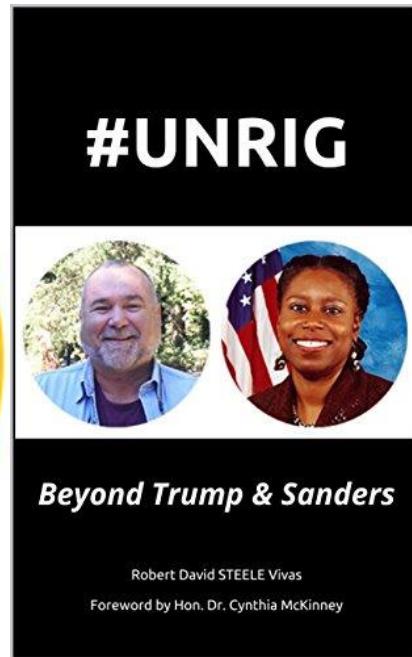


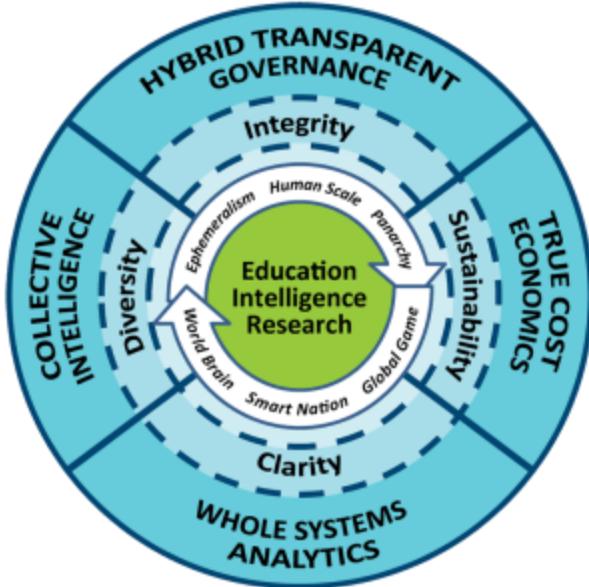
RIG #UNRIG Earth Intelligence Network with a neural network emulation algorithm



The Earth Intelligence Network is an accredited 501c3 chartered in the Commonwealth of Virginia. EIN has no employees. Its original and long-term focus is on teaching citizens the urgency of demanding holistic analytics, true cost economics, and Open Source Everything Engineering (OSEE) as the foundation for enlightened self-governance. **#UNRIG** seeks to communicate to all citizens the possibility of an ethical, legal, non-violent restoration of integrity to the US Government. Phi Beta Iota [LINK https://phibetaiota.net/unrig/](https://phibetaiota.net/unrig/)

The logo consists of the Whole Earth within a Rescue Cross, with four symbols: the bowl for food and water; the quill pen for education and communication; the shovel for construction and development; and the stilleto for the inevitable rogues that need to be killed one at a time. On a white field are found the legal name of the non-profit, and our public purpose: creating a prosperous world at peace. We do this, in an expansion of Buckminster Fuller's practice, by enabling hybrid governance through ethical evidence-based decision-support in the context of transparent, truthful networks of trust.

The outermost border summarizes our two innovative methods for which we are the foremost proponents in the world: Open Source Everything (the only technical solution that is affordable, inter-operable, and scalable) and Multinational, Multiagency, Multidisciplinary, Multidomain Information-Sharing and Sense-Making (M4IS2, the only human solution that assures holistic analytics and a grasp of true cost economics).



Our mind-set is deeply rooted in Ecological Economics as pioneered by Dr. Herman Daly and subsequently described in books by the titles of Ecology of Commerce and Natural Capitalism. We believe that the Earth is amply sufficient to provide every human now living with a life that is both prosperous and secure — where we have gone wrong is in allowing a select few to internalize profit and externalize cost.

Here is our “method” graphic. We consider education, intelligence (decision-support), and research to be part of a whole system that cannot be fragmented without devolving into idiocy across all major domains (political-military, socio-economic, ideo-cultural, techno-demographic, and natural-geographic).

Government — in isolation from the other seven tribes shown in the EIN logo — has failed. We must move to hybrid transparent governance, leveraging a combination of collective intelligence and true cost economics, to achieve whole systems understanding through holistic analytics.





FIGURE 1: OPERATION RIG #UNRIG Earth Intelligence Network with a Heart Beacon Signals, Telemetry Sync, Syntax Lexicon Library neural network emulation [LINK](#)

PROJECT: RIG #UNRIG's Earth Intelligence Network by supporting it with improved DARPA / NATO derived system of systems signaling, telemetry engineering research and NATO best practice a.k.a. The Heart Beacon Cycle Time – Space Meter and Applique Overlay (dashboard). Global dashboards are updated using an algorithm that emulates a brain neural network activity.

The Earth Intelligence Network will be a composite, system of systems comprised of many nations Telco mesh fabrics. Eventually, it will be formed from all nation states as a system of systems situational understanding type project that will arguably need a universal method and means to receive event and alert messages independent of protocol or programming language within the matrix if you will. Therefore, we propose a neural network emulation based on nature - fireflies - using an algorithm conceived by University of Hungary / Bologna Italy. [LINK](#)

Let's Rig #UNRIG with an algorithm inspired by fireflies that emulates neural network activity for #UNRIG's Earth Intelligence Network reusing tax payer paid for research and best practice into system of systems engineering Battlefield Digitization / Network Enabled Operations NEO swords to plowshares. The Earth Intelligence Network will benefit from a universal algorithm

that includes flash heartbeat messages reporting changes to the system of systems such as events / alerts. We propose an algorithm based on nature to form a neural network emulation conceived by the University of Hungary and Bologna Italy whose alumni includes the Borgia Pope so what's not to like? see LINK <http://sawconcepts.com/index/id22.html>

Ecologically responsible economics—either we demonstrate responsibility towards the planet we live on or we don't—it's that simple. The Heart Beacon Cycle is a swords to plowshare reuse of tax subsidized research into optimal use of individuals joining groups synchronized in time-space to accomplish common goals e.g., optimal geo-spatial, temporal econometrics, vectors to reduce for example, CO2 carbon footprint due to inefficient transport, resource vectors through a novel, improved use of an algorithm based on nature and NATO best operational practice, and Incentives for ecologically sound economics. The German Military cited Battlefield Digitization / NEO Net Enabled Operations OOTW in 2003, why postpone the inevitable?

<http://sawconcepts.com/index/id20.html>



Earth Day every day on the Bitcoin Blockchain leveraging Bitcoin / Ethereum's micro-payments to subsidize TERRA TRC Trade Reference Currency demurrage fees. If a one world anything is going to happen any time soon, NATO will provide the template system of systems in my opinion: [LINK http://sawconcepts.com/index/id42.html](http://sawconcepts.com/index/id42.html)

Earth Day Every Day on the Bitcoin Blockchain. Use Bitcoin, Ethereum etc. based apps micro-payments in concert with TERRA TRC Trade Reference Currency & add Pentagon system of systems best practice then shake, system integrate well... [LINK http://sawconcepts.com/index](http://sawconcepts.com/index)



FIGURE 2: The Heart Beacon Cycle HBC is an adaptive procedural template checklist of things, processes, tools, building blocks useful to form, maintain Eco-responsible trade federations.

The Heart Beacon Cycle is simply a checklist., an adaptive, procedural template checklist for forming trade federations supporting ecologically friendly business transactions and Eco-friendly geo-spatial econometrics where closer is cheaper, closer is faster and most importantly, uses less environmentally polluting fuel. This strategy will significantly reduce the CO2 carbon footprint,

Each item in the procedural template checklist links to a detailed treatise. We can synchronize ourselves and our cities in time - space for a common purpose: ecologically sound econometrics.

A process defines “what” needs to be done and which roles are involved.

A procedure defines “how” to do the task. Example: roles and responsibilities of the people (roles) assigned to do the work, tools and equipment to support individuals do their jobs, and procedures and methods defining how to do the tasks and relationships, work flows connecting steps between the tasks.

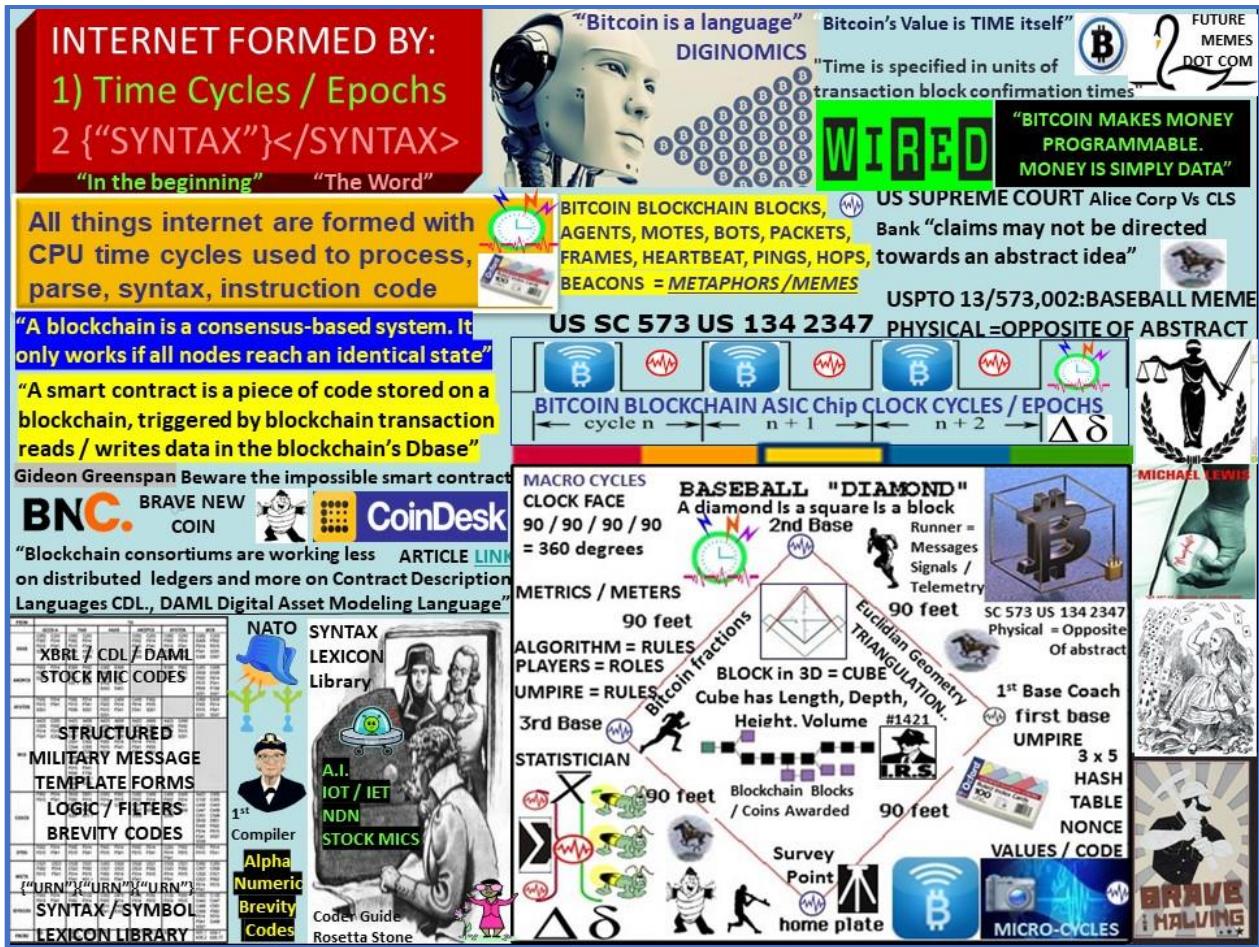


FIGURE 3: UNIVERSAL MEME, METRICS METERS I.A.W. US Sct 573 134 2347

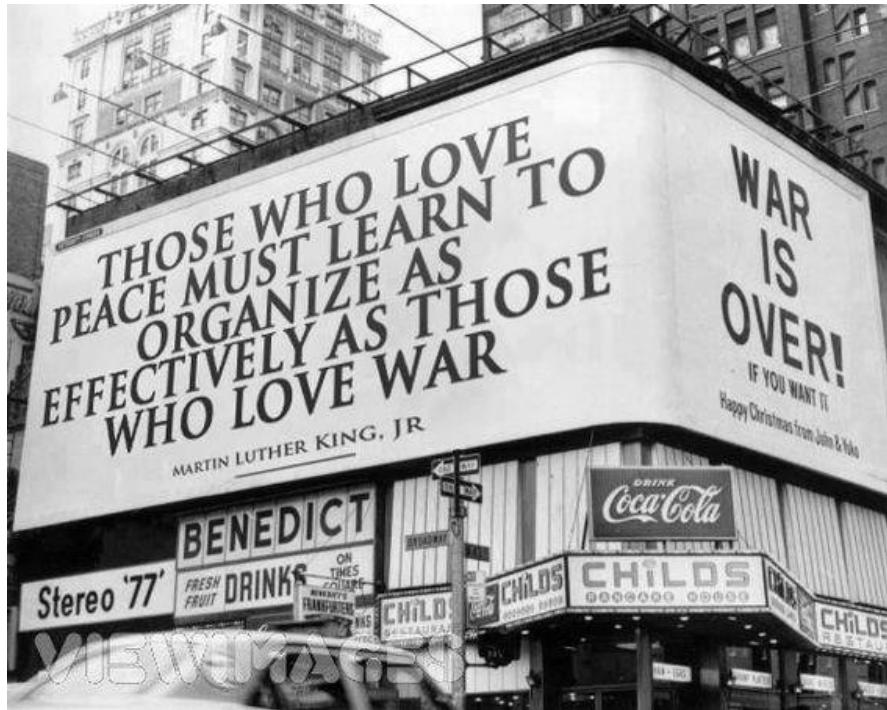
The Heart Beacon cycle includes a universal metrics measurements physical meme for use among myriad Bitcoin Blockchain internet of money Block-Time arbitrage memes to support standardization of a one world economic system of systems Bitcoin blockchain blocks, agents, motes, bots, heartbeat, beacon are metaphors for intervals, time cycles available to process / not process SYNTAX. The internet is coded, programmed using time cycles to process instructions, commands etc. It follows that the key to achieving consistency, interoperability among the myriad Bitcoin Blockchain memes and establishing a consistent, systemic one world economic system of systems is to focus on two main common building blocks - time cycles and syntax. Computer ASIC chips create time cycles to process syntax as instructions - period. See Supreme Court Alice Corp Vs CLS Bank "a claim may not be directed towards an abstract idea". The global universal meme should have a clock convention as well as amethod and means to measure and meter the Bitcoin Blockchain and therefore, survey points are necessary since the IRS has stated that Bitcoin is "akin to property" see IRS memo #1421. Syntax may be represented by <XML> { "JSON"or form fields "FFIRN's", "FFUDNS" in structured military messaging where the form number and field position has significance in parsing, processing. The idea is to reuse the logic behind structured military messaging form field unit identifiers in commercial use cases. A method to convert syntax conventions among the myriad metaphors and memes -- a Rosetta Stone syntax lexicon library is needed. [LINK](http://sawconcepts.com/index/id4.html) http://sawconcepts.com/index/id4.html



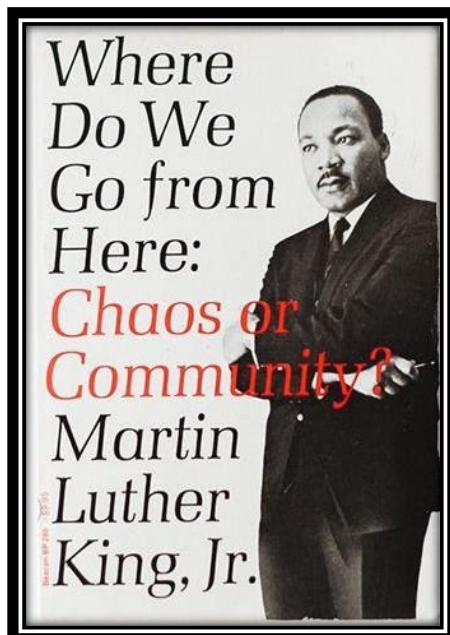
FIGURE 4: Firefly Inspired Heart Beacon Algorithm conceived for Telco mesh fabrics

"The shortest path to the knowledge of truth is through nature" Luxor Temple
Inscription: LINK <http://sawconcepts.com/index/id22.html>

Ecologically sound econometrics - The Heart Beacon Cycle Time — Space Meter USPTO 13/573,002 is a Signals, Telemetry annex for Buckminster Fuller's Operations Manual for Spaceship Earth. Our proposal is based on a proven system of systems building blocks and best practice framework leveraging a signaling, telemetry heartbeat flash message universal event, alert message bus. Our proposal standardizes metrics, measurements within the Bitcoin Blockchain internet of value / money forming intra-city blockchain arbitrage. it is a system of systems standardization project based on NATO's proven best practice.



The Heart Beacon Cycle (HBC): Swords to plowshare re-use of tax subsidized best practice. Military's do one thing very well: individuals join groups (units) synchronized in time-space to accomplish common goals. Adaptive use case: geo-spatial, temporal econometrics, vectors to reduce CO₂ carbon footprint due to inefficient transport, resource, logistic vectors.



Scientists marching is awesome. So is sustained, systemic action instead of protesting whoever is selected to read teleprompters. In addition to protesting the lack of ecological protective actions, we can focus on forming local and regional equitable, sustainable trade federations

where closer is cheaper (geo-spatial econometrics) re-using NATO procedures that maintain host nation agreements for food, water, energy.. swords to plowshare style.

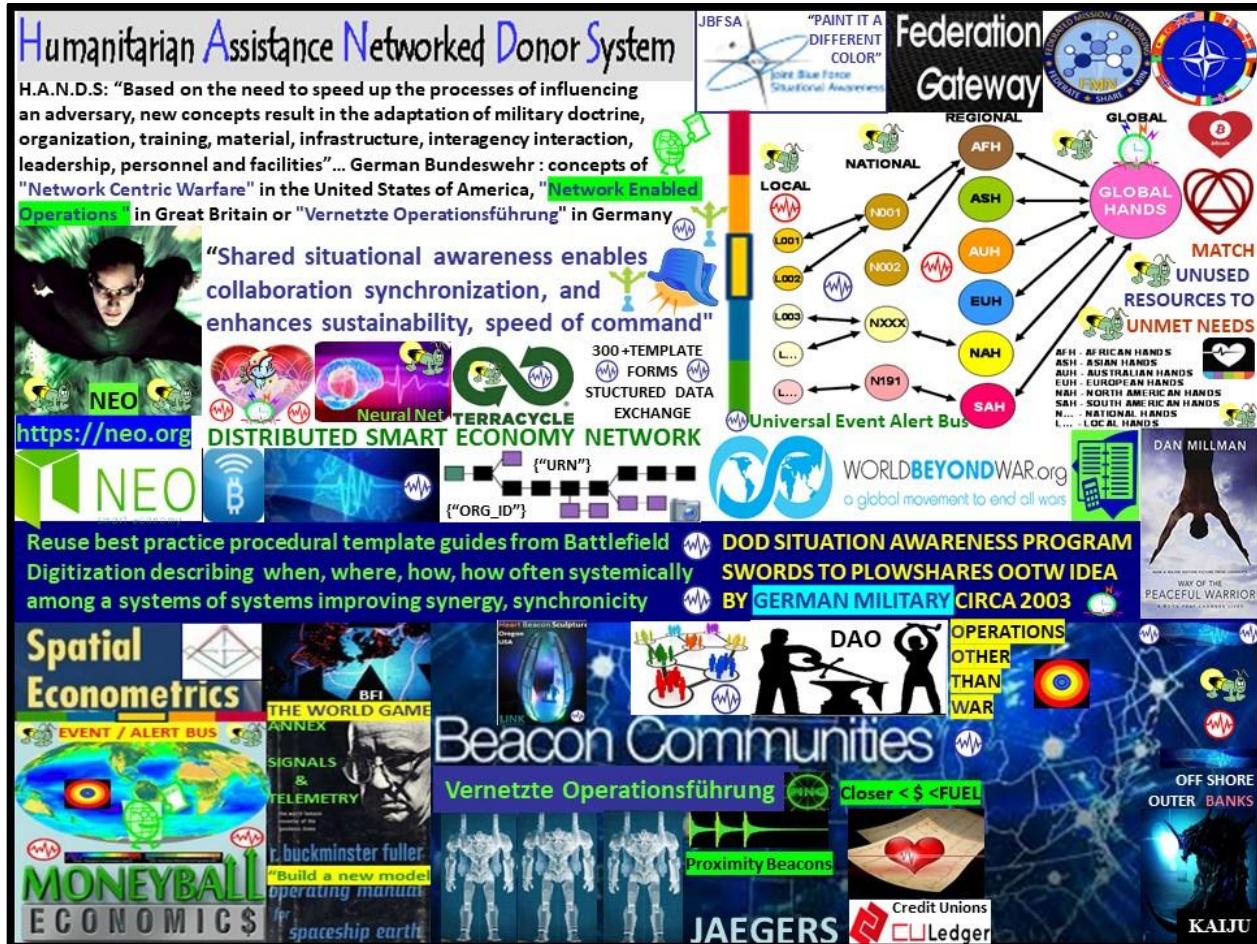


FIGURE 5: German Military H.A.N.D.S. O.O.T.W PROPOSAL

The military has always done one thing very well—form individuals into groups working synchronized in time towards accomplishing a myriad of missions such as transacting in food, water, fuel services in host nation agreements already established in most countries. This is what is of value, what should be referenced and reused in OOTW Operations Other than War proposed by the German military circa 2004.

The Heart Beacon Cycle—by whatever description or naming meme is not a new idea. Re-use of Battlefield Digitization / Network Centric Operations research for First Response was conceived by the German Military early last decade. The main theme is re-use of the military's skill at taking individuals and forming them into groups working towards common goals, projects, purposes e.g., participating in a Ecologically responsible Trade Federation supported by system of systems signaling, telemetry—an Annex K Signals and Telemetry Annex for Bucky Fuller's Operating Manual for Spaceship Earth. H.A.N.D.S [LINK](http://sawconcepts.com/index/id20.html) http://sawconcepts.com/index/id20.html

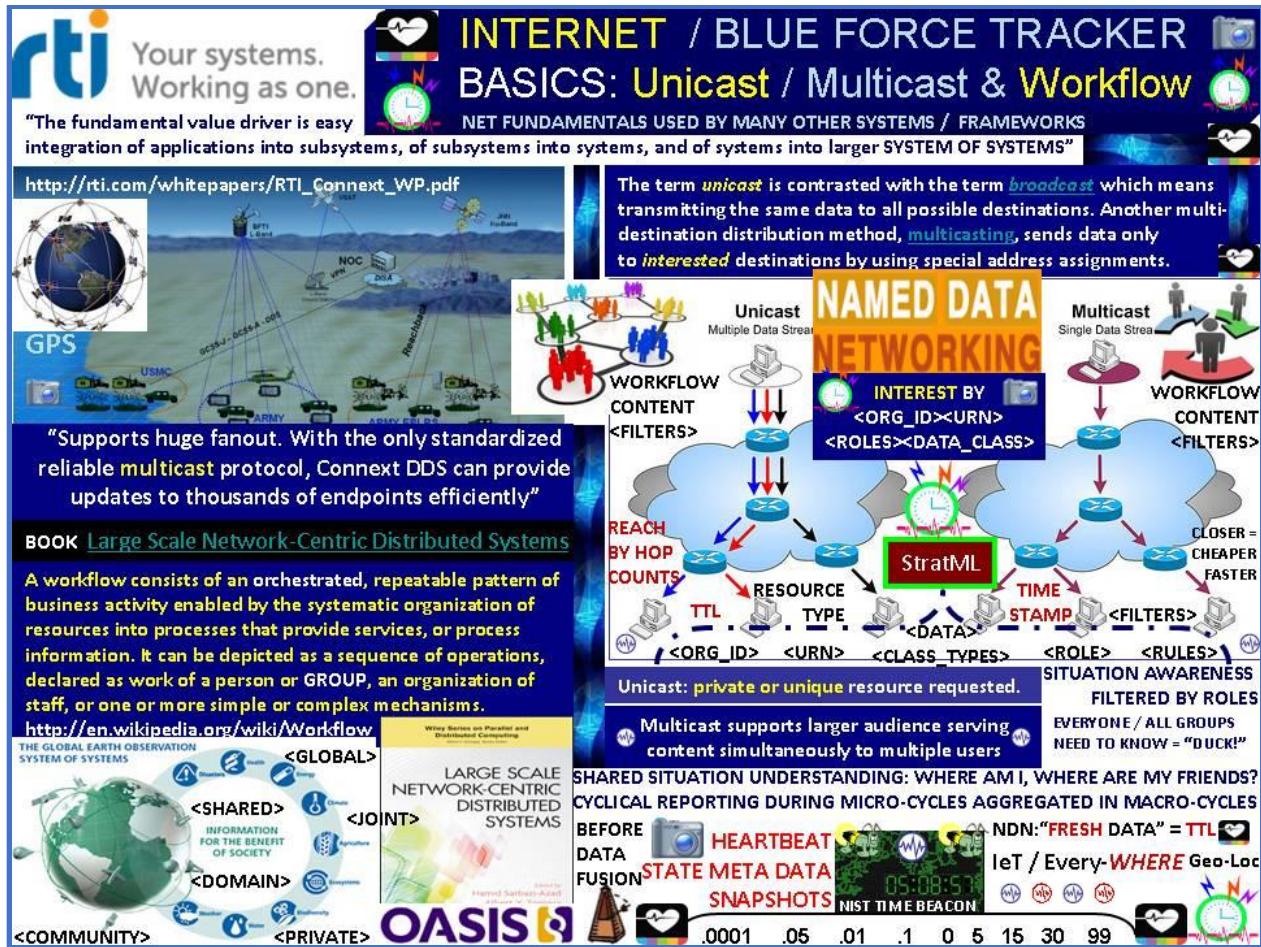


FIGURE 6: TEMPLATE SYSTEM OF SYSTEMS BLUE FORCE TRACKING / ABCS

The model template framework is the United States Army / Marine Corps Joint Battle Command JBC also known as Joint Blue Force Situation Awareness. The template system is part of a system of systems. It's interaction with many other intelligence, logistics, maneuver etc. systems participating in a system of systems. To achieve consensus, selecting the most widely implemented Situation Awareness System -- Joint Blue Force Situation Awareness or JBFSA US Army Communication Electronic Command CECOM's greatest invention – Blue Force Tracker. co-developed Marine Corps is the path of least resistance. Deriving common building blocks from JBFSA which are the common building blocks of Wall Street and First Response Systems (heartbeat / heartbeat messages) is the premise behind this plan.

The US Army was experimenting with using networks and router / router subnets to emulate orders and schemes of maneuver. To determine if a squad or platoon was mission capable or where it was supposed to be and equipped with the requisite resources: food, water, fuel, ammo etc., data had to be sampled and forwarded using a minimum of network resources -- in other words TIME. The Internet Protocol was examined closely and it was re-discovered that time interval frame assignments were unassigned / available to transport additional state meta data. These heretofore unassigned time intervals set aside for future use would be used to carry data about the organization -- it's unit designation or Organizational Identifier **<Org_ID>**, it's geo-location and it's resources **<URN>** Uniform Resource Name. TCP/IP heartbeat's simplicity, lowest possible network overhead, local data heartbeat get - puts was the solution that the Army was seeking -- retrieving data from data fusion center's after the fact is problematic.



FIGURE 7: Swords to plowshares: Battlefield digitization Distributed Autonomous Organization process to form Trade Federations. [LINK](http://sawconcepts.com/index/id22.html) <http://sawconcepts.com/index/id22.html>

The Heart Beacon Cycle is a procedural template framework that includes citations of required standards, processes, shared components / building blocks and conventions that are agreed upon as criteria required as a minimum to join trade **FEDERATIONS** (cloud computing term).

Project: form trade federations of autonomous communities, states / sovereign nations following a procedural template checklist promoting synchronization among geo-spatially dispersed groups. Federated groups follow a procedural template guiding group activities across time - space to achieve synergy, synchronicity and inter community cooperation where activities are orchestrated from grassroots to capitals, from micro to macro-economic cycles.

Satoshi Nakamoto: "#Bitcoin is intended to be paired with a market place" "the blockchain stores references to market indexes" For example, the Blockchain Particl system combines a Bitmessage style network with anonymous payment scheme to create a private marketplace



FIGURE 8: BEACON COMMUNITY SYNCHRONIZATION: We can synchronize ourselves and our cities in time—space for a common purpose: ecologically sound econometrics i.e., through use of a Signals and Telemetry annex for Buckminster Fuller's Operations Manual for Spaceship Earth. [LINK](#)

Globalization involves multi-national corporate entities vying for control of regional resources. A proven strategy to identify, track, and monitor resources regionally within the global economic matrix is needed. The Heart Beacon Cycle: a procedural template listing tools, syntax, processes useful in forming, maintaining a system of services providing consistent scheduling of micro-services reporting to macro-cycle updates to decision support overlays and scheduling signaling, telemetry exchanges among a collective, distributed system of (economic) systems.

The Heart Beacon Cycle Time - Space Meter, Applique' Overlay.. a procedural template checklist supporting ecologic, economic sustainable best practice among trade federations / DAO's Distributed Autonomous Organizations by establishing a universal event, alert flash heartbeat message bus enabling time - space stochastic harmonization for example, among Telco mesh fabrics. The Heart Beacon Cycle Time - Space Meter main use case: synchronizing geo-spatial temporal Eco - Econometrics among Trade Federations / DAO Distributed Autonomous Organizations. Members of (trade federations agree to use standards, processes, shared components / building blocks and conventions. The checklist is agreed upon as items as minimum requirements to join a (trade) federation (cloud computing term). Entries to the

procedural template checklist -- a clipboard of things needed to accomplish a goal (establish a trade federation) refer to detailed treatises.

The HBC provides a firefly inspired heartbeat flash message universal event, alert message bus. Pentagon ACAT 1A C3 ISR systems have 300+ structured data exchange templates that are operationally, iteratively scheduled, synchronized from micro to macro cycle

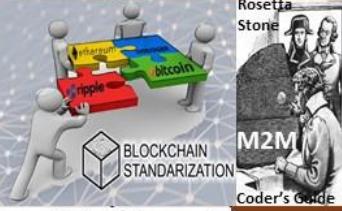
FROM	GCCS-A	ALPHA-NUMERIC BREVITY CODES			CODE GUIDE		
ASAS	C002 C203 F002 F014 F015 F541 S201 S309	C002 C203 F014 F541 S201 S309	C002 C203 F002 F014 F541 S201 S309 S507	ATDS	MCS		
	USMTF / XML MTF FORMATTED MESSAGE CATALOG = 300 + messages info exchange sets using common, CONSENSUS Message Text Formats MTFs. MTFs specify </CONTENT> / info agreed by group consensus presenting information in a logical, well specified unambiguous layout resulting in a highly efficient info payload to overhead ratio					Information Elements Roles	
	A423 C203 C505 F002 F014 F015 F541 S201		A423 C400 C505 F002 F014 F015 F541 S201	INFOCON		• COI Determination Org Interaction • Search and Discovery • Ontologies STANDARDS • Taxonomies REFERENCE • Metadata Attributes / Filters (‘Org_ID’) {“URN”}	
				“SYMBOLS RULE THE WORLD”			
				HEARTBEAT MESSAGE = K00.99		FFUDN: Field Format Unit Designator #	
	MESSAGE CATALOG 300 + Use Cases	Data Elements: entity, attribute, relationship equivalents				FFIRN Field Format Index Reference #	
		Information Categories and Examples					
Object Categories	Examples	Location	Movement	Identify	Status	Activity	Intent
OOB	SYNTAX LEXICON	STRUCTURED DATA lat/long	EXCHANGE spd/hdg	Message country / alliance, type/class	Sets readiness	COA	{"Java JS"}
Infrastructure	Comm, power, transportation, water/sewer	Machine Trust Language network, grid	Machine Trust Language throughput, flow rates,	ML name, part-of relation/thing	BDA, op levels	YAML	
Sociological	Culture, religion, economic, ethnic, government, history, languages	temples, historic structures	ER Model Class Diagram	Relational Database Table	Object DBMS Class	XML DTD / Schema Element	TADLs MTF Message
Geophysical	Terrain, weather, climatology, oceanography, astrometry	feature lat/long, alt/dpth	Attribute Domain Value	Field / Column PURCHASE CODES	Attribute Instance, Value	DPI FUDN	FEDERATE DUI FUD
							NDN
							Firefly-Heartbeat Flash Messages
							PROCESS MESSAGE BY PRECEDENCE UNIVERSAL EVENT / ALERT MESSAGE BUS
							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 11.4.1.3 - Value
							11.8 - Kinematics 11.8.1 - Pos / Vel / Acc (PVA) 11.8.1.1 - Acceleration 11.8.1.1.1 - Angular 11.8.1.2 - Linear 11.8.1.2.1 - Alternative 11.8.1.2.2 - Evaluated 11.8.1.3 - Value
							11.4.1.3.5 - Surface 11.4.2 - Platform / Point / Feature Type 11.4.3 - Specific Type 11.4.4 - Type Modifier 11.4.5 - Unit
							1. Velocity 1.4.1 - Horizontal 1.4.2 - Vertical 1/A Confidence 1 - Bearing Angle 2 - Bearing Angle Rate 3 - Covariance Matrix
							SYMBOL Friend Neutral Hostile
							
							2525C Partner Competitor

FIGURE 9 Semantic Syntax Lexicon Library 300 + Message Template Use Cases in use by NATO

The HBC involves a heartbeat flash message universal event, alert message bus. It is based on NATO's best practice, 300 + structured data exchange templates, micro-macro (economic) situational awareness sync delta data exchange schedule. The Heart Beacon cycle includes a universal metrics measurements physical meme (see Supreme Court Alice Corp Vs CLS Bank) for use among myriad Bitcoin Blockchain internet of money Blocktime arbitrage memes to support standardization of a one world economic system of systems <http://sawconcepts.com/index/id56.html>

Cyclic updates of state meta data snapshots / heartbeat messages from micro-to macro (economic) cycles distributed among a system of systems is simply powerful and is key to forming the net Grail. The military adopted the policy of only sending changes or "heartbeat sync deltas" for the same reason the Bitcoin community must adopt the same paradigm.



FIGURE 10: NATO SYSTEM OF SYSTEMS STRUCTURED DATA EXCHAGE MESSAGE TEMPLATES

The HBC is based on NATO's best practice, 300 + structured data exchange templates, micro-macro (economic) situational awareness sync delta data exchange schedule. The Heart Beacon cycle includes a universal metrics measurements physical meme (see Supreme Court Alice Corp Vs CLS Bank) for use among myriad Bitcoin Blockchain internet of money Block-time arbitrage memes to standardize, sync a one world economic system of systems.

Sending changes, not the entire document or the "sync delta's" in military parlance conserves bandwidth and increases throughput. The military relies on "heartbeat" messages as do stock exchanges -- I.e., FIX ("108") heartbeat messages, First response, time sync systems etc, etc. The Internet is based on time cycles and(computer) syntax parsed / processed or not during finite time cycles. It requires a syntax library lexicon -- a Rosetta Stone if you will.

All things internet are formed by code formed by time cycles used / not used to process, parse {"syntax"}. Therefore, time cycles and a Rosetta Stone syntax lexicon library are the two main building blocks to reshape our world and provide the building blocks for Governance 2.0.

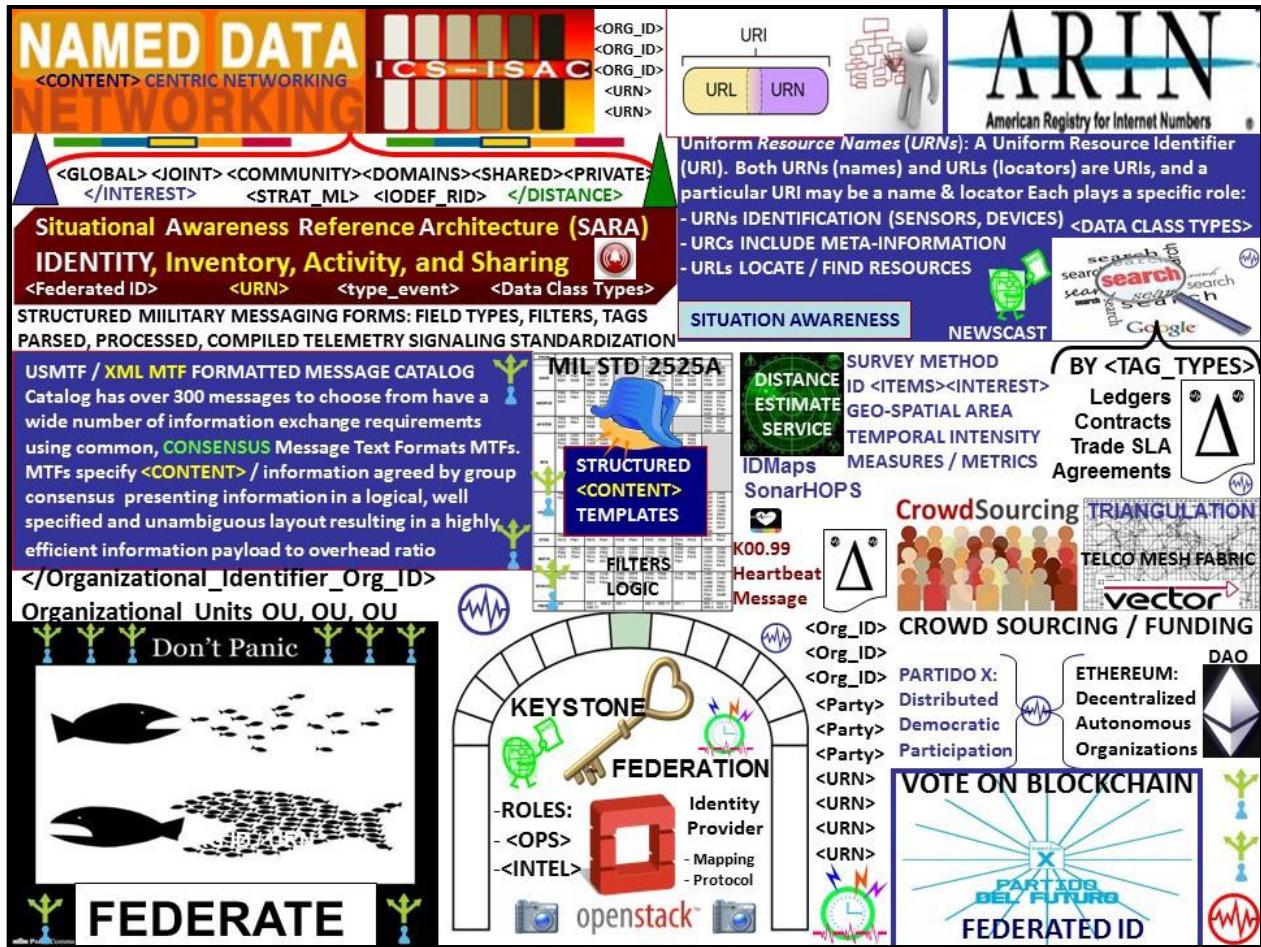


FIGURE 11: FEDERATE AND GRADUATE / FEDERATION SYNTAX LEXICON

Project: form trade federations of autonomous communities, states / sovereign nations following a procedural template checklist promoting synchronization among geo-spatially dispersed groups. Federated groups follow a procedural template guiding group activities across time - space to achieve synergy, synchronicity and inter community cooperation where activities are orchestrated from grassroots to capitals, from micro to macro economic cycles.

Satoshi Nakamoto: "#Bitcoin is intended to be paired with a market place" "the blockchain stores references to market indexes" [LINK](http://sawconcepts.com/index/id6.html) <http://sawconcepts.com/index/id6.html>

Distributed Autonomous Organization / Corporations DAO - DAC federated trade organizations. Synchronous, reliable, predictable cyclical update of state meta data snapshots across a system of systems is flexible, and adaptable across many use cases. The System of systems engineer approach improves systemic, sustainable solutions through cyclic, reliable, predictable signaling, telemetry, news-casting of sync delta updates across a network of networks defining equitable metrics, meters for trade arbitrage among federated, autonomous trade groups

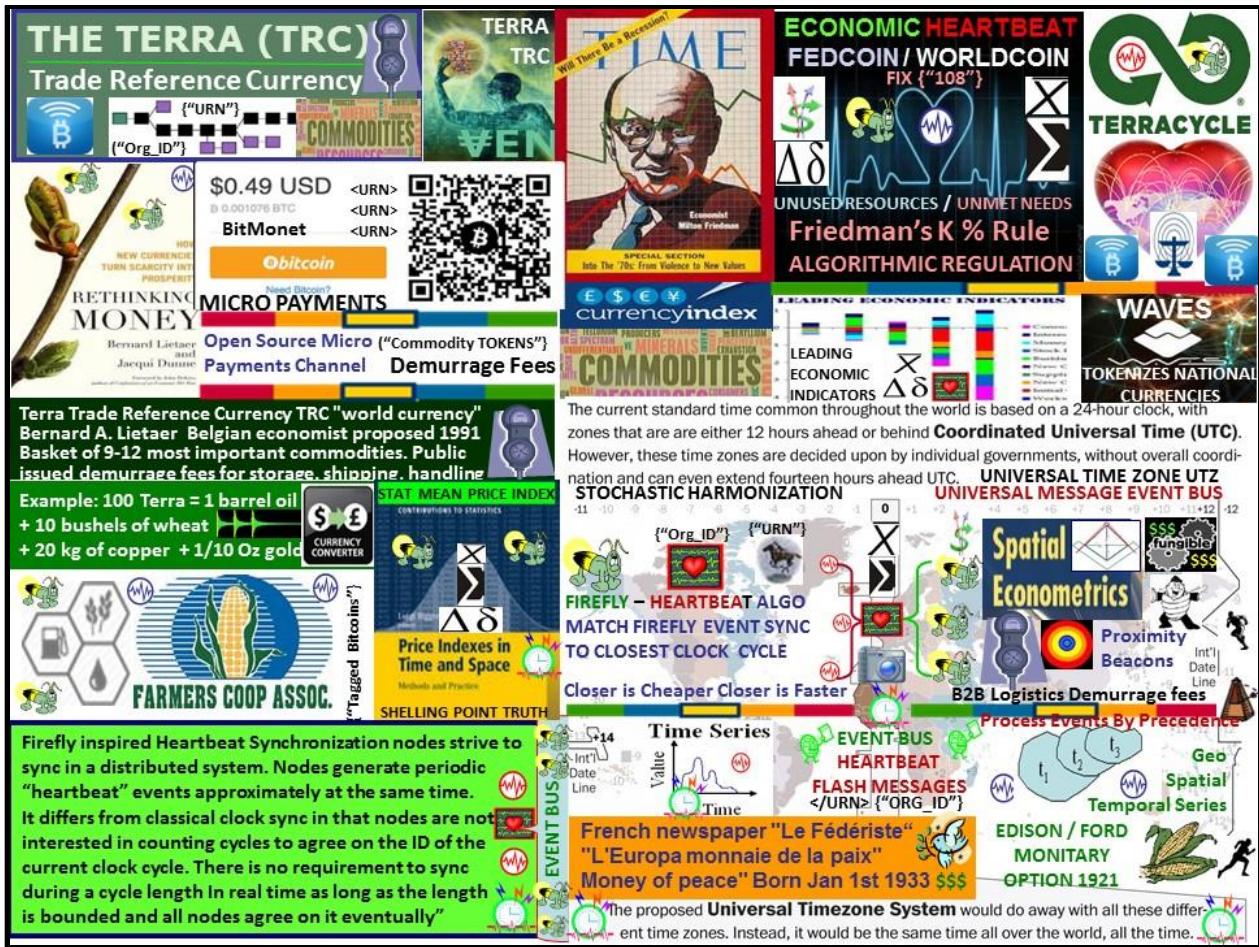


FIGURE 12: TERRA Trade Reference Currency TRC enabled by firefly heartbeat event bus

Thomas Edison and Henry Ford proposed a currency based on a commodity basket index circa 1921. A coin pegged to a commodity basket index would follow in Thomas Edison's 1921 footsteps. Now there is Bitcoin programmable money and the internet's heartbeat, heartbeat messages. Edison's Monetary Option: [LINK https://www.supermoney.com/2014/06/thomas-edisons-view-money/](https://www.supermoney.com/2014/06/thomas-edisons-view-money/)

Now there is Bitcoin programmable money and the internet's heartbeat, heartbeat messages. All things internet are formed by code formed by time cycles used / not used to process, parse {"syntax"}. Therefore, time cycles and a Rosetta Stone syntax lexicon library are the two main building blocks to reshape our world and provide the building blocks for Governance 2.0. LINK: <https://www.supermoney.com/2014/06/thomas-edisons-view-money/>

What if we formed economic trade federations incentivizing environment friendly business practices leveraging Bitcoin's micro-payment capabilities supporting the TERRA Trade Reference Currency TRC demurrage resource handling charges and pledged our fealty to Spaceship Earth ? [LINK http://sawconcepts.com/index/id42.html](http://sawconcepts.com/index/id42.html)



FIGURE 13: Economist Milton Friedman’s K % Rule supported by Firefly – Heartbeat Algo

A statistical mean commodity / currency price index derived from firefly algorithm / closest heartbeat is needed to adjust for the myriad Bitcoin variations i.e., fork splits, coin counts, proof of work Vs proof of stake age, velocity, voting assignment methods, coins pegged to precious metals, or to a currency index of 22 other currencies (VEN) that pose an issue to Bitcoin's fungibility 1 to 1 substitution among coins. A composite Bitcoin price is published by many different sources daily. A universal, code, program neutral service based on a method to validate Bitcoin types among a variety of metaphors / memes is needed to support an economic heartbeat

Economist Milton Friedman predicted the rise of a computer capable of automatically adjusting the inflation rate of money, and this is precisely what we see in the case of bitcoin, as a regulatory algorithm intelligently adjusts the mining difficulty to make the issuance of blocks more or less easy depending on the demand for network hashing power. The computerized function of the bitcoin system boasts intrinsic value which will continue to grow as more users join the fold and the network becomes more valuable for every participant. No money system we have seen to date can claim it is chronologically regulated. The universal construct of time is the backing of the bitcoin digital economy. [LINK](#)
<http://sawconcepts.com/index/id43.html>



FIGURE 14: ALGORITHMIC REGULATION

A use case of the firefly inspired heartbeat synchronization algorithm in stock and currency exchanges is algorithmic regulation. For example, improving temporal trade parity between Bitcoin Blockchain & conventional stock exchanges by using the firefly-heartbeat algorithm to take trade speed samples among trade populations across time zones to determine an optimal trade speed / frequency as a statistical mean. Trading velocity far exceeds Bitcoin's current transaction rates estimated to be between 3 - 7 transactions per second and far exceed non-HFT trading capacity. A method is needed to establish temporal trade parity and account for on floor / off floor trading disparity -- enter STAAS Space - Time As A Service using a novel stochastic harmonization algorithm based on the mating behavior of certain species of fireflies that strive to sync during mating activity matched to the closest heartbeat cycle.

Wall Street Stock Exchanges must solve the problem where High Frequency Trade transactions far exceed the ability of a regulatory, monitoring 3rd party's (DCCC) ability to record, verify and validate transactions -- a computational job that the Bitcoin Blockchain is being used to solve. Project Medici intends to create a blockchain based securities exchange. "Medici," the project aims to democratize Wall Street in much the same way bitcoin seeks to democratize currency and payments. By operating separate from traditional stock exchanges and the big corporate banks, it could eliminate loopholes in the system and reduce the costs associated with issuing stock. [LINK](http://sawconcepts.com/index/id18.html): <http://sawconcepts.com/index/id18.html>

All sophisticated algorithms, bots, mots, scripts, agents make use of the heartbeat -- opportunities, intervals, windows in time. High frequency flash trade algorithms are sophisticated and distributed -- however, all algorithms report to a single master controller. The heartbeat = start bit / stop bit, Time To Live = algorithm on / algorithm off / algorithm duration. Heartbeat </108> messages and the heartbeat time cycle can be used to limit trade sessions by trading session or trade time cycle e.g., one trade per cycle and / or n trades per session. Geo-spatial temporal techniques like IDMaps and SonarHop and the firefly heartbeat stochastic harmonization method can be used to account for trades distributed across time zones and trading on the stock exchange floor and off where the length of the fiber optic cable makes a difference in High Frequency Trade volume. Time cycles match Bitcoin blockchain transaction rates currently estimated to be 3 – 7 per second with High Frequency Flash trade rates. Project Lightning's sync delta approach -- sending only the changes to ledgers from one (heartbeat) time cycle to the next instead of refreshing the entire ledger is one solution for trade speed parity.

Economist Milton Friedman's K \$ Rule advocates establish an economic periodic pulse representing a countries real GDP. The firefly-heartbeat algorithm could sample time - series databases to arrive at a statistical mean value index comprised of leading economic indicators that would determine currency levels released by the Federal Reserve. A countries currency or FEDCOIN or the World's standard currency Worldcoin could be based on actual values of commodities -- ex: Bitcoin has been deemed a commodity..

Math genius John Nash of Princeton's equilibrium theorem may be used for stock, currency market equilibrium through use of algorithms to control cartel behavior through sanctions and penalties. The increasing reliance on game theory as a foundation for auctions and electronic commerce, efficient algorithms for computing equilibria in multiplayer general-sum games are of practical interest for example, in finding a Nash equilibrium for an average-payoff repeated bi-matrix game polynomial-time algorithm. Finite-state equilibrium strategies can be found efficiently and expressed succinctly. Paper: A Polynomial-time Nash Equilibrium Algorithm for Repeated Games: LINK <http://bit.ly/1NWeLLu>

STORM / TRIDENT applies real time distributed computation of events at speeds of a million tuples per node per second using worker / task heartbeats to get put instructions for example, to Wall Street high frequency flash trade describing trade window Time To Live TTL and start, stop commands e.g., stop commands to runaway stock exchange trading sessions.



Energy Token Economy

Tesla: "everywhere there is energy spinning" / Einstein "everything is energy and that's all there is to it" Ergo, it's time to adopt an energy token economy



FIGURE 15 ENERGY METRICS - METERS

Heartbeat Messages used in power, internet systems: shows energy grid protocols that use a heartbeat, heartbeat messages. IEC C37.118 Harmonization and Synchronization is used across smart grid applications and specifies a heartbeat update interval in milliseconds -- depending on the time sync source. Micro-grid use is set to increase dramatically in both military and commercial applications. The ability to accurately, reliably and consistently meter changes in power consumption between a community specializing in micro-grid energy production and a community specializing in a ecology module purifying water or producing bio-mass can monitor usage in terms of surpluses or shortages based on the last sync delta update across a consortium as a basis for exchange based on group concurrence such as Service Level Agreements SLA performance measures. [LINK](#)

Why the "water drop in pond" / sonar and "Paul Revere" metaphors, memes? Because Supreme Court Alice Corp Vs CLS Bank states "claims may not direct towards abstract ideas" Internet TCP/IP "hops", "pings" are abstractions -- they do not physically exist whereas the Navy's use of sonar under water is a well known physical meme example as is Paul Revere's "hops" or rides from town to town. Physical is the opposite of abstract. Actually, there were many riders out the night of Paul Revere's ride. Revere's name was used because it rhymed with the words listen and you will hear.. See Sct 573 Alice Corp

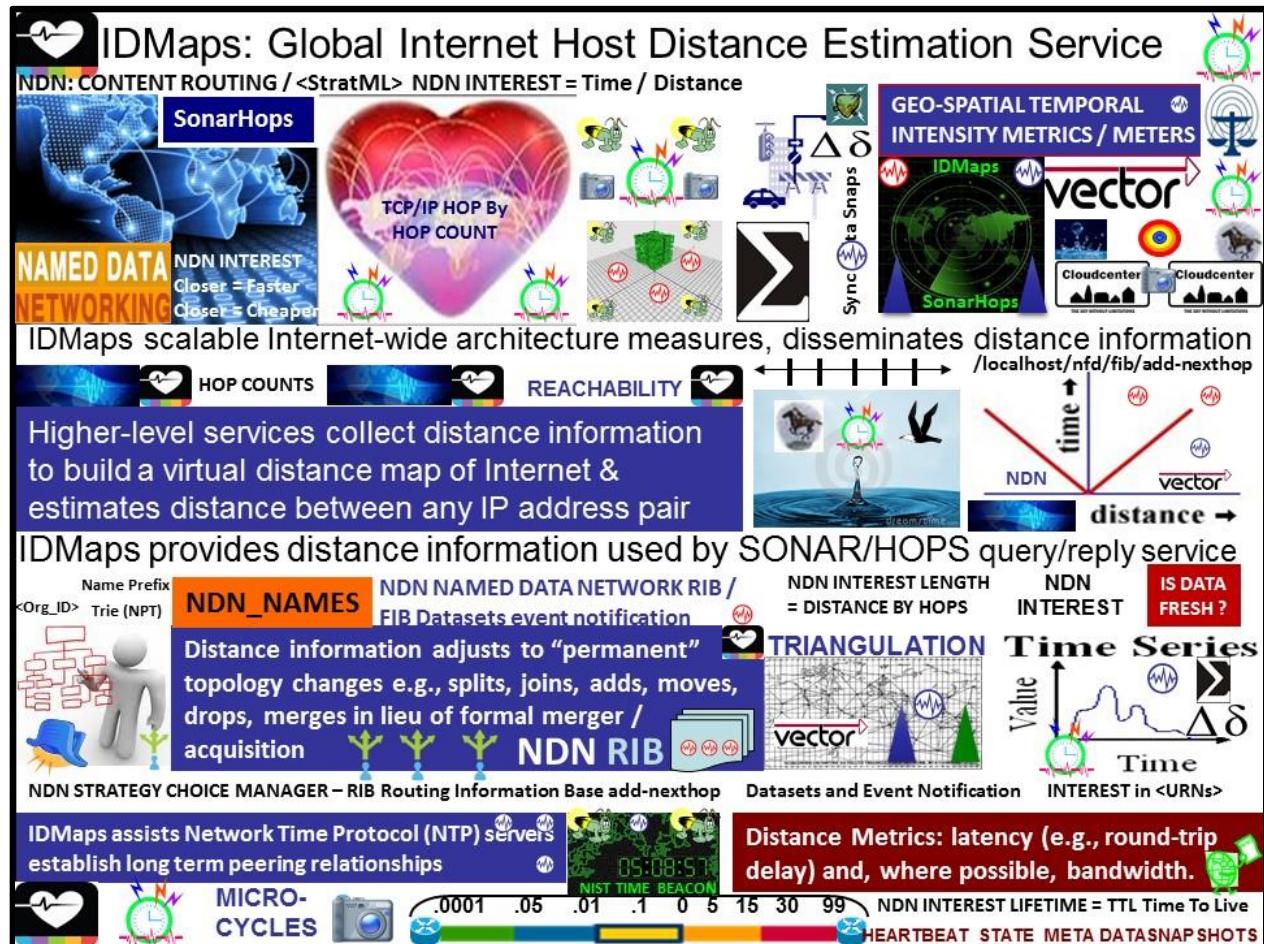


FIGURE 16: IDMaps – SonarHops Distance Estimation Service

Imagine if #Cloud, #IoT, #Blockchain Service Level Agreements SLA incentivized Eco friendly transactions leveraging bitcoin's micro payment function supporting the TERRA Trade Reference Currency TRC by economist Lietaer? For example, closer = cheaper, closer = less fuel ? Globalization involves multi-national corporate entities vying for control of regional resources. It follows that a proven strategy to identify, track, and monitor resources regionally within the global economic matrix is needed. The Heart Beacon Cycle Time - Space meter describes universal geo-spatial econometrics and meters and includes distance location services such as IDMaps - SonarHops.



FIGURE 17: SIGNALS AND TELEMETRY ANNEX FOR OUR SPACESHIP EARTH

We can synchronize ourselves and our cities in time - space for a common purpose: ecologically sound econometrics i.e., through use of a Signals and Telemetry annex for Buckminster Fuller's Operations Manual for Spaceship Earth. The HBC involves a heartbeat flash message universal event, alert message bus. It is based on NATO's best practice, 300 + structured data exchange templates, micro-macro (economic) situational awareness sync delta data exchange schedule. [LINK: http://sawconcepts.com/index/id56.html](http://sawconcepts.com/index/id56.html)

EVERYDAY SHOULD BE SPACESHIP EARTH DAY see article on Medium dot com [LINK http://bit.ly/2ong90G](http://bit.ly/2ong90G)

RBF "the secret to change is build a new model that makes the old model obsolete" / RBF "Earth is a spaceship that cannot be resupplied" WHAT IF EVERYDAY IS SPACESHIP EARTH DAY ? What if we formed economic trade federations incentivizing environment friendly business practices leveraging Bitcoin's micro-payment capabilities supporting the TERRA Trade Reference Currency TRC demurrage resource handling charges and pledged our fealty to Spaceship Earth ? <http://sawconcepts.com/index/id42.html>



FIGURE 18: “The Secret to change is to build a new model making the old model obsolete” RBF

The Heart Beacon Cycle Time – Space Meter and Applique Overlay is a Signaling and Coordinating Instructions Annex for Buckminster Fuller's Operating Manual for Spaceship Earth. Adaptive use case: geo-spatial, temporal econometrics, vectors to reduce CO₂ carbon footprint due to inefficient transport, resource, logistic vectors. Bitcoin, Ethereum and other token based blockchain strategies are ideal to remunerate, compensate logistic demurrage parking, commodity handling fees supporting the 1991 Belgian Economist Bernard Litaer's TERRA TRC Trade Reference Currency proposal that was partially articulated by Thomas Edison and Henry Ford in 1921 and by economists in the minority during the late 1800's. Edison felt that crops held their value best over time. Given energy is everywhere as Tesla and Einstein said, and given our climate change challenges, it's time to move to an energy token based economy where tokens are traded for other commodities. For example, a region that excels in food production could federate to trade its excess or surplus production with another region with excess production in another area. As micro-cycle sync delta reports are aggregated by processing them at regional, off site collection gateways, unused resources in macro-economic strategic stores can be matched with unmet need at the regional, local, micro-economic level cross levelling resources improving regional sharing where closer is cheaper and closer uses less fuel thus reducing the carbon footprint



FIGURE 19: BITCOIN BLOCKCHAIN -- Blueprint for a New Economy Melanie Swan

'Blockchain: Blueprint for a New Economy', is a book that considers theoretical, philosophical, and societal impact of digital currencies and blockchain technologies. It takes one beyond the currency and smart contracts to show how the blockchain is in position to become the fifth ground breaking computing paradigm after mainframes, PCs, the Internet, and mobile/social networking. The blockchain has the potential of being a worldwide, decentralized record for the registration, inventory, and transfer of all assets: finances, property, intangible assets such as votes, software, health data, and ideas. The book comprises such topics as creating cheaper, more efficient services traditionally provided by nations, making better use of the data-mining network. Blockchain technologies could be used to monitor public health, crowdfund projects, provide community supercomputing, and even birth artificial intelligences.

Network Economies: Economic System as a Configurable Parameter One way to implement the direct model is through micropayments, where users click on icons to allocate pre-specified amounts of Bitcoin or token to take community actions. The central issue in decentralized p2p content systems to be prototyped and tested is user willingness to micro-pay for content operations. Economic System as a Configurable Parameter [LINK](https://lnkd.in/bFMwAyp) <https://lnkd.in/bFMwAyp>



FIGURE 20: Simple Always * Wins Concepts LLC * When standing on the shoulders of giants
 KEY WORDS: system of systems algorithmic regulation reinventing money federation Systemic Thinking Econometrics Sharing Economy Ecological Intelligence urban ecology



How will this be accomplished? David Vs Goliath? No, by standing on the shoulders of giants