Towards mutable
NFTs: Non-Fungible Mutable Tokens

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Motivation

FT, NFT, NTT, ERC20, ERC720, ERC1155, ...
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NFTs simply track ownership but are increasingly used to “represent” digital assets in decentralised spaces
Motivation

Asset mutability needed to reflect real world assets behaviour

Simple NFTs not very flexible, hash commitments have no dynamicity
NMTs

Each asset is associated to an “asset descriptor”, i.e. key,value pairs

traditional NFT: change the off chain representation

[Image: Ipfs-logo-1024-ice-text.png]
NMTs

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traditional NFT: change the off chain representation

dynamic NFT: leverage token metadata
NMTs

Each asset is associated to an “asset descriptor”, i.e. key,value pairs

- **traditional NFT**: change the off chain representation

- **dynamic NFT**: leverage token metadata

- **mutable NFT**: link asset contracts

Including mutability rules!
NMTs

- **Uniqueness**: each NMT represents a unique asset independently of its descriptor content.
- **Indivisibility**: an NMT can not be divided in smaller parts even if the asset it represents may logically allow it. When transferred, an NMT is transferred in its entirety or not transferred at all.
- **Programmable transferability**: an NMT may change ownership according to a set of defined rules.
- **Authenticity**: an NMT history is fully traceable on chain. Moreover, NMTs, being managed by a smart contracts, are secure, e.g. tamper resistant.
- **Mutability**: all characteristics of an NMT linked asset can be updated according to a set of rules. Such rules may be predefined or mutable themselves. The only immutable characteristic of an NMT asset is its unique NMT induced identifier.
- **Programmability**: all logic, such as mutable characteristics update and transferability rules, of an NMT is encoded in a smart contract.
Reference example
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Questions