The next Web (Emerging Web technologies)

OCean

ITU Workshop on "Future technology trends towards 2030"







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- 02 Why you should use Ocean
- 03 Key concepts in Ocean Protocol
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- 05 What you can use Ocean for
- 06 Questions







Problem Statement

Enterprises have a **lot** of data but not a lot of Al expertise



Startups have a **lot** of AI expertise but not a lot of data





So why use Ocean Protocol?



ocea





Ocean Protocol is the Connective layer

Ocean Protocol

is the connective layer. It can connect 1000s of data publishers with 1000s of data consumers





Ocean puts you in control

From the very beginning, Ocean has strived to put you in control of your data, we are on a mission to break the black-box data selling model of Facebook and others.

We understand that many companies don't feel comfortable sharing or selling data.

Ocean Protocol gives you complete control of your data by removing any third parties from the process, selling data over the blockchain is completely decentralised.







Much more than just a data market

Ocean Protocol offers you so much more control than a typical data market.

The gatekeeper to accessing your data is a smart contract, which is an immutable piece of code running on the blockchain

The terms and conditions to access your dataset can never be altered by an intermediary.





How do we ensure data privacy?











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Compute to Data











Public utility network

Private model

Data stays behind firewall











Key Concepts







Three layers:

L1 - Network level (Smart Contracts)

L2 - Component level (Backend components and Libraries)

L3 - Decentralised applications (DApps), Ocean Market etc.





Host your own data

- Ocean does not handle storage to avoid data custodianship
- You will provide an URL of the actual data
- Data can be stored in: AWS, Azure, On-Premise, Dropbox, IPFS, Arweave, Smart contract
- Data can be queried with graphql.





What is a Data NFT?

Data NFT: an ERC721 token that represents copyright or exclusive license of a data asset on the blockchain - termed "base IP".

Creation: When a dataset is published in Ocean V4, a new NFT is created as proof of base IP claim.

Benefits: Validates the claim of base IP, entitling the owner to the asset's revenue, similar to a title deed ensuring rent rights.

ERC721 Smart Contract: Holds data metadata, defines roles (e.g., minting datatokens, controlling fees), and provides a key-value store for custom fields.

Ownership: The private key holder owns the NFT. They claim the base IP and receive its revenue by default. Ownership can be transferred or redirected.

Transfers: Transferring a Data NFT resets role and revenue info. The new owner becomes the default revenue recipient.







Key Features and Functionality

Data NFTs offer several key features and functionalities within the Ocean Protocol ecosystem:

Ownership and Transferability: Data NFTs establish ownership rights, enabling data owners to transfer or sell their data assets to other participants in the network.

Metadata and Descriptions: Each Data NFT contains metadata that describes the associated dataset, providing essential information such as title, description, creator, and licensing terms.

Access Control and Permissions: Data NFTs can include access control mechanisms, allowing data owners to define who can access and utilize their datasets, as well as the conditions and terms of usage.

Interoperability: Data NFTs conform to the ERC721 token standard, ensuring interoperability⁻ across various platforms, wallets, and marketplaces within the Ethereum ecosystem.







What is a Datatoken?

Datatokens are fundamental within Ocean Protocol, representing a key mechanism to access data assets in a decentralized manner. In simple terms, a datatoken is an ERC20-compliant token that serves as access control for a data/service represented by a data NFT.

Datatokens enable data assets to be tokenized, allowing them to be easily traded, shared, and accessed within the Ocean Protocol ecosystem. Each datatoken is associated with a particular data asset, and its value is derived from the underlying dataset's availability, scarcity, and demand.

By using datatokens, data owners can retain ownership and control over their data while still enabling others to access and utilize it based on predefined license terms. These license terms define the conditions under which the data can be accessed, used, and potentially shared by data consumers.







Understanding Datatokens and Licenses

Each datatoken represents a sub-license from the base intellectual property (IP) owner, enabling users to access and consume the associated dataset.

The license terms can be set by the data NFT owner or default to a predefined "good default" license. The fungible nature of ERC20 tokens aligns perfectly with the fungibility of licenses, facilitating seamless exchangeability and interoperability between different datatokens.

By adopting the ERC20 standard for datatokens, Ocean Protocol ensures compatibility and interoperability with a wide array of ERC20-based wallets, decentralized exchanges (DEXes), decentralized autonomous organizations (DAOs), and other blockchain-based platforms.

This standardized approach enables users to effortlessly transfer, purchase, exchange, or receive datatokens through various means such as marketplaces, exchanges, or airdrops.





How does It work?



Publishing an Asset



Consuming an asset on Ocean



Ocean.js (py)

Consumer

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Provider checks permissions and validations on chain







You pay the datatoken





Ocean.js (py)









What can you build with Ocean?

- Music NFT store
- Digital artwork marketplace
- Token gated application.
- E-Book store
- Online video workshop and learning platform







OCEANREADS

Stephen King ★ ★ ★ ★ ☆ ^{34.3}	g 308 reviews			
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