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An EVM, Smart Contract Blockchain, optimised as a platform for Real-World Asset Tokenisation

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ABSTRACT

This DComm Blockchain document identifies the convergence point between the real, tangible world, and the innovative world of blockchain technology. This paper will investigate the technical attributes of the blockchain and explore how it can hold the real and tangible as a digital asset. Specifically, when discussing the real-world, we do so in context of the parts that have value, like gold, artworks, shares, equity, property, bonds, carbon credits, solar farms, crypto mining operations, and so on.

The convergence point is the tokenisation of real-world assets where blockchain technology facilitates securing an asset, representing it in digital form and allowing an entirely new, dispersed audience to interact with it. However, the crux of the convergence is being able to foresee the complex nature of both worlds. The transactions on the next generation of blockchain will be voluminous and complex, they will be diverse and across the full spectrum of what blockchain technology can do. Thus, the challenge for DComm is to find the key factors to insert assets into a blockchain, cater for their complexities, whilst still maintaining the tenets of adoption: speed, cost, efficiency, security, and interoperability. Furthermore, to supplement this task by providing an accessible platform, to engage a wider audience, originating from both the real and digital realms.

INTRODUCTION & PURPOSE

The World Economic Forum reports that blockchain has received incredible hype regarding its potential to create wide-reaching impact. Blockchain advocates project blockchain could account for as much as 10% of global GDP by 2025 [1]. By and large, this leap forward of underlying asset value and GDP shift will come from the creation of platforms that are able to migrate the asset of the real and tangible onto blockchain. That, in and of itself, is not necessarily the challenge, as a token can be created to represent just about anything. There are two main challenges. One, determining how to obtain more intricate detail about the asset itself. And two, developing the form and function of the technology so that it can perform efficiently at scale.

To adequately plan and deliver the highest quality platform, we must look forward to what the world might look like when blockchain adoption is at its peak.

Understanding the nature of this technology is being able to identify the attributes that will be required to allow a platform to perform at scale while still maintaining speed, efficiency and cost. Additionally, the future will be one of collaboration and the walls of the silos must come down to achieve the economic goals predicted.

Looking forward, we, DComm Blockchain, find that there are some main themes that become apparent:

- Tokenisation
- 3rd Generation Blockchain
- Scalability
- Accessibility
- Sustainability

Therefore, the purpose of DComm Blockchain is to;

- Deliver a scalable 3rd generation blockchain that is unhindered by congestion and maintains its integrity even under the weight of mass adoption.
- Provide an inherent layer of accessible services and components that would allow easy and scalable adoption of the platform.
- Contain the necessary processes and protocols that cater for the complexities of how real-world assets will need to interact with the technology.

Tokenisation

Tokenisation means the digitalisation of assets. In the tokenisation process, the asset is stored on a blockchain and can be easily traced, transferred, and traded. This can be applied to any kind of asset, from financial products to real-world assets.

Tokens can be classified into two categories – utility tokens and security tokens.

Utility tokens are used to facilitate financial activities in a particular ecosystem. For instance, we go to a theme park and want to enjoy various rides. Each ticket for a ride could be a utility token, which is used inside a digital ecosystem. This provides more efficient and secure transactions.

Security tokens, on the other hand, are the digital representation of a security. There are various types of security tokens, each of which represents a different security. The most prominent types of security tokens are:

EQUITY TOKENS

Equity tokens are stocks that have been stored on blockchain. Equity tokens are used to represent the equity in a company, just like traditional stocks. The only difference is that these tokens are issued, stored, and managed on the blockchain network. This means they are supercharged with trust and transparency, along with lower processing fees.

DEBT TOKENS

Tokens used to represent debt instruments such as real estate mortgages and corporate bonds on a blockchain network are called debt tokens. To eradicate the risks such as debt default or dramatic changes in the valuation, smart contracts used to issue these debt tokens, can be programmed to include certain rules such as repayment terms.

DERIVATE TOKENS

These tokens derive their value from another token or an underlying asset. The underlying asset goes through a verification process to establish the ownership and then the user receives tokens having equal value as the asset. These tokens can be used for various purposes such as for getting a loan or trading.

HYBRID CONVERTIBLE TOKENS

Hybrid tokens, can be made by mixing any two token types. These tokens are generally a mix of debt and equity tokens, convertible in either of them.

REAL ASSET TOKENS

These are used to represent the ownership of real-life assets on a blockchain platform. Real asset tokens are the most significant type of token. The blockchain community has been buzzing about them for some time now. They are used to represent assets such as commodities, real estate, and art.

The classification mentioned above is done based on the usability of a token. However, based on the interchangeability of the token or underlying assets, the tokens are classified as fungible and non-fungible tokens (NFTs).

FUNGIBLE

Fungible tokens are used to represent any exchangeable, replaceable asset digitally. The most common example of a fungible token is the digital representation of a dollar. Every token representing a dollar will have the same value. It does not matter which person owns which token as they are all the same.

NON-FUNGIBLE

Non-fungible tokens are used to represent unique digital assets that have an intrinsic value. The most common example of NFTs is the representation of digital collectables. Different attributes of artwork are used to represent it on the network and its ownership is defined exclusively.

SEMI-FUNGIBLE

Another category has come called Semi-Fungible tokens that combine the quantitative feature of fungible tokens and qualitative feature of the non-fungible tokens.

The Rise of Asset-Backed Tokens

If we take a close look at our real-world assets, there is huge untapped potential for asset-backed tokens. Most of these assets are not easy to trade either due to the lack of fractional ownership, inaccessibility, lack of clear title or due to the involvement of centralised intermediaries leading to a cumbersome, inefficient process.

This creates a significant opportunity for asset-backed tokens to disrupt the industry. Tokenisation of assets is bringing true digitalisation. Tokenisation provides real-life assets with a plethora of benefits including more liquidity, better visibility, traceability, lower processing fees, easy ownership transfers, and exposure to a global market.

Let us take three prominent assets and understand how tokenising these assets is the future of our world economy:

1. REAL ESTATE TOKENISATION

Real estate, the largest asset class in the world, is also one of the most difficult/complicated/complex sectors. Tokenisation of real estate can provide useful functionality such as such as fractional ownership and increased market participation.

Tokenisation of real estate can provide functionality such as fractional ownership, increased market participation, and more liquidity, which allows the sector to grow at an unprecedented rate.

2. GOLD-BACKED TOKENS

Tokenisation can provide instant returns on gold that may otherwise just be sitting in

someone's house or vault. A commodity like gold can be tokenised on the blockchain and those tokens can then be used to take out loans, lend money to other people or for many other purposes.

Tokenisation introduces new marketing opportunities and improves the trading lifecycle. It further removes the influence of institutional investors or other central authorities.

3. CARBON CREDITS AS TOKENS

Tokenisation is often thought of as a method to provide more liquidity, but the tokenisation of carbon credits is the perfect example of how versatile this technology can be. Using tokens to represent carbon credits allows more security and traceability. Traditionally, users can only access their carbon credits. Tokenisation allows the creation of a secondary market, which encourages liquidity and ultimately the adoption of more renewable projects.

Challenges & Needs

1. COMPLIANCES

Real-world assets, whether they are real assets or carbon credits, are bound by the regulations and compliance requirements of the state. Proper KYC/AML checks become important to establish the legality of the asset ownership and further tradability. Since blockchain transactions are immutable, the compliances need to be built into the token architecture itself.

2. SECURING THE UNDERLYING ASSET

A blockchain-based token is a digital representation of an underlying asset. The token derives its value and metadata from the underlying asset. If the underlying asset is not secured, the pegged token becomes worthless. Tangible assets need to be secured at all times of the tokenisation as well as on a continuous basis to ensure the value and count of the tokens is pegged 1:1 with the underlying tangible assets.

The tokens issued exist on the blockchain and carry with them the rights of the assets they represent, therefore as a store of value. The underlying assets for which the tokens are issued continue to exist in the real world and, in the case of physical assets, these would typically need to be placed in third-party custody to ensure that the tokens are constantly backed by these assets.

3. PREPARING AN ASSET BACKED TOKEN FOR DEFI

Asset backed tokens need to follow the token standards whether it be ERC20, ERC721 or ERC3525 for fungible, non-fungible, and semi-fungible tokens respectively. The standardisation lends to composability and interoperability of the tokens across various DeFi platforms.

Importing off-chain value of the underlying assets into smart contracts is also very important for trading of the asset-backed tokens on primary and secondary marketplaces.

4. CURRENT STATE OF DEFI LENDING

The DeFi space has been growing at a rapid pace spanning across various financial products and services. DeFi Lending is one of the most established use-cases. Today, DeFi lending is largely based on crypto-collateralised secured lending. Since the various cryptocurrencies used as the collateral are volatile, there is highly over-collateralised lending in DeFi. And moreover, the total base of these collaterals is still very small compared to the real-world assets like real estate. There is a clear need of using tokenised real-world assets in the DeFi lending and borrowing space.

5. PLATFORM ARCHITECTURE TO MANAGE REAL-WORLD ASSETS

Looking forward into a future where there is mass adoption of tokenised, real-world assets, you'll find that the transactions will become complex in nature. Instead of a transfer between two entities, one event could spark thousands of downstream activities. In the case of commercial property, for example, one physical entity might have a thousand fractional owners and an event might create four transactions, i.e. Settlement, Yield, Income, Depreciation. In this case one action has created four thousand transactions. Scale this out and the platform has to have the following attributes:

1. Infinite scalability
2. Controllable transaction costs
3. Consistent transaction speed
4. Ultra-high processing efficiency
5. Uncompromising security

6. EVOLUTION OF BLOCKCHAIN TECHNOLOGY

Given the complexity and types of transactions of real-world asset tokenisation, it can be argued that the first two blockchain generations could not serve real-world purposes.

1. 1st generation blockchains are slow, high-energy consumers and have specific use cases, and for the most part was designed to disrupt the financial system.
2. 2nd generation blockchains added innovation to the technology, by way of the smart contract, creating an avenue for mass adoption. This innovation made blockchain a mainstream topic, but with it came its shortcomings – cost, congestion, and speed. These are a result of high volume or complex transactions.
3. 3rd generation blockchains address many of the structural limitations of the previous generations. These blockchains no longer must prioritise only speed, scale, security, efficiency, or interoperability. The advances made mean that 3rd generation blockchains can, to some degree, have them all.

Lastly, for a blockchain to be able to manage the workload of real-world asset tokenisation, three additional attributes are required:

1. Proof of Asset
2. Compliance
3. Infinite Scale

DCOMM BLOCKCHAIN SOLUTION OVERVIEW

SELECTING THE TECHNOLOGY – THE PLATFORM LAYER

RESEARCH & DEVELOPMENT

The management, executive and development teams completed rigorous research to identify technologies that best suits DComm's strategy and objectives.

The assessment looked at the technologies' ability to deliver:

- Tokenisation of real-world assets
- Scalability to meet forecast demand
- Low cost of running for both network and community
- Asset creation, exchange and management of digital assets e.g. NFTs, smart contracts, complex algorithms
- Lateral autonomous side chains
- Ease of community adoption

DEVELOPMENT, DESIGN & REFACTORING

Development was undertaken utilising a core team to deliver the blockchain and suite of associated tools. In addition, a full user experience (UX), user interface (UI) and branding exercise was completed.

The key teams include:

- An eighteen strong **Development** team, made up of seasoned blockchain experts
- A technically focused **Executive** team leading the result driven development
- An exceptionally talented **UX/UI Design** team
- An experienced **Branding** team

IMPROVEMENT STRATEGY

At the start of the project, DComm created and established a Continuous Improvement Team made up of blockchain, software, infrastructure, and development experts.

Key areas for continuous improvement include:

- Security
- Node structure, types and use cases
- Mobility
- Web extensions
- Bespoke services and APIs
- Throughput
- Consensus and hashing

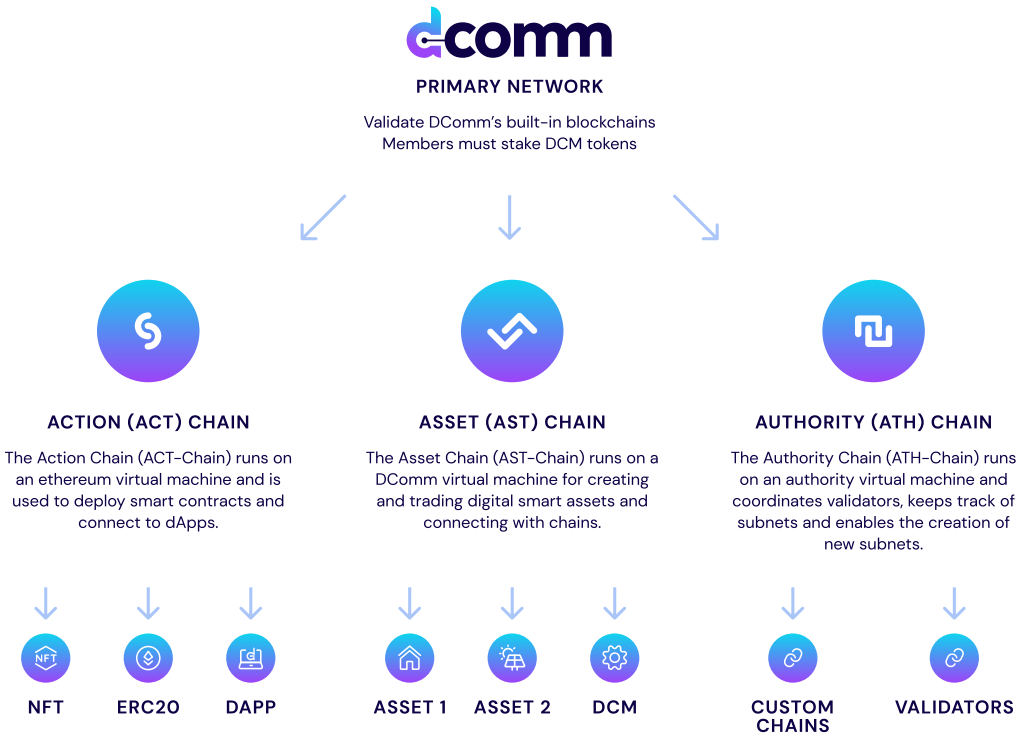
TIMELINE

22 JUN	DCOMM BRAND CREATED
01 JUL	DCOMM COMMUNITY ESTABLISHED
15 AUG	DCOMM INTERNAL TESTNET LAUNCHED
02 SEP	AMBASSADOR PROGRAM SOLD OUT
17 SEP	PUBLIC TESTNET LAUNCH
23 SEP	MELBOURNE TESTNET LAUNCH
01 OCT	THE VALIDATOR PROGRAM OPENS
27 OCT	MELBOURNE TESTNET REACHES FULL DECENTRALISATION
15 NOV	100TH INVESTOR JOINS DCOMM
23 NOV	UP TO 3,000,000 DCM COIN ($DCM) IS STAKED

THE DCOMM PLATFORM

The DComm platform is a carefully selected architecture that has all the attributes that are a minimum requirement for real-world asset tokenisation – scalability, speed, security, efficiency, low cost and interoperability.

This is achieved by implementing three chains across the platform, each running its own consensus, each independent, yet all functioning together as a platform. By decoupling these chains' functions and activities, an inherent level of real-world asset structure is formed. Assets can be created and not be affected by high volume transactions, the functions of subnets and chain authority are catered for in a separate chain, and not impacted by either assets being exchanged, smart contracts being deployed or transactions on the network.



Platform Technical Details

DComm has adopted 3rd Generation Blockchain Design family of protocols. These combine the best properties of classic consensus protocols like Nakamoto (Bitcoin) with new developments in technology. The protocols achieve low latency and high throughput without needing to agree on the system's precise membership, thanks to lightweight network sampling. They can scale to accommodate thousands or millions of users directly participating in the network, the protocols do not make use of PoW (Proof of Work) and therefore are substantially more energy efficient. This leads to a lightweight and green network ecosystem.

SCALABLE

DComm's design is massively scalable and robust. The core consensus engine can support a global network of potentially hundreds of millions of low and high-powered, internet-connected devices that operate seamlessly.

SECURE

DComm's design is unwaivering and achieves high security. Classical consensus protocols are designed to withstand up to f attackers but fail completely when faced with an attack larger than f+1. Nakamoto Consensus provides no security at all if 51% of the miners are Byzantine.

In contrast, by creating parameters within the system, DComm provides a strong guarantee of safety when the attacker remains below a certain threshold. If the attacker exceeds this threshold, the protocol can instead degrade in a controlled manner. It can uphold safety (but not liveness) guarantees even when the attacker exceeds 51%.

DECENTRALISED

DComm's design, and this is echoed in its tokenomics, provides unprecedented decentralisation. There is a commitment to no centralised control of any kind. Fundamentally an avoidance of divisions of any kind between classes of users with different interests. This is achieved by ensuring there is no distinction between miners, developers, and users.

GOVERNABLE & DEMOCRATIC

$DCM is a highly inclusive platform, which enables anyone to connect to its network and participate in validation and first-hand governance. The evolution of the platform is controlled by any token holder, by selecting key financial parameters through a voting mechanism.

INTEROPERABLE & FLEXIBLE

DComm is designed to be a universal and flexible infrastructure for a multitude of blockchains/assets, where the base $DCM is used for security and as a unit for exchange. The system is intended to support many blockchains being built independently on top of the platform. The platform is designed to make it easy to port existing blockchains. This is accomplished by support for using various scripting languages, virtual machines, and multiple deployment scenarios.

PERMISSIONLESS, OPEN TO CHURN & ROBUST

For the most part, blockchain projects employ classical consensus protocols and therefore require the network to recognise all its participants. Knowing the entire set of participants is sufficiently simple in closed, permissioned systems, but becomes increasingly hard in open, decentralised networks. This limitation is in fact a high security risk. In contrast, our 3rd Generation Consensus protocols maintain high safety guarantees even when there are well quantified discrepancies between the network views of any two nodes. Validators of Consensus protocols can validate without the network requiring to recognise all its participants.

SCALABLE & DECENTRALISED

A core feature of our 3rd Generation Consensus protocols family is its ability to scale without sacrifice. The protocols can scale to tens of thousands or millions of nodes, without delegation to subsets of validators. These protocols enjoy the best-in-class system decentralisation, allowing every node to fully validate. Direct continuous participation has deep implications for the security of the system. Almost every Proof of Stake protocol that attempts to scale to a large participant set, delegates validation to a subcommittee. As a chain is as strong as its weakest link, so is a protocol, in this case, as strong as its weakest subcommittee. In security optimised consensus-type protocols, every node operator has a first-hand say in the system, at all times, thus negating the need for subcommittees entirely. Sharding, is the distribution or splitting of one data set across multiple independent validators. Similarly, to a subcommittee, sharding is only as strong as it most corrupt independent shard. Therefore, neither subcommittee election nor sharding are desirable scaling strategies for blockchain platforms.

ADAPTIVE

Unlike other voting-based systems, our 3rd Generation Consensus protocols achieve higher performance when the attack is small. Even under a large scale attack the system remains highly resilient.

ASYNCHRONOUSLY SAFE

Our 3rd Generation Consensus protocols, unlike longest-chain protocols, don't require the chain to be "in sync" to operate safely, and therefore prevent double-spends even in the face of forks. Theoretically, in Bitcoin, for example, if validator nodes aren't totally in sync, it is possible to operate two independent forks of the Bitcoin network for prolonged periods of time, which would invalidate any transactions once the forks heal.

LOW LATENCY

Our security optimsed consensus protocols typically reach finality in ≤ 1 second,

which is in the top 1% of latency achievements. Even today, in 2022, many blockchains are unable to support business applications such as trading or daily retail payments. Waiting minutes for transaction finality is not acceptable, let alone hours, or in the case of congestion, even longer. Therefore, one of the most important, and yet highly overlooked properties of consensus protocols is the time to transaction finality.

HIGH THROUGHPUT

Snow* protocols, which can build a linear chain or a Direct Acyclic Graph, reach thousands of transactions per second (5000+ TPS), while retaining full decentralisation. New blockchain solutions that claim high TPS typically trade off decentralisation and security. Some projects report numbers from controlled, incredibly simple transactions, that have no bearing in real application, thus not true performance results.

$DCM has reported numbers that are taken from a fully implemented Avalanche network running on 2000 nodes on AWS, distributed across the globe on low-end machines. Higher performance results (10,000+ Transactions per second or TPS) could be achieved through higher bandwidth provision on each node as well as dedicated hardware for signature verification. An important note is that these are all measured at a base layer. A considerable improvement exists by introducing Layer-2 scaling solutions.

Subnets & Virtual Machines

SUBNETWORKS

A subnetwork, or subnet, is a dynamic set of validators working together to achieve consensus on the state of a set of blockchains. Each blockchain can only be validated by one subnet. However, a subnet can validate more than that single blockchain. A validator may also be a member of multiple subnets. A subnet decides who may enter it and may require that its validators have certain properties. The DComm platform supports the creation and operation of multiple subnets. To create a new subnet or to join a subnet, one must pay a fee denominated in $DCM.

The subnet model offers several advantages such as:

- If a validator has no interest about the blockchains in each subnet, they can just avoid that subnet. This reduces network traffic and computational power required by the validators. Other blockchain projects require every validator to validate every transaction, even the ones that they have no interest in validating.
- Trust is created by each subnet deciding who may enter. Thus, one can create private subnets. In this scenario each blockchain in that subnet is validated only by a set of trusted validators.
- One can create a subnet where each validator requires certain properties or parameters. For example, one could create a subnet where each validator is in a certain jurisdiction, or where each validator is bound by some real-world contract. This may be beneficial for compliance reasons.
- There is one special subnet called the Default Subnet. It is validated by every validator. (That is, to validate any subnet, one must also validate the Default Subnet). The Default Subnet validates a set of pre-defined blockchains, including the blockchain where $DCM thrives and is traded.

VIRTUAL MACHINES

Each blockchain is an instance of a virtual machine (VM). A VM is a blueprint for a blockchain, much like a class is a blueprint for an object in an object-oriented programming language. The interface, state, and behaviour of a blockchain is defined by the VM. The following properties of a blockchain, and others, are defined by a VM:

- The contents of a block
- The state transition that occurs when a block is accepted
- The blockchain's APIs and their endpoints
- The data that is persisted to disk

We say that a blockchain "uses" or "runs" a given VM. When creating a blockchain, one specifies the VM it runs, as well as the genesis state of the blockchain. A new blockchain can be created using a pre-existing VM, or a developer can code a new one. There can be many blockchains that run the same VM. Each blockchain, even those running the same VM, are logically independent from others and maintains its own state.

CORE COMPONENT LAYER

DComm's blockchain has been designed specifically for real-world asset tokenisation and DeFi. The underlying protocol is a 3rd generation blockchain with very high throughput, infinite scalability, and very low transaction costs.

In addition, the blockchain is powered by a core layer that caters to the various components for the real-world asset tokenisation and DeFi.

REAL-WORLD ASSET COMPLIANCE

The possession and trading of real-world assets comes with the regulatory and compliance requirements. The compliances need to be inbuilt into the token standard itself. DComm's approach in this regard is decentralised identity that combines the real-world identity with the cryptographic identity and compliance standard encoded in the token standards.

PROOF OF ASSET PROTOCOL

The Proof of Asset protocol is the set of smart contracts and rules that enables the lifecycle management of the underlying assets including Proof of Ownership that ensures the clear title of the asset, Proof of Storage that ensures the underlying asset is well secured with on-chain provenance and storage, and the Proof of Peg, which ensures that the tokens in circulation are pegged 1:1 with the assets.

REAL-WORLD DECENTRALISED ID

The Decentralised Identity that combines the real-world identity with the cryptographic identity is the most suitable solution for real-world tokenised assets. The possession and trading of real-world assets require meeting the regulatory and compliance requirements including KYC, AML, FATCA, etc checks. DComm's decentralised identity will allow seamless trading of real-world tokenised assets on the DeFi platforms like DEXs or lending platforms.

In addition, decentralised identity will also enable users to control the privacy of their data.

INTEROPERABILITY

Blockchain interoperability allows different blockchain protocols to actively communicate with each other including token assets and data. The DComm interoperability bridge allows interoperability among the core chain and the subnet chains. It also allows the interoperability of assets with Ethereum blockchain. The standard will be extended further to achieve interoperability with more and more blockchain networks.

ZERO KNOWLEDGE PROOF

Privacy is one of the major requirements for widespread adoption of real-world asset tokenisation and DeFi and adherence to compliances. The DComm Zero-Knowledge Proofs (ZKPs) protocol enables blockchain projects to facilitate greater transaction throughput and protect user data while still being able to verify identities. Furthermore, this protocol supports complex computation and allows enterprises to adopt blockchain technology while protecting their intellectual property.

NON-CUSTODIAL WALLET

A non-custodial wallet is the core component of any decentralised network. DComm's non-custodial wallet features support for multiple blockchain networks, and delegation and validating the blocks. Various advanced features like swap tokens, portfolio management, etc., will be released as per the roadmap. The wallet is accessible across web and mobile devices.

DECENTRALISED ORACLE

Efficient primary and secondary markets of real-world tokenised assets require off-chain data, like price, which feeds into the smart contracts. DComm's decentralised oracle network extends the functionality of blockchains by connecting smart contracts to real-world data, events, payments, and off-chain computation in a highly tamper-resistant and reliable manner.

In addition, the DComm blockchain will support all other decentralised oracle networks.

DECENTRALISED GOVERNANCE

Decentralised Autonomous Organisations (DAOs) are essential to decentralised networks where governance tokens provide token holders with certain rights that influence a network's direction. Decentralised governance brings voting and distribution of power and responsibilities on-chain. DComm's focus on DAOs enables the DeFi and other projects to reach their full potential by becoming truly decentralised.

STABLE COIN (ASSET BACKED)

Stablecoins are a type of digital asset whose value is tied to the value of a currency, a commodity, or any other financial instrument. So, for every stablecoin that is in circulation, a reserve of these real-world assets is maintained as collateral. Stablecoins offer the benefit of being non-volatile in nature. They are also useful for quick payments without the need of an intermediary. The support for stablecoins combined with the DComm's Proof of Asset protocol will enable better trading opportunities, lending and borrowing and portfolio stability.

DCOMM INFRASTRUCTURE – AN ASSET-BACKED BLOCKCHAIN

"A main point of difference for DComm/ $DCM is the investment into real-world, tangible infrastructure."

DComm is building an ecosystem which not only has digital assets but real-world, tangible assets. The DComm founders have already invested in these projects and provided a solid initial investment into DComm to secure their early-stage development. A portion of the Seed Capital Rounds will be deployed in further investment into the projects to advance them which ultimately assists to strengthen the financial position and support for the DAO.

The first three projects of DComm Infrastructure

DCOMM ENERGY – COMMUNITY EMBEDDED NETWORKS (CEN)

DComm has purchased an existing renewable energy business with 3 CEN projects including options to purchase the land and development applications and grid connection agreements underway. Indicative size is 2MW of PV generation, 5MWh or battery storage and 1MW grid connection. Capital cost is circa. $7m each. Sites range from 16ha-320ha.

Each will have a modular datacentre on it performing crypto mining operations using renewable energy.

DCOMM ENERGY – LARGER SCALE SOLAR PLANT

DComm has negotiated the purchase of a "Shovel Ready" 20 MW solar farm project, south of Perth, Western Australia located on 60ha site. We are currently conducting due diligence on the project including the Western Power (the local grid operator) approvals and final business model.

Capital cost is circa $30m.

DCOMM DATA – MODULAR CRYPTO MINING DATACENTRES

DComm has negotiated a Terms Sheet to buy an existing datacentre business with a build, own and operate model in place.

DComm currently owns and operates 2 crypto mining operations which it manufactured. These facilities are currently owned and operated by the datacentre company and are powered by a wind farm and biomass methane plant.

There are currently revenues of $3m/pa from these two sites. Reputable accountants are conducting due-diligence on the financials and the company is seeking ASX and shareholder approval for the sale.

SUPPORT FOR THE DAO & $DCM

"The purpose of the DComm infrastructure relates strongly to the fundamental principles of adoption, tangibility, decentralised communities and scarcity."

- Adoption of the DComm blockchain by demonstrating specific use cases including:
  - i. Tokenisation of the ownership of the CENs and solar farms
  - ii. Tokenisation of the ownership of the data centres
  - iii. NFT fund-management model for Mining as a Service and Staking as a Service
- Tangibility in the form of an ecosystem with real-world assets and businesses which complement and demonstrate the use of the DComm blockchain whilst providing support for $DCM and the DAO.
- Decentralised communities provide small, fractional ownership of tangible assets consistent with the DComm name.
- Revenue to fund the day-to-day operations of DComm, without leveraging $DCM (ensures $DCM scarcity).
- Providing green power to host validator nodes of the DComm blockchain
- Provide renewable energy for regional communities to help stabilise the power grid in problem areas.

SUMMARY

The DComm blockchain, and its underlying asset, DComm Infrastructure have been created with precision and a clear focus on achieving these goals:

- Scarcity as the underlying methodology of the economic approach, which drives value.
- Tangible technology that supports the delivery of real-world assets.
- The decentralised community of DComm being the delivery method that brings it all together.

Having these clear guidelines formulated an approach that is always $DCM focused, always with an eye on the value, the outcome for the community and evidence of tangibility.

Thus, we have implemented our core principles surrounded by these pillars and achieved the following:

Sustainability, Scarcity & Value

DComm's unique business structure, where assets back the blockchain, and those assets are income producing instruments, creates an underlying blockchain value, income and use-case.

SUSTAINABLE

The multiple streams of income, interaction with digital communities, fractional ownership, mining and staking operations all serve the same purpose – sustainability. The assets used are "green and sustainable in their own right", and overall DComm has a financially sustainable ecosystem, where the entire business has very little reliance on using $DCM as an instrument of capital raise. In fact, only 43.75% of all earmarked capital raising $DCM will be sold in Phase 1 of the roll out. This is due to the efficient methodology used at a corporate level. The remaining 56.25% has been set aside for the DAO, projects, and strategic alliances.

Even at a founder and team level, 20% of the team allocation is unallocated, making way for future growth.

SCARCITY

By setting up to be sustainable we engage the gears of scarcity. The release of $DCM will be a slow, considered and measured process, spanning a period of years, not days. This will have a large impact on the market forces of supply and demand. Our key partnerships are driving adoption, even before listing, and during TestNet, which drives demand and increases scarcity. Every step we have taken has been to increase scarcity by adding utility.

VALUE

However, DComm's value extends far beyond these two simple concepts. We have developed strong partnerships and encouraged start-ups and extremely early adopters to engage with and build upon the DComm platform. DComm has also built and maintained a strong community (the best measure of perception), and developed a decentralised TestNet, months before listing was even announced.

Real-World Asset Tokenisation – Structure & Architecture

The fundamental architecture discussed in this document provides the base platform upon which assets can be tokenised. We have shown how the platform is designed to scale at speed and remain efficient. The promises of low costs and low energy consumption have been defined. Infinite stability through Subnets, as a self-fulfilling prophecy of success.

STRUCTURE

The three chains that make up the DComm blockchain – Action (ACT), Asset (AST) and Authority (ATH) – are fully geared to independently handle, the requirements of assets being tokenised. This underlying structure is governed by three independently working, yet harmonious, advanced consensus algorithms. The outcome being an immensely stable, scalable, efficient core, quantum resistant, ultra-fast and uncompromising blockchain.

ARCHITECTURE OF CORE COMPONENTS

The platform on its own, is the foundation, and has been fully discussed as to how it serves its purpose. However, the real-world has tangible requirements and thus the architecture of the services, components and applications that exist on DComm are the key to unlocking the DComm blockchain. In this paper we have reviewed the concepts of Zero-Knowledge Proof, non-custodial wallets, decentralisation of governance, oracles, and identification as well as how compliance is required to secure the underlying asset. The DComm suite of open source, accessible and purpose-built services that facilitate these outcomes is the key differentiator, and the future of the asset tokenisation space.

Last Thoughts

DComm is a carefully engineered blend of an asset backed blockchain, an incredibly advanced platform and forward thinking, robust set of core components and services. All of which have been designed to arrive at the outcome of real-world asset tokenisation.

This paper was called an action paper, since the legacy DComm will leave, aside from exceptional technology and business, will be one of actions done, and only then, words spoken.

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