



Universal Decentralized Asset Platform (UDAP)

UDAP Foundation

UDAP, a Blockchain Middleware for Tokenizing Everything

Summary

With the fundamental “layer one” in the Ethereum ecosystem now established, blockchain development is entering an exciting new phase of “Tokenize Everything”. However, there is still a huge gap between blockchain applications and blockchain infrastructures. Current blockchain infrastructure is missing an important software layer that supports scalability, interoperability and functionality. This layer operates on top of existing blockchains, integrates technologies like decentralized storage and messaging, and often offers developer-friendly services and solutions to some common problems, for example, asset lifecycle management. Without this layer, it is difficult for developers to build application that can match Internet applications in terms of scalability, performance, and user experience. This layer is what UDAP focuses on.

UDAP, a Universal Decentralized Asset Platform, is a blockchain middleware that provides Restful APIs and an ‘Asset Wallet’ for application developers to create powerful blockchain based applications without writing any smart contracts. It’s a ‘layer two’ solution to non-fungible assets to simplify and accelerate blockchain application development.

In what we call an **"Asset Oriented Programming"** model, app developers take advantage of the traditional Internet application architecture and use UDAP as a layer of

1. asset tokenization
2. transaction notarization; and
3. contract adjudication in case of dispute.

Features and Benefits

For app developers:

1. Great decentralized features without investing heavily in underlying blockchain technologies.

UDAP defines convenient APIs for traditional vertical applications to integrate with blockchains, which would not require application developers to have a deep understanding of blockchain and decentralization technologies.

2. Fast, cheap and secure integration with public blockchains, without specific lock-in.

UDAP implements **State Channel** technology to solve some of the most challenging issues with developing and running Blockchain-based applications, and providing a high scalability, low cost, privacy protected and immediate responsiveness.

3. App-economy with in-app currency and asset life cycle management, trading (including some common trading models like buy and sell, rental, auction, pledge, etc.) and search capability.

UDAP provides a set of smart contract (initially based on Ethereum) templates that is configured by applications before deployment and at runtime. We believe that the automatic templating system can cover 90% of regular application use cases.

For public chains:

1. Great tool to attract developers to build new applications.
2. Easier integration with "legacy" Internet applications.
3. Less burden in supporting developers.

For end users:

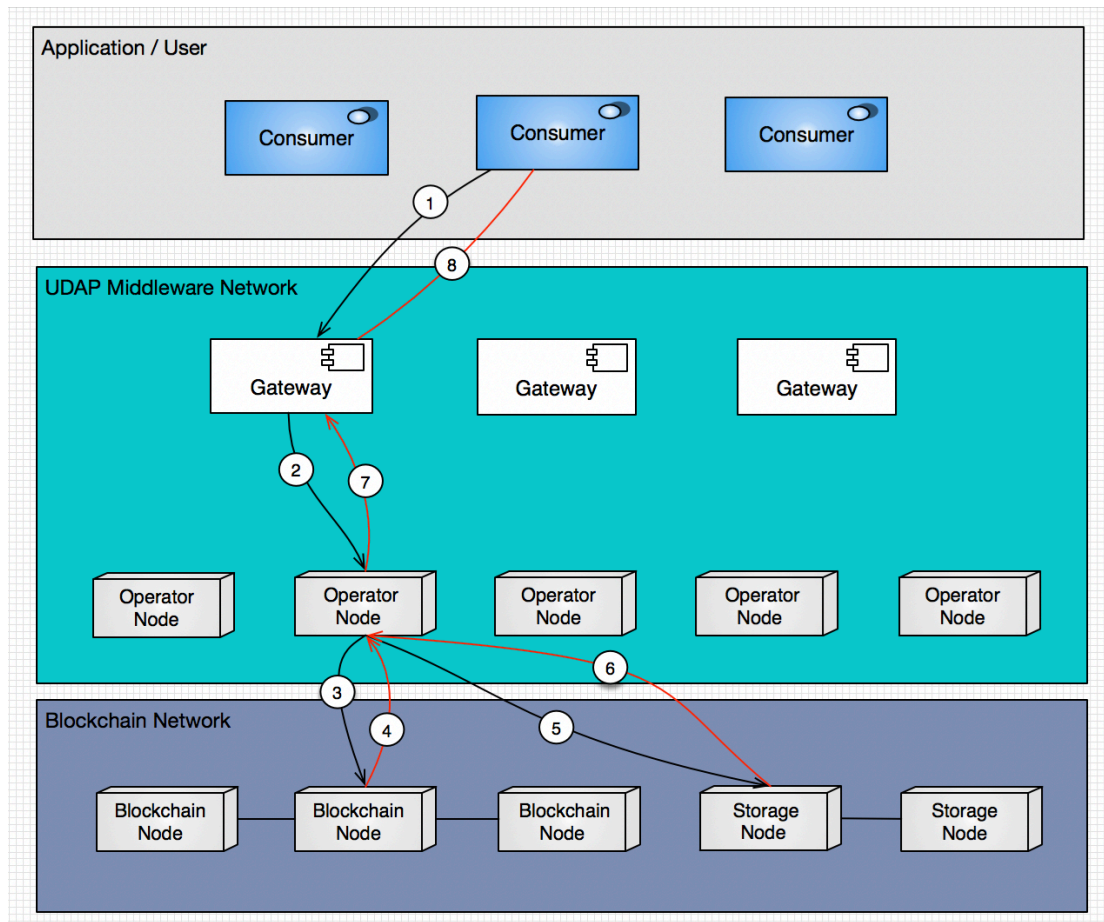
1. UDAP's Harvest Wallet on mobile plays a key role in the interaction between applications and users. For example, users can use Harvest Wallet check a concert ticket or check-in hotel room, etc.
2. Users can enjoy the internet experience by UDAP's State Channel technologies.

A Decentralized Middleware Network

UDAP proposes a decentralized middleware network, non-fungible assets can be defined, registered, verified, tracked and traded using an ERC721-compatible on-chain asset model. Complex operations like auction and search are routed to off-chain service nodes, however, transactions are still anchored by on-chain consensus algorithms.

The following diagram is an architecture overview of the proposed UDAP platform. It defines three layers with corresponding logical nodes as well as a simple use case about retrieving assets stored on the blockchain and decentralized storage. This layered architecture creates a separation of concerns and enforces reuse. Application

developers no longer need to code with low-level web3 APIs and specific storage and messaging APIs. The middleware provides a coarse asset-oriented APIs and off-chain solutions (like state channel and off-chain search) that expands transaction capacity and enables immediate finality.



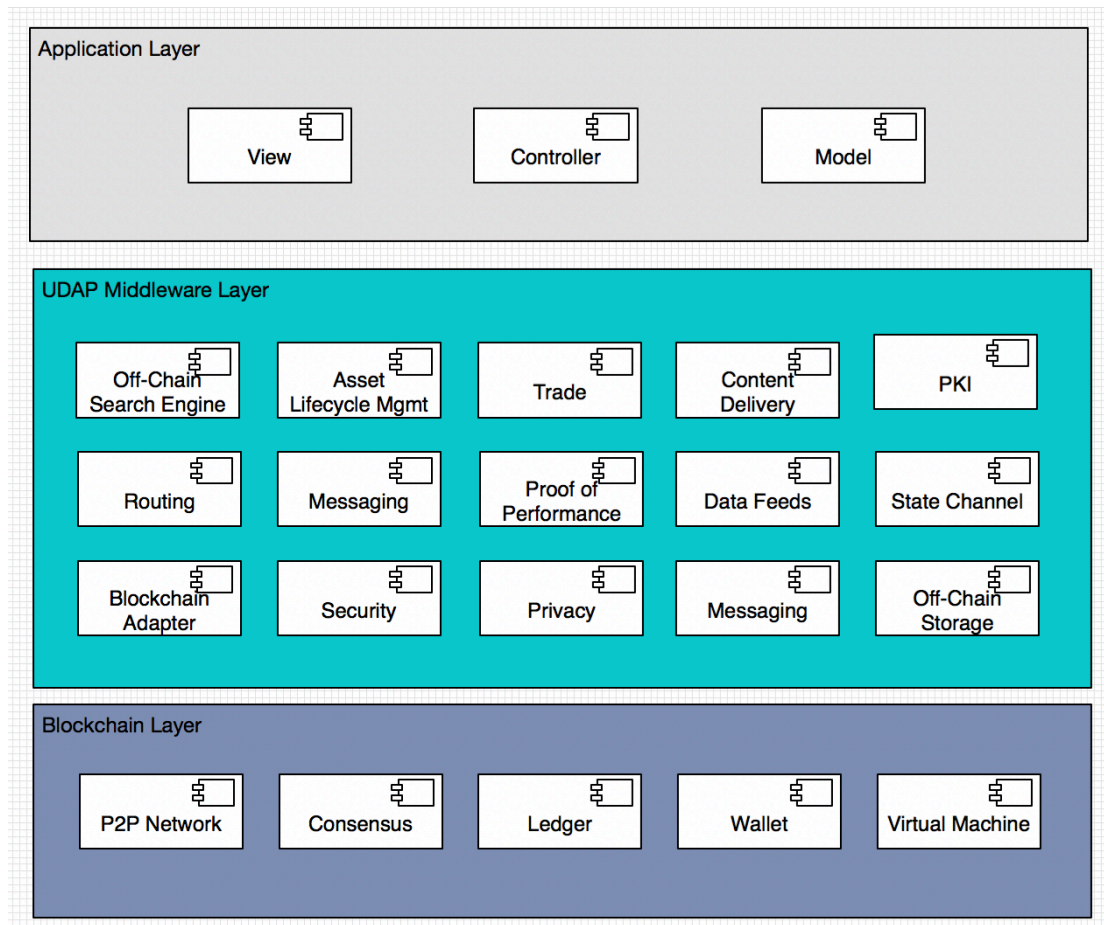
The UDAP middleware network introduces two new node types. One is Gateway Node, which provides routing and load balancing services. Another is Service Operation Node, which provides off-chain computation and integration to blockchains, storage, and messaging. Nodes are selected and incentivized to service the consumers (application) through a Proof-Of-Performance-Stake (**POPS**) consensus algorithm.

Hosts providing asset services need to deposit a small amount of locked-in tokens and need to broadcast their identities to the UDAP blockchain. UDAP chooses the node serving the service based on the POPS consensus algorithm:

1. Operator full node stake UPX volume and time.
2. Average responding time
3. Node online time
4. Last service time
5. Node health and load

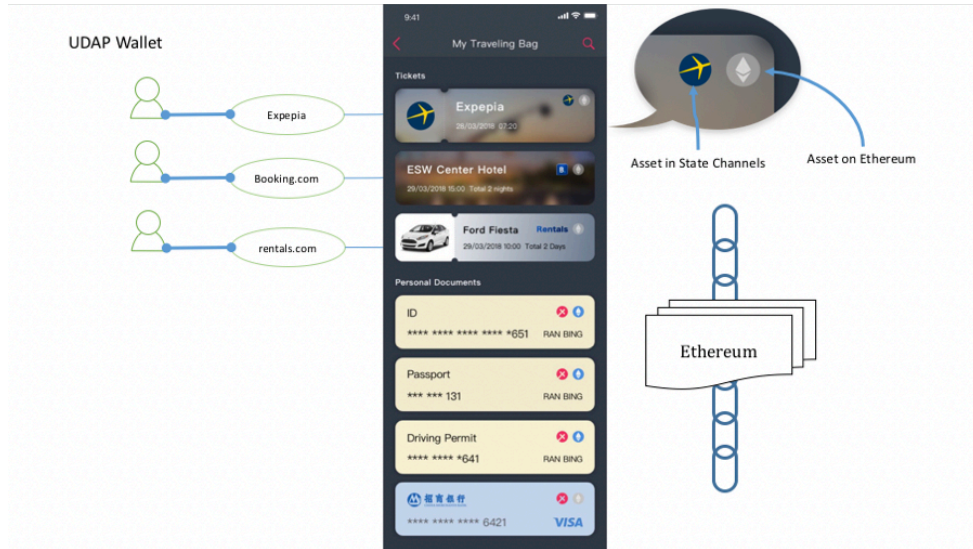
UDAP Middleware Components

This middleware layer offers off-chain search, state channel components, secure content delivery, common trading models and asset lifecycle management services (as illustrated below).



Harvest Wallet

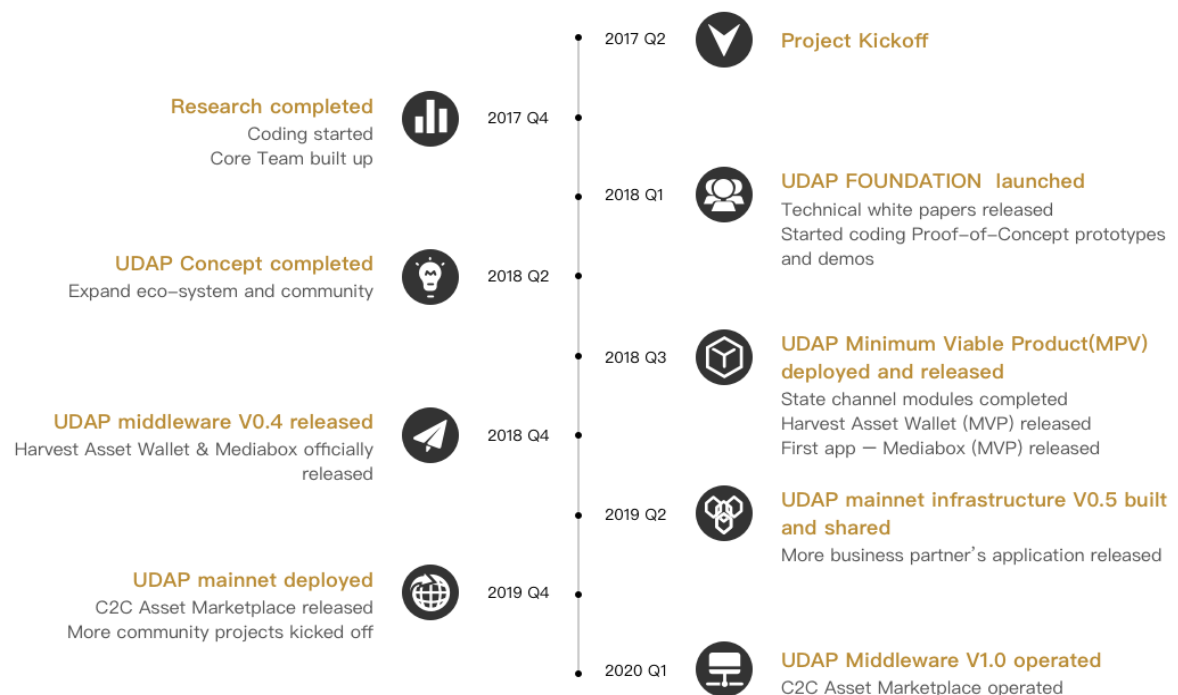
UDAP's Harvest Wallet is a very important part of UDAP platform, it's a personal safe box on one's mobile phone, it can contain anything such certificates, important documents, diamond, or other cryptocurrencies too. It's very easy to manage their own assets on blockchain or state channels.



Harvest Wallet is an extensible plug-in architecture too, it can support a large number of third-party apps that can generate a wide range of assets. Currently, Harvest Wallet MVP version is released and support memo, invoice and business name cards. More applications can be plugged into Harvest Wallet, it will let individuals create own assets easily.

UDAP Roadmap

ROAD MAP



UDAP Token Economy

The native digital cryptographically-secured utility token of UDAP (UPX) is a major component of the ecosystem on UDAP, and is designed to be used solely as the primary token on the network. UPX is a non-refundable functional utility token which will be used as the unit of exchange between participants on UDAP, well as for staking purposes. UPX can be bought from exchanges or run Operator Node to get rewarded. Functions of UPX are set out below:

1. Stake UPX token to get services from UDAP.

Developers would be required to stake sufficient UPX in the developer STAKE account in order to be entitled to use certain UDAP services. The developer is not required to stake native tokens of other blockchains such as EOS - UDAP will stake these EOS tokens for the developers. The stake UPX is calculated based on number of active users each month. Every address created or uses UDAP API is considered as 1 active user at that month. 200UPX per each active user is required to stake in the developer STAKE account to use UDAP services.

2. Pay UDAP service fee by UPX.

UDAP middleware run on top of blockchains, some blockchains charges fees, or requires additional storage like IPFS, so UDAP withholds the gas and/or storage fee plus 10% of services fee from developer's SERVICE account. For Example, Ethereum charges GAS fee, the GAS fee is finalized once the transaction completed. Developer can pay either UPX (Based on the market rate) or ETH, EOS, etc., depends on what blockchain used. UDAP charges minimal 5UPX per transactions, however, all transaction on State Channel is free of gas and UDAP service fee.

3. Pay UDAP transaction fee by UPX

UDAP charges 0.1% of the transaction fee based on the total amount of each transaction. The transaction fee can be paid by UPX or blockchain tokens. UDAP charges minimal 5UPX per transactions, however, all transaction on State Channel is totally free.

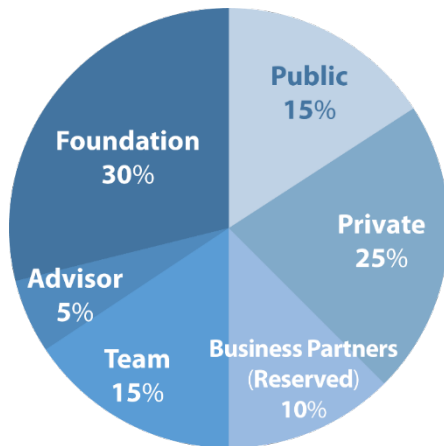
4. Monthly service fee

To ease developer manage their costs, UDAP provide a unlimited monthly services fee. Developer prepays 500,000UPX and enjoy unlimited number of UDAP services each month. That's good for applications with higher volume, but lower costs.

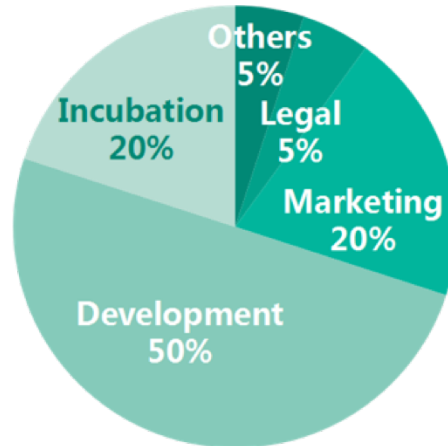
Token Distribution and Token Allocation

UPX tokens will initially be issued as ERC-20 standard compliant digital tokens on the Ethereum blockchain. The Total Supply is 10,000,000,000 UPX tokens.

Token Distribution



Token Allocation



Team and Advisors

Core Team members



Bing Ran
CEO



Derrick Warren
Chairmen of Foundation



Li Zhang
CTO



Frank Ying
COO



Xiaofeng He
Chief Scientist



Douglas Wang
Founder of JIC Capital

Advisors



Andrew Sotiropoulos
Senior Executive



Dr. Sandra Johnson
CEO, SKJ Visioneering



Dr. Lars Matthiessen
Professor, Georgia State University



Yuan Dao (Sheng Chen)
Founder of 21 ViaNet Group Inc.



Harrison Ding
Entrepreneur



James Chou
CEO of Microsoft Accelerator Shanghai



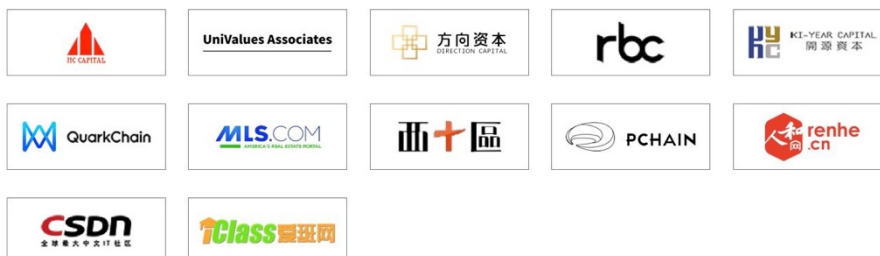
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