Metaverse Standards Forum
NFT Royalties: Loans

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Status: Approved for Public Distribution

Version: 1.0

Reviewer	Due Date	Status	Contact
Digital Asset Management Working Group	June 18, 2024	Complete	digital_asset_management @lists.metaverse-standards.org
MSF Domains (Peer Review)	March 05, 2025	Complete	oversight@lists.metaverse-standards.org
Use Case Taskforce	May 06, 2025	Complete	use_case_task_force@lists.metaverse-standards.org

The purpose of this template is to provide a structured framework for collecting and documenting use cases within the Metaverse Standards Forum (MSF). Use cases are essential for understanding real-world scenarios where metaverse technologies are applied and where interoperability challenges may arise. This template guides MSF members in providing a concise yet comprehensive description of a use case, including its title, identifier, and summary. It also encourages contributors to list the benefits of the use case, identify actors or entities involved, and describe the use case scenario in detail, emphasizing interactions, challenges, and requirements. Additionally, it prompts the inclusion of relevant technical information, such as implementations, success metrics, and challenges faced. This template aims to facilitate the gathering of valuable use-case data to inform standards development and foster collaboration within the MSF community.

MSF members and MSF Domain Groups are invited to submit use cases.

NOTE: Organizations such SDOs who want to submit and add a use case would need a sponsor that is an MSF member. This process is established in order to have a contact person in MSF that can handle discussions and resolve open issues within regular meetings.

Eligible submitters:

- MSF Domain Groups
- MSF Members (Principal and Participant)
- External Organizations with Liaison Agreements (with the support of a MSF member that acts as sponsor)
- Standard Development Organizations (with the support of a MSF member that acts as sponsor)

Minimum Requirements for MSF Member Submissions not part of a Domain Group:

- Minimum required number of proposers: 3
- Minimum required number of supporters: 5

NOTE: Use cases submitted by SDOs and Liaison Organizations would also need to fulfill the same requirements (and would need a sponsor) unless they are submitted by a Domain Group.

MSF: *Metaverse Standards Forum*
POG: *Pre-qualified Organizations and Groups*
SPP: *Standards Related Publications and Projects*
DWG: *Domain Working Groups*
WG: *Working Group*
SDO: *Standards Development Organization*

Use Case Title

NFT Royalties: Loans

Use Case Identifier

MSF2024-NFTLN-001

- Version 1.0
- Year of Release: 2025

Summary of Use Case

Description: "Non-Fungible Token (NFT) Loans" involves paying royalties to original creators when NFTs are used as collateral to secure loans, a novel financial approach in the metaverse. This use case covers the specific case when an NFT is transferred in conjunction with a loan default. This use case covers the valuation of NFTs, the negotiation of loan terms, the payment of royalties, and the mechanisms for repayment or collateral management.

Benefits of NFT Loans:

- **Increased Liquidity for NFT Owners:** allows NFT holders to access the monetary value of their assets without selling, enhancing liquidity.
- **Expansion of Financial Services in the Metaverse:** bridges traditional lending practices with the emerging digital asset economy.
- **Market Stabilization:** tackles the liquidity challenge in NFT markets, contributing to more stable and mature market dynamics.
- **Flexibility in Asset Management:** empowers NFT owners to diversify their investments or fund various needs using their digital assets.

- **Enhanced Interoperability:** promotes the integration of NFT markets with broader financial systems, enhancing the utility and accessibility of NFTs across different platforms and applications. This interoperability is crucial for wider adoption and functional versatility of NFTs in the metaverse.

Contributors and Supporters

- Digital Asset Management Working Group
- MSF Domains (Peer Review)
- Use Case Taskforce

Keywords

NFT Lending, Digital Collateral, Metaverse Finance (MF), Liquidity Solutions, Blockchain Loans, Non-Fungible Tokens (NFTs), Smart Contract, Decentralized Finance (DeFi), Asset Tokenization, Collateral Management, Financial Innovation, Interoperability, Cryptocurrency (Crypto)

Actors/Entities

- **Creator:** entity that originates the NFT, responsible for its initial creation and minting.
- **Secondary Creators/Collaborators:** entities involved in the NFT's creation process or holding contractual rights, such as publishers, distributors, or collection societies.
- **Wallets:** digital wallets facilitating NFT transactions.
- **NFT:** a digital asset governed by an NFT Contract.
- **NFT Contract:** various types of governing smart contracts for NFTs, including those that are immutable, upgradeable, and those representing real-world assets.
- **Blockchain Network:** the foundational technology enabling NFT minting, trading, and royalty distribution.
- **Holders:** includes both Sellers (current NFT owners) and Buyers (collectors, liquidity providers).
- **Marketplace:** digital platforms for the listing and trading of NFTs, inclusive of curators and online galleries.
- **Lender**: Individual investors, institutions, or protocols offering loans against NFT collateral.

Detailed Description of Use Case/Scenario

Preconditions:

- NFT is minted by Creator using the System.
- The Holder possesses the NFT and wishes to use it as collateral for a loan.
- The Lender is willing to provide loans against NFT collateral.

- A Marketplace exists for facilitating NFT-backed loan transactions.

Main Flow:

1. **Loan Request:** the Holder applies for a loan on a Marketplace, listing their NFT as collateral.
2. **NFT Appraisal and Agreement:** the Marketplace assesses the NFT's value. The Lender offers loan terms based on this appraisal, or its own appraisal.
3. **Loan Creation:** Marketplace initiates execution of the loan.
4. **Collateral Transfer and Loan Disbursement:** the NFT is transferred to an escrow (possibly managed by the Marketplace), and the loan amount is released to the Holder.
5. **Repayment Period:** Holder makes payment(s) to the Lender.
6. **Default:** Holder defaults on the loan. In accordance with the NFT Contract, Marketplace and System initiate the default process specified by the NFT Contract, including payment of royalties to the Creator.

Postconditions

- NFT is transferred to the Lender, or liquidated to cover the loan in case of default.

Implementations and Demonstrations or Technical Feasibility

- Example of Real-World Implementations:
  - **NFTfi and Arcade:** platforms like NFTfi and Arcade have pioneered NFT-backed loans. They connect NFT owners with lenders, providing a marketplace for loan agreements backed by NFT collateral.
  - **Blur's Perpetual Peer-to-Peer Model:** this model allows direct loans between lenders and borrowers without set expiration dates, using NFTs as collateral.
  - **BendDao:** offers a peer-to-pool lending model where NFTs are used as collateral to borrow from a pool of liquidity providers.
  - **High-Value NFT Loans:** instances of substantial NFT-backed loans, such as the $8.32 million loan for CryptoPunk 104, demonstrate the scalability of this model for high-value digital assets.

Challenges:

- **Valuation Variability:** the fluctuating value of NFTs poses a significant challenge in determining loan amounts and managing risks.
- **Regulatory Uncertainty:** the evolving legal landscape around NFTs and digital assets creates uncertainty in the implementation of NFT loans.
- **Technical Security:** ensuring the security of the NFTs and the loan transactions against hacking and fraud is critical.
- **Market Liquidity:** the inherent illiquidity of the NFT market can impact the ease of liquidating NFT collateral in case of defaults.
- **Interoperability Concerns:** the need for interoperable platforms to facilitate NFT loans across different blockchain networks and marketplaces.

- **User Trust and Adoption:** building trust among users to engage in NFT lending, especially given the novelty of the concept and potential risks involved.

Requirements:

Technical and Functional Requirements:

- **Robust Smart Contracts:** secure and reliable smart contracts for automating loan terms, collateral management, and default procedures.
- **Accurate NFT Appraisal Systems:** methods to accurately appraise NFT values, taking into account market trends, rarity, and historical data.
- **Compliance with Regulatory Standards:** implement necessary frameworks to ensure compliance with existing financial regulations, including AML (Anti-Money Laundering) and KYC (Know Your Customer) standards.
- **Market Liquidity Strategies:** deploy mechanisms to enhance the liquidity of NFTs, making it easier to liquidate collateral if necessary.
- **Transparent and Fair Royalty Distribution:** implementing Smart Contract capabilities, with clear and transparent mechanisms to handle complex NFT Loan royalty calculations and distributions involving multiple creators or right holders, is essential to maintain trust among all parties involved.
- **Advanced and Scalable Blockchain Networks:** high-value NFT Loans exchanged on the blockchain demands not only secure but also highly scalable network to handle such transactions efficiently.
- **Robust Algorithmic Frameworks:** algorithms used to orchestrate NFT Loans must be robust, efficient, and transparent. They should be designed to minimize market manipulation risks and ensure fairness in trading.

Interoperability Requirements:

- **Interoperability Solutions:** developing and implementing technology enabling NFT loans across various blockchains and platforms will lead to wider market participation.

Other Key Considerations:

- **Privacy:** ensure that NFT Loans respect user privacy, with mechanisms to achieve transparency while protecting personal information from unauthorized access or exposure.
- **Cybersecurity:** apply adequate security measures and advanced encryption methods commensurate with the level of risk, to safeguard transactions, digital wallets, and stored NFTs from unauthorized access and fraud.
- **Identity Verification:** develop reliable identity verification, including AML and KYC processes to prevent fraud and ensure trustworthiness within the ecosystem.
- **Networking and Latency:** optimize network performance to handle the transactions and interactions without significant delays or downtime.
- **Ownership:** clearly define and enforce the ownership rights of parties to the NFT Loans, ensuring they retain full control over their lending and borrowing activities.
- **Digital Ethics:** address ethical considerations for NFT Loans, including the application of equitable NFT appraisal, lending and collateral management requirements, and fair loan default process.

- **Provenance:** tools and protocols are needed to verify the authenticity of the NFT Loan enabling System and to track its provenance, especially crucial in high-value transactions.
- **Accessibility:** make NFT Loans accessible to a wide range of users, including those with disabilities, to promote inclusivity within the digital economy.

Relevant Domain Working Group (WGs):

- NA

Relevant Pre-qualified Organizations and Groups (POGs):

- NA

Relevant Specifications, Publications and Projects (SPPs):

- NA

Related Use Cases

- NFT Royalties use cases are related to this use case from a classification perspective; however, they vary in topics covered.

Additional Comments

- This document is a living artifact and may be subject to revisions on a periodic basis to reflect the future state of NFT Royalties, and or based on feedback received from MSF stakeholders that warrants an update in the future.