DATONOMY™ METHODOLOGY

Guiding Principles and Methodology for Datonomy

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Contents

1 INTRODUCTION

The digital asset ecosystem has undergone a rapid increase in complexity and now comprises a wide range of products and services across different blockchain technologies. In 2009, there was only one cryptocurrency (i.e., bitcoin) and one application (i.e., peer-to-peer payments). Since then, the ecosystem has grown across use cases, diversity of architecture, and sheer number of coins and tokens. Estimates from third-party data providers suggest thousands of digital assets are traded on private exchanges[1], not including the countless coins and tokens generated on different protocols. Given the expansion of, and interest in, the digital asset market, there is a persistent need for a robust digital asset classification to add structure and clarity to this growing universe.

To this end, in 2022 MSCI Inc. (MSCI), Coin Metrics Inc. (Coin Metrics) and Goldman Sachs & Co. LLC (Goldman Sachs) have developed datonomy, a taxonomy for classifying a broad universe of digital assets with a standardized process that will evolve alongside the ecosystem. As of datonomy's launch, MSCI serves as the sole and exclusive administrator of datonomy and this methodology (datonomy Administrator).

Further details regarding the structure and methodology of datonomy are summarized in the sections below.

1.1 PHILOSOPHY AND OBJECTIVES OF CLASSIFICATION

The objective of datonomy is to categorically break down the products and services that these digital assets help facilitate and create a structure that connects the observable usage patterns that have emerged in this space. These classifications are designed to help digital asset users, investors, researchers, and others to navigate the ecosystem through the same structural lens.

Datonomy adheres to the following principles in its methodology:

- **Context-of-use:** Digital asset classifications are based on what the asset and its underlying protocol are primarily used for, as defined by the protocol creators and what is widely observed in the market. Assets within a classification category are reasonably expected to compete, achieve similar goals, or perform similar services and operations.

- **Intuitive:** Datonomy is intended to reflect general market perceptions around protocol intent and usage patterns. The names and terms

[1] As of October 24, 2022, there are 21,482 coins tracked on coinmarketcap.com and 13,258 tracked on coingecko.com.

used in datonomy are chosen to reflect general usage and established industry norms.

- **Hierarchical:** Each terminal segment of the classification tree is independent and distinct from other terminal segments. An asset cannot be assigned to more than one sub-sector. Assets that support multiple use-cases are assigned to the segment that best represents either the dominant usage patterns or a segment that is characterized as platforms for a variety of use cases.

- **Iterative:** As the digital asset ecosystem industry evolves, datonomy will evolve with it, adapting its methodology of asset evaluation and modifying the classification structure and specificity as needed.

Datonomy is a framework for classification with a specific scope, an intended use, and limitations.

What datonomy is intended to be licensed for:

- To provide a consistent, principled method for defining segments of the digital asset ecosystem.
- To provide transparency into how the digital asset ecosystem evolves over time.
- To be a foundational data set for creating other derived data, analyses, and inputs for other products.

What datonomy is not intended for:

- Datonomy is not a commentary on, or an endorsement of, the legitimacy of any assets or any of their related risks.
- Datonomy does not take a stance on any narrative debates, judgments of value, or quality of specific assets and thus aims to avoid categories that imply any such connotations, such as “store of value” or “medium of exchange”.
- Datonomy does not recommend any investment or strategy and is not intended to be, nor can it be used as any form of investment advice under any circumstance whatsoever.
- Datonomy does not classify assets by their regulatory status or standing.

1.2 DATONOMY STRUCTURE OVERVIEW

To provide the appropriate level of depth and precision required to support the analytical needs of digital asset market participants, datonomy is presently designed with three levels of classifications that include 4 Classes, 14 Sectors, and 41 Sub-Sectors.

Datonomy classifications can be presented in either text or numeric formats. The complete datonomy classification for each digital asset is a 6-digit code with a text description. The hierarchical design of the 6-digit coding system allows for easy transition between datonomy tiers.

Definitions of datonomy Classes, Sectors and Sub-Sectors are provided in Section 6.

- 10 Digital Currencies
  - 1010 Value Transfer Coins
    - 101010 Value Transfer Coins
  - 1020 Specialized Coins
    - 102010 Meme Coins
    - 102020 Privacy Coins
    - 102030 Remittance Coins

- 20 Blockchain Infrastructure
  - 2010 Smart Contract Platforms
    - 201010 Smart Contract Platforms
  - 2020 Blockchain Utilities
    - 202010 Network Scaling
    - 202020 Cross-Chain Interoperability
    - 202030 Blockchain Networks
  - 2030 Application Utilities
    - 203010 Oracles
    - 203020 Digital Identity
    - 203030 Governance Tools
    - 203040 Software Development

- 30 Digital Asset Applications
  - 3010 Decentralized Finance
    - 301010 Decentralized Exchanges
    - 301020 Derivatives Trading
    - 301030 Decentralized Lending
    - 301040 Stablecoin Issuers
    - 301050 Prediction Markets
    - 301060 Asset Management
    - 301070 Crowdfunding
    - 301080 Insurance
  - 3020 Intermediated Finance
    - 302010 Intermediated Lending
    - 302020 Payments Platforms
    - 302030 Private Exchanges
  - 3030 Business Services
    - 303010 Professional Services
    - 303020 Enterprise Solutions

- 3040 Information Technology
  - 304010 Data Services
  - 304020 Compute & Private Storage
  - 304030 Wallets & Messaging
  - 304040 Internet of Things
- 3050 Metaverse
  - 305010 Virtual Worlds
  - 305020 Gaming
  - 305030 NFT Ecosystems
- 3060 Media Services
  - 306010 Advertising
  - 306020 Content & Streaming

- 40 On-Chain Derivatives
  - 4010 Stablecoins
    - 401010 Fiat-Backed Stablecoins
    - 401020 Crypto-Backed Stablecoins
    - 401030 Algorithmic Stablecoins
  - 4020 Tokenized Assets
    - 402010 Asset-Backed Tokens
    - 402020 Synthetic Tokens
  - 4030 Claim Tokens
    - 403010 Liquidity Pool Tokens
    - 403020 Staked Tokens

2 ASSET ELIGIBILTY FOR DATONOMY CLASSIFICATION

Datonomy aims to cover a set of digital assets that are broadly representative of the overall industry and make up much of all market activity. Assets are selected for datonomy eligibility using a combination of quantitative criteria and qualitative assessments in accordance with this methodology.

As the industry evolves, the methodology may be modified as set forth herein, including with respect to the asset screening criteria and the coverage universe.

2.1 DIGITAL ASSET ACCESSIBILITY

Generally, each included asset must be widely available to investors globally. Assets must have been traded at least once in the past 30 days on at least 25% of eligible digital asset exchanges identified using data provided by Coin Metrics in the Exchange Coverage Universe (see section 2.2 for details) before being eligible for datonomy classification. For already classified assets to remain eligible for classification, they must be traded at least once in the past 30 days on at least 10% of eligible exchanges (minimum of 2). Assets that fall below this accessibility threshold will be reviewed for potential removal from datonomy as per section 3.2.

2.2 DIGITAL ASSET EXCHANGE COVERAGE UNIVERSE

For a digital asset exchange (the exchange) to be considered eligible, it must successfully demonstrate alignment with the exchange-specific features from the Market Selection Framework and the Trusted Volume Framework published by Coin Metrics[2], which include the following:

- **Technology:** An assessment of whether the technology infrastructure of the exchange provides sufficient availability and reliability for input data collection. Evaluates whether the exchange offers a feed for data collection. Evaluates the performance of the feed in terms of reliability.

- **Regulatory and Compliance[3]:** An assessment of selected factors relating to compliance and risk for each exchange. These factors include whether the exchange has publicly disclosed trading policies, uses market surveillance technology, obtains regulatory licenses, has fiat and digital asset insurance, requires customers to verify their identity before opening an account as part of its Know Your Client (KYC) and Anti-Money Laundering (AML) processes, and whether the exchange has functioning fiat and digital asset withdrawals processed within a normal timeframe.

- **Business Model:** An assessment of the exchange with respect to its business model, including its fee structure and asset listing standards.

- **Data Availability:** An assessment of the available data offered by the exchange for a given digital asset market, including the amount of historical data available for a market and the quoted currency of the market.

- **Trusted Volume:** A framework for measuring the reporting quality of an exchange is broken down into three broad categories: volume

[2] MSCI utilizes Coin Metrics data as one of the inputs for datonomy administration. MSCI will utilize a Coin Metrics data feed to help it determine exchange eligibility. The Coin Metrics Market Selection Framework and Trusted Volume Framework can be accessed through their website at the following URLs:

- https://docs.coinmetrics.io/market-data/methodologies/market-selection-framework
- https://coinmetrics.io/introducing-coin-metrics-trusted-volume-framework/

[3] While the datonomy includes the specified criteria relating to Regulatory and Compliance using data provided by Coin Metrics, the datonomy, MSCI, Goldman Sachs and Coin Metrics do not undertake to confirm or assess the accuracy of the data with respect to any eligible exchange or whether any eligible exchange complies with applicable laws and regulations.

correlation, web traffic analytics and qualitative features that help demonstrate an exchange's transparency, fair market structure, and arm's length economic transactions.

As an input data provider, Coin Metrics assesses the determination of digital asset exchange eligibility using the above criteria and serves as a data source for datonomy administration.

3 GUIDELINES FOR DATONOMY CLASSIFICATION

Digital asset classifications are guided by the following structural considerations.

- Classifications are based on the primary use of that asset and its parent protocol, as defined by the protocol creators and what is widely observed in the market.
- Should a protocol's intent and documentation differ materially from market perceptions and observed usage patterns, the latter two will take precedence in the asset classification process.
- Individual assets will only be classified within a single sub-sector where they are reasonably expected to compete, achieve similar goals, or perform similar services and operations.

This is fundamentally different from classifying based on the technical architecture of how a protocol is designed or what rights a particular asset provides to its holders (e.g., governance voting). Assets classified within a sub-sector may exist on blockchains with different design choices, such as "Proof of Stake" vs. "Proof of Work". Some may leverage a 'parent' or 'Layer 1' blockchain, while others are hosted on their own blockchain. Each asset aims to facilitate a primary use-case, and the technical implementations are a means of facilitating that use-case.

3.1 DATONOMY DATA SOURCES

Analysis of digital assets for classification within datonomy requires the use of information and data that are considered relevant to the classification process and are aggregated from the following sources.

- **Primary Documentation:** This includes whitepapers of individual projects, project websites and any additional supporting collateral therein, as well as public commentary from project founders and managers.
- **Secondary Market Research:** This includes third-party research from various sources, such as digital asset exchanges, market data providers and independent research providers.

- **Industry Expert Commentary:** When evaluating a digital asset, MSCI may on an ad-hoc basis seek information from third-party industry experts.

3.2 DATONOMY CLASSIFICATION REVIEW

As datonomy administrator, MSCI is solely responsible for the ongoing management and execution of the classification process for datonomy, including the review and approval of the initial classifications and any future updates to classifications.[4]

Classification of New Digital Assets: The digital asset universe is monitored on an ongoing basis for newly eligible assets, as per section 2.1. As new assets become eligible for datonomy classification, MSCI will conduct an independent review to determine the appropriate classification. New asset classification proposals will be documented and presented to an MSCI committee of senior researchers for review and approval. These reviews will be conducted on an as-needed basis with no set frequency for review and implementation.

Reclassification of Existing Digital Assets: MSCI will monitor the digital asset universe for changes in asset use-cases that could warrant a change in datonomy classification. In situations where it is deemed likely that a digital asset use-case has evolved to a point where its place in datonomy is in question, MSCI will undergo a review process similar to that performed for new asset classification to determine the appropriate classification. Any prospective changes in classification will be presented to an MSCI committee of senior researchers for review and approval. These changes will occur on an as-needed basis with no set frequency for review and implementation.

Declassification of Digital Assets: Assets that are no longer deemed to meet accessibility requirements outlined in section 2.1 will be reviewed for potential removal from datonomy on an as-needed basis with no set frequency for review and implementation.

3.3 DATONOMY CLASSIFICATION DECISIONS

Asset classification decisions are the sole responsibility of MSCI and will be made available to market participants at the same time through datonomy distribution channels. MSCI welcomes feedback and input from market participants regarding datonomy classification decisions. MSCI may review classifications upon request from market participants with no guarantee that such reviews will result in changes to specific asset classifications. MSCI may also solicit views from market participants on classification topics prior to making changes and conduct consultations regarding asset classifications when it deems warranted.

[4] Before the launch of datonomy, asset classifications were researched with assignments proposed by Coin Metrics and Goldman Sachs in collaboration with and as later adopted by MSCI as of the launch.

4 DATONOMY STRUCTURE REVIEW

MSCI is committed to ensuring that the datonomy structure remains relevant and up to date. This is accomplished through, at minimum, an annual review of the structure by MSCI, with input from an Advisory Board (as described in Section 5) and commentary from market participants. This review may include a detailed internal analysis to develop proposals for potential structural changes with public request for comment through consultations with market participants as a means of obtaining feedback on proposed structural changes. MSCI may decide to perform ad-hoc reviews of the datonomy structure on an as-needed basis.

5 DATONOMY GOVERNANCE BY MSCI

Datonomy methodology and structure fall under the overall, exclusive supervision of MSCI as datonomy administrator. MSCI in its role as datonomy administrator may receive input from a datonomy Advisory Board ("Advisory Board") as well as others market participants to help keep datonomy current and relevant. The Advisory Board's membership and activities will be governed separately from this datonomy methodology, and it may be co-chaired by Goldman Sachs, Coin Metrics and MSCI.

The Advisory Board may provide industry perspectives and expert input that MSCI may use in its sole discretion as one source of information in connection with administering datonomy. Like other market participants, the Advisory Board and its members may review and provide feedback on topics relevant to datonomy such as the asset coverage universe, asset classifications, consultations, and datonomy structure evolution.

5.1 CONSULTATION PROCESS

Consultations with market participants are an effective channel to share and receive feedback on MSCI proposals. Structured dialogue enables market participants to share their views on the current datonomy as well as on potential innovations and changes. In addition, public consultations give market participants lead time to fully evaluate potential methodological changes and their implications.

MSCI commences a public consultation when there is an internally approved proposal to make a material change to datonomy. A proposed change may be based on internal review or on feedback from market participants.

Once the decision to open a consultation has been made, MSCI will craft an announcement and widely distribute it through multiple channels. Consultation materials will be made available on MSCI's website along with the date by which interested parties must provide feedback.

MSCI welcomes feedback from the Advisory Board as well as any market participants or other interested parties that are considered most appropriate for a given consultation topic.

After considering the feedback from the consultation process, the decision to take action with respect to datonomy remains the responsibility of MSCI solely. The final decision by MSCI, including the rationale, is communicated publicly to market participants, including the Advisory Board members and market participants generally, at the same time through multiple channels. If the final decision is to change the datonomy structure or its methodology, MSCI will announce the changes and timeframe of the implementation.

In case of methodological changes that are deemed immaterial or otherwise appropriate to announce quickly, MSCI may make such changes without launching a public consultation. In such cases, after methodology changes are approved by MSCI internally, they are announced by MSCI to market participants at the same time.

6 DATONOMY DEFINITIONS

6.1 HIERARCHY LEVEL DEFINITION

- **Class:** The Class level describes an asset's purpose at a fundamental level. This includes orchestrating peer-to-peer transfer of value, supporting decentralized infrastructure and protocols, facilitating distinct products and services, or providing on-chain derivatives of another asset.
- **Sector:** The Sector level separates assets based on high level specializations or focus areas of the assets within the Class level.
- **Sub-Sector:** The Sub-Sector level delineates the assets within the Sector level by their specific product, service or function they provide to their users.

6.2 CLASS, SECTOR & SUB-SECTOR DEFINITIONS

- **[10] Digital Currencies:** Assets native to blockchains that primarily enable the transfer of value on a blockchain. These assets are typically the native cryptocurrency of a blockchain that does not support decentralized applications.
    - **[1010] Value Transfer Coins:** Digital currencies native to blockchains whose primary purpose is to facilitate the transfer of value for general on-chain payments.
        - **[101010] Value Transfer Coins:** Digital currencies native to blockchains whose primary purpose is to facilitate the transfer of value for general on-chain payments. Value Transfer Coins are typically used as an incentive mechanism for participants to validate and secure its blockchain.

- **[1020] Specialized Coins:** Digital currencies that facilitate the transfer of value on the blockchain primarily for a specialized purpose or with specific enhancements. They typically cater to users with a specific use case or interest in addition to simple value transfer, such as, but not exclusive to, privacy, cross border remittance transactions, and online communities.
    - **[102010] Meme Coins:** Digital currencies that are based on or derive value from memes and the social community that supports and engages with it on the internet. The value of these coins is driven by its community members and is tied to the real, though intangible value of its social network.
    - **[102020] Privacy Coins:** Digital currencies that offer privacy enhancements to facilitate anonymous transfer of value for on-chain payments. Protocols of this type enable public blockchains to operate with anonymous features, allowing users to self-select when their on-chain data will be publicly available, or encrypted as an unidentifiable and untraceable activity.
    - **[102030] Remittance Coins:** Digital currencies that prioritize velocity for the transfer of value domestically and across borders for payments. Remittance coins can be used as a medium to send money domestically or overseas to avoid traditional financial bottlenecks, such as high transaction costs, accessibility, and slow finality.

- **[20] Blockchain Infrastructure:** Tokens that are associated with foundational protocols and utilities that support the development, interoperability, scale, and growth of blockchain technologies. Blockchain infrastructure tokens are native to their host protocol or application and support its operations – whether that entails the operations of a proprietary layer 1 blockchain, inter-chain functionality, or multi-chain application use cases.
    - **[2010] Smart Contract Platforms:** Tokens native to blockchain protocols that facilitate the execution of smart contracts and power an ecosystem of decentralized applications across a diverse set of use cases. Tokens in this industry are colloquially associated with “Layer 1 platforms”.
        - **[201010] Smart Contract Platforms:** Tokens native to blockchain protocols that facilitate the execution of smart contracts and power an ecosystem of decentralized applications across a diverse set of use

cases. These Smart Contract Platform tokens are not only technically designed to support general purpose decentralized apps, but also currently support and run a diverse set of services and products from those decentralized apps. Tokens of smart contract platforms that primarily support a narrow type of application or service are excluded.

- **[2020] Blockchain Utilities:** Tokens issued by protocols that aim to improve a blockchain's core infrastructure for increased scale, interoperability across blockchains, and ease of running blockchain infrastructure These are typically services that help existing blockchain protocols become more scalable, cost efficient, or interoperable, or act as a foundation to run blockchain infrastructure more easily.
    - **[202010] Network Scaling:** Tokens intended to enhance a blockchain's features, such as throughput, consistency, and cost incurred to operate, by extending upon a blockchain's architecture and conducting transactions outside of the settlement layer, or "Layer 1", of that blockchain. Often these tokens and the protocols or technology on which they run are labeled as "Layer 2 platforms".
    - **[202020] Cross-Chain Interoperability:** Tokens native to protocols that allow blockchains and their applications and assets to interact and engage with other distinct blockchains, often via "cross-chain bridges". These tokens are native to protocols that serve to increase connectivity amongst chains rather than by innovating on top of chains.
    - **[202030] Blockchain Networks:** Tokens that are associated with the operations of a platform that functions as the foundation for users to build and run their own blockchains. Blockchain Networks also enable the ability for each user's blockchain or set of blockchains to run, integrate, and interact with one another in a low friction manner. Tokens in this industry group are colloquially associated with "Layer 0 platforms".
- **[2030] Application Utilities:** Tokens native to on-chain products and services that support developers in building their digital asset applications. These token's products and services generally service a wide variety of applications and essentially allow for faster development, easier integration,

and better connectivity to participants and data on and off-chain.

- **[203010] Oracles:** Tokens native to applications that connect data from the outside world ('off-chain') into blockchain applications ('on-chain'). Oracle networks enable blockchain applications to perform complex operations that cannot be done natively on-chain, such as facilitating money markets using off-chain market data.
- **[203020] Digital Identity:** Tokens native to applications that designate, assign, and validate the uniqueness of a name, human or domain on the blockchain. Whereas on-chain data is public and anonymous, digital identity tokens can be used to create value via association with an off-chain entity or used to create clarity for an on-chain party.
- **[203030] Governance Tools:** Tokens native to services that provide tools for the formation and / or improvement of the operations of Decentralized Autonomous Organizations (DAO's) or other decentralized groups. These tools cater to open-source protocols which promote their own adoption for seamless building and integration between parties acting toward a common goal.
- **[203040] Software Development:** Tokens native to applications that support smart contract development, launching of applications on a blockchain, and building a network of connectivity with relevant participants. They typically provide toolkits of software development kits (SDKs) with standardized processes to leverage and streamline development.

- **[30] Digital Asset Applications:** Tokens native to the operations of an on-chain application that was developed to provide a specific service or product to blockchain users. These applications can run on top of general purpose blockchain infrastructure, like smart contract platforms, or run on their own application-specific blockchain.
  - **[3010] Decentralized Finance:** Tokens native to decentralized applications that provide the user with economic interest, trading power, or an on-chain alternative to traditional financial services and products. These tokens often serve as the mechanism to engage with its financial application as well as the reward that is used to collateralize or compensate the user for the financial activity that the protocol offers.

- **[301010] Decentralized Exchanges:** Tokens native to the operations of an automated market maker for token spot markets, enabling peer to peer transfer of assets through liquidity pools. These tokens are utilized as a tool to maintain liquidity and balance while conducting two-way flow through the exchange.
- **[301020] Derivatives Trading:** Tokens native to the operations of an application that facilitates the creation and transfer of derivatives and synthetic assets. The token will enable access and liquidity to a derivative/synthetic product that is uniquely offered and distributed by the protocol which the token helps to operate. These tokens are not the derivatives themselves, but rather facilitate activity in derivatives trading.
- **[301030] Decentralized Lending:** Tokens native to the operations of an automated market maker that primarily provides lending and borrowing services, enabling peer to peer loans via liquidity pools. Decentralized lending protocols allow users to borrow or lend against other tokens, while the other side of the transaction is held and collateralized in the native decentralized lending token. Rewards from using the lending protocol are also denominated in this token.
- **[301040] Stablecoin Issuers:** Tokens native to applications that facilitate the secondary issuance of their own stablecoin. Stablecoin Issuer tokens operate and govern protocols which are balanced against, or interoperable with, a stablecoin issued by the same protocol. Stablecoin issuer tokens should not be confused with stablecoin tokens themselves – though there may be some overlapping activities between the two.
- **[301050] Prediction Markets:** Tokens native to decentralized marketplaces that are used for speculative trading based on the outcome of future events. Prediction market protocols allow users to place bets on certain events or data. These tokens are used as participation mechanisms as well as reward currency.
- **[301060] Asset Management:** Tokens native to applications that provide management services for investment portfolios often to optimize yields or manage risk. This industry group includes

applications colloquially referred to as staking platforms, yield farms or yield aggregators.
    - **[301070] Crowdfunding:** Tokens native to applications that reduce frictions for peer-to-peer investment to raise funding for a given project or group. These tokens function as governance tools where capital is allocated to various initiatives as proposed by decentralized communities.
    - **[301080] Insurance:** Tokens native to applications that cover against smart contract failure, exchange hacks, or other blockchain-related risks from transaction or holding digital assets. Insurance applications aim to share risk across its users together without the need for an insurance company and rather have its service entirely run by its members.
- **[3020] Intermediated Finance:** Custodial financial activity that is facilitated by a corporate entity. Often incentivizes economic activities on the corporate entity or intermediary's platform in the form of discounts on trading fees or higher interest rates on accounts.
    - **[302010] Intermediated Lending:** Tokens native to applications that facilitate lending via an intermediate platform, typically requiring custody of the assets. While these intermediate lending platforms are mostly centralized, they offer decentralized methods that weave seamlessly into the centralized or intermediated offering. Intermediated Lending tokens can be used as leverage or a staking when conducting business on the platform.
    - **[302020] Payment Platforms:** Tokens native to applications that facilitate payments via an intermediate platform or blockchain. Companies establish decentralized payment platforms to remove the traditional intermediaries and allow for organized input-output payment processing, denominated in the token itself.
    - **[302030] Private Exchanges:** Tokens issued and managed by a private cryptocurrency exchange, often to incentivize usage of the exchange's services. Token holders can participate in governance, speculate on the adoption and monetize or be rewarded for their economic activity on the exchange.

- **[3030] Business Services:** Tokens native to applications or blockchains that provide products and services for the development of blockchain-based platforms at the professional and enterprise-level, whether as a generalized or domain-specific solution. These token's applications or blockchain platforms primarily provide their product or service via avenues outside of pure software development tools.
    - **[303010] Professional Services:** Tokens native to specialized or industry specific blockchains or applications that provide resources – including human capital – products, and services for applications and communities to be built. These professional services typically provide specific tooling or expertise directly or bring in the right experts for a niche use case or area.
    - **[303020] Enterprise Solutions:** Tokens native to blockchains or applications that provide development services for enterprise use cases, typically giving the option to develop on more private, closed networks. These enterprise solutions can cater to existing or established businesses and allow their clients to incorporate a level of centralization, ownership, or control in the development and maintenance of their client's applications.
- **[3040] Information Technology:** Tokens native to applications that support the storage, sharing, aggregation, computation, and other manipulation of on-chain information for software developers. They also help users streamline how to interact with data and alternate sources of value on-chain.
    - **[304010] Data Services:** Tokens native to applications that leverage the public nature of blockchain data to query, aggregate, process, encrypt, monetize, or broadcast data for various use cases, often including to power other decentralized applications. The tokens native to data service protocols are the mechanisms that nodes use to operate data indexing functionality.
    - **[304020] Compute & Private Storage:** Tokens native to applications that aggregate and leverage on-chain resources and assets to enable decentralized access to shared computational or private storage. These tokens' applications create connectivity amongst participants as it relates to the sharing, pooling, and storage of on-chain data and assets.

    - **[304030] Wallets & Messaging:** Tokens native to applications that enable users to interact, transact, and communicate with their own assets on-chain. The tokens serve to power encrypted communication and data transfer, ultimately acting as a bridge between on-chain assets and the internet.
    - **[304040] Internet of Things:** Tokens native to applications that enable interaction with and transfer of data between physical objects and machines and the blockchain. These applications connect the blockchain to a bigger network of connected things and people, all of which collect and share data about the way they are used and about the environment around them.
- **[3050] Metaverse:** Tokens associated with a virtual ecosystem enabled by blockchains to facilitate the ownership and transfer of digital property Although nearly any type of product and service can exist in the metaverse, metaverse tokens are defined to be native to applications that facilitate the ownership of a digital property.
    - **[305010] Virtual Worlds:** Tokens native to applications that facilitate the transfer of ownership of and interaction with digital land. Virtual worlds serve as the metaverse backdrop, wherein all things on-chain related to metaverse will live. Virtual worlds and their tokens thereby provide access and property rights in the virtual world.
    - **[305020] Gaming:** Tokens native to applications for blockchain-based gaming and their communities. Decentralized gaming applications will include a native token to incentivize players with monetary rewards based on their participation and success in the game. These tokens can then be used further within the game to purchase in-game virtual assets, for example related to avatars or special upgrades.
    - **[305030] NFT Ecosystems:** Tokens associated with applications in which non-fungible tokens (NFTs) can be created, bought, sold, or transferred. The NFTs can represent a creative project and are usually deemed to be rare or unique. These applications can operate on a decentralized or a centralized basis and facilitate transactions in a local or digital currency. NFTs are presently out of classification scope.

- **[3060] Media Services:** Tokens native to applications for facilitating the distribution of content and communication across various mediums. Tokens of this sort often empower more decentralized ownership of social media or entertainment content. They are often accredited with giving data ownership of creators and application users back to the original owners, eliminating third party data aggregators and middlemen.
    - **[306010] Advertising:** Tokens native to applications that facilitate the tokenization of impressions for interacting with advertisements. These tokens correspond with the web user's viewership whereby they are rewarded in the advertising token for the attention they provide advertisers.
    - **[306020] Content & Streaming:** Tokens native to applications that support the creation and broadcasting of creative content, such as video, music, or art, and enable social interactions between users and communities. The tokens power the network, allowing creators to communicate and distribute content autonomously and reward themselves directly with the native token associated with the protocol that maintains their data and content.

- **[40] On-Chain Derivatives:** Tokens that are based on or have value linked or derived from a different underlying asset or group of assets. The underlying asset(s) can exist on-chain or off-chain. Tokens that are pegged to a particular value or operate under a stabilization mechanism rather than backed by an underlying asset are included in this sector.
    - **[4010] Stablecoins:** Tokens which are pegged to a specific sovereign-issued currency. Stablecoins are intended to offer participants in the digital asset ecosystem access to blockchain applications and decentralized protocols without facing exposure to price action in digitally native tokens. There are several methods which allow for stablecoin creation – these range from providing real world or digital assets which back the stablecoin on a one-to-one basis, to computer-driven mechanics which aim to keep a stablecoin peg consistent.
        - **[401010] Fiat-Backed Stablecoins:** Stablecoins that are backed by cash and cash-like equivalents, or 'fiat'. The value of each token has a tangible backing that

gives it inherent value in the event of redemption of the stablecoin back to fiat.
    - **[401020] Crypto-Backed Stablecoins:** Stablecoins that are backed by cryptocurrencies. These tokens are backed by a vault which stores reserves of cryptocurrencies whose value in sum equates to the same fiat value as the issued stablecoin. Maintaining the peg for these stablecoins requires the issuer to actively manage the funds available in the vault to ensure that any price change in the vault's assets is paired with the appropriate supply and demand dynamic to hold the stablecoin value constant.
    - **[401030] Algorithmic Stablecoins:** Stablecoins that maintain their peg using a set of rules determined by a protocol, often created by a Stablecoin Issuer. The set of rules is an algorithmic arrangement which incentivizes the holders of the token to interact with the stablecoin for monetary gain in order to maintain the peg. This normally takes place in the form of arbitraging the token.
- **[4020] Tokenized Assets:** Tokens that represent or provide exposure to another asset, on-chain or off-chain, and are pegged to the value of that underlying asset. These tokens typically help facilitate activity in the underlying asset on a blockchain that the asset did not exist on before.
    - **[402010] Asset-Backed Tokens:** Tokenized assets that are backed by other assets, such as cryptocurrencies, securities, or commodities. The underlying assets backing these tokens are typically held in a segregated account on or off-chain.
    - **[402020] Synthetic Tokens:** Tokens that mimic the one-to-one value or price of another asset, such as cryptocurrencies, securities, or commodities. These tokens provide exposure to a particular asset without having to hold or own the asset itself.
- **[4030] Claim Tokens**: Tokens that entitle the holder to credit toward an underlying asset. Claim tokens represent an underlying asset that was lent or staked to earn interest.
    - **[403010] Liquidity Pool Tokens:** Claim tokens that represent a share of a liquidity pool provisioned by a protocol that facilitates economic activity. Liquidity Pool, or "LP", tokens allow the holder to control their share of the underlying pool. These tokens can be

transferred, exchanged, and even staked on other protocols.

- **[403020] Staked Tokens**: Claim tokens that represent an asset that is staked on a blockchain or application. Staking is the act of depositing assets to an application or blockchain protocol to earn rewards and better the security of that application or blockchain protocol.

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