & TELEMETRY

r. buckminster fuller

"Build a new model operating manual for spaceship earth"

MONEYBALL ECONOMICS

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

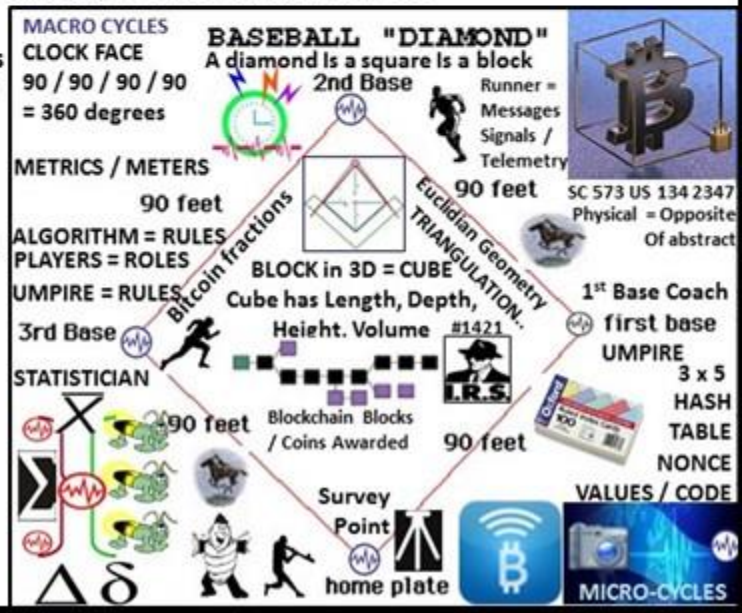
Consensus: distributed ledger blockchain nodes strategy determines chain's correctness
Consensus strategies: "proof of work," "proof of stake," and "delegated proof of stake"

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

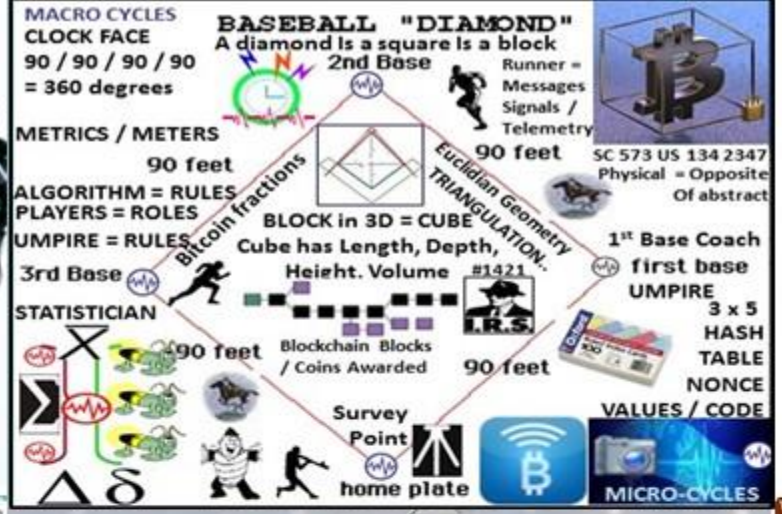
Proof of stake (PoS)– A consensus strategy that relies on nodes which hold collateral to participate in contributing blocks to the chain.

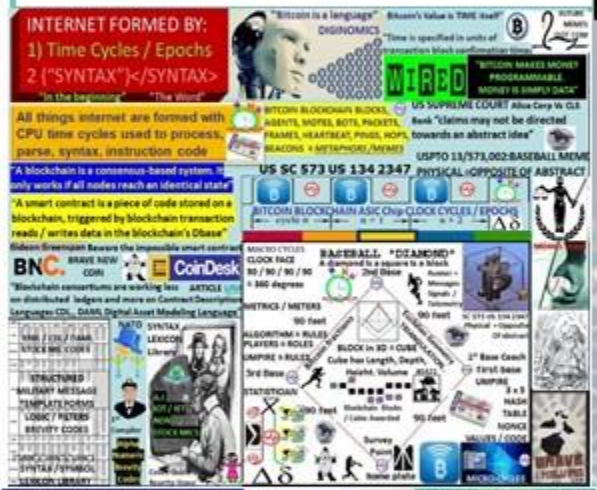
Delegated proof of stake (DPoS): variation of proof of stake where responsibility of the creating blocks is delegated to third party nodes, known as "witnesses."

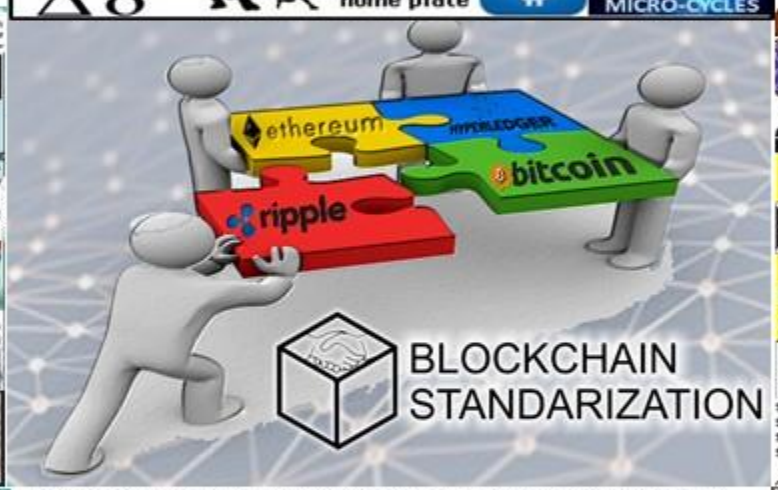
Witness– A node in a DPoS blockchain that performs the task of creating new blocks.

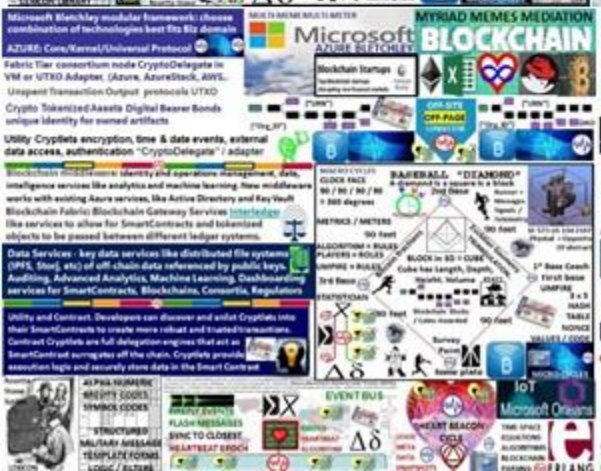


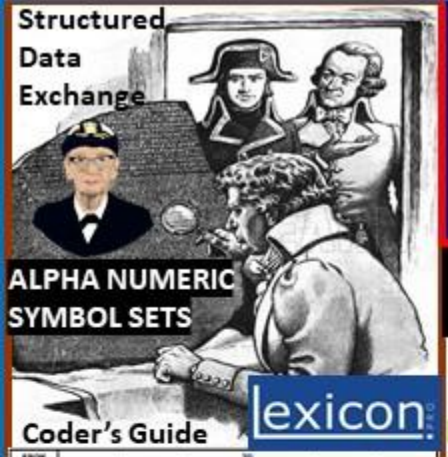
SAW CONCEPTS LLC
SIMPLE ALWAYS WINS *
* WHEN STANDING ON
THE SHOULDERS
OF GIANTS...











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.

vector

MESSAGE TEXT FORMAT : {"URN"{"URN"} {"TRANSACTION ID"}

SEG RPT OCC CLASSNAME SETID SEQ FIELD OCCURRENCE SET FORMAT NAME

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

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

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

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

M // (NU) REFERENCED MESSAGE

DATE-TIME GROUP

M /M /M /M /C // (NU) ORGANIZATION DESIGNATOR

M // (NU) 1.A ENEMY FORCES / COMPETITORS

M // (NU) 1.B FRIENDLY FORCES / TRADE FEDERATION

M // (NU) 1.C ATTACHMENT / DETACHMENT

M // (NU) 1.D COMMANDERS EVALUATION

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

M 11NUPRES GENTEXT 13 /M /M // (NU) 2. MISSION

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

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

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

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

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

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

M 11NUPRES GENTEXT 37 /M // (NU) 4 ATERIEL AND SERVICES

DICAL EVAC & HOSPITALISATION

- MILITARY OPERATIONS

INDEX REFERENCE #:

M015 STATUS :

EFFECTIVE: 14-DEC-99

PURCHASE CODES

FEDERATED PEGS

{"ASSET_CLASS"}

{"ASSET_TYPES"}

{"URN"}

{"URN"}

ISO 10383 – MIC

Market Identifier Codes

DAO

{"URN"}

{"Org_ID"}

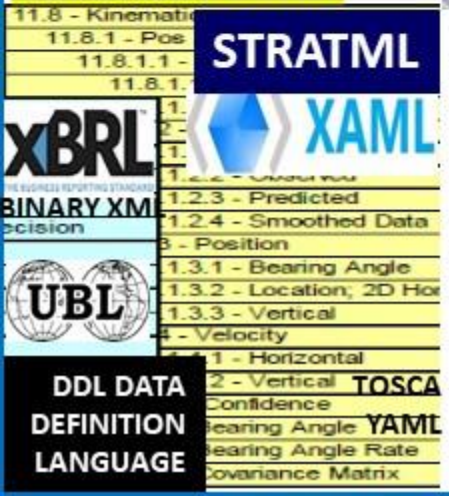
K00.99 / FIX / SWIFT / E-911 Heartbeat Message

STOCK EXCHANGE MIC CODES

NDN NAMED DATA NETWORKING PRECEDENCE PROCESSING

FILTERS

SYMBOLS	Friend	Neutral	Hostile
	Partner		Competitor



NUMBERS ARE THE UNIVERSAL LANGUAGE / Symbols Rule the World"

ALPHA-NUMERIC BREVITY CODES

CODE GUIDE

FROM

GCCS-A

ASAS

C002 C203
F002 F014
F015 F541
S201 S309

C002 C203

C002 C203 C002

ATDS

C203
F014
F541
S305
S309

MCS

C002 C203
E400 F002
F014 F015
F541 S201
S309 S507

F002
F015
S201

C203 C400
D630 E500
F002 F014

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

INFOCON 5 4 3 2 1 INFORMATION CONDITION

A423 C203
C505 F002
F014 F015
F541 S201

MCS

SIOP

A423 C400
C505 F002
F014 F015
F541 S201

"SYMBOLS RULE THE WORLD"

Information Elements Roles

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

('Org_ID"} {"URN"}

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

NDN

Firefly-Heartbeat Flash Messages

HEARTBEAT MESSAGE = K00.99

PROCESS MESSAGE BY PRECEDENCE
UNIVERSAL EVENT / ALERT MESSAGE BUS

MESSAGE CATALOG

300 + Use Cases

Data Elements: entity, attribute, relationship equivalents

Object Categories	Examples	Information Categories and Examples: Location	Movement	Identify	Status	Activity	Intent
OOB	SYNTAX LEXICON	STRUCTURED DATA EXCHANGE Message Sets					
		lat/long	spd/hdg	country / alliance, type/class	readiness	targeting, reconitering	COA {"Java JS"}
		Machine Trust Language MTL			CDL Contract Description Language		YAML
Infrastructure	Comm, power, transportation, water/sewer	network, grid	throughput, flow rates,	name, part-of relationships	BDA, op levels	repair, broadcasts	expansion plans
Sociological	Culture, religion, economic, ethnic, government, history, languages	temples, historic structures					
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth					

E-R Model	Class Diagram	Relational Database	Object DBMS	XML DTD / Schema	TADILs	MTF
Entity	Class	Table	Class	Element	Message	Message
Attribute	Attribute	Field / Column	Attribute	Child Element or Element Attribute	DFI	FFIRN / FFN / FUDN
Domain Value	PURCHASE CODES	Instance, Value	FEDERATE		DUI	FUD

OPERATIONAL NODES / ACTIVITIES

DATA SYSTEM FUNCTIONS PERFORMANCE

11.4 - Classification
11.4.1 - Category
11.4.1.1 - Confidence Level
11.4.1.2 - Estimate Type
11.4.1.2.1 - Alternative
11.4.1.2.2 - Evaluated D
11.4.1.3 - Value
11.4.1.3.5 - Surface
11.4.2 - Platform / Point / Fea
11.4.3 - Specific Type
11.4.4 - Type Modifier
11.4.5 - Unit

11.8 - Kinematics
11.8.1 - Pos / Vel / Acc (PVA)
11.8.1.1 - Acceleration
11.8.1.1.1 - Angular
1.1.2 - Linear
2 - Estimate Type
1.2.1 - Estimated
1.2.2 - Observed
1.2.3 - Predicted
4 - Velocity
1.4.1 - Horizontal
1.4.2 - Vertical
VA Confidence
1 - Bearing Angle
2 - Bearing Angle Rate
3 - Covariance Matrix

PURCHASE CODES

SYMBOL	Friend	Neutral	Hostile
2525C	Partner		Competitor

NAMED DATA NETWORKING

<CONTENT> CENTRIC NETWORKING

ICS-ISAC

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

URI

URL | URN

ARIN

American Registry for Internet Numbers

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

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)
- URCs INCLUDE META-INFORMATION
- URLs LOCATE / FIND RESOURCES

<DATA CLASS TYPES>

Situational Awareness Reference Architecture (SARA)

IDENTITY, Inventory, Activity, and Sharing

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

STRUCTURED MIILITARY MESSAGING FORMS: FIELD TYPES, FILTERS, TAGS
PARSED, PROCESSED, COMPILED TELEMETRY SIGNALING STANDARDIZATION

SITUATION AWARENESS

NEWSCAST

search Google

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

MIL STD 2525A

STRUCTURED <CONTENT> TEMPLATES

FILTERS LOGIC

DISTANCE ESTIMATE SERVICE

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

IDMaps
SonarHOPS

BY <TAG_TYPES>

Ledgers
Contracts
Trade SLA
Agreements

K00.99
Heartbeat
Message

CrowdSourcing

TRIANGULATION

TELCO MESH FABRIC

vector

CROWD SOURCING / FUNDING

</Organizational_Identifier_Org_ID>
Organizational Units OU, OU, OU

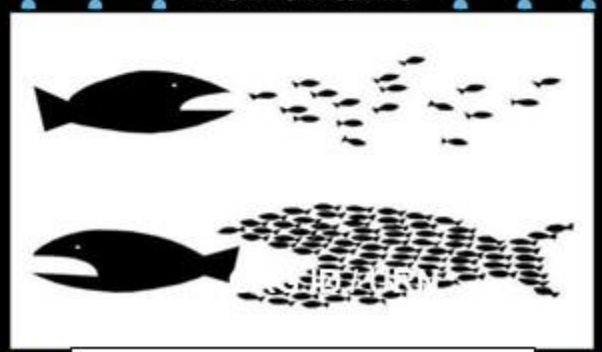
<Org_ID>
<Org_ID>
<Org_ID>
<Party>
<Party>
<Party>
<URN>
<URN>
<URN>
<URN>

PARTIDO X:
Distributed
Democratic
Participation

ETHEREUM:
Decentralized
Autonomous
Organizations

DAO

Don't Panic



FEDERATE

KEYSTONE

FEDERATION

-ROLES:
- <OPS>
-<INTEL>

Identity Provider
- Mapping
- Protocol

openstack

VOTE ON BLOCKCHAIN

PARTIDO DEL FUTURO

FEDERATED ID

INTERNET FORMED BY:

1) Time Cycles / Epochs

2 {"SYNTAX"}</SYNTAX>

"In the beginning" "The Word"

Bitcoin's Value is TIME itself"

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

FUTURE MEMES DOT COM

WIRED

"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA"

All things internet are formed with CPU time cycles used to process, parse, syntax, instruction code

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

US SUPREME COURT Alice Corp Vs CLS Bank "claims may not be directed towards an abstract idea"

USPTO 13/573,002:BASEBALL MEME

PHYSICAL =OPPOSITE OF ABSTRACT

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

US SC 573 US 134 2347

"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

BNC. BRAVE NEW COIN

CoinDesk

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

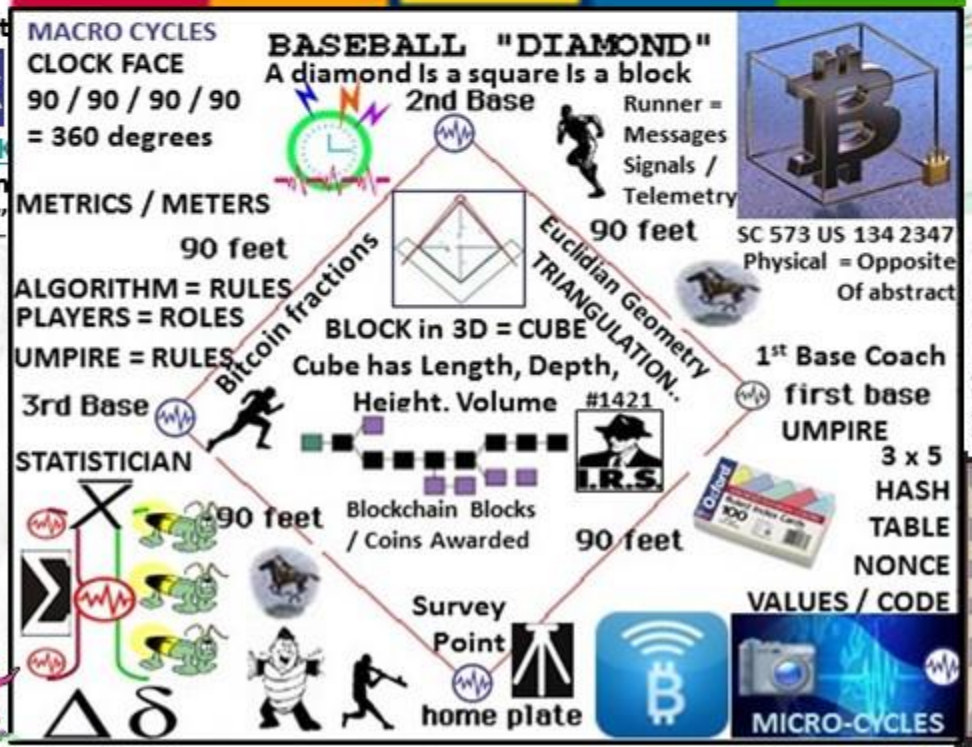
ARTICLE LINK

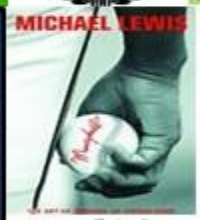
NATO

SYNTAX LEXICON Library

1st Compiler

Alpha Numeric Brevity Codes





All things internet of money are formed w CPU time cycles used to process, syntax, instruction / code

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

"Bitcoin is a Language"

WIRED

"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA"

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.

"BITCOIN"S VALUE IS TIME ITSELF"

EVENT BUS

Node
Blockchain
Transaction 1
Transaction 5
Transaction 34
Transaction 54
Transaction 65
Memory pool

1. Retrieve pending transactions

Miner

3. Send block and proof to the node

4. Update Blockchain and broadcast

Block header
Block hash (Block ID)
Previous block id
Transactions hash (Merkle root)
Number of transactions
Transaction list
Transaction 1
Transaction 5
Transaction 34
Transaction 54
Transaction 65

Bitcoin block

2. Calculate Proof of Work (~10 minutes)

Block #2A4
prev #473
txn 634...
txn a98...
txn 44c.
...

Block #7CF
prev #2A4
txn 43e...
txn 12a...

Block #8FA
prev #7CF
txn 8be...
txn 839...
txn 326...
...

BLOCKCHAIN = TIME / SYNTAX

TIME

DATA ELEMENTS
ID'd by Alpha-Numerics

Δδ

CODE SYNTAX

CODE RUNNER

USPTO 13/573,002
PHYSICAL MEME
MAIN EMBODIMENT

BLOCK

State Meta
Data Snapshots

RULES
Metrics

Δδ

Multi-Meme Multi-Meter

ROLES
Meters

XBRL / CDL / DAML
STOCK MIC CODES

STRUCTURED
MILITARY MESSAGE
TEMPLATE FORMS
LOGIC / FILTERS

SYNTAX
LEXICON LIBRARY

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

Δδ

TIME
EPOCH
CYCLES

ASIC CHIP CLOCK CYCLES TIME EPOCHS

cycle n | n+1 | n+2

05:08:57

ATOMIC CLOCK

Firefly - Heartbeat Algo

University of Bologna Italy / Hungary

FIREFLY

HEARTBEAT ALGORITHM

TERRACYCLE

ECONOMIC HEARTBEAT

% GDP ECONOMIC PULSE

("108")

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

FRIEDMAN'S K % RULE

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

Temple of Man

LUXOR

EGYPT

WORLD COMPUTER

TIME EQUATIONS

DFINITY BLOCKCHAIN

NEURAL NETWORKS

ERLANG

æternity blockchain

TERRA TRC

LEAD ECONOMIC INDICATORS

{"Org_ID"}
{"URN"}{"URN"}

Will There Be a Recession?

TIME

Economist Milton Friedman

ALGORITHMIC REGULATION

ECONOMIC MACRO CYCLES

CONTRIBUTIONS TO STATISTICS

STAT MEAN VALUE INDEX

ETF

Price Indexes in Time and Space

Methods and Practice

FRIEDMAN's K% RULE

The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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

UNIVERSAL EVENT / ALERT BUS

STOCHASTIC HARMONIZATION

FEDCOIN

USDe

WORLDCOIN

£ $ € ¥

currencyindex

COMMODITIES

ETF

{"Org_ID"}
{"URN"}

FOREX

HEARTBEAT FLASH MESSAGES

{"FIX 108"} {"ORG_ID"} {"URN"}

SYNC FIREFLY EVENTS

To Closest HEARTBEAT CYCLE

{"CLASS"}
{"ASSET"}

STATE
META
DATA
SNAP
SHOTS

IDMaps

SonarHops

Distance Estimation Service

Spatial Econometrics

MICRO-ECONOMIC CYCLES

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

"Heartbeat Synchronization 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 and all nodes agree on it eventually"

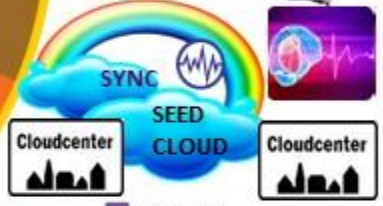
SWORDS TO PLOWSHARES

NEO NET Enabled Ops: individuals are monitored within groups in context with Logistical, operational readiness. Groups are defined by statistical readiness / availability to support goals / projects

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

FIREFLY ALGO Emulates Neural Nets

WORLD ECO-ECONOMIC HEARTBEAT



The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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-inspired Heartbeat Synchronization

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

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

STOCHASTIC HARMONIZATION / PROCESS BY PRECEDENCE

-11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12 -12

TERRACYCLE

DFINITY

Virtual Nations

World Computer

FIREFLY EVENTS

NEUJRAL NET

TOKENIZED CURRENCIES

SPACESHIP EARTH

{"URN"}

{"Org_ID"}

+14 NDN

Int'l Date Line

<Interest>

vector <Distance>

Spatial Econometrics

HEARTBEAT SYNC DELTAS

% REAL GDP

{"108"}

ALGORITHMIC REGULATION

TIME – SPACE SYNC PULSE

FRIEDMAN's K% RULE % GDP

PING

FIX

{"108"}

Firefly Heart Beat Algo

EVENT BUS

CURRENCY CONVERTER

currencyindex

Int'l Date Line

Firefly inspired Heartbeat Synchronization nodes strive to sync in a distributed system. Nodes generate periodic "heartbeat" events approximately at the same time. There is no requirement to sync during a cycle length In real time as long as the time cycle length is bounded & all nodes agree on it eventually

BEACON BROADCAST

Firefly Event Flash Messages

Geo-Spatial Temporal Beacon

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

RFID

On / Off Shore

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

PROXIMITY BEACONS

BLOCKCHAIN PARSING

Heartbeat Date Time Stamps Sync Pulse

STATE META DATA SNAPSHOTS

BITCOIN BLOCKCHAIN TRANSACTIONS ARE BASED ON TIME SEQUENCING TRANSACTION STATE CHANGES TO DISTRIBUTED LEDGERS

Process transactions by precedenc

Attribute Series

TIME Function

CYBER NIST Beacon

A Public Randomness Service

NON REPUDIATION

Nicotib

ERLANG

MICRO-CYCLES

Clock

Clock adjusted

O'REILLY TIME ALGO's

Time Series Databases

Geo Spatial Temporal Series

ATOMIC CLOCK

Time Series

Value

Time

Arrival Rate

Queue Forms

Limited Resource

Service Rate

Delay

Utilization

Service Time

Erlang / Equilibrium Time – Sync Algorithms

ROLES RULES

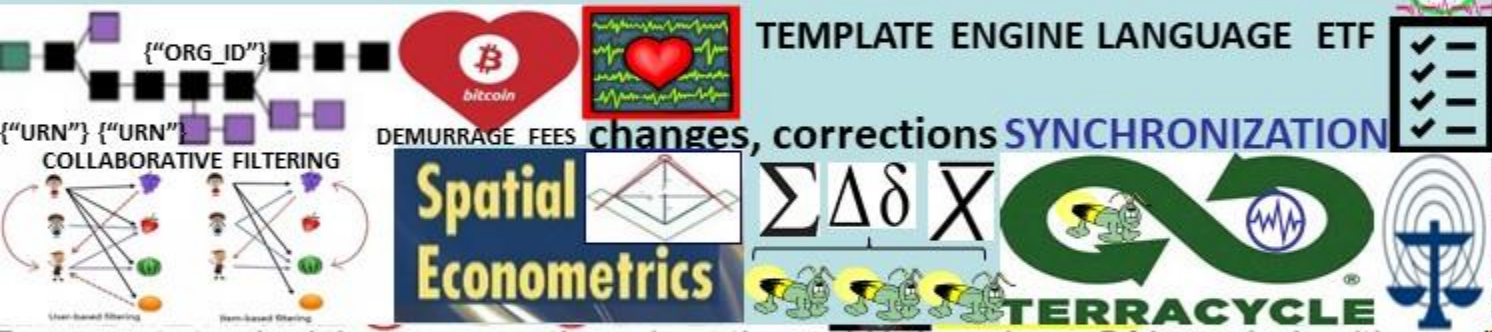
ERLANG CALENDAR: Calculate Wait Times

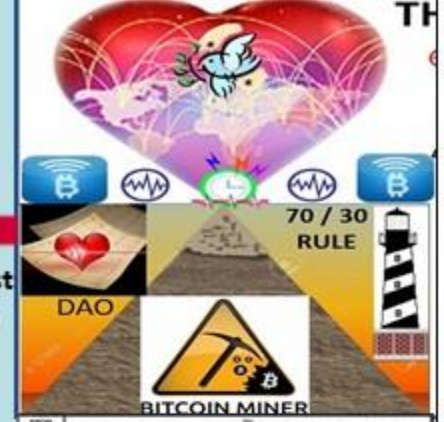
Time Stamp to Date Time Conversion

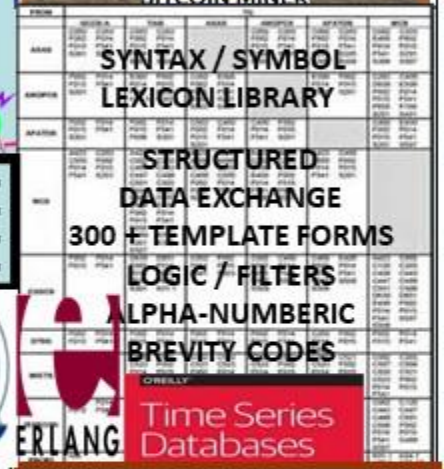
eGaaS: international blockchain platform for organizing economic, state, social activities of citizens , communities on the basis of smart law, smart contract system. eGaaS offers a comprehensive solution needed for state and business management on the blockchain platform.

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 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.

NET ENABLED OPERATIONS
NEO
DISTRIBUTED SMART ECONOMY NETWORK
NEO
smart economy
WORLD ECONOMIC Heartbeat
("108")
ETF
ALGORITHMIC REGULATION
QUANTUM NIST Beacon
A Public Randomness Service
NON-REPUDIATION
TERRA
TRC
TOKENIZED CURRENCIES
TERRACYCLE
ECO-COIN
Spatial Econometrics
NEO NET Enabled Ops
Users are monitored
As individuals within
Groups. Groups are
Defined by statistical
Readiness / availability
Earth is a spaceship that cannot be resupplied = Vector user's / groups to efficiently locate, obtain resources for Ecologically Responsible Econometrics
Closer = LESS FUEL, less C02 emissions
TRADE FEDERATIONS
$0.49 USD
0.001076 BTC
Micro Payments
bitcoin
Need Bitcoin?
DEMURRAGE FEES
currencyindex
COMMODITIES
INCENTIVIZE ECOLOGICALLY RESPONSIBLE ECONOMICS
Re-use of NATO's system of systems best practice Is shortest, least resistance path
COLLABORATIVE FILTERING
User-based filtering
Item-based filtering
CO2
ONE EARTH
ONE PEOPLE
ONE TIME
CREDIT UNION
CU Ledger
("URN")
("ORG_ID")
Closer = cheaper, faster, less fuel..
INFOCON
5 4 3 2 1
INFORMATION CONDITION
vector
ORG_ID Organizational Identifier Based Filtering
Geo-Spatial Temporal
Time – Space Metrics
GEO-LOC
Time Stamps
Optimal hop
By hop best
Route_Select
Eco-Sound
Econometrics
IDMaps
SonarHops
DISTANCE ESTIMATION SERVICE
("INTEREST") {"URN"}
{"DISTANCE"} {"URN"}
MONEYBALL ECONOMICS
NDN
{"Org_ID"}
MULTI-MEME MULTI BITCOIN BLOCKCHAIN
SYNTAX / SYMBOL LEXICON LIBRARY
STRUCTURED DATA EXCHANGE
300 + TEMPLATE FORMS
LOGIC / FILTERS
ALPHA-NUMBERIC BREVITY CODES
STOCK MIC CODES
DATA ELEMENTS
SYNTAX LEXICON CODER'S GUIDE
INTERNET OF MONEY SYNTAX LEXICON $$$
ROSETTA STONE
LEADING ECONOMIC INDICATORS
Lead Econ Indicator Brevity Codes
Stat Mean Index
Time-Space Algorithms
BLOCKCHAIN PARSING
NAMED DATA NETWORKING
("URN") ["URN"}
("ORG_ID")
{"ORG_ID"}
ERLANG
EVENT
EVENT
EVENT
Firefly HB ALGO
Time Series
Value
Time
MICRO-CYCLE STATE META DATA HEARTBEAT SNAPSHOTS
GROUP ACTIVITIES SAMPLED DURING MICRO-CYCLES
STATE META DATA SNAPSHOPS FORM
MACRO CYCLE REPORT

DAO
VIRTUAL
NATIONS
aeternity
PAX
ECOCOIN
USDe
Monnaie de la paix
Money of peace 1933
World Computer
BITCOIN
ARMY
CODE FOR
AMERICA
BITNATION
Ericsson Open Money for Society
GOVERNANCE 2.0
ERICSSON
MARKET
INDEXES
WorldCoinIndex
FEDCOIN / WORLDCOIN
{"108"}
K% GDP ALGO REGULATION
STATISTICAL MEAN VALUE INDEX
1. FEDERATION: Latin: foedus, foederis, covenant, union of partially self-governing states or regions under a central gov
2. League or confederacy. Individuals, groups retain AUTONOMY
3. A federated body formed by a number of nations, states, unions each retaining control of internal affairs
Federation
Gateway
FAIR
TRADE
ONE WORLD
FAIR
TRADE
???
GREEN ECONOMICS
SUSTAINABILITY INCENTIVES
BITCOIN MICRO PAYMENTS
golem
WORLDWIDE
SUPERCOMPUTER
Token Transaction & supply infrastructure WEB 3.0
OFF-SITE/ PAGE
MEDIATION
BRIDGE / GATEWAY
SUM / AVERAGE
99%
.0001%
TRADE
REFERENCY
CURRENCY
DEMURRAGE CHARGES
P2P Foundation
TERRACYCLE
CREDIT UNIONS
CULedger
NEO
smart economy
DISTRIBUTED SMART ECONOMY NETWORK
BITCOIN
MICRO-PAYMENTS
ETHEREUM ETHER GAS
Spatial
Econometrics
BFI
THE WORLD GAME
The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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
Neural Net
ENVIRONMENT FRIENDLY ECO INCENTIVES
CLOSER = LESS FUEL
CLOSER = FASTER
G7
Carbon
vector
ON
EVENT / ALERT BUS
ANNEX
SIGNALS
&
TELEMETRY
{"INTEREST"}
{"DISTANCE"}
Named Data Networking
NDN
STOCHASTIC HARMONIZATION
Unused Resources
Int'l Date Line
STAT MEAN
VALUE INDEX
CO2
Credits
Unmet Needs
OFF
Sync
To
Closest
Int'l Date Line
FIREFLY HEARTBEAT
ALGORITHM
HEARTBEAT
EPOCH
Multi
Meme
Meter
IDMaps
SonarHops
r. buckminster fuller
"Build a new model"
MONEYBALL
ECONOMIC$
operating manual
for
spaceship earth
FIREFLY EVENT BUS FLASH
HEARTBEAT {108"} MESSAGES
STATE META DATA SNAPSHOTS
SHORE
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

{"URN"}

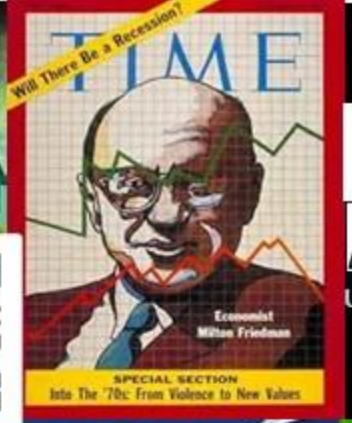
{"Org_ID"}

COMMODITIES

TERRA

TRC

¥EN



ECONOMIC HEARTBEAT

FEDCOIN / WORLDCOIN

FIX {"108"}

UNUSED RESOURCES / UNMET NEEDS

Friedman's K % Rule

ALGORITHMIC REGULATION

TERRACYCLE

$0.49 USD <URN>

B 0.001076 BTC <URN>

BitMonet <URN>

bitcoin

Need Bitcoin?

MICRO PAYMENTS

Open Source Micro Payments Channel {"Commodity TOKENS"}

Demurrage Fees

currencyindex

COMMODITIES

LEADING ECONOMIC INDICATORS

WAVES

TOKENIZES NATIONAL CURRENCIES

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

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UNIVERSAL TIME ZONE UTZ

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

CURRENCY CONVERTER

STAT MEAN PRICE INDEX

CONTRIBUTIONS TO STATISTICS

Price Indexes in Time and Space

SHELLING POINT TRUTH

STOCHASTIC HARMONIZATION

UNIVERSAL MESSAGE EVENT BUS

{"Org_ID"} {"URN"}

FIREFLY – HEARTBEAT ALGO
MATCH FIREFLY EVENT SYNC
TO CLOSEST CLOCK CYCLE

Closer is Cheaper Closer is Faster

Spatial Econometrics

fungible

Proximity Beacons

Int'l Date Line

B2B Logistics Demurrage fees

Process Events By Precedence

FARMERS COOP ASSOC.

{"Tagged Bitcoins"}

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"

EVENT BUS

Int'l Date Line

Time Series

Value

Time

EVENT BUS
HEARTBEAT
FLASH MESSAGES
</URN> {"ORG_ID"}

Geo
Spatial
Temporal Series

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

EDISON / FORD
MONITARY
OPTION 1921

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.

"EARTHDAY EVERYDAY ON THE BITCOIN BLOCKCHAIN"
"GIVE A HOOT, DON"T POLLUTE" Woodsy The Owl

GNOSIS

"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

TERRACYCLE

Gnosis trading interface alpha

WIZ token fee payment

Price Oracle

INFORMATION ARBITRAGE ECONOMICS

HBC Time – Space Meter

{"108"}

ECONOMIC HEARTBEAT

Δ δ K% X̄

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

SLA SLO

Δ δ

THE TERRA (TRC)

Trade Reference Currency

currencyindex

COMMODITIES

fungible

{"URN"}

{"Org_ID"}

$0.49 USD

0.001076 BTC

MICRO PAYMENTS

Obitcoin

Need Bitcoin?

Tokenized Currencies

SLA SLO

Demurrage Fees

The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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.

UNIVERSAL EVENT / ALERT BUS

{"Org_ID"} {"URN"} {"URN"}

LEADING ECONOMIC INDICATORS

Syntax
Lexicon
Brevity
Codes

NAMED DATA NETWORKING

{"INTEREST"}

{"DISTANCE"}

TELCO
MESH
FABRIC
Stochastic
Harmonization

PROXIMITY BEACONS

IDMaps

SonarHops

Distance E
Estimation
Service

Spatial Econometrics

Int'l Date Line

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.

Universal Meme

Geo-Spatial Temporal Econometrics meters

BLOCK

ROLES Meters

RULES Metrics

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

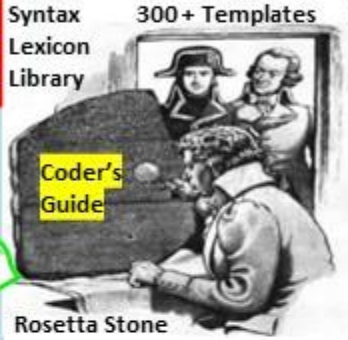
"the rate of innovation in building decentralized applications is limited by the manual and duplicative efforts developers must make to ensure basic usability and security."

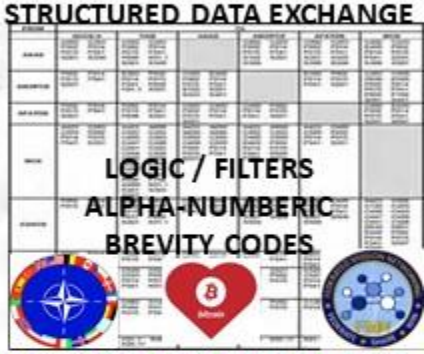
ZEPPELIN / zeppelinOS Common Functionality:

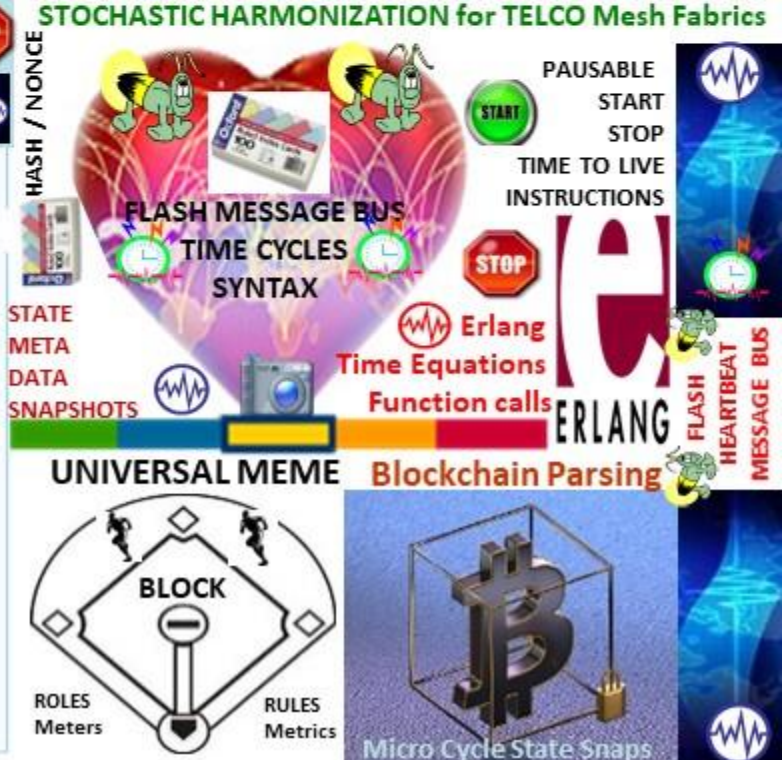
zeppelinOS Kernel common set of functions for smart contracts requesting services from the OS rather than re-implementing them from scratch. Functions will be available as an on-chain standard library of reusable contracts and functions, nspired by OpenZeppelin Libraries

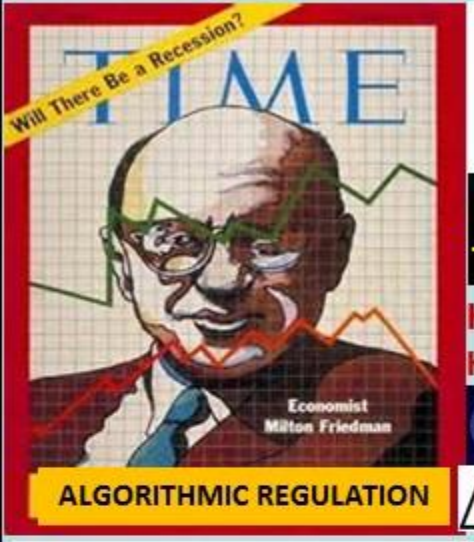
Create and customize your own ERC20 Token.

- **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.**









ALGORITHMIC REGULATION

BITCOIN / WORLDCOIN
ECONOMIC HEARTBEAT
FIX
{"108"}
$$$
USDe

MACRO ECONOMIC VALUE STAT MEAN $
TIME ZONE / PRICE / SPEED MATCH

K% RULE ECONOMIC HEARTBEAT
K% VARIABLE YEARLY GDP SNAPSHOT

£ $ € ¥
currencyindex

'K-Percent Rule Macro economic money-supply automatically adjust money supply by a set amount ("K" variable) regardless of the cyclical state of the economy e.g., set growth variable at rate = to real yearly % GDP

LEAD
ECONOMIC
INDICATORS

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FIREFLY - HEARTBEAT ALGORITHM

MEME MEDIATION

{"Org_ID"} {"Asset Class"}
("URN") {"Asset Type"}

ECONOMIC
HEARTBEAT

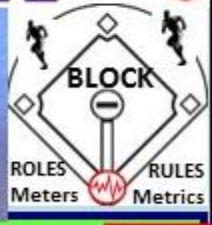
SYNC to
CLOSEST
HB CYCLE

HEARTBEAT
STATE
SNAPSHOTS

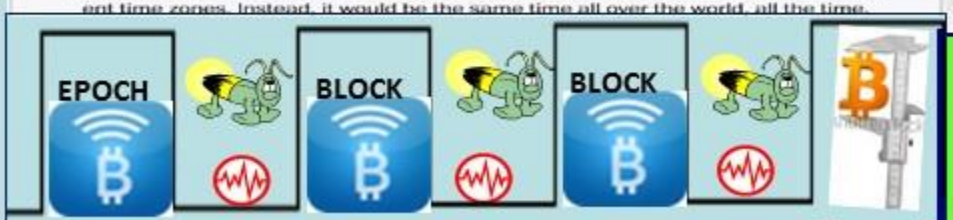
<THRESHOLD>

FIREFLY EVENT
FLASH MESSAGES

EVENT BUS



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.



CPU CLOCK TIME / HEARTBEAT CYCLES

← cycle n → ← n+1 → ← n+2 →

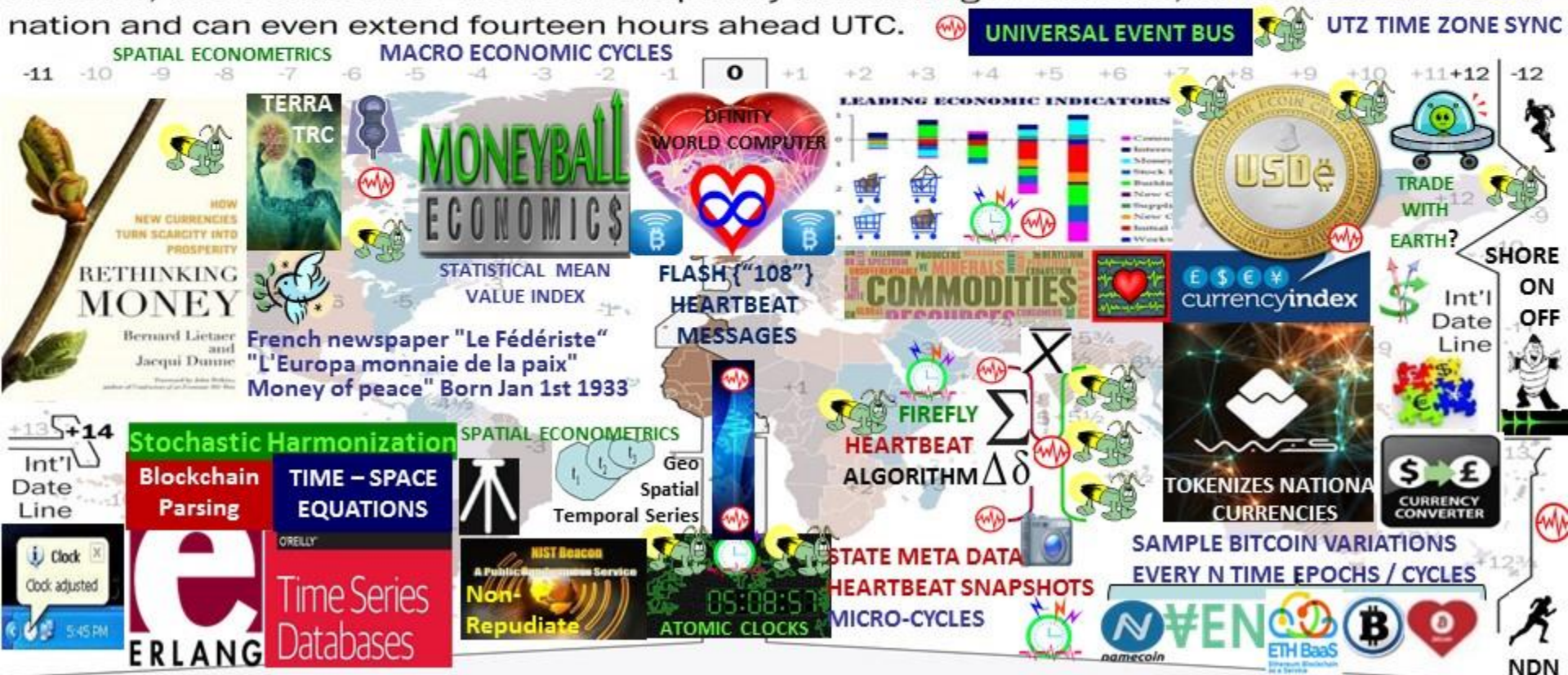
ERLANG TIME EQUATIONS

Blockchain Parsing

ERLANG

"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 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.



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DAO
ECONOMIC HEARTBEAT
{"108"}
BLOCKTIME ARBITRAGE
STATISTICAL VALUE INDEX
TERRA
TRC
Trade
Reference
Currency
World Coin
USDe
ECO COIN
currencyindex
FARMERS COOP ASSOC.
Federation
Gateway
SCHELLING POINT = "TRUTH"
CONTRIBUTIONS TO STATISTICS
LEADING ECONOMIC INDICATORS
LEADING
ECONOMIC
INDICATORS
COMMODITIES
TERRACYCLE
$0.49 USD
MICRO
PAYMENTS
Demurrage
{"Org_ID"}
{"URN"}
Price Indexes in
Time and Space
Methods and Practice
SchellingPoint
Bitcoin Blockchain Service Level Agreements SLA
incentivized Eco friendly transactions leveraging
bitcoin's micro payment function supporting the
TERRA Trade Reference Currency TRC demurrage fees
Spatial
Econometrics
MONEYBALL
ECONOMICS
The current standard time common throughout the world is based on a 24-hour clock, with
zones that are are either 12 hours ahead or behind Coordinated Universal Time (UTC).
However, these time zones are decided upon by individual governments, without overall coordi-
nation and can even extend fourteen hours ahead UTC. INCENTIVIZE ECO – FRIENDLY TRANSACTIONS
Neural Net
ENVIRONMENT FRIENDLY ECO INCENTIVES
CLOSER = LESS FUEL
CLOSER = FASTER
G7
Carbon
vector
ON
{"INTEREST"}
{"DISTANCE"}
Named Data Networking
NDN
STOCHASTIC HARMONIZATION
STAT MEAN
VALUE INDEX
Unused Resources
Int'l Date Line
Sync
To
Closest
HEARTBEAT
EPOCH
Multi
Meme
Meter
CO2
Credits
Unmet Needs
OFF
Int'l Date Line
FIREFLY HEARTBEAT
ALGORITHM
FIREFLY EVENT BUS FLASH
HEARTBEAT {108"} MESSAGES
IDMaps
SonarHops
SHORE
STATE META DATA SNAPSHOTS
The proposed Universal Timezone System would do away with all these differ-
ent time zones. Instead, it would be the same time all over the world, all the time.

High Frequency Trading
With
CIRCUIT BREAKER
START
STOP
{"EVENT"}
START / STOP
TIME TO
LIVE TTL
FIX {"108"}
HEARTBEAT
Tranch{"class"}
{"Asset_class"}
PRECEDENCE PROCESSING
ECONOMIC
HEARTBEAT
FIX {"108"
STAT MEAN VALUE INDEX
ALGORITHMIC REGULATION
ETFs
WORKER/TASK
HEARTBEATS
STORM
LAST LOSS
Tranche Classes
AAA/
Aaa
AA/Aa
A/A
BBB/
Baa
B/B
500
400
300
200
100
5
4
3
2
1
RISK CORRELATION
FIX TRADING COMMUNITY
INDUSTRY-DRIVEN • INDEPENDENT • NEUTRAL
HFT / BLOCKCHAIN SPEED PARITY
Sustainable
Stock Exchanges
Initiative
SSE
{"108"}
STANDARD SYNTAX
LEXICON BREVITY
CODE A.I. FILTERS
Alpha-Numeric
Brevity Codes
Stock MIC
Codes
Blockchain
Equibit
EDC
Spatial
Econometrics
currencyindex
COMMODITIES
Clock
Clock adjusted
5:45 PM
FIREFLY-HEARTBEAT EVENT BUS
ItBit
MEDICI
{"TAGGED_BITCOINS"}
Veritaseum
The current standard time common throughout the world is based on a 24-hour clock, with zones that are are either 12 hours ahead or behind Coordinated Universal Time (UTC). However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen hours ahead UTC.
STOCHASTIC HARMONIZATION
ALGORITHMIC SAMPLING PRICE, RATE, SPEED, TRANSACTION RATE
PARITY ACROSS TIME ZONES UTZ
Server on /off floor adjust
IDMaps SonarHop
Time-Space
Meters
Metrics
EQUILIBRIUM
CONSTANT
{"EVENT"}
On Shore /
Off Shore
Int'l Date Line
Nash Game Theory Algorithms
NASH Equilibrium Algorithms
Equilibrium
Δδ
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.
FIREFLY
HEARTBEAT
ALGO
Match
Event to
closest
HB Cycle
STATE
META
DATA
SNAPS
NIST TIME BEACON
MASTER CONTROLLER
Master process ID
NNNN, send
QUIT signal
STOP
START
</108>
NGINX
Send signal to Master process ID #### = new
config / Worker process checks new config syntax
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
High-Speed Traders, A.I. Bandits, and the Threat to the Global Financial System
DARK POOLS
SCOTT PATTERSON

TWAP Algorithm Manages Bitcoin Price Volatility Algorithm

TWAP GOAL: provide a Time Weighted Average Price Benchmark

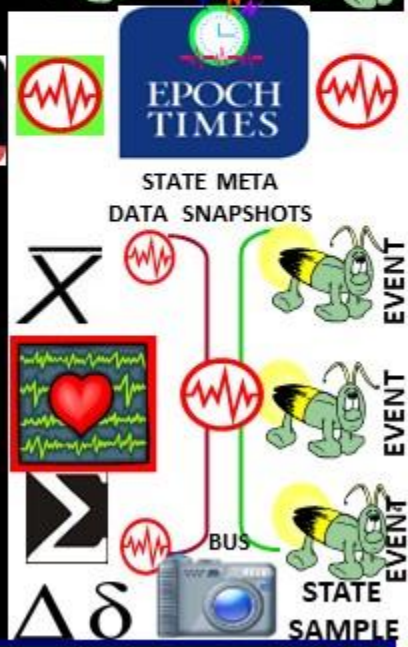
FIREFLY HEARTBEAT ALGO

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

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

Ericsson Open Money For Society Patent App

20130166398 "System And Method For Implementing A Context Based Payment System."

ERICSSON ERLANG API FOR BLOCKCHAIN ERICSSON

"BITCOIN MAKES MONEY PROGRAMMABLE. MONEY IS SIMPLY DATA" WIRED MAG

"BITCOIN IS A LANGUAGE" "ITS VALUE IS TIME ITSELF" ----DIGINOMICS

"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"

- 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

Chrestomathy CODER'S ROSETTA STONE

Functional Sequential Erlang

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

SORTING ALGO'S

Rho ratio *Arrival Rate* Δδ *Service Rate per unit time*

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

TIME Function

Arrival Rate | Queue Forms | Limited Resource | Service Rate

Nicotib Erlang

Choptastic/ erlang-API blockchain

Merlang-M forecasting algorithm

Delay

* Utilization

* Service Time (T_S)

distributed "noSQL" database,embedded right into Erlang, supports indexing, replication, transactions, and fail-over Fast ETS in-memory, and DETS persistent on-disk database

HFT START HFT STOP SESSION TTL

Mnesia database ("Organization_ID") Global name resolution

XBRL / CDL / DAML

ALPHA NUMERIC BREVITY CODES

AZURE BLETCHLEY

STRUCTURED MILITARY MESSAGE TEMPLATE FORMS LOGIC / FILTERS

FIREFLY EVENTS FLASH MESSAGES

EVENT BUS

Sync To Closest Δδ

HEARTBEAT EPOCH

FIREFLY HEARTBEAT

{"URN":"URN"}

STOCHASTIC HARMONIZATION

TIME CYCLES SYNTAX

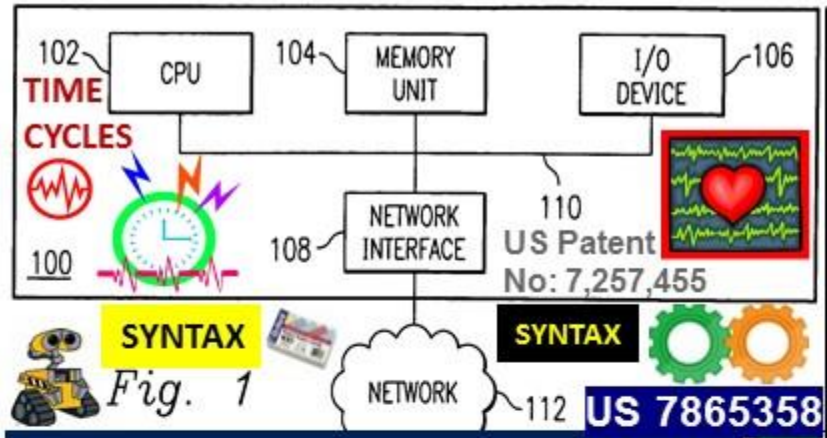
STATE META DATA SNAPSHOTS

O'REILLY Time Series Databases

NIST TIME BEACON

CYBER NIST Beacon A Public Randomness Service

NON REPUDIATION

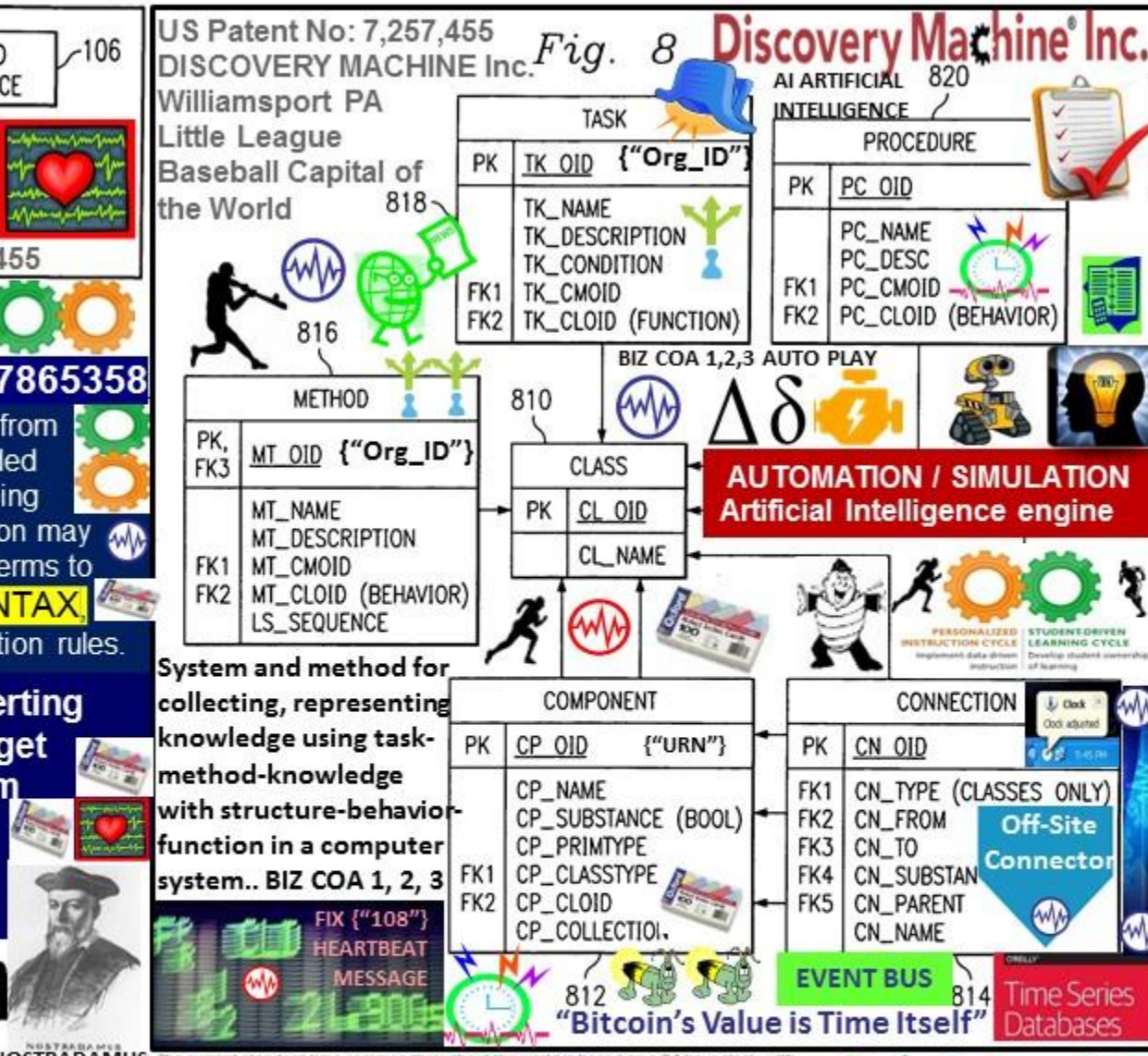


US 7865358

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

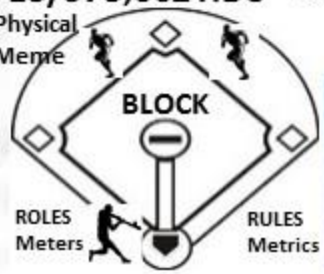
US 7865358 CLAIM 1. method converting textual data from source form to target forms, where target form differs from source form's linguistics, syntax

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



ORACLE Veritaseum

13/573,002 HBC



FINANCIAL NOSTRADAMUS

REGGIE MIDDLETON ("Tagged_Bitcoins")

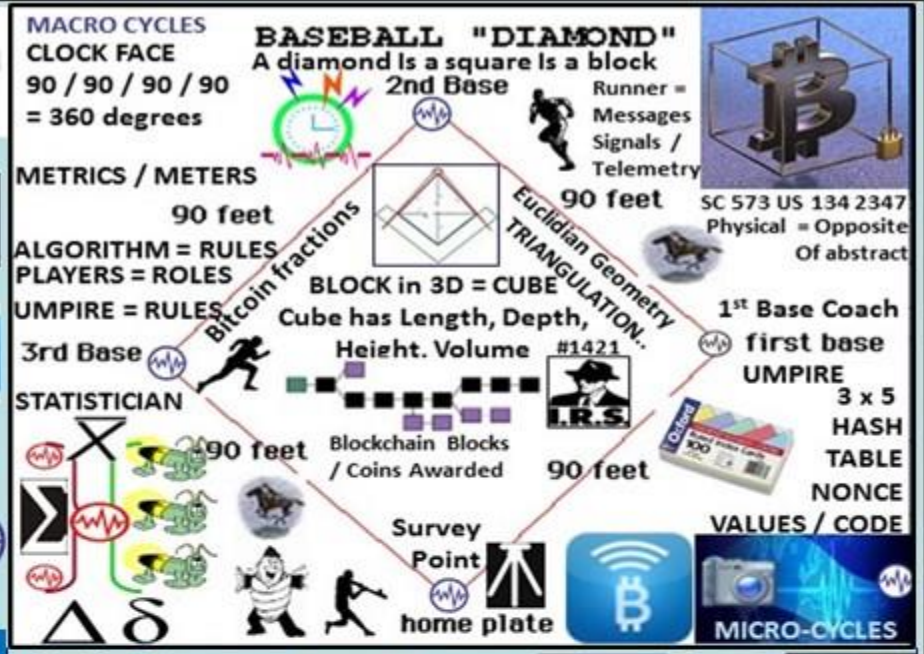
Bitcoin Classic seeks to mitigate the problem of more transactions, which are causing transaction backlogs and increased transaction costs, by increasing the block size - the number of kilobytes in a block of transactions - from 1MB to 2MB.

HASH TABLE

HASH TABLE

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

HASH TABLES
NONCE VALUES



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

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

MVP

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

AZURE: Core/Kernel/Universal Protocol

MULTI-MEME MULTI-METER

Microsoft

AZURE BLETCHLEY

MYRIAD MEMES MEDIATION

BLOCKCHAIN

Blockchain Startups

Top Blockchain startups disrupting non-financial markets

Venture Radar

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

{"URN"}

{"Org_ID"}

OFF-SITE

OFF-PAGE

CONNECTOR

{"URN"}

{"Org_ID"}

DAO

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

MACRO CYCLES

CLOCK FACE

90 / 90 / 90 / 90

= 360 degrees

BASEBALL "DIAMOND"

A diamond Is a square Is a block

2nd Base

Runner = Messages Signals / Telemetry

METRICS / METERS

90 feet

90 feet

SC 573 US 134 2347

Physical = Opposite Of abstract

ALGORITHM = RULES

PLAYERS = ROLES

UMPIRE = RULES

Bitcoin fractions

Euclidian Geometry TRIANGULATION..

BLOCK in 3D = CUBE

Cube has Length, Depth, Height. Volume

1st Base Coach

first base

UMPIRE

3rd Base

#1421

I.R.S.

STATISTICIAN

90 feet

Blockchain Blocks / Coins Awarded

90 feet

3 x 5

HASH

TABLE

NONCE

VALUES / CODE

Survey Point

home plate

MICRO-CYCLES

Rosetta Stone Syntax

LEXICON

ALPHA NUMERIC

BREVITY CODES

SYMBOL CODES

STRUCTURED

MILITARY MESSAGE

TEMPLATE FORMS

LOGIC / FILTERS

The current standard time common throughout the world is based on 24 time zones that are 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

STATE

META

DATA

SNAPSHOTS

HEART BEACON CYCLE

IoT

Microsoft Orleans

TIME-SPACE

EQUATIONS

ALGORITHMS

BLOCKCHAIN

PARSING

ERLANG

ripple

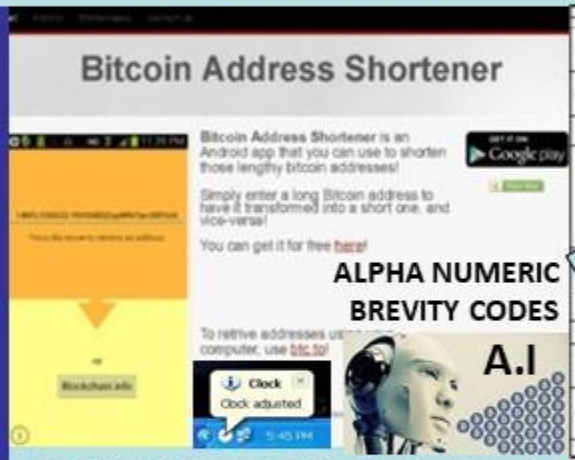
real-time gross settlement system, currency exchange, remittance network

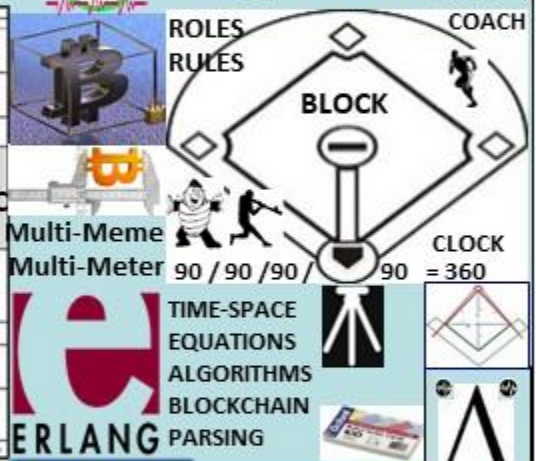
A.K.A Ripple Transaction Protocol or Ripple protocol, built on a distributed open source Internet protocol, consensus ledger and native currency called XRP. Ripple enables "secure, instant and nearly free global financial transactions of any size with no chargebacks." Ripple supports tokens representing 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.

EVENT EVENT

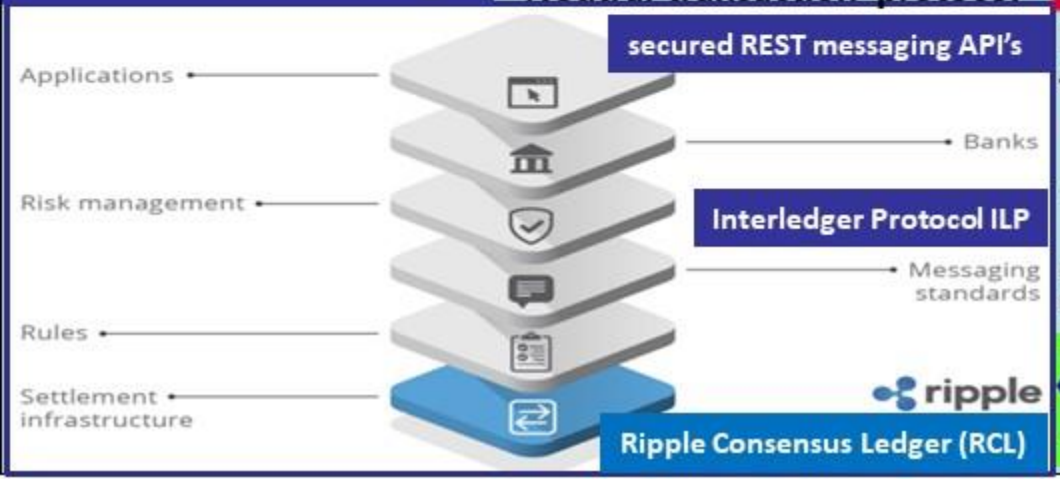
Connects to receiving bank's Ripple Connect to exchange KYC, risk info, fees, payment details, expected time of funds delivery Provides information about total costs of the transaction

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





EVENT BUS



LOCKED QUOTED ACCEPT / DENY In Progress SUCCEEDED

{"108"} HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS

MATCH EVENT REPORTS TO CLOSEST HEARTBEAT CYCLE

FLASH HEARTBEAT MESSAGES {"108"}

Sync to Closest Heartbeat

HASH
NONCE

FIREFLY-HEARTBEAT ALGORITHM

MICRO-CYCLE STATE META DATA SNAPSHOTS

AGGREGATE INTO MACRO ECONOMIC CYCLE MESSAGE

DFINITY

RANDOM # BEACON

BLOCKCHAIN NERVOUS SYSTEM

NIST Beacon
A Public Randomness Service
QUANTUM RANDOM #

Each process has mining identity

- Public key with meta data attached

- IDs mediate participation

- Private network: trusted dealer defines list
- Public network: CC security deposit, USCIDs

3 x 5

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

INDEX CARD="SHARD"

BLOCKCHAIN NERVOUS SYSTEM

HEARTBEAT {"108"} State Meta Data Snapshot Msgs

Threshold Relay Chain techniques

Probabilistic Slot Protocol (PSP) When Gh is selected, members start stopwatches
Choosing Leaders Randomness selects priority list block forgers at height h
Short Term Convergence Correct processes build on highest scoring chain
Threshold Timestamping group signs blocks at h until next group appends another

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

FIREFLY-HEARTBEAT FLASH Msg EVENT BUS

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

GROUP Signature *is* random number
- Number *selects* next group {"Org_ID"} {"Org_ID"}
- Next group use previous no. as message
- Verifiable Random Function
- Numbers verifiable using group public key
- New values produced in threshold agreement

- Random members {"Org_ID"} {"Org_ID"}

- Each process is a member of multiple groups
- Groups intersect, have +/- 400 members

- BLS signature scheme

- **Math magic...** If 51% of group members broadcast "signature shares" on a message, these are combined to create the group's threshold signature.

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

UTZ TIME ZONE SYNC

USCt 573 134 2347 Alice Corp V CLS Bank = ABSTRACT IDEAS = NO NO = PHYSICAL MEMES

NIST TIME BEACON

FIREFLY FLASHES MSGs EMULATE NEURAL NET

FIREFLY EVENTS = THRESHOLD VALUES

MACRO CYCLES
CLOCK FACE
90 / 90 / 90 / 90
= 360 degrees

BASEBALL "DIAMOND"
A diamond Is a square Is a block

2nd Base

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3rd Base

#1421

STATISTICIAN

90 feet

Blockchain Blocks / Coins Awarded

90 feet

3 x 5
HASH TABLE
NONCE
VALUES / CODE

Survey Point

home plate

MICRO-CYCLES

HYPER GEOMETRIC PROBABILITY CALCULATOR

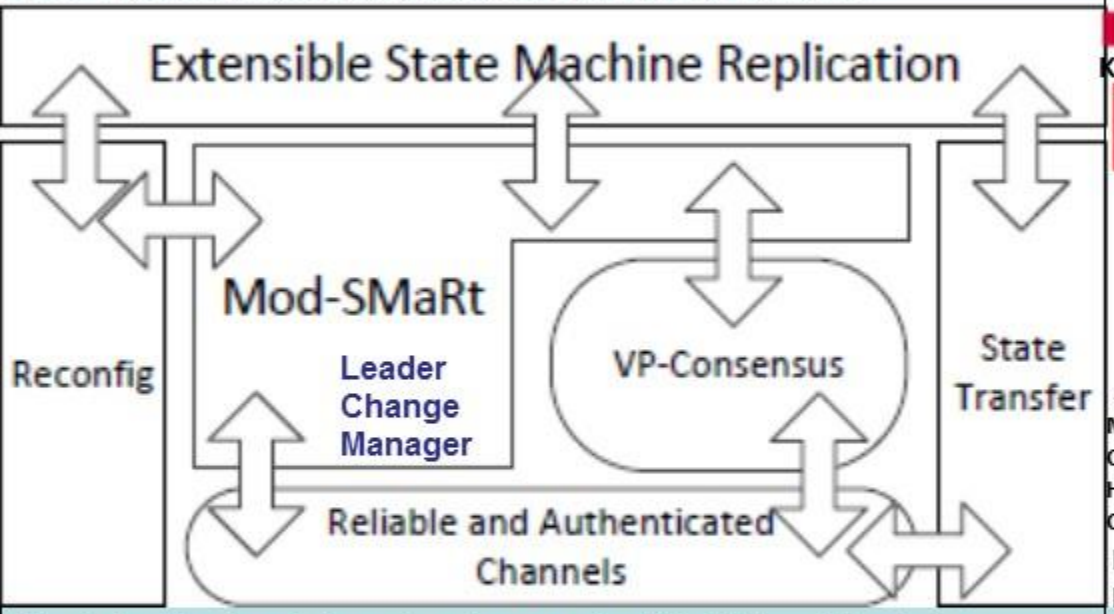
CONSENSUS / RANDOM BEACON
Threshold relay chain generates randomness, records network metadata & validation tree "state root". State and updates to state stored on shards...
State transitions passed to Validation Tree

3 x 5

NIST Beacon
A Public Randomness Service
QUANTUM RANDOM #

Byzantine Fault-Tolerant State Machine Replication

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



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

BFT-SMaRt needs an eventually synchronous system

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

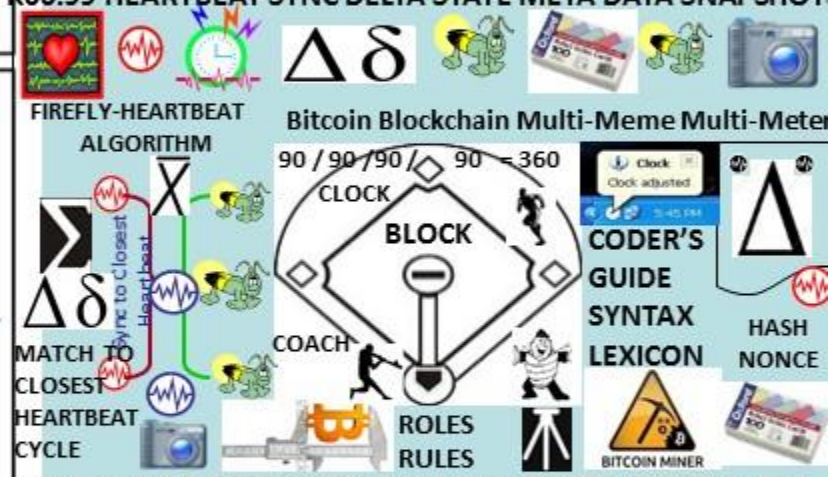
USPTO 13/573,002 HEART BEACON CYCLE TIME-SPACE METER

USCt ALICE CORP V CLS BANK
PHYSICAL = OPPOSITE OF ABSTRACT

DERIVED FROM BATTLEFIELD DIGITIZATION DISTRIBUTED AUTONOMOUS ORGANIZATION DAO SYSTEM OF SYSTEMS

FEDERATED ID / ORGANIZATIONAL IDENTIFIER {"ORG_ID"}
ADDS, JOINS, DROPS, MOVES TO / FROM DAO
CHANGES IN STATE VIEWED IN "APPLIQUE' OVERLAY VIEWS

K00.99 HEARTBEAT SYNC DELTA STATE META DATA SNAPSHOTS



MICRO-CYCLE STATE META DATA SNAPSHOTS AGGREGATED INTO MACRO OPERATION CYCLE RECONFIG MESSAGE

BUILDING BLOCKS:
- TIME CYCLE EPOCHS
- SYNTAX INSTRUCTIONS

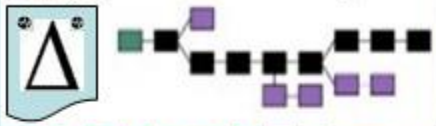
- LINEAR, SEQUENTIAL
- GEO SPATIAL, TEMPORAL

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

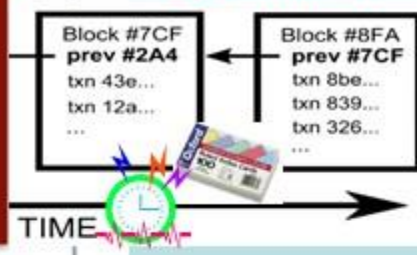
Core APIs, & SDKs

Δδ Shared Ledger



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

Alpha-Numerics



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

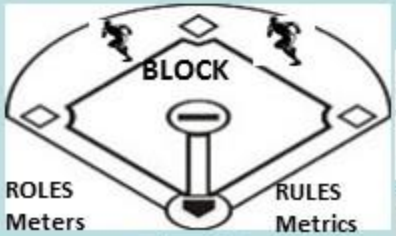
FEDERATION

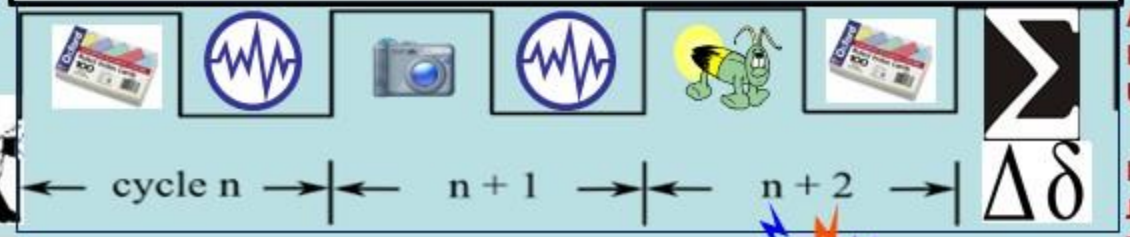
Federation Gateway

METRICS ("Organization ID"}
METERS

RESTFUL SYNC DELTA
CHANGE MANAGEMENT
MICRO-MACRO CYCLE

BLOCKTIME ARBITRAGE





Δδ

MICRO-MACRO CYCLE SCHEDULE

FFIRNS
FFUDNS

ROSETTA STONE

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

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

CorDapp Store

R3 CEV Corda shared ledger

e.g. Derivatives: App, App, App, App

e.g. Trade Finance: App, App, App

e.g. KYC / AML: App, App

Concord Platform Services

- CorDapp Store
- Notaries
- Network Map Service
- Trusted Digital Backbone Network
- Regulatory Reporting
- Oracles
- Service Provider Gateways
- Bank-Internal Gateways

Concord Vault

Interoperability

- Asset Registry
- Trade Registry
- Cash
- Identity Vault

Concord Operations Centre

- Business Monitoring
- Technical Alerting
- Management Information
- Compliance Audit

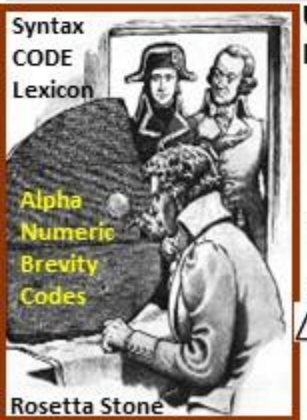
Inter-Network Adapters

Existing Market Services

- FEDWIRE
- CHIPS
- DTCC
- CLS

Corda Core Node Services

- Agreement States
- Transactions
- Sandbox
- Digital Signing
- Interaction Protocols
- Contract Verification



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

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

BITCOIN NG NEX GEN / Heart Beacon Cycle 13/573,002

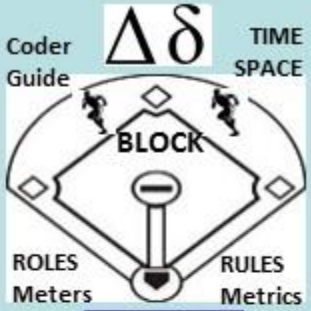
KEY BLOCKS:

- NO CONTENT = NULL
- LEADER ELECTION

MVP

EVENT BUS

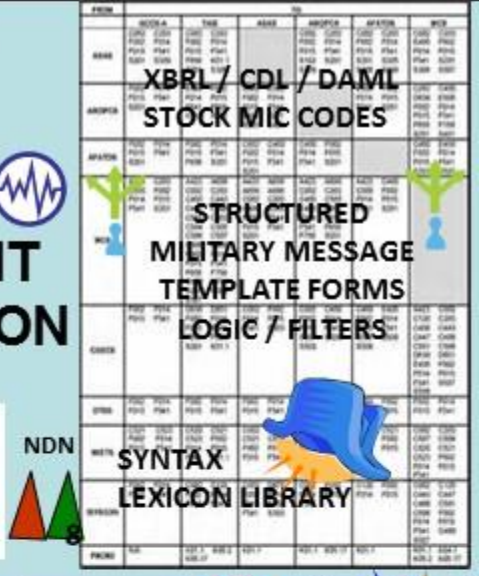
Coder Guide

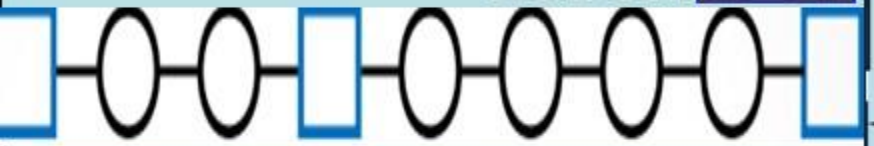


MICRO BLOCKS:

- ONLY CONTENT
- NO CONTENTION

NDN





long exponential intervals (10 min)

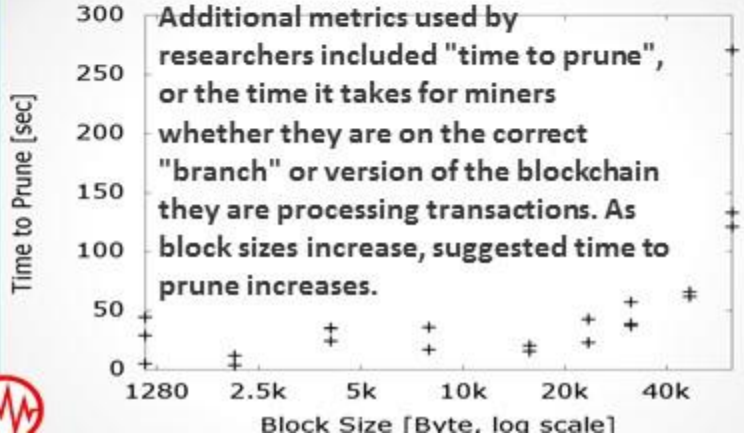
COMMAND SYNTAX
RESTFUL State Transfer

MACRO – CYCLES

short deterministic intervals (10 sec)

MICRO-CYCLES

Subjective Time to Prune



ethereum

ETHER: Compensate Resource Contribution

Gas: price to Run contract transactions

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

CASPER

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

Txs	State transition:		Txs	State transition:		Txs	State transition:	
0cb4 9f12	123:	400	5581 2fc3	905:	560	7ce6	123:	440
	8723:	0		1141:	8021		1141:	7981
	42:	15776		42:	15775			

SWARM (storage) | WHISPER (messaging) | EVM (consensus)

MACRO CYCLES
CLOCK FACE
90 / 90 / 90 / 90
= 360 degrees

BASEBALL "DIAMOND"
A diamond Is a square Is a block

2nd Base

Runner = Messages Signals / Telemetry

METRICS / METERS

90 feet

90 feet

SC 573 US 134 2347
Physical = Opposite Of abstract

ALGORITHM = RULES
PLAYERS = ROLES
UMPIRE = RULES

Bitcoin fractions

Euclidian Geometry TRIANGULATION..

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

3rd Base

1st Base Coach
first base
UMPIRE

STATISTICIAN

#1421

I.R.S.

Blockchain Blocks / Coins Awarded

90 feet

90 feet

3 x 5
HASH
TABLE
NONCE
VALUES / CODE

Survey Point

home plate

MICRO-CYCLES

HEARTBEAT FLASH MESSAGES
BLOCKCHAIN HASH TABLES

UNIVERSAL EVENT BUS
STATISTICAL MEAN SAMPLING
STOCHASTIC HARMONIZATION

MACRO ECONOMIC CYCLES

STAT MEAN VALUE INDEX
SUM, ADD, AGGREGATE

MICRO CYCLE SAMPLING

SPACE-TIME METRICS

STATE META-DATA

BITCOIN MULTI MEME
MULTI-METER

HEARTBEAT SNAPSHOTS

BIGCHAIN DB

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SC 573 US 134 2347
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A BASEBALL DIAMOND IS A SQUARE. HBC USES A BASEBALL METAPHOR TO DESCRIBE METRICS, METERS. ROUNDING BASES FORM A BLOCK. METRICS, METERS & SURVEY METHODS MEASURE COIN MINING COMPLETION % AWARDS

Euclidean Geometry

STRUCTURED {"CONTENT"} TEMPLATES

Attribute Series

NAMED DATA NETWORKING

Digital Asset Modeling Language DAML

Contract Description Language CDL

Time Series

Value

Time

SYNTAX, SYMBOLS LEXICON LIBRARY

{"INTEREST"}
{"DISTANCE"}

FIX {"108"}

time

</INTEREST>

distance

LOGIC – FILTERS

CODE SEQUENCE

ROLES / RULES

FBI

iDMaps SonarHops

NDN

1: prove coin ownership <Org_ID> Coin Issuer
2: # coins sent where, when Lat / Long, DTG
3: NIST Random # Beacon Non-Repudiation
4. Issuing {"Org_ID"} adjudicates w buyers

Firefly – Heartbeat Event Bus

TRANSACTIONS PER CYCLE METRICS

COMPUTER CHIP EPOCHS

cycle n → n + 1 → n + 2

SPATIAL TEMPORAL Series

FIREFLY-HEARTBEAT ALGORITHM EVENT BUS

PROOF-OF-STAKE

Stake-Time algorithm favors both # of coins held & how often, frequently coins are staked

Velocity based selection PoSV encourages velocity i.e. coin movement between people Vs hoarding.

O'REILLY Time Series Databases

UXTO

CALENDAR

Mined Bitcoins

Survey Methods

Proximity Beacons

MICRO-CYCLES

Unmined Bitcoins

I.R.S.

IRS Memo #1421
Bitcoin purchase = property

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

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

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

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

VOTE

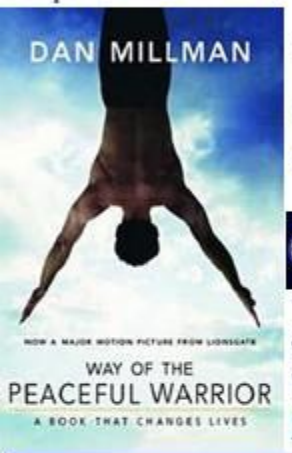
Little League BIG LEAGUE 75

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

FUNGABILITY
BITCOIN's 6 ISSUES
FEDCOIN / WORLDCOIN
STATISTICAL MEAN VALUE INDEX
FIX 108
FIX 108
Trade w Earth?
BITCOIN's VALUE IS TIME ITSELF
BLOCKTIME ARBITRAGE
PHYSICAL
CURRENCY CONVERTER
FRIEDMAN's K % RULE
$$$
DENARIUM
$$$
1 to 1 CONVERSION
CURRENCY PULSE X % GDP @ Y MACRO Economic Cycle
NOVUS ORDO SECLORUM
IDENTITY
{"Org_ID"} {"Org_ID"}
Organizational ID
Organizational Unit OU
FINCEN > { "Org_ID" "} "OU" > WALLET 1, 2,3,4,5.. }
Multi-SIG e.g.., select TRIBAL COUNCIL MEMBERS
Federation Gateway
WAVES
$$$
$$$
TIME SERIES DATABASE
TERRA
TRC
namecoin
¥EN
MONEYBALL
ECONOMICS
currencyindex
COMMODITIES
VOLATILITY
MV = PQ
COMMODITY BASKET PRICE INDEX
STATISTICAL MEAN VALUE INDEX
Time Series Dbase
MEDIATION GATEWAY
MICROSOFT
BLETCHLEY
WORLD COMPUTER
Price Indexes in Time and Space
Statistical Mean VALUE INDEX
</DOMAIN>.COM
{"DOMAIN"} MSFT.COM
NO INTRINSIC VALUE
EVENT BUS
ETH BaaS
Ethereum Blockchain as a Service
Azure
cycle n
n + 1
n + 2
ETHEREUM
Little League Baseball Tournament main embodiment
13,573,002 SC Alice Corp V CLS Bank
Multi-Meme
Cloudcenter
Cloudcenter
INCONSISTENT MEMES
- WORK / STAKE
- Property / Land
- POET TIME
IRS Memo 1421
BLOCK
Roles Meters
Rules Metrics
Attribute Series
Time Series
Value
Time
Geo Spatial
Temporal Series
WORLD COMPUTER
05:08:57
NIST TIME BEACON
Quantum Random Number Beacon
Contract Definition Language
Digital Asset Modeling Language
HEARTBEAT MESSAGES
On / Off Shore
Non-Repudiation
Cyber Beacon
NIST Beacon
A Public Randomness Service
Non-Repudiation
BLOCKCHAIN SCALEABILITY
LIGHTNING NETWORK
Sync Deltas
{"INTEREST"}
{"DISTANCE"}
Hashed TIME LOCK contracts component for global consensus
OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/Random # BEACON
FIREFLY – HEARTBEAT
IDMaps
SonarHops
Payment channels multi-hop hub
spoke model like internet routing
Server nodes, miners
only keep recent blocks
Sync Delta
State Meta
Data Snaps
TIME-SPACE ALGORITHM
Stochastic Harmonization

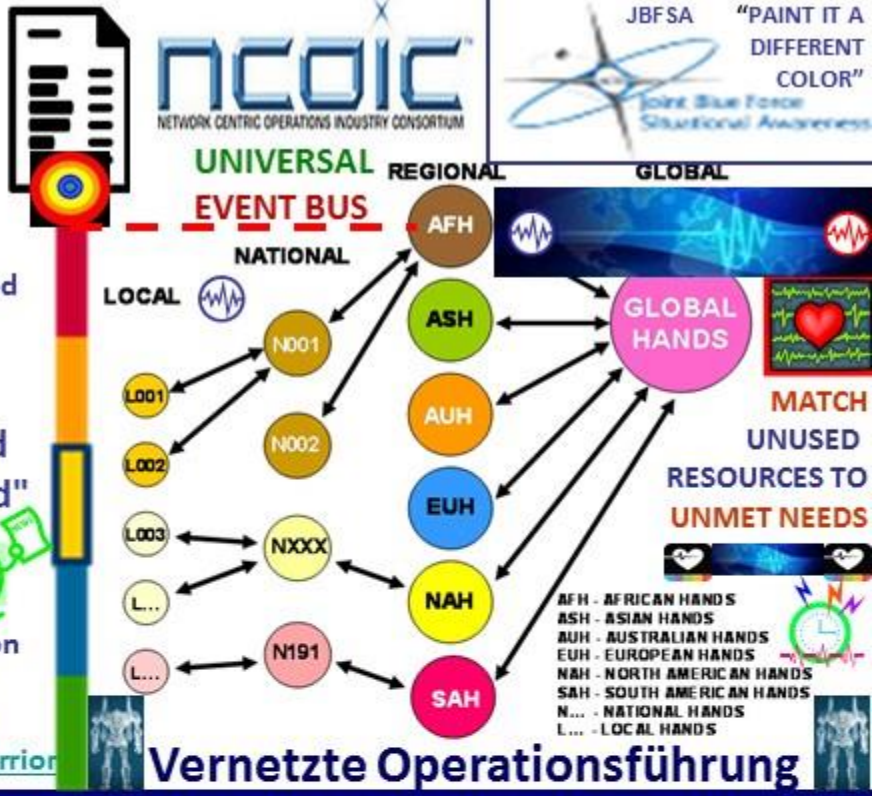
Humanitarian Assistance Networked Donor System

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 Capabilities" in Great Britain or "Vernetzte Operationsführung" in Germany



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

"The secret of change is to focus all of your energy, not on fighting the old, but on building the new." Dan Millman
Way of the Peaceful Warrior A Book That Changes Lives
http://en.wikipedia.org/wiki/Way_of_the_Peaceful_Warrior



Vernetzte Operationsführung

Derive best practice procedural template guides from Battlefield Digitization describing when, where, how, how often systemically among a systems of systems promoting synergy, synchronicity.

REUSE OF A PENTAGON ACAT-1A SITUATION AWARENESS PROGRAM SWORDS TO PLOWSHARES PROPOSED BY GERMAN MILITARY CIRCA 2003

The sculpture, similar to a lighthouse, is an interactive enclosure of light, color, and sound acting as a symbol of hope and resilience for the community. Pulses create a thumping sound that resonates through the steel frame and flickers the lighting matching the pattern to their heartbeat. By measuring a small, internal element such as a heartbeat and amplifying it to a monumental scale the piece becomes a powerful reflection of individual life and reminder of what is worth saving.

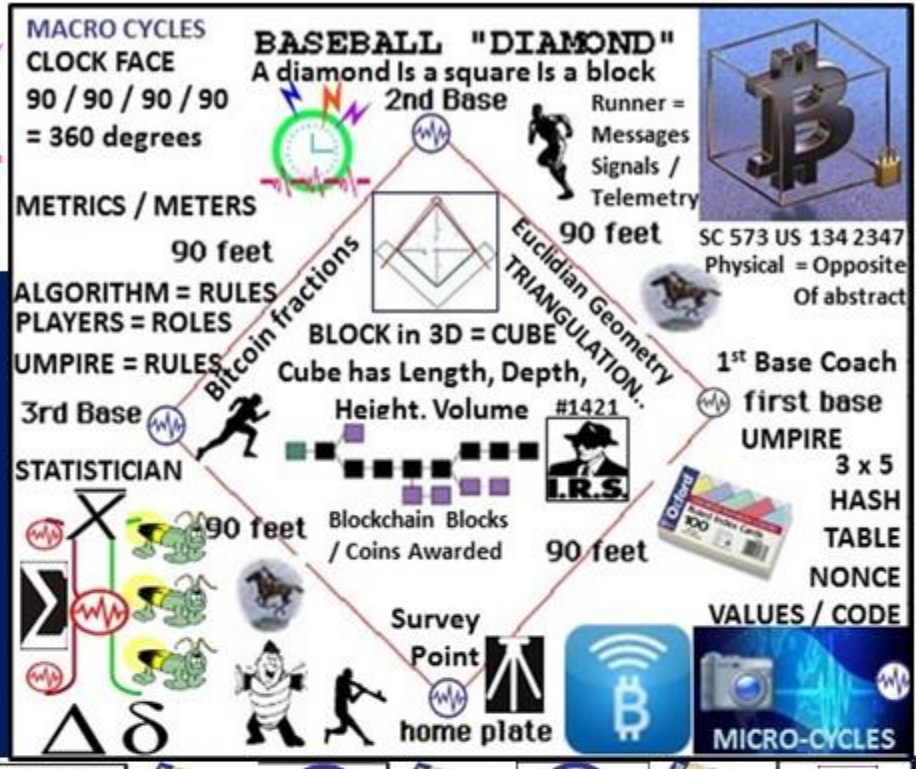
STATE: stored data at a given instant in time

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.

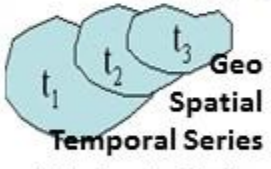
3. Finally, **participants submit the state back to the blockchain**, which closes the state channel and unlocks the state again (usually in a different configuration than it started with).



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.

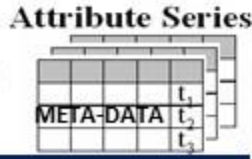
LINK: http://jeffcoleman.ca/state-channels/

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

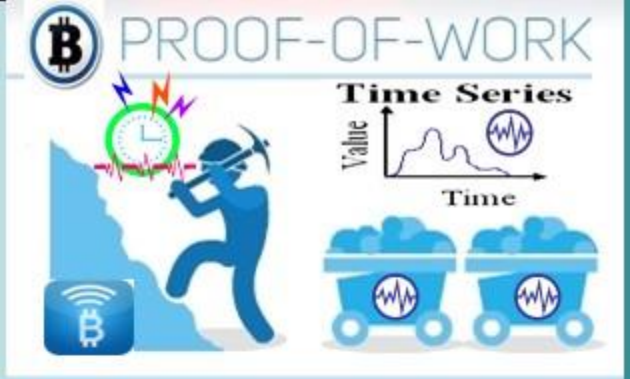


HASH TABLES

STATE SNAPS



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



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.

TIMESTAMP marks the point that work started. Additionally, it contributes to the uniqueness of the work by an individual miner

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

State Snap Shots

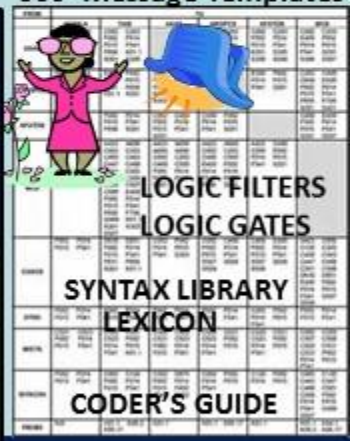
NONCE increments from 0..N until the target is met.

GUESS stores the guess
Effectively, it begins at infinity.

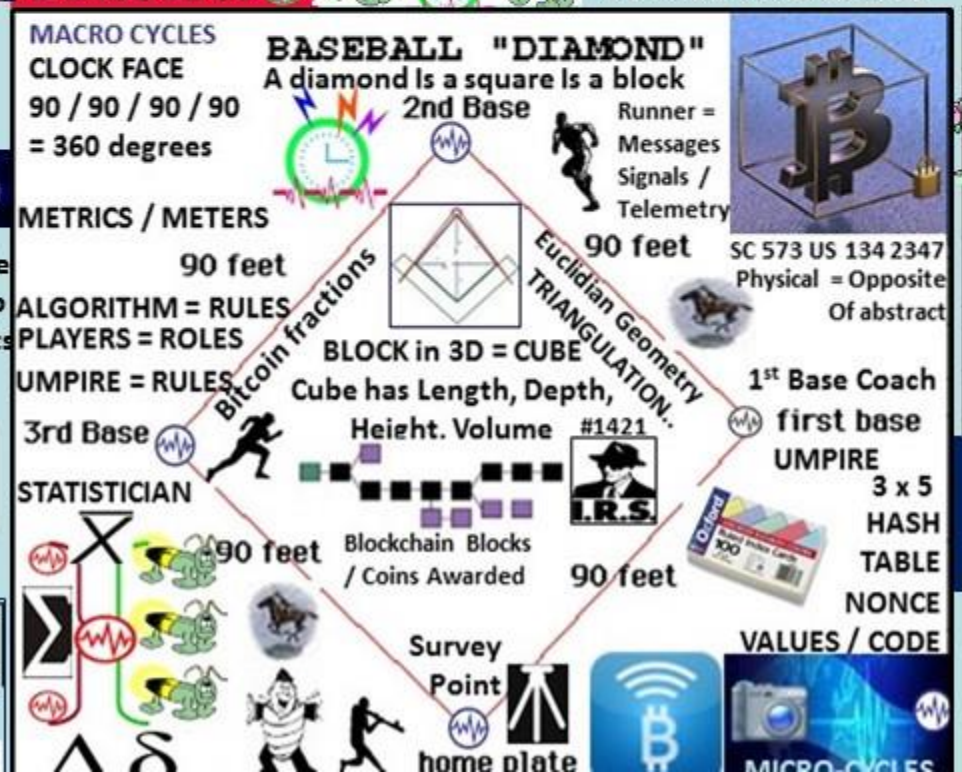
FIREFLY-HEARTBEAT ALGORITHM
STOCHASTIC HARMONY ACROSS TIME ZONES

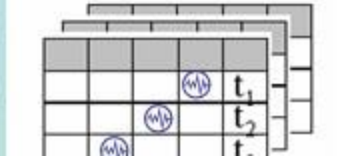
MESSAGE ex:
•Hashing string
•Hash Table

300+Message Templates



POW PAYLOAD : COMBINATIONS OF ENCRYPTED SYNTAX





ethereum

ETHER: Compensate Resource Contribution

Gas: price to Run contract transactions

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SWARM (storage) | WHISPER (messaging) | EVM (consensus)

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= 360 degrees

BASEBALL "DIAMOND"
A diamond Is a square Is a block

2nd Base

Runner = Messages Signals / Telemetry

METRICS / METERS

90 feet

90 feet

SC 573 US 134 2347
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UMPIRE = RULES

Bitcoin fractions

Euclidian Geometry TRIANGULATION..

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3rd Base

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first base
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BIGCHAIN DB

PROJECT LIGHTING

FIREFLY – HEARTBEAT ALGORITHM

FIREFLY – HEARTBEAT

EVENT REPORTING ACROSS TIME-SPACE

MESSAGE EVENT BUS

transactions sent over off blockchain micropayment channels

ERLANG

O'REILLY

Time Series Databases

Stochastic Harmonization

UTZ UNIVERSAL TIME ZONE SYNC

cycle n → n+1 → n+2 →

MACRO CYCLES

CLOCK FACE

90 / 90 / 90 / 90

= 360 degrees

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Survey Point

home plate

MICRO-CYCLES

SEGREGATED WITNESS

SegWit

HASH TABLES

MESSAGES

NONCE SYNTAX / SYMBOL TAGS

OUT OF BAND / CHANNEL

Hashed TIME LOCK contracts component for global consensus

OP_CHECKLOCKTIMEVERIFY During Macro Cycle w/Random # BEACON

Server nodes, miners only keep recent blocks

cycle n → n+1 → n+2 →

Payment channels multi-hop hub spoke model like internet routing

Time Series

Value

Time

Sync Delta State Meta Data Snaps

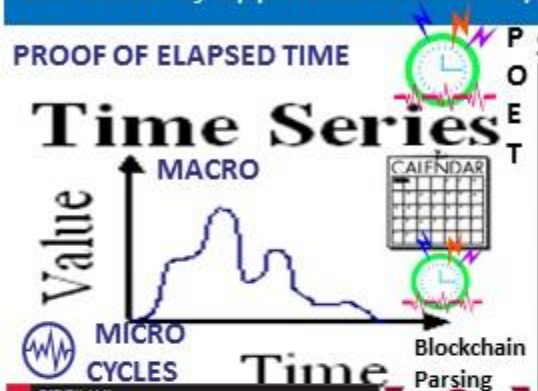
Segregated witness = Separated signatures

- 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

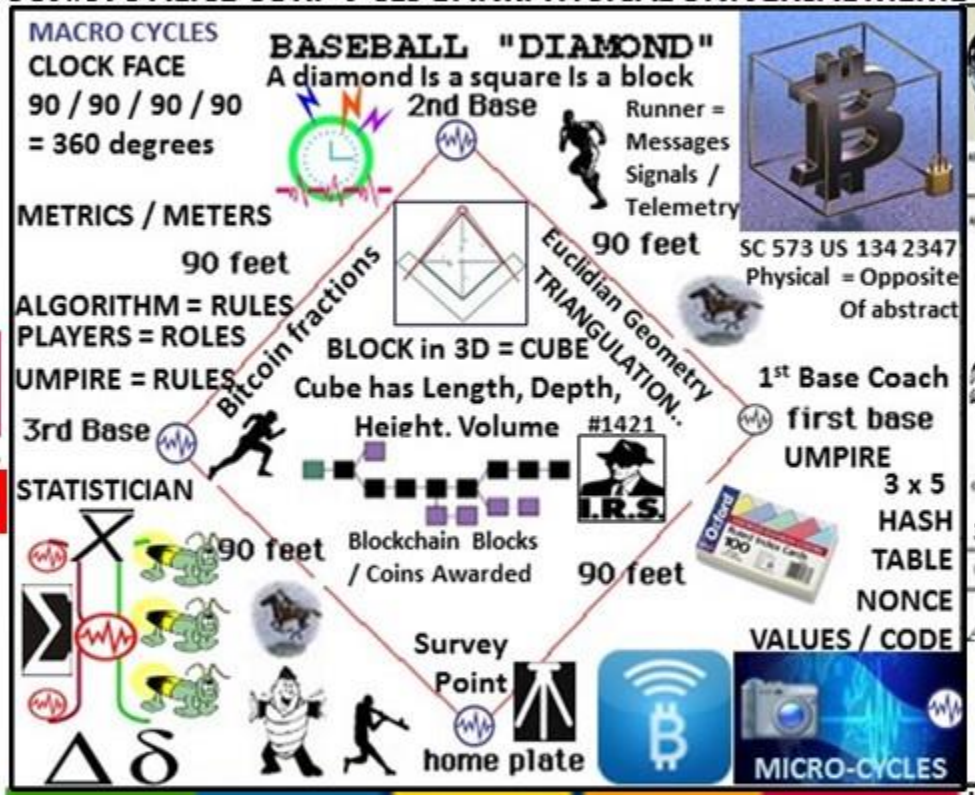
ex: League MVP

MVP

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

TOURNAMENT LEAGUE BOARD

SCt #573 ALICE CORP V CLS BANKPHYSICAL UNIVERSAL MEME



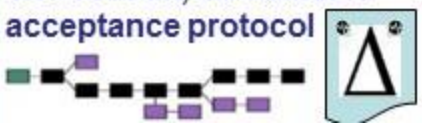
"BITCOIN IS A LANGUAGE"

FIREFLY-HEARTBEAT FLASH MESSAGES UNIVERSAL EVENT BUS

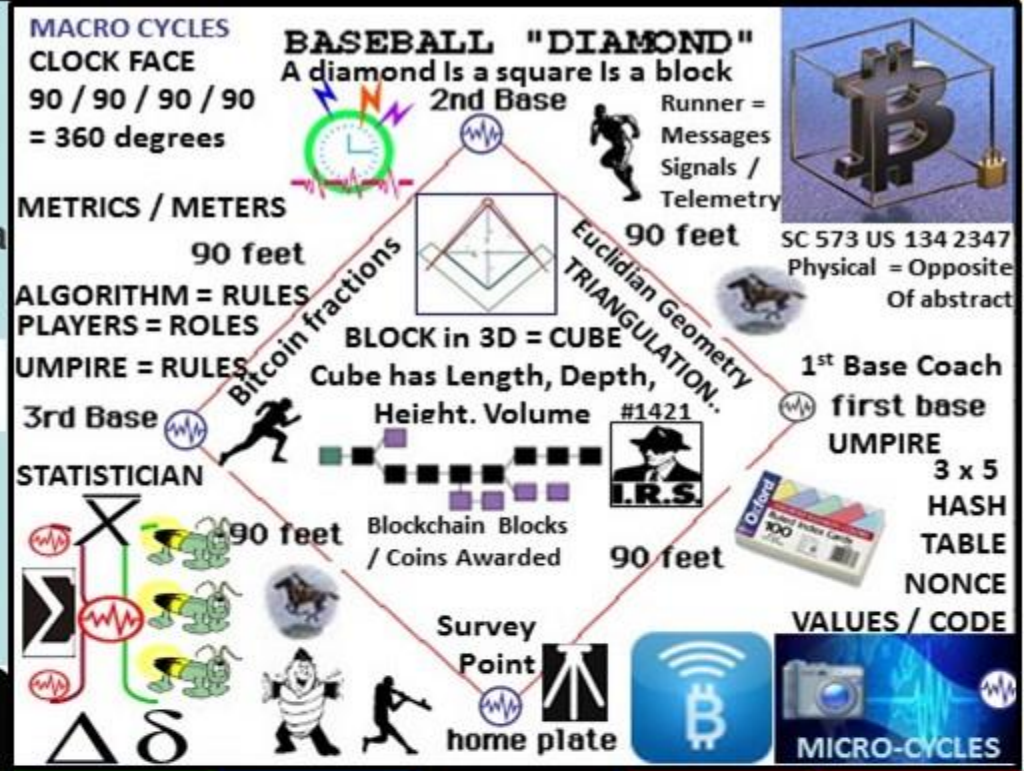
Capture ledger's state $\Delta\delta$

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 transactio

•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.

BNC. Digital Currency Insights

ASIC CHIP TIME CYCLES USED to Parse Syntax

← cycle n → ← n + 1 → ← n + 2 →

FIREFLY – HEARTBEAT ALGORITHM UNIVERSAL EVENT BUS

MATCH EVENTS TO CLOSEST HBC

API CODE INSTRUCTIONS

NONCE

HASH

TIME STAMPS

IRS #1421

Purchased Coins

Mined Bitcoins

Unmined Bitcoins

UTZ TIME ZONE TIME SYNC

EVENT BUS

STATE META DATA SNAP SHOTS

BRAVE NEWCOIN. Digital Currency Insights

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

"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"

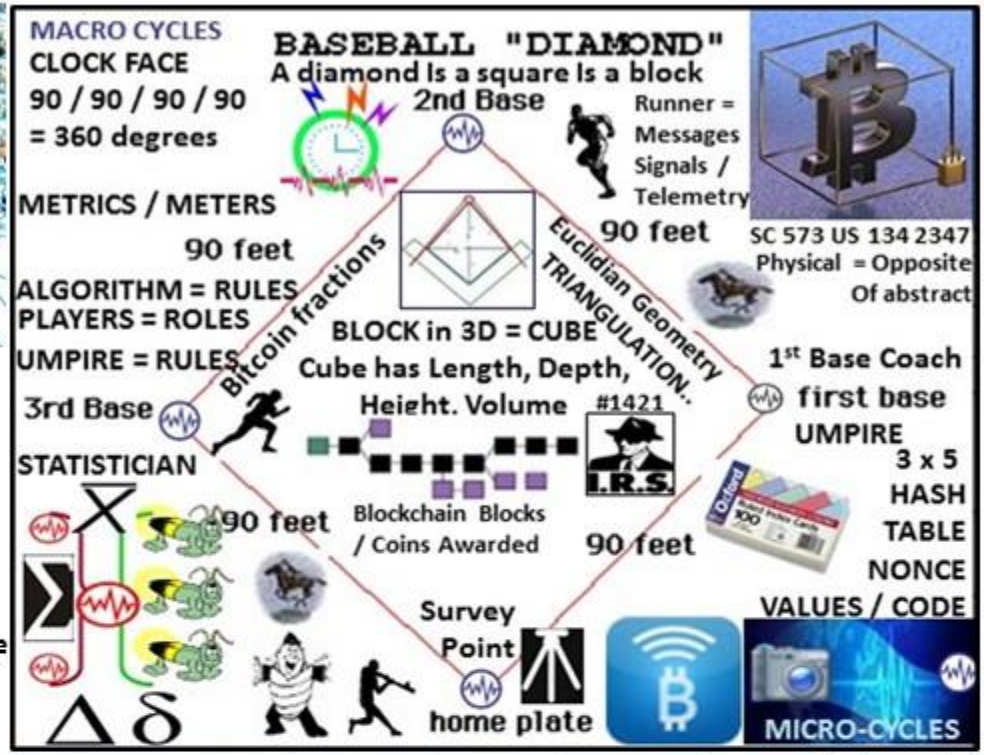
LINK http://bitcoinist.net/how-dash-dao-work/

"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.



STOCHASTIC HARMONIZATION FIREFLY-HEARTBEAT EVENT BUS

HEART BEACON CYCLE = IMPROVEMENT TO NETWORK CENTRIC WARFARE

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

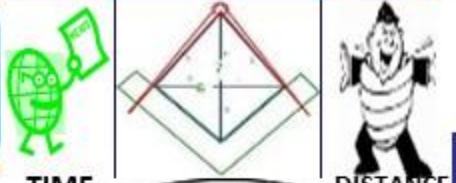
HEART BEACON CYCLE
USPTO 13/573,002
SURVEY METHODS

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

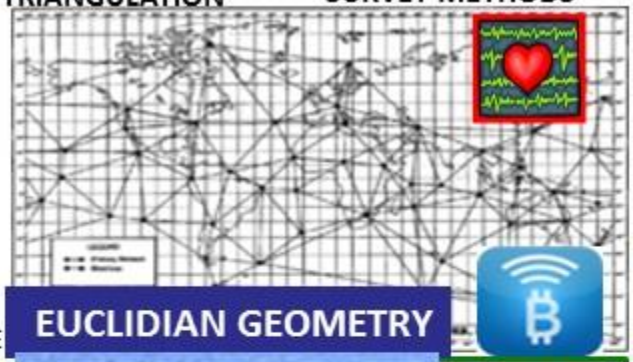
UTXO: unspent transaction output'. bitcoins that have been sent somewhere but not yet themselves been spent. The set of all unspent transaction outputs (UTXOs) can be thought of as the latest STATE of every bitcoin that has ever been mined.

Memo #1421: Purchased Bitcoins are treated akin to property

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

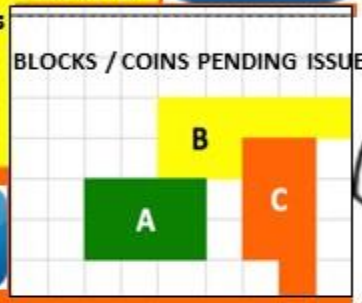


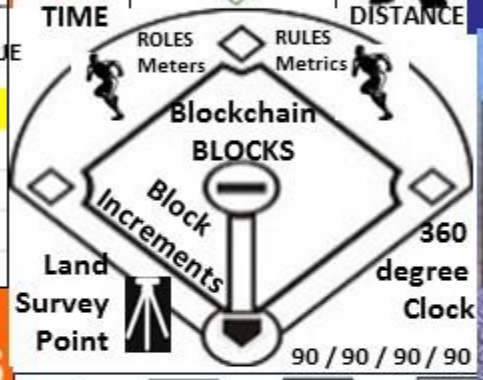
TRIANGULATION



EUCLIDIAN GEOMETRY

Mined Bitcoins





Unmined Bitcoins

Un-mined coins -- think of them as parcels of land on "Bitcoin Island" not yet released:

IDMaps-SONARHOPS distance estimation query-reply service

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

- End-state Bitcoin quantity will be fixed like land

"Bitcoin as protocol of ownership, not transfer"

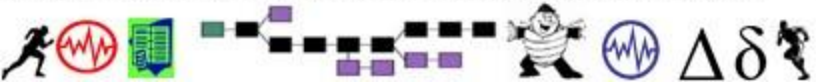
Coins never travel, but simply switch owners"

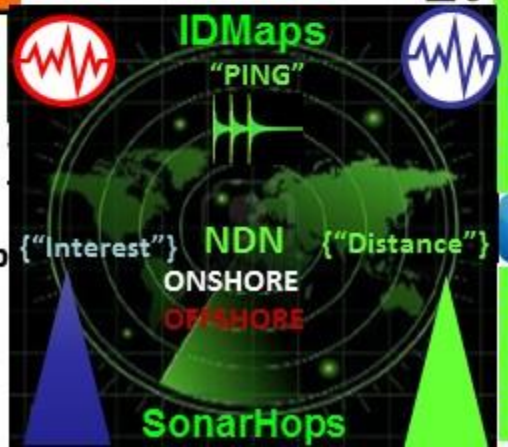
Step 1: prove coin ownership <Org_ID> Coin Issuer

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





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

SonarHops

NAMED DATA NETWORKING

NDN INTEREST
Closer = Faster
Closer = Cheaper

TCP/IP HOP By HOP COUNT

Δ δ

Sync Ta Snaps

GEO-SPATIAL TEMPORAL INTENSITY METRICS / METERS

IDMaps

vector

SonarHops

Cloudcenter

Cloudcenter

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

time ↑

NDN

vector

distance →

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

Name Prefix Trie (NPT)

<Org_ID>

NDN_NAMES

NDN NAMED DATA NETWORK RIB / FIB Datasets event notification

NDN INTEREST LENGTH = DISTANCE BY HOPS

NDN INTEREST

IS DATA FRESH ?

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

NDN RIB

TRIANGULATION

vector

Time Series

Value

Δδ

Time

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

Datasets and Event Notification

INTEREST in <URNs>

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

05:08:57

NIST TIME BEACON

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

MICRO-CYCLES

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

NDN INTEREST LIFETIME = TTL Time To Live

HEARTBEAT STATE META DATASNAPSHOTS

13/573,002 HEART BEACON CYCLE

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

INFOCON 5 4 3 2 1 INFORMATION CONDITION

The four dimensions of Big Data

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

TIME STAMP BY Org_ID, URN Before FUSION CENTER

Volume | Velocity vector | Variety | Veracity*

TIME STAMP 1 | TIME STAMP 2 | TIME STAMP 3 | MACRO CYCLES

Unused Resources
Unmet Needs
SCP

UTZ SYNC
SYNC SEED CLOUD

E-ZPass

Data at Rest {"108"} {"108"} Data in Motion RFid {"FILTERS"} Data in Many Forms NIST CYBER RANDOM # BEACON Data in Doubt

"THE GRAIL" SHARED COMMON PICTURE

Cloudcenter Cloudcenter

FILTER BY ROLE <TYPE> <CLASS>

{"URN"} Uniform Resource Name

URN URN URN URN

UNIVERSAL DATA EVENT BUS

PRECEDENCE PROCESSING

<Org_ID> {"URN"} {"URN"}

TIME SPACE

* Truthfulness, accuracy or precision, correctness

REST ARREST-D

FIREFLY – HEARTBEAT {"108"}
Stochastic Harmonization

ALGORITHM {"108"}
Universal Event / Alert Bus

PAUL REVERE
LINEAR
SEQUENTIAL

+ 2
+ 1
+ 1
+ 2

WATER DROP IN POND MEME

FOAM spatial protocol
Ethereum blockchain.

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

FLASH
Flash HB Messages
FLASH

ERLANG

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)

BLOCKCHAIN PARSING
Space – TIME EQUATIONS

State Meta Data
Heartbeat Snaps
MICRO CYCLES

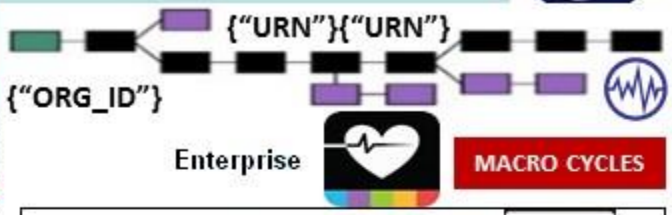
IDMaps
SonarHops

Geo-spatial Distance Estimation Service

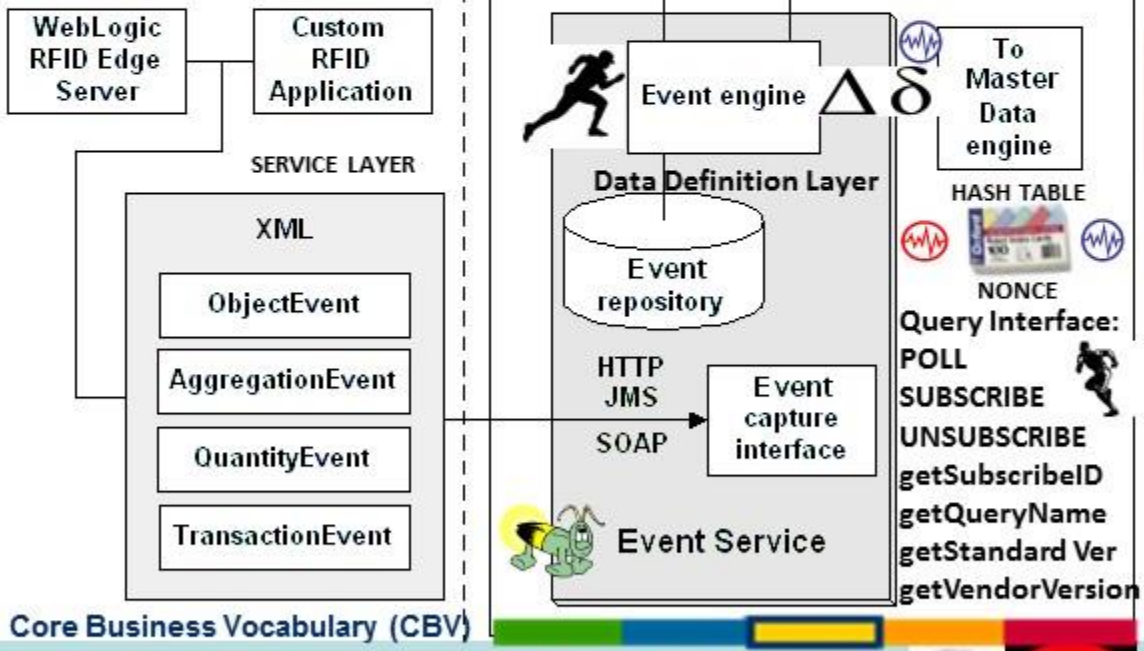
FOAM

Electronic Product Code Information Services (EPCIS)

GS1 Standard for creating, sharing visibility event data



EPCIS DATA MODEL



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

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

RFID Configuration TCP/IP heartbeat message

STRUCTURED DATA EXCHANGE / STRUCTURED MILITARY MESSAGES

BIZ USE CASES SYNTAX LEXICON CODE GUIDE

ALPHA NUMERIC BREVITY CODES

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

< GLOBAL >
0

IC / DOD/ NGO / COALITION
INDUSTRY GOVERNANCE

GOVERNANCE TAGS BY TYPE PRECEDENCE

0 NORMAL
1 EMERGENCY

< JOINT >
1

STRATML/ IODEF RID CLASSES

IC / DOD
JOINT GOVERNANCE

StratML

PRECEDENCE

PRECEDENCE

< COMMUNITY>
2

IC: INTERNAL COMMUNITY USE
MEDICAL / ENERGY /
TRANSPORTATION
COMMUNITY SPECIFIC GUIDANCE

MULTI-MODAL PROCESSING
OF PRECEDENCE: PRIORITY
IS SITUATION DEPENDENT
ACCORDING TO INFOCON, HAZCON
I.E. EMERGENCY BROADCASTS TO
THE WORLD – EVERY ENTITY
CANNOT HAVE LEVEL 5 PRECEDENCE

<DOMAINS>
3

<SHARED ELEMENT>
4

MANAGED RESOURCES GOVERNED BY
ELEMENT E.G., AGENCY, PROGRAM
HOWEVER – EXPOSED AND MADE
AVAILABLE TO ORG ID / URN GROUPINGS

GOVERNANCE TAGS BY TYPE PRECEDENCE

NORMAL OPERATIONS
PAY FOR PRECEDENCE
AS A QUALITY OF SERVICE
SLA SERVICE LEVEL AGREEMENT
PRIVACY FOR PRIVATE DATA

EVENT / ACTIVITY / LOCATION CLASS
0 NULL / 1 / 2 / 3 / 4

<PRIVATE ELEMENT>
5

MANAGED RESOURCES GOVERNED BY
ELEMENT E.G., AGENCY, PROGRAM
FOR UTILIZATION ONLY BY THAT ELEMENT

USE ORG ID / URN TAGS TO ROUTE BASED ON TYPE
OF ORGANIZATION / COMMODITY / VIRTUAL ORG
MEASURE BROADCAST / UNICAST BY ZONE BY
THRESHOLD / INTENSITY / DURATION AS MOE / MOP

< NIEM >
NIEM
BRIDGING INFORMATION SYSTEMS

Situational Awareness Reference Architecture (SARA)

: Identity, Inventory, Activity, and Sharing

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

ICS-ISAC

IDENTITY:

<UUID> = Devices, sensors

<ORG_ID> Organizations

Federation Gateway

<ELEMENTS>

STRATML/ IODEF RID CLASSES:

<GLOBAL><JOINT><SHARED>

<DOMAIN><FEDERATION>

<CITY><STATE><PRIVATE>

STRATEGIC MARKUP

StratML

LANGUAGE

IODEF

Industrial Control System Information Sharing and Analysis Center

INVENTORY: Uniform Resource Name <URN>

<URN><URN>

<URN><URN>

<URN><URN>

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

vector

GEO-SPATIAL TEMPORAL INTENSITY METRICS

UNIFIED EVENT / ALERT TRIGGER / THRESHOLDS

GEO-SPATIAL TEMPORAL INTENSITY METRICS / METERS

IDMaps

SonarHops

vector

tripwire

ACTIVITY: <EVENT><ALERT>

<TIME_STAMP><ORG_ID><URN>

<GEO_LOC_GPS ><STATUS>

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

CONTENT LEXICON ROSETTA STONE

TAXII

NDN

<INTEREST>

STIX

AVALANCHE

SHARING:

COMMON <TAGS>

<Organizational_ID>

Resource Names <URN>

<Time_Stamps>

<State-Meta_Data

<DATA_CLASS_TYPE>

<Heartbeat_snapshots>

NDN

<INTEREST>

CyboX

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

NIST CYBER SECURITY FRAMEWORK

CYBER SECURITY CONTENT LEXICON ROSETTA STONE

MIL-STD 2525A

STRUCTURED <CONTENT> TEMPLATES

<TAG> LIBRARY

<TAG>LIBRARY TEMPLATES

NIEM

NAMED DATA NETWORKING

<Content> Centric

USMTF / XML MTF FORMATTED MESSAGE CATALOG

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

CYBER BEACON

NIST TIME BEACON

NIST RANDOMNESS BEACON

SYNC SEED _CLOUD

INBOUND SHARING / MICRO-CYCLES

DISTRIBUTED AUTONOMOUS ORGANIZATIONS DAO

Heart Beacon Cycle

Trade Federation on Bitcoin Blockchain

{"Org_ID"}

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

Federation Gateway

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

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

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

Bitcoin Mining Pools
MEME / METAPHOR MEDIATION

BITCOIN MINER

Office 365 Groups

TERM DISTRIBUTED AUTONOMOUS ORGANIZATION DAO first coined by RAND Circa 1991 now in use by Blockchain tech corporations..

QR / PURCHASE CODE

FIREFLY FLASH
HEARTBEAT MESSAGES
IeT DEVICE / PLATFORM
IoT SENSOR DEVICE

{"Asset_Type"}

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

FEDERATED ID
Org Unit OU, OU, OU

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

STOCK EXCHANGE
MIC MARKET IDENTIFIER
CODES / BREVITY CODES

{"DUNS #"}{"Org_ID:}
{"URN"{"URN"}{"URN"}

Heartbeat Snaps
MICRO-CYCLES

EVENT BUS
Signaling, Telemetry

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

NETOPS NEO

ECONOMIC HEARTBEAT

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*

•**VALUES:**

Demurrage Fees

TERRATRC TRADE REFERENCE CURRENCY

"Money of Peace"

Commodity / Currency Index

TERRA TRC

HEART BEACON CYCLE

USPTO 13/573,002

TIME – SPACE METER

("108")

STAT MEAN VALUE PULSE

MACRO CYCLE AGGREGATE

Free and open markets:

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

HASH Values

Nonce Values

SCt Alice V Cls Bank

Federation

ORG ID Gateway

STAT MEAN VALUE INDEX

CONTRIBUTIONS TO STATISTICS

•**Privacy**

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

</DATA>

{"FILTERS"}

FIREFLY – HEARTBEAT ALGO

SYNC EVENTS

TO CLOSEST HB CYCLE

UTZ SYNC

Bitcoin: OpenBazaar transactional currency

Cyrptographic Security

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

NIST Beacon

A Public Randomness Service

Non-Repudiation

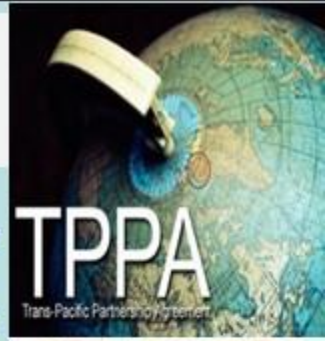
Price Indexes in Time and Space

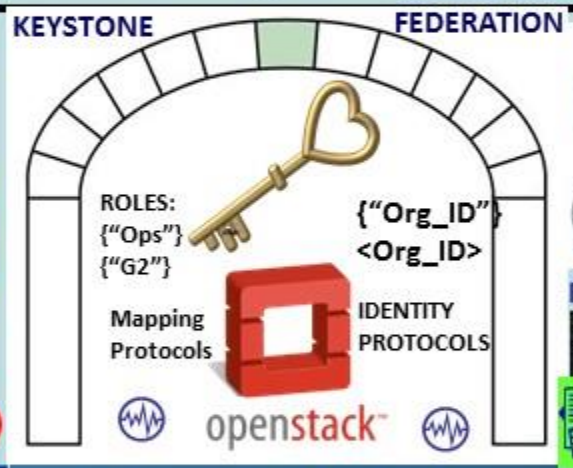
Methods and Practice

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

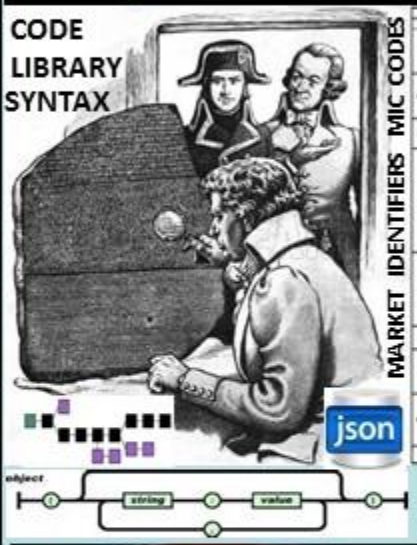
Programmable Money $$$

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.**

WIRED



Veritaseum

{"TAGGED"} BITCOINS

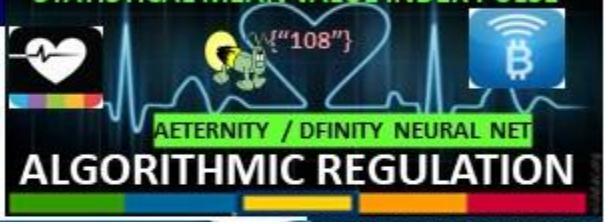
Decentralized Trading Platform DAO ORACLE access conventional, legacy financial data to price, value, trade & settle OTC, P2P financials

FINANCIAL NOSTRADAMUS REGGIE MIDDLETON

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…

ECONOMIC HEARTBEAT

STATISTICAL MEAN VALUE INDEX PULSE



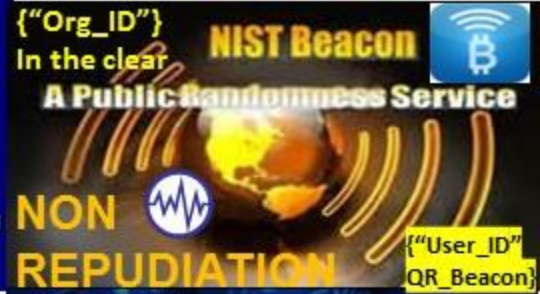
Cost will be our stated rates that will fluctuate with VeUSD exchange rate. Veritas holders get priority. The ability to redeem Ve against USD gives our clients instant value.

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

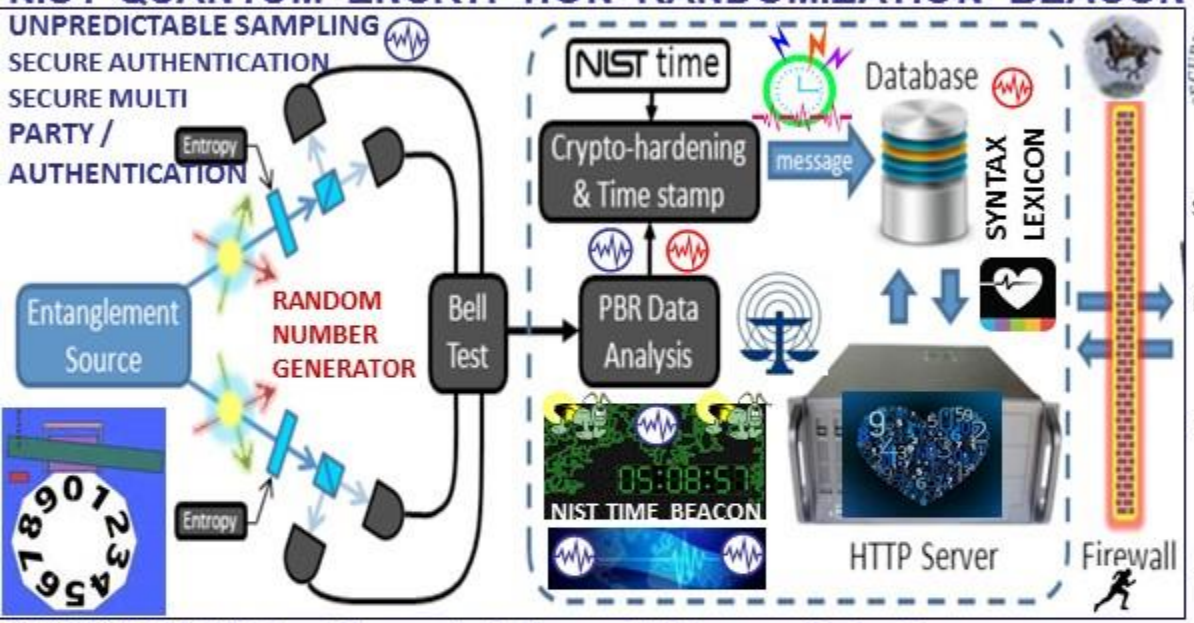
currencyindex

SHELLING POINT TRUTH

NIST RANDOMNESS BEACON: broadcast full-entropy bit-strings in blocks of 512 bits every 60 seconds. Each value is time-stamped, signed, & includes hash of previous value to chain sequence of values together. This prevents all, even the source, from retroactively changing an output packet without being detected. The beacon keeps all output packets and makes them available online. 1st, Beacon-generated numbers cannot be predicted before they are published. 2nd, public, Beacon's time-bound, authenticated nature of the Beacon proves true random numbers not known before a certain point in time. 3rd, this proof can be presented offline at any point in the future



NIST QUANTUM ENCRYPTION RANDOMIZATION BEACON



SEC REGULATION:
{"Org_ID"}
In the clear
Issuing Org tracks
User Accounts
NIST Cyber
BEACON =
Non-Repudiation

USPTO 13,573,002 Heart Beacon Cycle Geo-spatial, temporal Intensity Metrics and Time - Space Meter uses PHYSICAL Memes / Metaphors

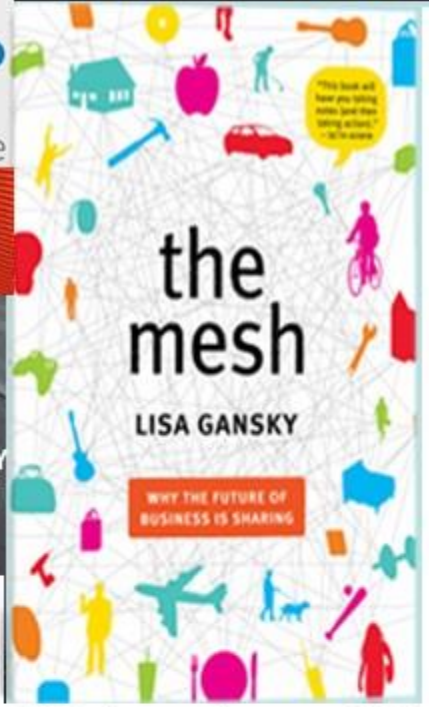
NDN
</Interest>
</Distance>

SURVEY METHODs
+ TRIANGULATION
Euclidian Geometry

Geodesic System Routing Info Base RIB
ACCOUNT BELONGS TO </Org_ID>
RESOURCE TYPE: <URN><URN><URN>
DEVICE / SENSORS <UUID><UUID>
Higher-level services collect distance data to build virtual distance map of Internet & estimates distance between any IP address pair

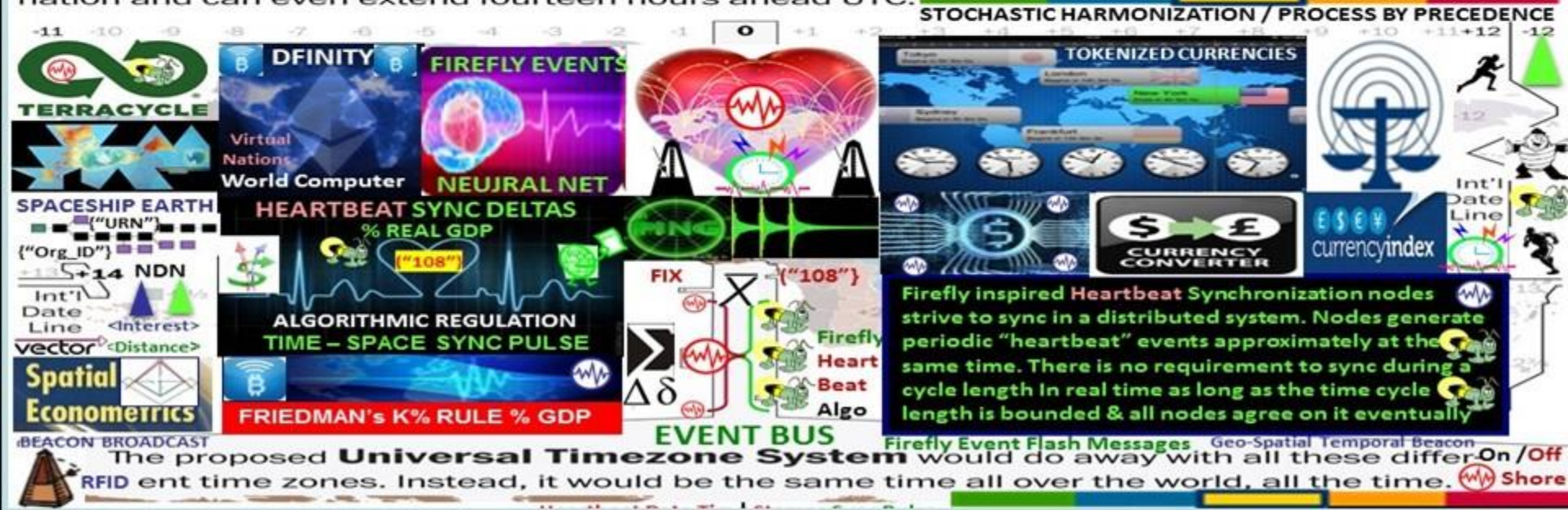
The current standard time common throughout the world is based on a 24-hour clock, with zones that are are either 12 hours ahead or behind **Coordinated Universal Time (UTC)**. However, these time zones are decided upon by individual governments, without overall coordination and can even extend fourteen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

The proposed **Universal Timezone System** would do away with all these differ-



A decentralized exchange called BitSquare has launched a campaign on the decentralized crowd fundingapp 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 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.

SOFTWARE DEFINED NETWORKING

Command Syntax

REST State Transfer

NETOPS

COMMAND SYNTAX
STATE TRANSFER
Unicast / Multicast
Flow Tables / Workflow

Dynamic Network Configuration Management

NET CENTRIC WARFARE

SYSTEM OF SYSTEMS TELEMETRY

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

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

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

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

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

SIOP

SDN FRAMEWORK

Rule | Action | Statistics

Policy Control

Broadcast

STATE

Multicast

Flow Table

VLAN ID

RESTFUL API

TIME SLOT SWITCH

CONTEXT MATCH MAPPING INSTRUCTIONS

TIME SLOT: Period of time activities governed by specific regulations.

FORWARDING INFORMATION BASE FIB

TIME OUTS TTL

PACKETS ARE TIME CYCLES USED / NOT USED TO PROCESS / NOT PROCESS INSTRUCTIONS DESCRIBED AS SYNTAX = STATE META DATA TYPED BY DATA </CLASS> / DATA </CONTEXT>

ACTIONS: DROP / GROUP

DISTRIBUTED APPS AND WORKFLOW AUTOMATION

Socket Plane = TEMPLATEs = vendors use one standard, while optimizing own technologies for differentiation.

COMPONENT factory multi-platform

docker

socketplane

NCW FRAMEWORK

Unicast
Multiple Data Streams

Multicast
Single Data Stream

STATE / CONTEXT META DATA

INTEREST BY <ORG_ID><URN> <ROLES><DATA_CLASS>

WORKFLOW
</CONTENT>
</FILTERS>
</CONTEXT>

WORKFLOW
<CONTENT>
<FILTERS>

REACHABILITY BY HOP COUNTS

</TAGS>

</StratML>
</IODEF RID>

ACTIONS
ADD / DROP
JOIN / MERGE

TIME TO LIVE TTL

STRUCTURED <CONTEXT> EXCHANGE

AGILE AD HOC GROUP / UNGROUP

STATE SNAPSHOTS

Content Library

<TIME STAMP>

<FILTERS>

<DATA>

</URN>

<CLASS_TYPES>

<ROLE>

<RULES>

<ORG_ID>

RULE: IF UNIT / SENSOR NET = / < N members / platforms, then show AS Non Mission Capable or if no reports within n cycles, UNIT = STALE, NMC. IF NMC, Take ACTION based on statistics = drop, merge, add

WHO, WHAT, WHERE
HOW OFTEN, HOW MUCH
SNAPSHOT SYNC DELTAS

IBM / SAMSUNG ADEPT Autonomous Decentralized Peer-to-Peer Telemetry

https://scribd.com/doc/252917347/IBM-ADEPT-Practictioner-Perspective-Pre-Publication-Draft-7-Jan-2015

HBC PROCEDURAL TEMPLATE FRAMEWORK

Autonomous Device Coordination Framework

NET CENTRIC WARFARE

Rules of engagement

FEDERATION AGREEMENTS

PROCEDURAL TEMPLATE

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

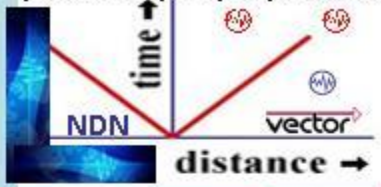
FEDERATION

<UUID> <ORG_ID> <URN>

LDAP DIRECTORY

- Physical proximity
- Social proximity
- Temporal proximity
- Agreements
- Payments
- Barter

/localhost/nfd/fib/add-nexthop



MACRO / MICRO CYCLES

PAYMENTS BASED ON GEO-SPATIAL TEMPORAL METRICS / METERS

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

ASSET SHARING WITHIN FEDERATION

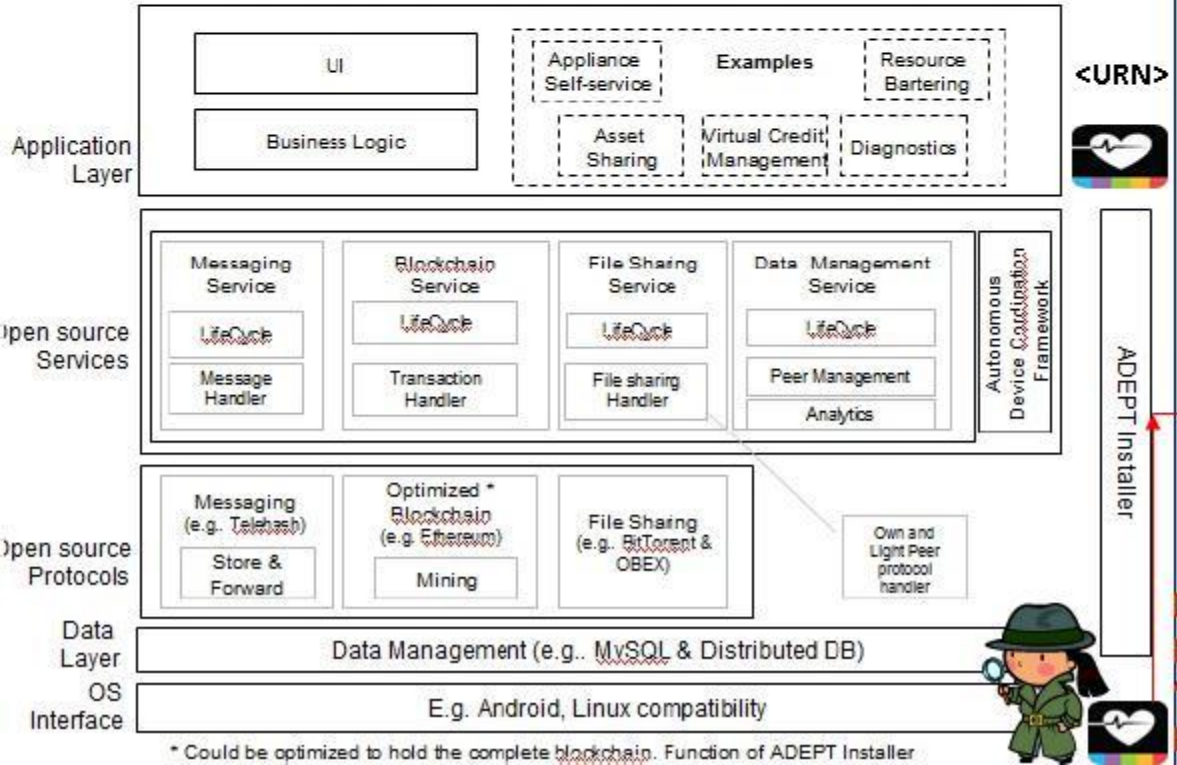
BUSINESS LOGIC = WORKFLOW <XML_Wf>

FILE SHARING = CYCLIC SYNC DELTA LEDGER / DOCUMENT REFRESH

OPEN SOURCE = HBC = PROTOCOL AGNOSTIC

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

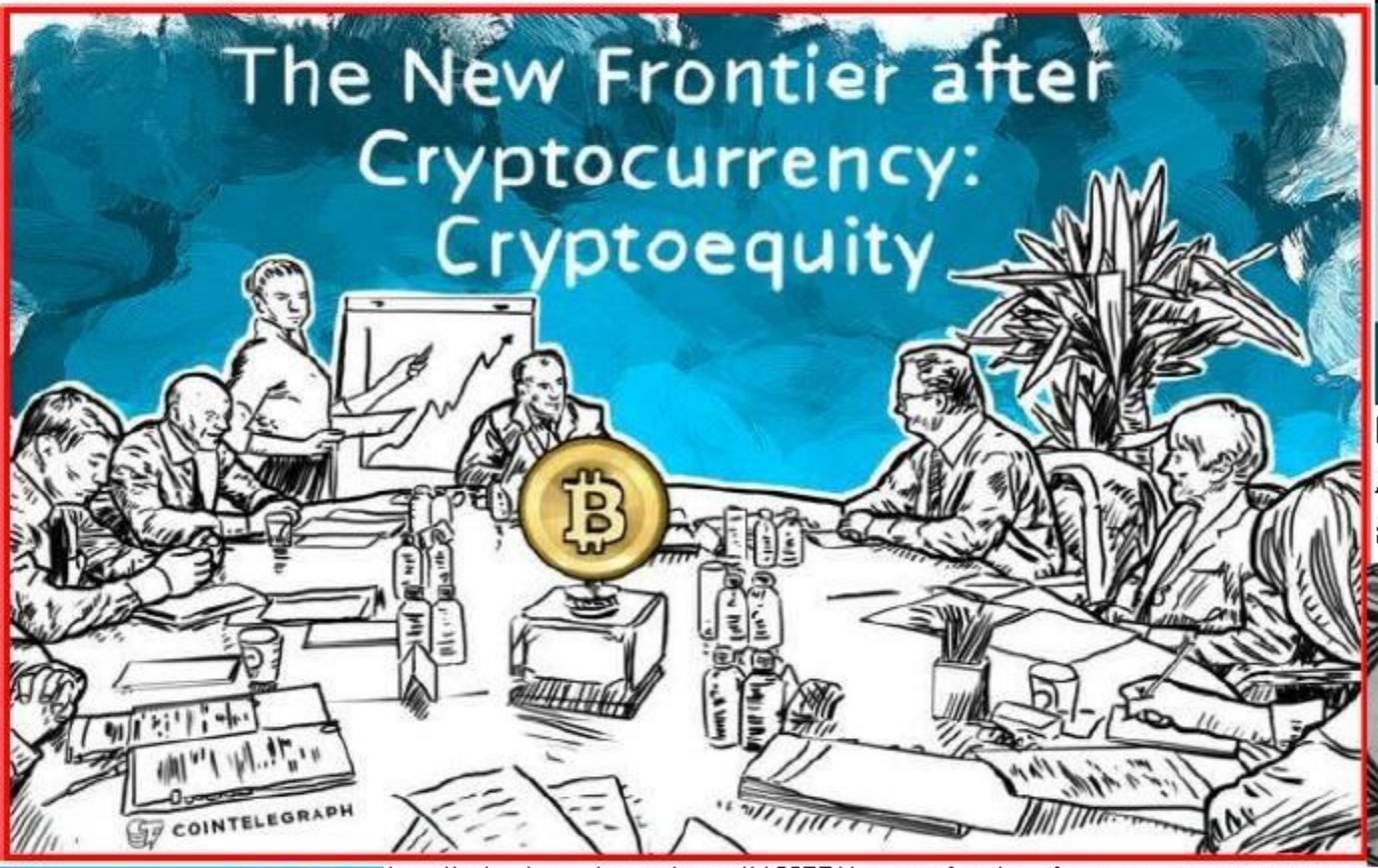
ADEPT Standard Peer Architecture – Logical View



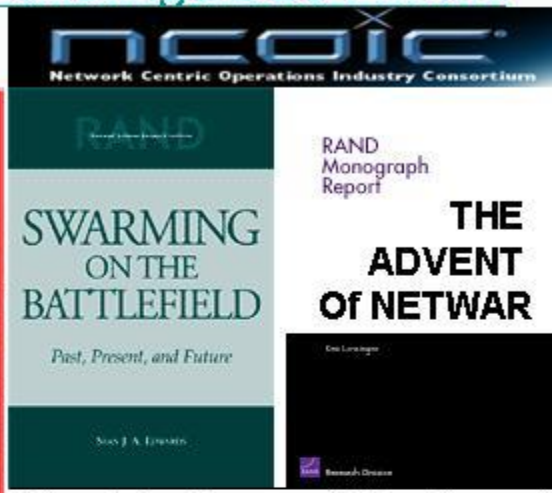
* Could be optimized to hold the complete blockchain. Function of ADEPT Installer

DAO: Distributed Autonomous Organization. RAND Corporation first used in a military context in 2000 http://rand.org/pubs/documented_briefings/DB311.html

Swarming and the Future of Conflict | RAND www.rand.org



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



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 Money x Velocity = Price x 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

MV=PQ

Internet of Everything
Every Where Value Index

Spatial Econometrics

MONEYBALL ECONOMICS

MACRO ECONOMIC CYCLES

M = MONEY BITCOINs FIXED
= FINITE # OF COINS 21 Million

X

V = VELOCITY = RATE SPENT
RATE COINs MINED % OVER TIME

=

P = PRICE of Everything Bought
TIME SERIES DATABASE Coin SUM
Coin / Currency Type Mediation Services

X

Q = QUANTITY
SUM / AGGREGATE

Land Survey
Triangulation
IDMaps / Sonar Hops

Holdings on Bitcoin Island:
Plots A, B, C represent 3 unspent transaction outputs controlling N Bitcoins.

RATE %
MINED

$\Delta\delta$

currencyindex

COMMODITIES

Statistical mean value index

NEWSCAST

URN = Uniform Resource Name

Memo #1421: Purchased Bitcoins akin to land

I.R.S.

Memo 1421

Mined Bitcoins

$\Delta\delta$

<ORG_ID>

Unmined Bitcoins

$\Delta\delta$

AGGREGATOR

Firefly Event Bus

FIREFLY

FLASH MSGS

Match Events To Closest Heartbeat Cycle

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

Asset Class
Asset Type

BlockTime Arbitrage

Δ

$\Delta\delta$

Commodities

TERRA TRC

Demurrage Parking Fees

time series

Time Series Dbase

SHARED COINS / SCHELLING MODEL

CONTRIBUTIONS TO STATISTICS

TERRA TRC COMMODITY BASKET

SCHELLING POINT AS "TRUTH"

Price Indexes in Time and Space

SchellingPoint

IDMaps

SonarHops

MICRO-CYCLES
MICRO - ECONOMICS

FIX {"108"}
Bitcoin Types

Firefly-Heartbeat Algorithm Events

05:08:57

NIST TIME BEACON

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

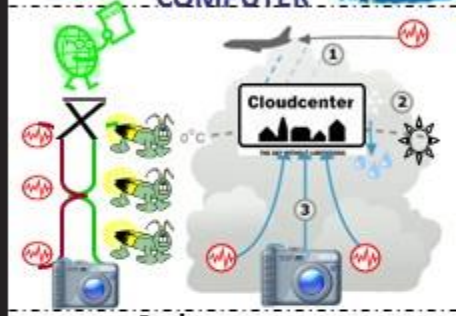
4 MAIN WAYS TO DRIVE ENGAGEMENT

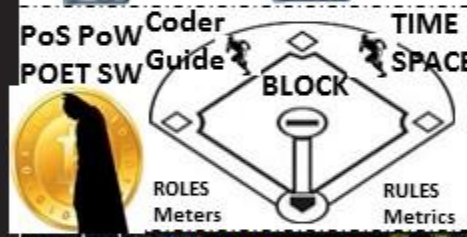
ACCELERATED FEEDBACK CYCLES

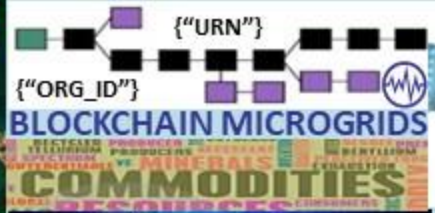
CLEAR GOALS AND RULES OF PLAY

A COMPELLING NARRATIVE

CHALLENGING BUT ACHIEVABLE TASKS





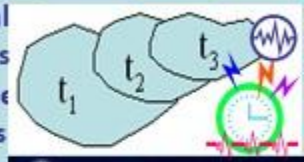


IEEE C37.118 Time Synchronization
Harmonization Heartbeat update Interval
PMU data time-stamp measure C37.118

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.

Paul Revere = Linear, Sequential meme

Geo Spatial
Temporal Series
Water Drop Meme
Geospatial Radius



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

WATER DROP
MEME= RADIUS
DISTANCE FROM
ENERGY SOURCE
Micro Payments
Demurrage Fees

TAG vector	ENERGY TOKENS ExDesc / COMMODITIES	digitalset
{"Org_ID"} ActiveID	[UFO2_ACTIVEID]	</EVENT>
IF1_Heartbeat (IF-Node1)	[UFO2_HEARTBEAT:#]	</EVENT>
IF2_Heartbeat (IF-Node2)	[UFO2_HEARTBEAT:#]	</EVENT>
{"UUID"} IF1_Device Status (IF-Node1)	[UFO2_DEVICESTAT:#]	</EVENT>
{"UUID"} IF2_Device Status (IF-Node2)	[UFO2_DEVICESTAT:#]	</EVENT>
IF1_State (IF-Node1) Δδ	[UFO2_STATE:#]	Δδ IF_State
IF2_State (IF-Node2) Δδ	[UFO2_STATE:#]	Δδ IF_State

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

SYNC
DELTA
HEART
BEAT
Match
events to
Closest HBC

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

FIREFLY EVENT BUS

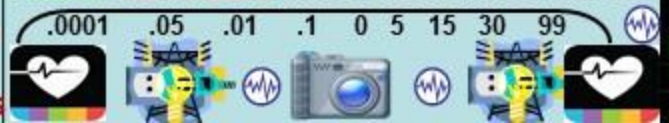
Micro
Payments

Unilnt does not examine the remaining attributes, the point source and location must match

Micro Payments
Demurrage Fees

Heartbeat
State meta
Data snapshots

FIREFLY-HEARTBEAT ALGO EVENT MESSAGE BUS



USPTO 13,573,002 THE HEART BEACON CYCLE TIME – SPACE METER / METRICS & INTERNET SURVEY METHODS

ENERGY MICROGRIDS CLOSER + CHEAPER

BLOCKCHAIN MICROGRIDS

Demurrage Charges

FRIEDMAN'S K % RULE

TERRACYCLE

ECONOMIC MACRO CYCLES

Constant % Rate Increase Per Terra Cycle

HB MSG </108>

FIX PROTOCOL

INDUSTRY-DRIVEN MESSAGING STANDARD

TESLA

Bitcoin Memes

MEDIATION CONVERSION GATEWAY

MONEYBALL ECONOMICS

COMMODITIES

TERRA TRC

currencyindex

</CLASS_TYPE>

{"Org_ID"}{"URN"}

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

POOL

LAST LOSS

AAA/ Aaa

AA/Aa

A/A

BBB/ Baa

B/B

FIRST LOSS

500 400 300 200 100

5 4 3 2 1

RISK CORRELATION

HEARTBEAT STATE META DATA SNAPSHOTS

Cloudcenter

Cloudcenter

Time Series Database

Price Indexes in Time and Space

B B B B

{"TAGGED BITCOINS"}

Veritaseum

IEEE 802.15.4 OASIS MQTT TELEMETRY TRANSPORT

IEEE C37.118 Harmonization & Sync heartbeat update Interval

IEEE 802.11 HOP BY HOP CONTROL

IEEE 802.1AG HOP BY HOP DETECTION

Paul Revere Linear, Sequential

Bitcoin = Property

PROCESS BY </PRECEDENCE>

SonarMaps ID_Hops

IRS #1421 Memo

I.R.S.

% Block Mined

% Block owned

Mined Bitcoins

Unmined Bitcoins

Land Use Meme

BLOCK

BLOCKTIME ARBITRAGE

Blockchain Timestamps

NDN

ON / OFF SHORE PROXIMITY BEACONS

BITCOIN / FIAT Convert

PofW PofS POET.. PoA, Age, Vote..

Triangulation Euclidian Geo

GPS GEO LOC DATE TIME STAMP

Multi-Meme Metrics

EVENT BUS

Match to Closest Heartbeat Cycle

FIREFLY-HEARTBEAT ALGORITHM

BLOCKCHAIN PARSING

Clock

Clock adjusted

5:45 PM

ERLANG

Firefly Events Strive to Sync To Closest Heartbeat Cycle

HOPS / RADIUS = REACHABILITY

WATER DROP IN POND MEME

SEARCH IN AREA RADIUS

</FILTERS>

BY ORG ID / URN

NDN </INTEREST>

</DISTANCE>

Spatial Econometrics

NDN </INTEREST>

NDN {"DISTANCE"}

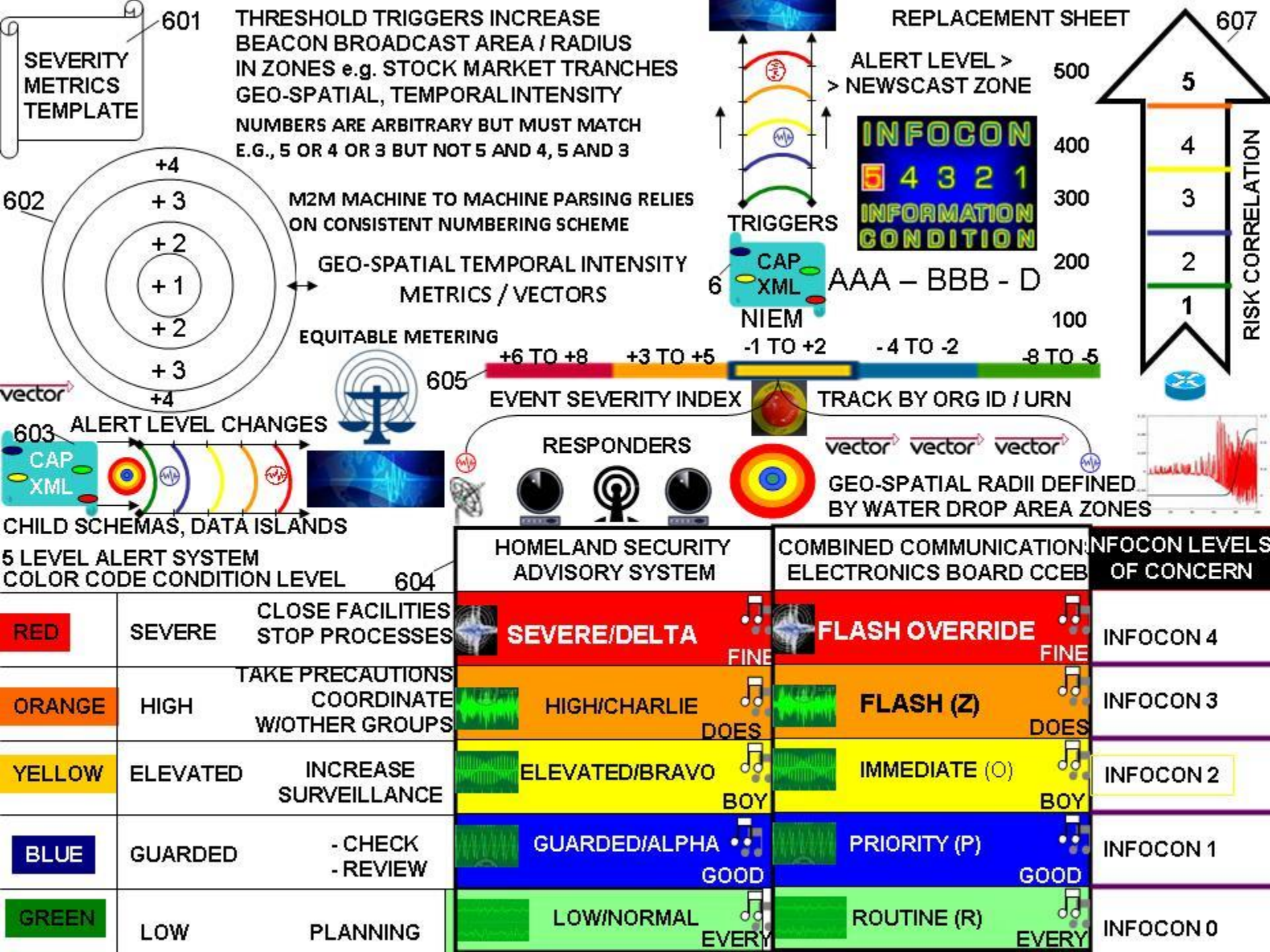
vector

Heartbeat Snapshots

MICRO CYCLES

</FILTERS>

{"FILTERS"}


601
SEVERITY METRICS TEMPLATE
THRESHOLD TRIGGERS INCREASE BEACON BROADCAST AREA / RADIUS IN ZONES e.g. STOCK MARKET TRANCHES GEO-SPATIAL, TEMPORAL INTENSITY
NUMBERS ARE ARBITRARY BUT MUST MATCH E.G., 5 OR 4 OR 3 BUT NOT 5 AND 4, 5 AND 3
REPLACEMENT SHEET
607
ALERT LEVEL > > NEWSCAST ZONE
500
400
300
200
100
INFOCON
5 4 3 2 1
INFORMATION CONDITION
TRIGGERS
602
+4
+ 3
+ 2
+ 1
+ 2
+ 3
+4
M2M MACHINE TO MACHINE PARSING RELIES ON CONSISTENT NUMBERING SCHEME
GEO-SPATIAL TEMPORAL INTENSITY METRICS / VECTORS
6
CAP XML
NIEM
AAA – BBB - D
5
4
3
2
1
RISK CORRELATION
EQUITABLE METERING
605
+6 TO +8
+3 TO +5
-1 TO +2
- 4 TO -2
-8 TO -5
vector
EVENT SEVERITY INDEX
TRACK BY ORG ID / URN
603
ALERT LEVEL CHANGES
CAP XML
RESPONDERS
vector
vector
vector
GEO-SPATIAL RADII DEFINED BY WATER DROP AREA ZONES
CHILD SCHEMAS, DATA ISLANDS
5 LEVEL ALERT SYSTEM
COLOR CODE CONDITION LEVEL
604
HOMELAND SECURITY ADVISORY SYSTEM
COMBINED COMMUNICATION ELECTRONICS BOARD CCEB
INFOCON LEVELS OF CONCERN
RED
SEVERE
CLOSE FACILITIES STOP PROCESSES
SEVERE/DELTA
FINE
FLASH OVERRIDE
FINE
INFOCON 4
ORANGE
HIGH
TAKE PRECAUTIONS COORDINATE W/OTHER GROUPS
HIGH/CHARLIE
DOES
FLASH (Z)
DOES
INFOCON 3
YELLOW
ELEVATED
INCREASE SURVEILLANCE
ELEVATED/BRAVO
BOY
IMMEDIATE (O)
BOY
INFOCON 2
BLUE
GUARDED
- CHECK
- REVIEW
GUARDED/ALPHA
GOOD
PRIORITY (P)
GOOD
INFOCON 1
GREEN
LOW
PLANNING
LOW/NORMAL
EVERY
ROUTINE (R)
EVERY
INFOCON 0

GEO-SPATIAL TEMPORAL INTENSITY METRICS, METERS, VECTORS

vector

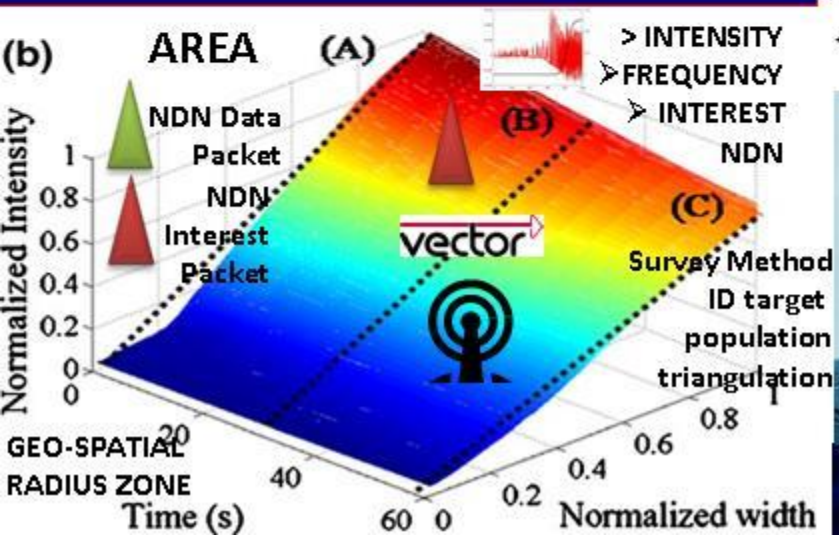
INFOCON / DEFCON ALERT EVENTS INFORM STAKEHOLDERS OF STATUS CHANGE i.e., NORMAL TO ELEVATED, HIGH OR SEVERE. ALERT LEVELS ARE ARBITRARY BUT MUST BE CONSISTENT e.g., 3 OR 5 FOR MACHINE TO MACHINE PROCESSING

Geo-Spatial Temporal Intensity NOVEL METRICS / METERS:

Paul Revere = linear, sequential

TCP/IP hop by hop counts, by hop controls

Water Drop = AREA / INTENSITY
Cyclic Frequency



NAMED DATA NETWORKING

XML
MTF
300 +
MSG

INFOCON
5 4 3 2 1
INFORMATION CONDITION

</IoT>
MQTT

<INTEREST>
time
distance

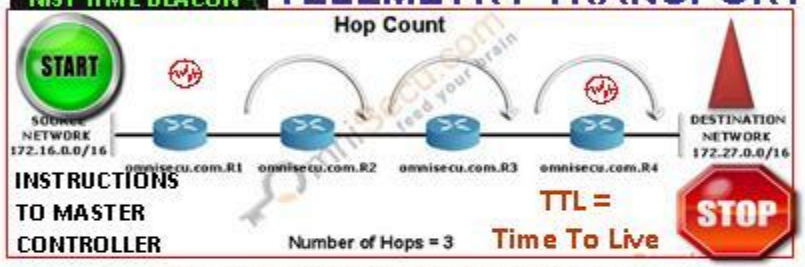
<CONTENT> TEMPLATES

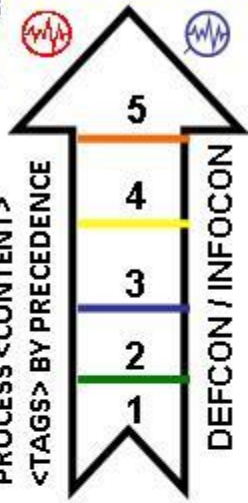
OASIS

IEEE 802.15.4
OASIS MQTT
TELEMETRY TRANSPORT

ARRESTED-D

NIST TIME BEACON





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

IDMAPS
SONARHOPS
INTERNET
TRIANGULATION

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

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

vector

WirelessHART

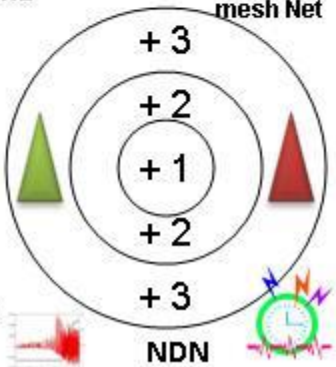
ALERT LEVEL >
> NEWSCAST ZONE

time synchronized, self-organizing, mesh Net

SINE-WAVE

TRIGGERS

CAP
XML



NDN
<INTEREST> BY INTENSITY / FREQUENCY

Interface Name	HEARTBEAT Administration Interface [SCOP]
Documentation URL	http://scop.sourceforge.net/ http://linuxvirtualserver.org/software/index.html
API Information	Functionality Areas: Cloud Interface Management, configuration, start, stop cloud services, edit configuration (heartbeat messages)
	API Operation Count: LOCATE <CONTENT> IDMAPS / SonarHOPS; 4 / 3 / 2 / 1 / NULL / 1 / 2 / 3 / 4; .0001 .05 .01 .1 0 5 15 30 99
	Web service access type: Web application, front end to [network, device, system] heartbeat]
	LANGUAGE / PLATFORM BINDINGS: PHP
Interface Characteristics	SCOP is a web application, PHP based, that is a front-end to heartbeat, IP Virtual Server ipvs and ldirectord [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.

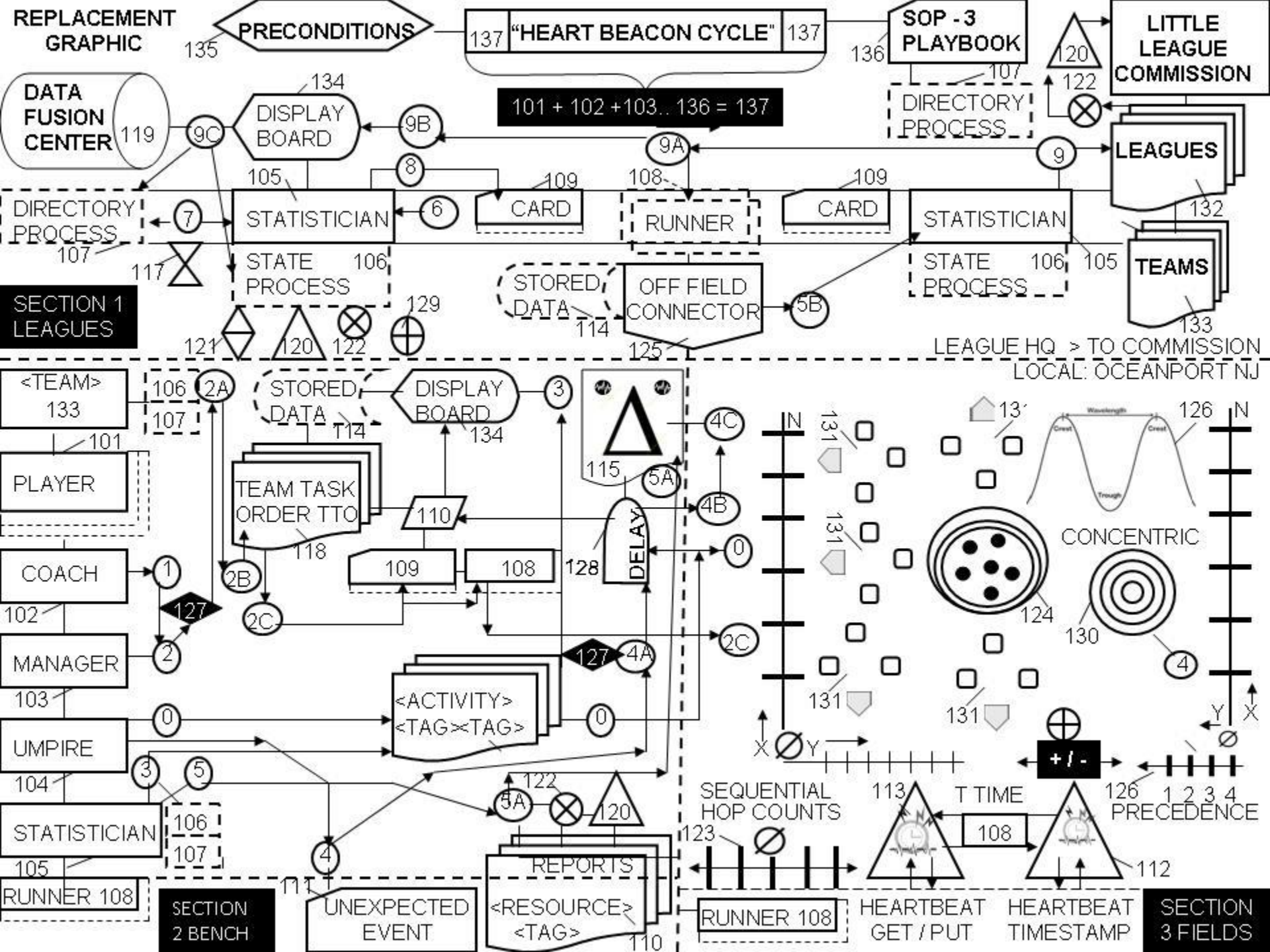
#Big_Data

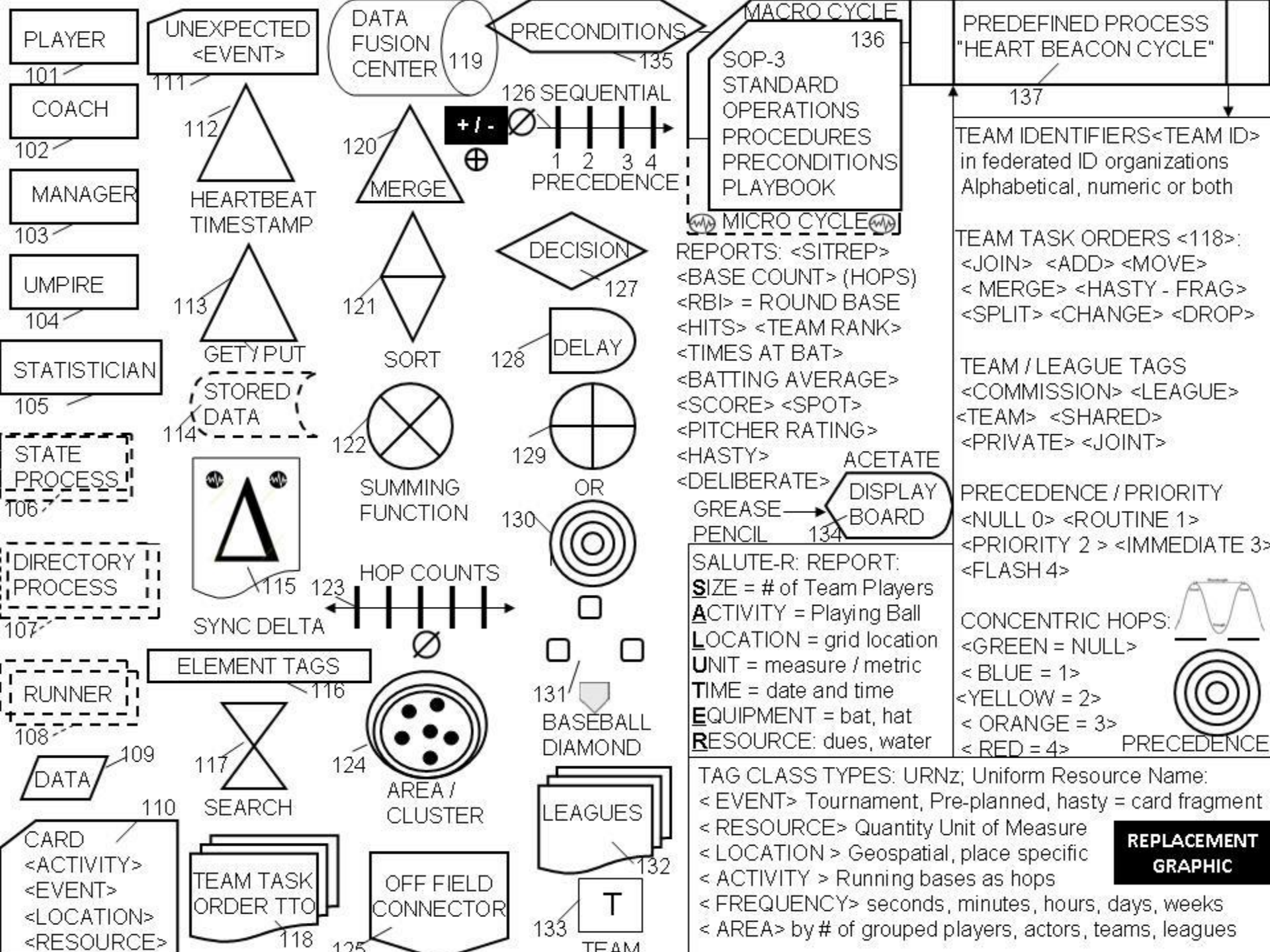
"The external environment could update resources at random...One solution is a heartbeat: defining a default lease duration and delaying updates until the next cycle"

QubitCoin

QubitCoin Interval: Every 30 Seconds

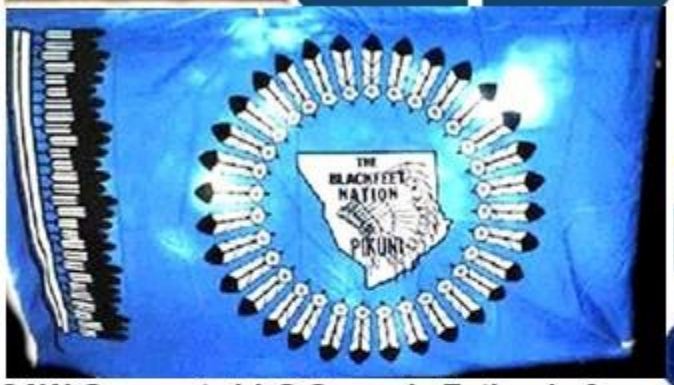
MICRO ECONOMIC CYCLES


REPLACEMENT GRAPHIC
PRECONDITIONS
135
137
"HEART BEACON CYCLE"
137
SOP - 3 PLAYBOOK
136
LITTLE LEAGUE COMMISSION
120
122
107
DIRECTORY PROCESS
101 + 102 +103.. 136 = 137
DATA FUSION CENTER
119
9C
134
DISPLAY BOARD
9B
9A
9
LEAGUES
132
105
8
109
108
109
DIRECTORY PROCESS
7
STATISTICIAN
6
CARD
RUNNER
CARD
STATISTICIAN
107
117
STATE PROCESS
106
STORED DATA
114
OFF FIELD CONNECTOR
5B
STATE PROCESS
106
105
TEAMS
133
SECTION 1 LEAGUES
121
120
122
129
125
LEAGUE HQ > TO COMMISSION
LOCAL: OCEANPORT NJ
<TEAM>
133
106
2A
STORED DATA
114
DISPLAY BOARD
134
3
4C
107
101
PLAYER
TEAM TASK ORDER TTO
118
110
115
5A
4B
COACH
1
2B
109
108
128
DELAY
0
102
127
2C
2C
MANAGER
2
127
4A
103
<ACTIVITY>
<TAG><TAG>
UMPIRE
0
0
104
3
5
122
5A
120
STATISTICIAN
106
107
105
4
REPORTS
RUNNER 108
111
UNEXPECTED EVENT
<RESOURCE>
<TAG>
110
SECTION 2 BENCH
N
131
13
126
N
CONCENTRIC
124
130
4
131
131
X
Y
Y
X
+ / -
SEQUENTIAL HOP COUNTS
123
113
T TIME
108
126
1 2 3 4
PRECEDENCE
112
RUNNER 108
HEARTBEAT GET / PUT
HEARTBEAT TIMESTAMP
SECTION 3 FIELDS


PLAYER
101
COACH
102
MANAGER
103
UMPIRE
104
STATISTICIAN
105
STATE PROCESS
106
DIRECTORY PROCESS
107
RUNNER
108
DATA
109
CARD
<ACTIVITY>
<EVENT>
<LOCATION>
<RESOURCE>
110
UNEXPECTED <EVENT>
111
112
HEARTBEAT TIMESTAMP
113
GET / PUT
STORED DATA
114
115
SYNC DELTA
ELEMENT TAGS
116
117
SEARCH
TEAM TASK ORDER TTO
118
DATA FUSION CENTER
119
120
MERGE
121
SORT
122
SUMMING FUNCTION
123
HOP COUNTS
124
AREA / CLUSTER
OFF FIELD CONNECTOR
125
126 SEQUENTIAL
+ / -
1 2 3 4
PRECEDENCE
PRECONDITIONS
135
DECISION
127
128
DELAY
129
OR
130
131
BASEBALL DIAMOND
LEAGUES
132
T
133
TEAM
MACRO CYCLE
136
SOP-3
STANDARD
OPERATIONS
PROCEDURES
PRECONDITIONS
PLAYBOOK
MICRO CYCLE
REPORTS: <SITREP>
<BASE COUNT> (HOPS)
<RBI> = ROUND BASE
<HITS> <TEAM RANK>
<TIMES AT BAT>
<BATTING AVERAGE>
<SCORE> <SPOT>
<PITCHER RATING>
<HASTY>
<DELIBERATE>
GREASE PENCIL
ACETATE DISPLAY BOARD
134
PREDEFINED PROCESS "HEART BEACON CYCLE"
137
TEAM IDENTIFIERS<TEAM ID>
in federated ID organizations
Alphabetical, numeric or both
TEAM TASK ORDERS <118>:
<JOIN> <ADD> <MOVE>
< MERGE> <HASTY - FRAG>
<SPLIT> <CHANGE> <DROP>
TEAM / LEAGUE TAGS
<COMMISSION> <LEAGUE>
<TEAM> <SHARED>
<PRIVATE> <JOINT>
PRECEDENCE / PRIORITY
<NULL 0> <ROUTINE 1>
<PRIORITY 2 > <IMMEDIATE 3>
<FLASH 4>
CONCENTRIC HOPS:
<GREEN = NULL>
< BLUE = 1>
<YELLOW = 2>
< ORANGE = 3>
< RED = 4>
PRECEDENCE
SALUTE-R: REPORT:
SIZE = # of Team Players
ACTIVITY = Playing Ball
LOCATION = grid location
UNIT = measure / metric
TIME = date and time
EQUIPMENT = bat, hat
RESOURCE: dues, water
TAG CLASS TYPES: URNz; Uniform Resource Name:
< EVENT> Tournament, Pre-planned, hasty = card fragment
< RESOURCE> Quantity Unit of Measure
< LOCATION > Geospatial, place specific
< ACTIVITY > Running bases as hops
< FREQUENCY> seconds, minutes, hours, days, weeks
< AREA> by # of grouped players, actors, teams, leagues
REPLACEMENT GRAPHIC

UNITED STATES
PATENT AND TRADEMARK OFFICE

uspto



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

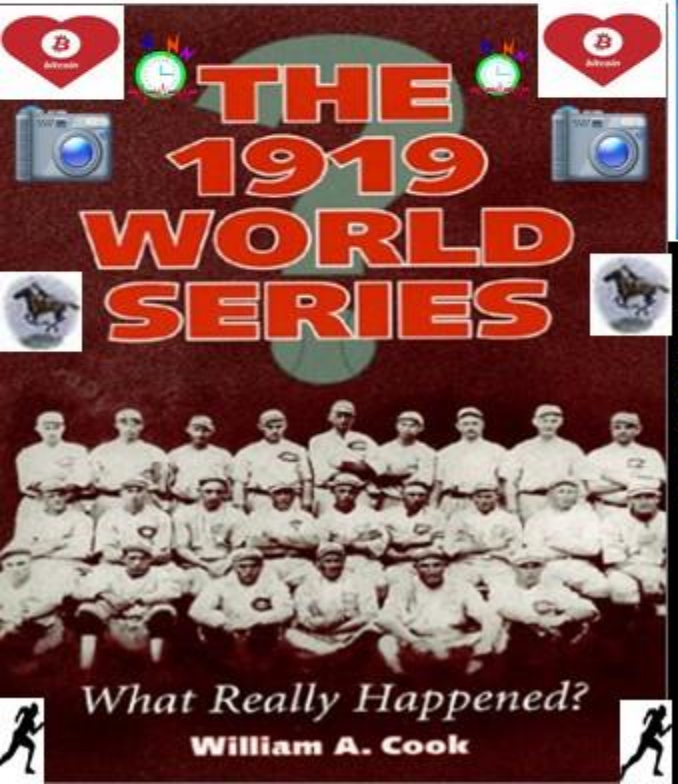
Alice Corp. v. CLS Bank International, 573 U.S. 134 S. Ct. 2347 (2014)

"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

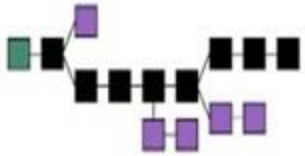


Screen Capture Software

TCP/IP
"Heartbeat"

UNITED STATES PATENT AND TRADEMARK OFFICE

uspto



Cape Hatteras Light House Completed 1870

Patent Worthy

Idea Formed CIRCA 2006

USPTO citation directs to SAW Concepts LLC's web pages suspending regular, formal process, content, format rules

LITTLE LEAGUE BASEBALL TOURNAMENT EMBODIMENT

13,573,002 October 16, 2014 Revived

LETTER USPTO Office Action Nov 6th 2015

National Association of Baseball Players Formed 1870

1. Transco V Performance citation screen capture web images not time stamped

METHOD / PROCESS / PROCEDURE TO ENABLE: THE HEART BEACON RAINBOW FORCE TRACKING

12/856,715 Aug. 16, 2010

Screen Captures with No Time Stamps mailed by USPTO

10/709,358 April 29, 2004
METHOD TO ENABLE HEARTBEAT 911

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

11/601,035 Nov. 17, 2006 METHOD TO ENABLE THE HEARTBEAT BEACON FOR HOMELAND SECURITY AND HOMELAND DEFENSE INTEROPERABILITY

13/573,002 Heart Beacon Cycle Aug. 13, 2012

10/605,144 Sep. 11 , 2003
Method to commercialize structured military messaging

USPTO screen capture circa 2006 sent to applicant without date time stamps thus suspending regular patent procedures, formatting etc. for an Indefinite period. Screen capture established that a patent worthy idea was formed. Many use cases i.e., stock, currency, commodities may be theme variants.

Stare decisis et non quieta movere

A court may Not reverse itself

300 + structured military message templates form syntax library, lexicon. Reuse of parsing, processing procedures logic establishes syntax consensus among a distributed system of systems

10/709,358 continuation further established all things related to the internet are formed using time cycles to parse, process syntax as instructions.

13/573,002 Baseball theme main embodiment addresses "221 errors" using real world, physical world concrete terms as compared to internet metaphors, memes such as packets, frames, Bitcoin, Blockchain, hops, "HEARTBEAT" pings that are abstract, abstractions. 13,573,002 is compliant with Alice Corp V CLS Bank ruling.

10/708,000 Jan. 30, 2004 continuation of 10/605,144
Method to enable a Homeland Security "Heartbeat"
Parenthesis around term "heartbeat" describes Internet TCP/IP metaphor as an abstraction. "Heartbeat" describes time cycles, intervals, periods created by a Central Processing Unit. Time intervals are used to parse, process or not process syntax as instructions thus forming the basis of all things, artifacts internet related. This patent worthy idea forms the main embodiment upon which all other embodiments and claims are based. All filings, embodiments, claims after this point in time related to 10/708,000 do not constitute new material or new claims as variations on main embodiment.

2 USA Supreme Court June 19, 2014
ALICE CORPORATION PTY. LTD. v. CLS BANK INTERNATIONAL ET AL.
claims ineligible for patent protection under 35 U. S. C. §101 "claims may not be directed to an abstract idea"

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

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

SCt 573 ALICE CORP VS CLS BANK PHYSICAL MEMES

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

TIME / DISTANCE SERVICE LEVEL AGREEMENT SLA / O Operations

IEEE 802.15.4 OASIS MQTT TELEMETRY TRANSPORT

IEEE 802.11 HOP BY HOP CONTROL

Unused Resources / Unmet Needs

IEEE 802.1AG HOP BY HOP DETECTION

vector

UNUSED RESOURCES

UNMET NEEDS

/localhost/nfd/fib/add-nexthop

Geo-Spatial Temporal Metrics, Meters

DISTANCE INFO SERVICE

Time Series

Value

Time

IDMaps

SonarHops

5

4

3

2

1

RISK

602

+3

+ 2

+ 1

Null

0

+ 1

+ 2

+3

PING

WATER DROP IN POND MEME IS SONAR NAVY METAPHOR / MEME

NDN </INTEREST>

NDN {"DISTANCE"}

NAMED DATA NETWORKING

PAUL REVERE LINEAR, SEQUENTIAL

RADIUS

INTENSITY

WATER DROP IN POND MEME

603

NULL

+1

+2

IEEE C37.118 Harmonization & Sync heartbeat update Interval

TCP/IP HOP BY HOP COUNT

Energy Attenuates over Distances

CLOSER SOURCE CHEAPER RATE

Attribute Series

INTEREST

DISTANCE

Geo Spatial Temporal Series

Micro Grids Closer - Cheaper

BLOCKCHAIN MICROGRIDS

TESLA

Spatial Econometrics

TIME-SPACE BEACON

INFOCON 5 4 3 2 1 INFORMATION CONDITION

METRICS / METERS

TRADE WITH EARTH ???

Spaceship Earth Signals & Telemetry Annex

bitcoin

r. buckminster fuller operating manual for spaceship earth

SIRIUS DISCLOSURE

ASTEROID BELTs = RARE MINERALS

MOON = HELIUM 3

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

MARS

MERCURY

MAIN ASTEROID BELT

VENUS

EARTH

Farther = More Cost

➢ Fuel, Resources

Service Level Agreements

STOCHASTIC HARMONIZATION

Alpha Numeric Brevity Codes

SYNTAX LEXICON

K00.99

FIREFLY-HEARTBEAT ALGORITHM UNIVERSAL EVENT MESSAGE BUS

TROJAN ASTEROIDS

ERLANG

TIME- SPACE METRICS

JUPITER

ANDERSON INSTITUTE

43 22 13 0 1.5 2.7 5.2

Light minutes

Astronomical units

FIREFLY – HEARTBEAT ALGORITHM MESSAGE EVENT BUS

EPOCH / TIME CYCLES / INTERVALS

cycle n → n + 1 → n + 2 →

Sustainable Stock Exchanges Initiative

SSE

Will There Be a Recession

TIME

K %

START

STOP TTL

% GDP

Economist Milton Friedman

FRIEDMAN's K% RULE

ALGORITHMIC REGULATION

ADMIRAL

"AMAZING GRACE"

HOPPER USN

MACRO

MICRO

EPOCH

CYCLES

Alpha

Numeric

Brevity Codes

ETERNITY WORLD COMPUTER

HASH NONCE

1ST COMPILER

BITCOIN IS A LANGUAGE

"BITCOIN's VALUE IS TIME ITSELF"

DIGINOMICS

("Org_ID"){("URN")}

DAO

TIME IS THE MEASURE OF CHANGE

ARISTOTLE

NEURAL NET

FEDCOIN

WORLD COIN

USD

K % ΔδX

currencyindex

COMMODITIES

UTZ TIME ZONE

Global Time Zone Sync

golem

DISTRIBUTED SUPER COMPUTER

FLASH HEARTBEAT

Messages Event BUS

RULES

ROLES

Metrics

Meters

Block

Diamond

72

ECOLOGICALLY RESPONSIBLE

TRC

ECONOMICS

TERRACYCLE

INFOCON

5 4 3 2 1

INFORMATION CONDITION

#1421 SC: 573

I.R.S.

¥EN

ERLANG

INNOVATE LIKE EDISON

THE WORLD GAME

r. buckminster fuller

SIGNALS TELEMETRY ANNEX

operating manual for spaceship earth

TIME IS THE MEASURE OF CHANGE

ARISTOTLE

INTERNET of $$$ = 1) TIME EPOCHS 2) SYNTAX

US SC 573 134 2347

USPTO 13/673,002

"BITCOIN"S VALUE IS TIME ITSELF"

Diginomics

An invasion of armies can be resisted but not an idea whose time has come.

Victor Hugo

Δδ

DAO

("URN")

("Org_ID")

BITCOIN MINER

SYNTAX LEXICON

Alpha Numeric Brevity Codes

"Bitcoin is a language" Diginomics

TABLES

HASH ROSETTA STONE

CODE GUIDE

NUMBERS = UNIVERSAL LANGUAGE

Symbols Rule the World

AI

2525C Symbol Sets

Structured Data Exchange

Artificial Intelligence

"LOGIC"

"FILTERS"

NATO

Message / Data Symbol Sets

HEART BEACON CYCLE

USPTO 13/573,002

Milton Friedman's K % RULE % GDP

Firefly-Heartbeat Algorithm

{"Heartbeat 108"}

Flash Messages

MATCH TO

CLOSEST HB CYCLE

Δδ

State Snapshots Micro-Cycles

Universal Time Zone UTZ

Stochastic Harmonization

Algorithmic Regulation

WorldCoinIndex

Economic Heartbeat

TERRA

¥EN

MONEYBALL ECONOMICS

currencyindex

COMMODITIES

ERLANG

TIME EQUATIONS

Blockchain Parsing

IDMaps

SonarHops

Spatial Econometrics

Federation Gateway

EUROPEAN UNION:

"Few Understand"

"Impossible to Regulate"

UNIVERSAL MEME

1421

I.R.S.

Purchased Bitcoins Akin to property

BITCOIN MINER

FEDERATION: Latin: foedus, foederis,

1. covenant, union of partially self-governing states under a central government

2. League or confederacy. People, groups retain autonomy

3. A federated body formed by a number of nations, states, societies, unions, retaining control of own internal affairs

Procedural Template Checklist

SC Alice Corp V CLS Bank

360 = 90, 90 90, 90

BLOCK

Clock

ROLES

Meters

RULES

Metrics

SLA / O

On / Off Shore

("URN")

("Org_ID")

CODE FOR AMERICA

NATO

FEDERATE

STRUCTURED DATA EXCHANGE

"SYMBOLS RULE THE WORLD"

HASH

("LOGIC")

("FILTERS")

2525C DATA SETS SYMBOLS

PURCHASE CODES

BREVITY CODES

SYNTAX LEXICON CODER's GUIDE

Alpha Numeric Brevity Codes Symbol Codes K00.99

ROSETTA STONE

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)"
BLOCKTIME ARBITRAGE
TERRA TRC
¥EN
SPACESHIP EARTH: a vision for comprehensive planetary planning that resulted in new strategies intended to enable all of humanity to live with freedom, comfort and dignity, without negatively impacting the earth's ecosystems
ECONOMIC
HEARTBEAT
{"108"}
The World Game
{"URN"}
{"Org_ID"}
Spaceship Earth book relates Earth to a spaceship flying through space. The spaceship has a finite amount of resources and cannot be resupplied.
Trade w Earthlings ???
{"EVENTS"}
FIREFLY SYNC PULSE IS MATCHED TO THE CLOSEST HEARTBEAT CYCLE
Algorithmic Regulation
Stat Mean Value Index
INFOCON 5 4 3 2 1
INFORMATION CONDITION
TERRACYCLE
BITCOIN / Crypto Currency Micro - Payments used to remunerate / Compensate logistic demurrage Fees = Eco Responsible Subsidies
HEART BEACON CYCLE: SIGNALING, TELEMETRY FRAMEWORK ANNEX TO BUCKMINSTER FULLER'S OPERATING MANUAL for SPACESHIP EARTH
The current standard time common throughout the world is based on a 24-hour clock, with zones that are 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 – Heartbeat Algorithm
Stochastic Harmonization
Heartbeat Flash Messages
Global Neural Network
WORLD COMPUTER
UNUSED RESOURCES
EVENT BUS
UNMET NEEDS
Match Firefly Sync Pulses to Closest Heartbeat Cycle
CLOSER = Cheaper, Faster
Closer < Fuel
{"Org_ID"}{"URN"}
Clock
Clock adjusted
5:45 PM
Int'l Date Line
Date Line
ENERGY TOKENS
COMMODITIES
TESLA
Heartbeat Flash Messages
UNIVERSAL EVENT / ALERT BUS
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.
Firefly Algo Event Bus
START
STOP
TTL
70 / 30 RULE
vector
Spatial Econometrics
Our Spaceship Earth
one island in one ocean ... from space

USPTO APPLICATION 13/573 002

The Heart Beacon Cycle Time-Space Meter

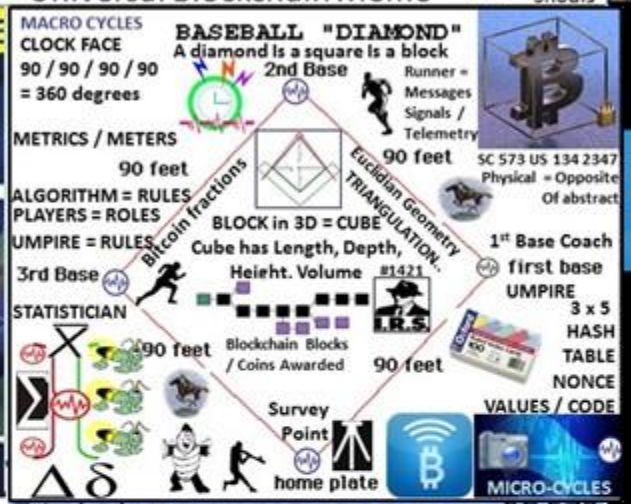
Main Embodiment: Baseball Diamond = block in 3D = cube

1 + 3 +5 + 7 + 3 + 2 = 21 21 squared = 441

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

72 Diamond Shoals

First Baseball Players Union Formed 1870

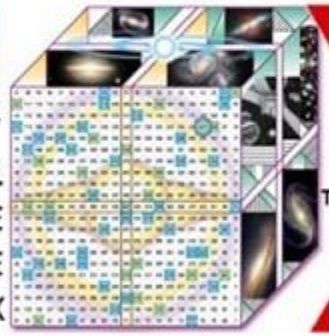


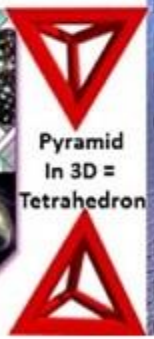
SYNCHRONOTRON

Inverted Fits into cube

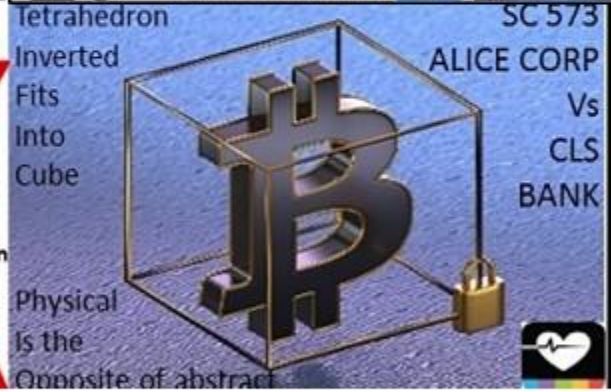
21 x 21

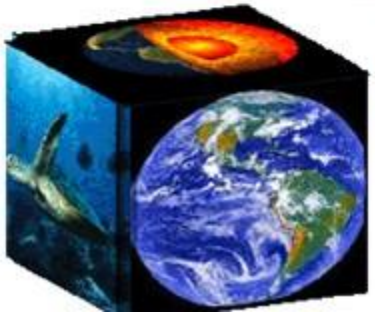
441 TIME CUBE MATRIX





Pyramid In 3D = Tetrahedron





INSTITUTE OF HEARTMATH®

Empowering Heart-Based Living

https://www.heartmath.org

START

USER {"Org_ID"} ENVIRONMENT INFORMATION ASSET

{"URN"}

✔Subject attributes {"108"} ✔Environment attributes ✔Resource and action attributes

• • • TTL • • • • • • Threshold

Time To Live Δ δ {"URN"}

State Snapshots

RULE RULES ENGINE

Permit managers to • • •
provided that • • •
if • • • or • • •
unless • • •

PERMIT

DENY

STOP

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

IDMaps

SonarHops

Distance Est

Δ δ

SLA/O

TERRACYCLE

UNIVERSAL Metrics / Meme

Closer = Cheaper < Fuel

ONE EARTH ONE PEOPLE ONE TIME

EARTHDAY EVERYDAY ON THE BITCOIN BLOCKCHAIN

TERRA TRC

Block Time Arbitrage

Spatial Econometrics

EVENT / ALERT BUS

THE WORLD GAME ANNEX

SIGNALS & TELEMETRY

r. buckminster fuller

"Build a new model operating manual for spaceship earth"

MONEYBALL ECONOMICS

HEART BEACON CYCLE

Σ Δ δ

TERRACYCLE

{"URN"}

{"Org_ID"}

Firefly-Heartbeat Algo

Universal Event Bus

STAT MEAN VALUE INDEX

TIME – SPACE METER

Federation Gateway

ECO-ECONOMETRIC HEARTBEAT

Earth Day Every Day on Bitcoin Blockchain

K % RULE

{"108"}

FEDCOIN / WORLDCOIN

STATISTICAL MEAN VALUE INDEX

70 / 30 RULE

DAO

BITCOIN MINER

1st Player Federation 1870

SIMPLE WINS CONCEPTS LLC

Everyday can be EARTH DAY

On the Bitcoin Blockchain

Web: http://sawconcepts.com/index

http://patreon.com/beacon_heart

"The Plan" on medium bit.ly/2tU01g1

732

768

5440

TIME

OUTER BANKS

OFF SHORE

KAIJU

Rosetta Stone

Code Guide

SYMBOLS RULE THE WORLD

1st Compiler