SERVUS: A Self-Evolving Residual Value Unification System

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Abstract: “Servus” a latin origination word meaning “at your service” or related to the word we know as “service” in today terms. Servus will be the new action of helping or doing work for someone or a system through interoperability intelligence on the blockchain. A borderless self-evolving collaborative ecosystem would allow digital value assets to be exchanged, created, or shared through a purely decentralized platform. Imagine a world where companies do not have a static function or model but a unified system of residual value being created infinitely at scale. A shift in hierarchical model structures towards a multidimensional structure paradigm will allow core focus specialization in one area while simultaneously cooperating with other systems or organizations in another. We propose a distributed contractual systems model of services where there is no team leader; everyone is equal by cooperating and adapting as one organism. A collaborative filtering recommendation engine and rank model algorithm will facilitate the emergence of quantifiable value while concurrently breaking down systematic barriers through a distributed consensus protocol to stabilize the equilibrium of control without relying on trust.

1. Introduction

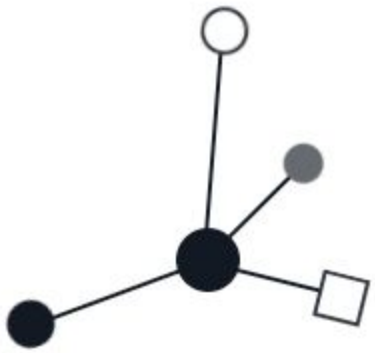
As we move forward in a new age of technology the greatest contributions will be derived from the most efficient systems of value. Everyday our current systems fail and will continue to fault as we attempt to solve fractals of the core problems whilst only to discover we created answers without questions. While we fantasize about a practical, emotionless, and trust based model to improve our current systems the self-evolving blockchain organism feeds on the impracticalities of inefficient systems as they lag behind the effortlessly evolving technology. A world we once knew as illogical is now a haven of inevitable change around the transformation of how we do “things” that now make sense.

What is needed to collectively form a collaboration ecosystem of this magnitude is a model of smart systems used in conjunction with algorithmic rank determinants to create self-sustainability while evolving for scale. We propose the Servus Systemic Model (SSM) to facilitate the emergence of quantifiable value calculated by blockchain intelligence to drive self-sustained digital service offerings operating as single organisms or units in a multidimensional ecosystem. The Servus platform will be the first initiative and SSM unified solution to use distributed

collaborative value to scale. Bi-directional incentivized reward systems will be used to distribute consensus in order to keep the core protocol and roadmap dense to the vision. However, our approach uses the Servus Adaptability Model (SAM) to efficiently orbit the ever evolving agile roadmap.

2. Collaborative Scalability Evolution

We propose an algorithmic rank model for value importance derived from transactional blockchain historical records. A permutation based on LeaderRank [L. Lv et al., (2011)] core model by adding the initial value provider with a first iteration index of 0 to the transactional ledger. By initiating a two-way synchronization symlink to value provider 0 and every other provider i ($1 \leq i \leq N$), weighting iterations using the formula:



$$P^{t+1} = H \times P^t \; ; \; P^1 = [\,0, \frac{1}{N}, \ldots, \frac{1}{N}\,]^T$$

$$h_{ij} = \frac{w_{(j,i)}}{\sum_k w_{(j,k)}}$$

$$\forall_v \in V_t P_v^* \longleftarrow P_v^* + \frac{P_g^*}{N}$$

Figure 1: The general algorithmic rank value model

Computationally this echelon algorithmic approach can be extended to a Schrödinger equation wave model able to optimize rank value calculations much faster for single systems in multidimensional environments. The correlation point in terms of the value identification

mechanism can be refactored towards a Schrödinger style wave equation using complexional designed computer network systems by computing the value of rank score importance through matrix expansion. Rather than approaching iteratively as with the original equation we optimized data sets resulting in highly educated responses to determine the weight carried via distribution ranking score.

For a single particle in three dimensions:

$$i\hbar\frac{\partial}{\partial t}\psi = -\frac{\hbar^2}{2m}\nabla^2\psi + V(x,y,z)\psi$$

where

- ψ is the wavefunction, which is the amplitude for the particle
- m is the mass of the particle.
- $V(x,y,z)$ is the potential energy the particle has at each position.

The figure below shows a pictorial representation of the value determinants equation and its counterpart in term of wave function. A bottom three-dimensional plot of potential V (potential energy function V is a multiplicative factor) and the corresponding data measured along concentric shells orbiting the originating vertex.

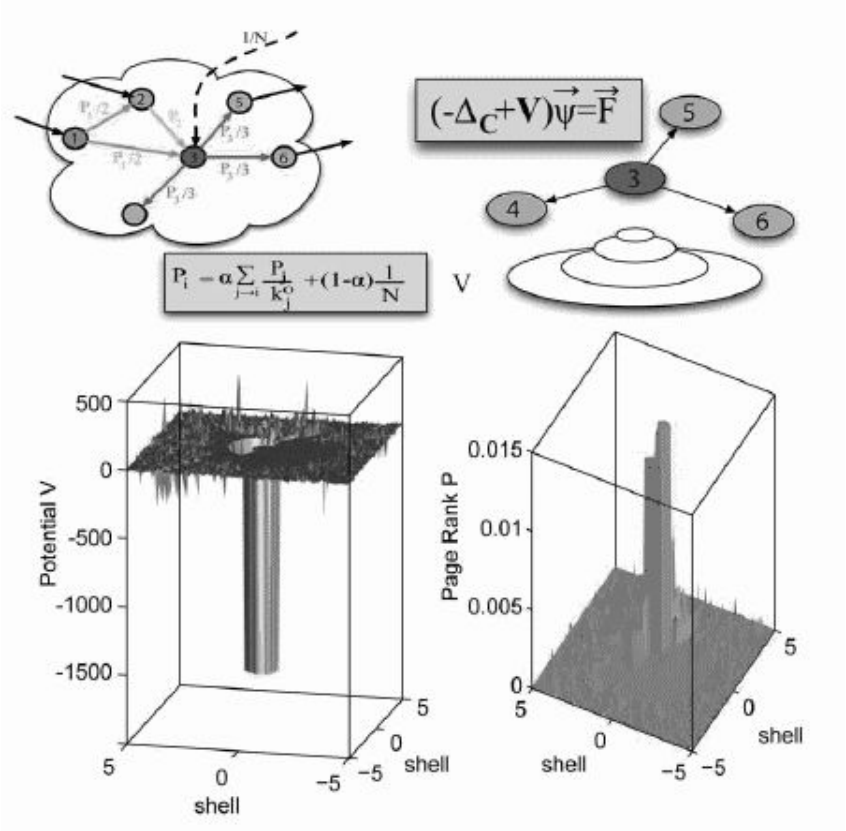


Figure 2: Representation of the vertex value determinants

3. Systemic Adaptability Models

Two core models (SSM & SAM) are initially contrived to interplay between dynamical epidemic spreading systems through optimizing the control of deliverment formality processes in the adaptable systematic routing protocols.

The Servus Systemic Model (SSM) uses a non-monotonic framework devised to capture and represent defeasible inference in complex systems. We find various dynamic reasoning approaches used in everyday systems but these approaches often mutate inadequacies in a multidimensional space. When only reserving the establishment of common logic to generalize a tentative inference we are yielded with unresolved conflicts creating compounding consequential relations.

The Servus Adaptability Model (SAM) allows for an adaptive strategy that is supraclassical, reflexive and integratable from nonmonotonic logic sets into formal logistical approaches while giving the ability to overcome expressive or conceptual limitations. We intend to infer new Servus Theoretical Model Frameworks as we evolve by coupling a family of models and fuzzy logic components based on a set of premises rather than what classical logic authorizes.

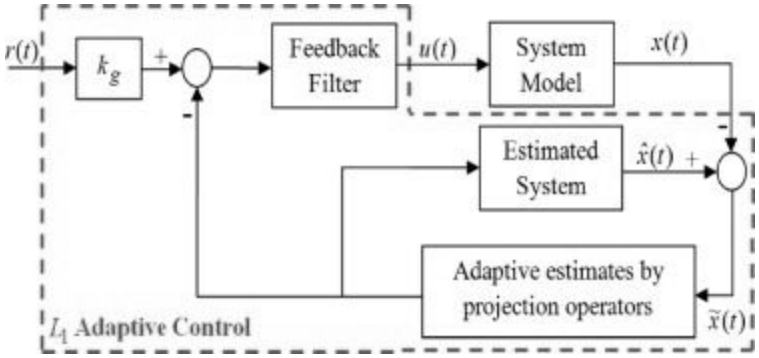


Figure 3: The general structure of L1 adaptive controller

Demonstrated fuzzy logic feedback simulation-- L1 Adaptive controller feedback has been recognized for having a structure that allows decoupling between robustness and adaption owing to the introduction of a low pass filter with adjustable gain in the feedback loop. (Hashim, El-Ferik, and Abido, 2015)

The importance of both models operating in parallel as one system will allow quantification of the assortment level routing delta by using presented information input to these models. By achieving order and control through defeasible inference consensus, unlike a closed-system, we

achieve a densified expansion topology coefficient for maximizing efficiency and scalability in a self-evolving implementation protocol without restriction.

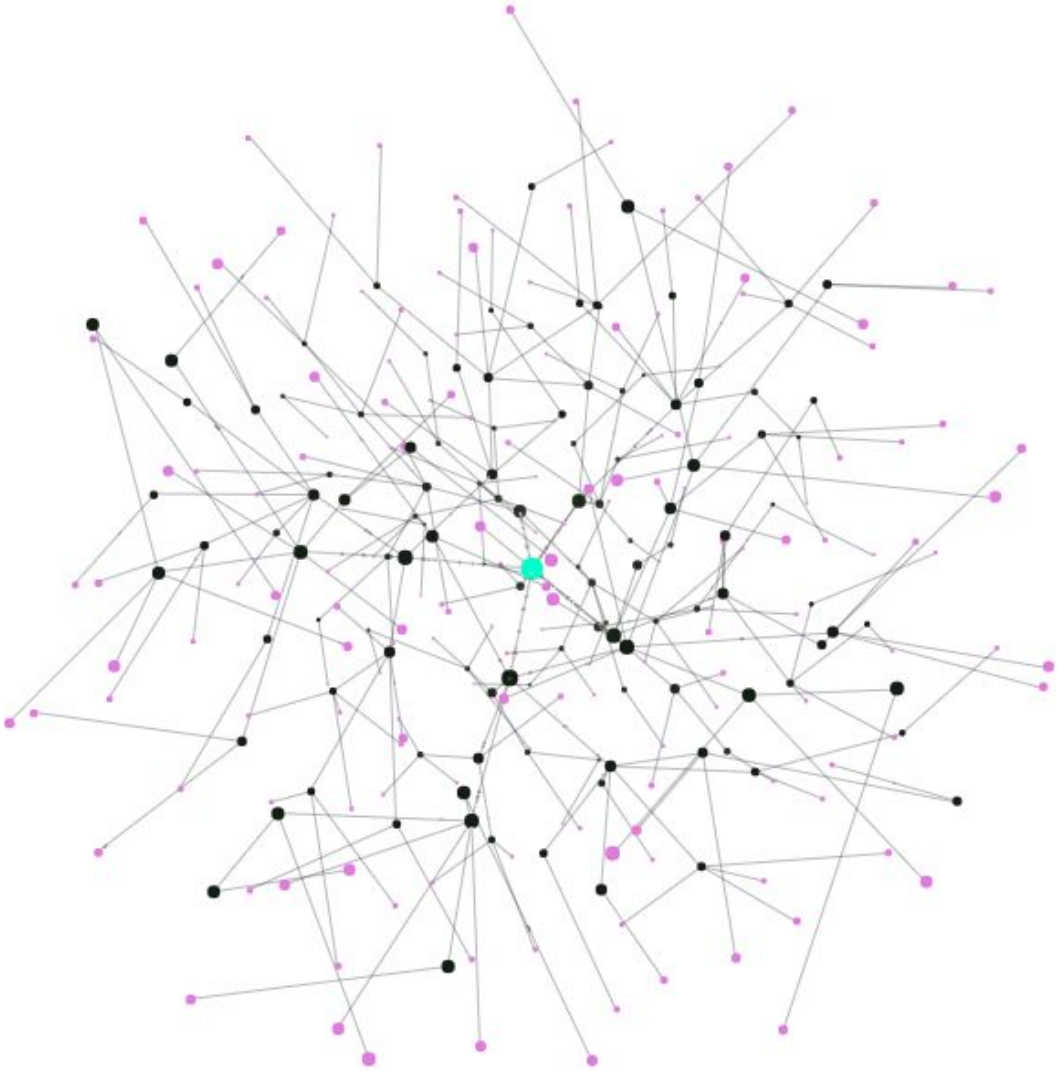


Fig. 4: Servus ecosystem visualization. Large scale multidimensional autonomous complex systems

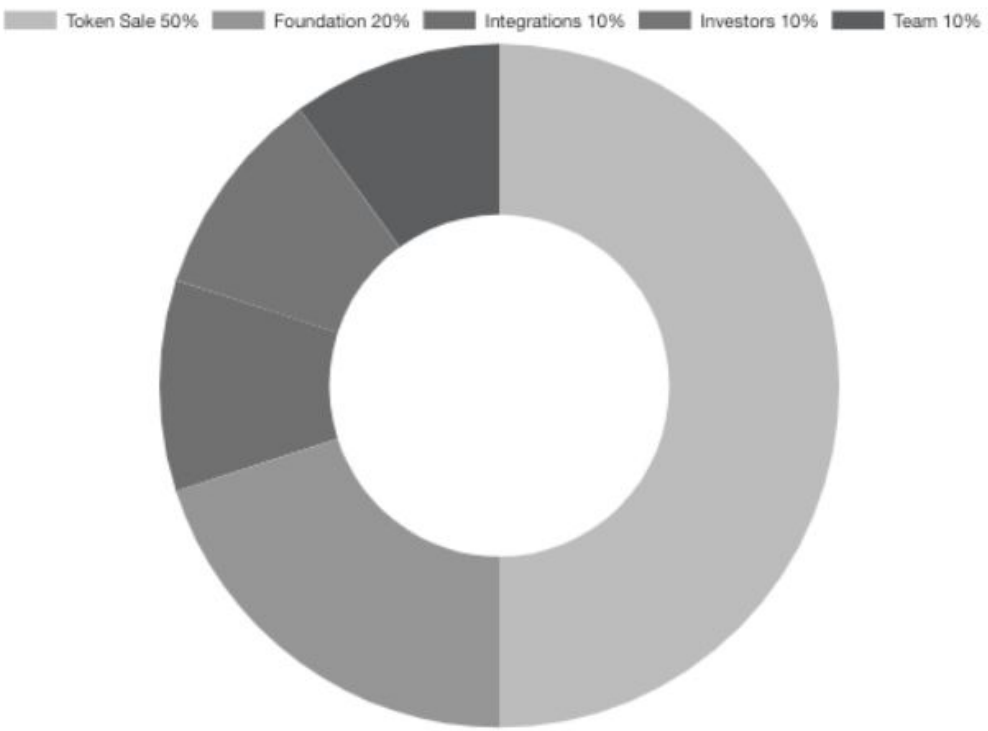
3. Servus Token SRV

The Servus network and SRV token will initially use an ERC20 token on the Ethereum platform. Furthermore, the SRV token will adapt for multi-level roles throughout the systemic platform. First, as the core value determinant on the platform, SRV liquefies importance value among users, systems, and services by functioning as the incentive token for bounties, incentivized development and reward systems. Second, SRV will be a dynamically calculated deductible fee

for publishing and running complex intelligent contracts at scale. The distribution process is defined:

> **1. Platform Construction:** The Servus sponsor team will construct the vision by maintaining a close orbital reference to the fundamental principles defined throughout this paper. 80% tokens will be used for Servus community construction, including ecological incubation and incentive of the Servus community blockchain app (DApp), construction of development initiatives, business and partner integration cooperation, marketing and promotional incentives, academic research, educational investment, legalities and regulations, and investment in additional systems and organizations. Specifically, 5% will be sold to community impact investors, 5% as Servus community development fund and 70% for reservation.
>
> **2. Development Progression:** Throughout the lifecycle of Servus, the consensus and development teams will continuously validate and disperse resource contributions to the community in aspects of core organizational structure, technological research and architecture and ecological operations. An allowance allocation of 20% is reserved for team incentivized purposes.

After the token sale end date, any users with SRV tokens (Ethereum ERC20) can be managed or transfered through the Servus platform using related credentials, on the Ethereum blockchain.



```
contract ServusToken is Controllable {

 ServusTokenInterface public parentToken;
 TokenFactoryInterface public tokenFactory;

 struct Checkpoint {
  uint128 fromBlock;
  uint128 value;
 }

 Checkpoint[] totalSupply;
 mapping(address => Checkpoint[]) balances;
 mapping (address => mapping (address => uint)) allowed;

 /**
 * ERC20 base function transfers
 * @param _from {address}
 * @param _to {address}
 * @param _amount {uint256}
 * @return success {bool}
 */
 function transfer(address _from, address _to, uint256 _amount) publicreturns (bool success) {
  require(check[_from][message.sender] >= _amount);
  return allowTransfer(_from, _to, _amount);
 }
 function balanceOf(address _owner) public constant returns (uint256 balance) {
  return balanceOfAt(_owner, block.number);
 }
}
```

Fig. 5: Original Contract Code

3. Concluding Remarks

Furthermore, different systems have the tendency to influence surrounding systems through different relational mechanisms which presents complications and challenges. Suitable ranking methodologies are required as systems become more complex and weighted algorithms help systematize incompatibility in network structures. Interestingly enough, as we excogitate the autonomous unification of disparate systems or networks, bipartite networks, multi-level networks, and temporal networks, we find synergistic protocols evolve as self-functioning ecosystems. As we push for a world that makes sense, a systemic analysis of logic reveals

methodical informational systems are unsuitable while progression of adaptable systems effortlessly scale through compounding dimensions.

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ACKNOWLEDGEMENTS

This work is supported by open source methodologies using core Servus models to maintain self-evolving high availability, scalable and redundant, fault tolerant interoperability systems. Our results validate and provide clarification in the dissemination of topological data within multiplex networks. By using a dynamically modeled whitepaper and adaptable token we progress using forward thinking in a non-traditional sense by distributing consensus to validate the direction of order and control. The dynamic approach coupled with versatility opens a world of new possibilities to novel techniques inspired by quantum physics.

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