

DKVS

A distributed memory system for web3 applications



What is DKVS

Define

- DKVS is a **distributed Key Value storage** system.
- It is core module of TVN network designed for Web3 application development.

Goal

- Become a **distributed memory system** for Web3 applications.

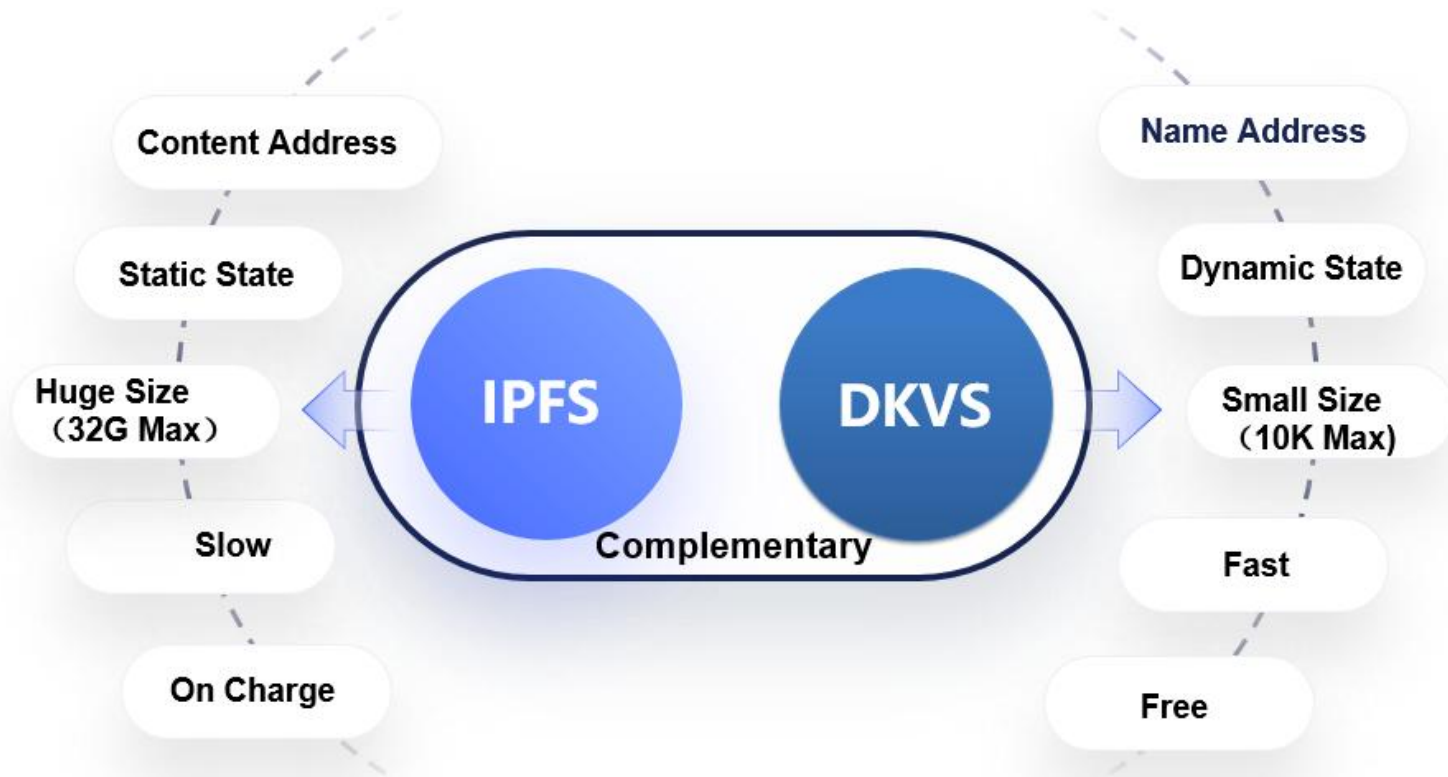
Feature

Distinguished from
ordinary distributed
storage systems

- The Key-Value of DKVS is verified with signature, which means that each pair of KV has an owner. Only the owner can write and others can only read.
- Each pair of KV in DKVS has a limited storage size, which cannot exceed 10k bytes at most.
- The KV of DKVS is loaded into memory.



DKVS and IPFS



- DKVS is the best partner of ipfs, and they have the most complete complementary relationship.
- The main difference is that DKVS is name addressed, which is fundamentally different from IPFS.



The Core Function of DKVS network



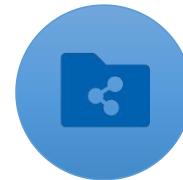
Accounts Based on Asymmetric Keys

- All the network resources interact with each other by account, and accounts are the most fundamental function of the entire network.
- The account is a public-private key pair generated by cryptographic algorithms.



Distributed Memory System DKVS

- KV is signed and exclusively owned by the account.
- Reading and writing data is first from network, ensuring that the read and written data is up-to-date. Through this module, the entire network becomes an unified memory for all applications, where data can be accessed through defined names.



Distributed File System IPFS

- The IPFS module is a standard IPFS node that connects to the entire IPFS network and provides distributed storage function.
- All the IPFS files are encrypted by account's secret key.

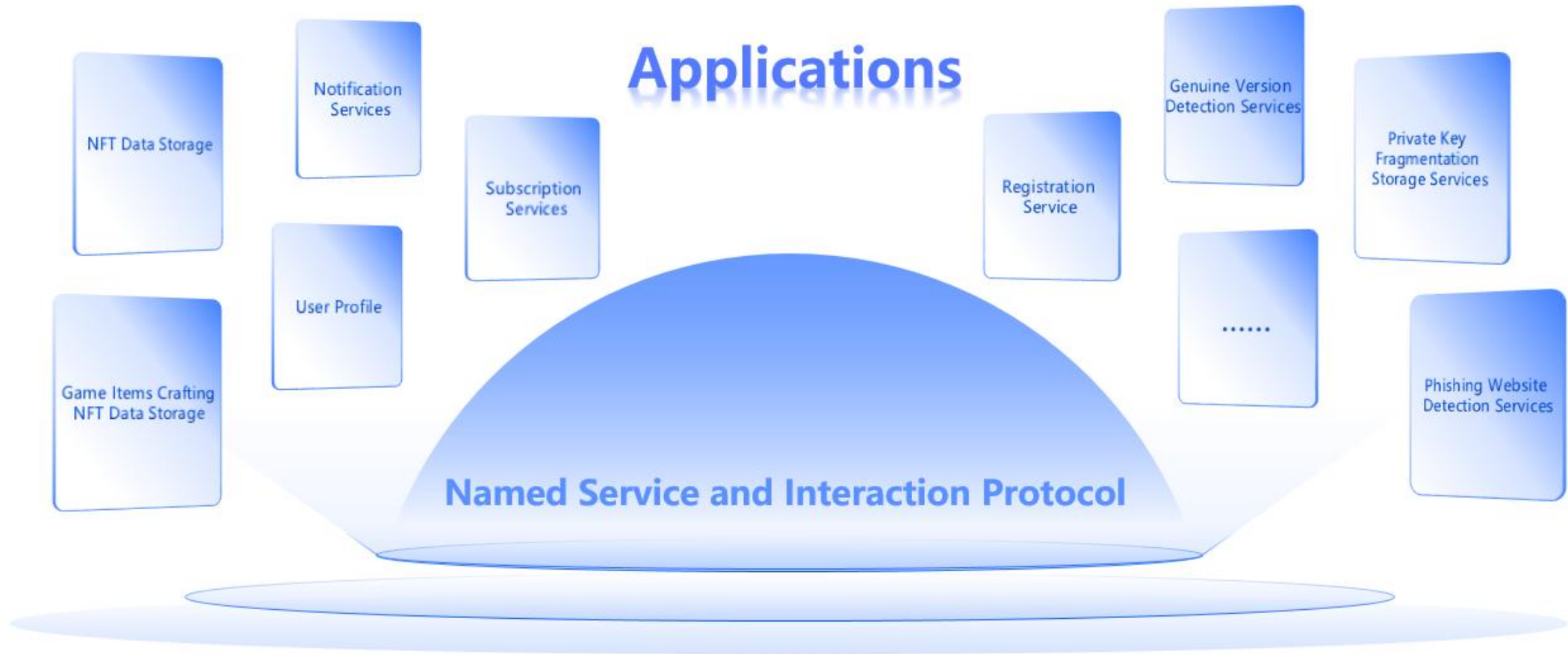


Communication Protocol

- The communication protocol works on an account-based system.
- Each account has a mailbox which can receive online and offline messages.
- Through named public channels, each nodes can associate with each other to complete complex tasks.



Application Scenarios



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**Together for Progress,
Cooperation for Win !**