DIGITAL TOKEN IDENTIFIER FOUNDATION
The Home of Digital Token Identifiers

www.dtif.org
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VERSION HISTORY

<table>
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<tr>
<th>Version</th>
<th>Published Date</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>30 Sep 2021</td>
<td>Initial draft</td>
</tr>
<tr>
<td>2.0</td>
<td>26 Sep 2023</td>
<td>Updated DTI requests for token registration section to reflect changes introduced as part of the DTI Registry 2.0.0 release</td>
</tr>
</tbody>
</table>

DOCUMENT PURPOSE

The purpose of the Digital Token Identifier (DTI) Implementation Guidelines document is to:

- Provide clarity on the scope of products to be assigned DTIs by the DTIF
- Illustrate the DTI issuance process
- Describe data elements required to issue a DTI to a token
- Explain the data validation steps provided by DTIF
- Provide guidance on the dispute process

Both the document and scope will be periodically reviewed to ensure its applicability in meeting the evolving needs of the industry.

ISO 24165 SCOPE

The scope of DTI issuance is all fungible digital assets which use distributed ledger technology for their issuance, storage, exchange, record of ownership, or transaction validation and are not a “fiat” currency (as defined by ISO 4217).

Digital assets can also be described as cryptocurrencies, virtual currencies, digital currencies, utility tokens, security tokens, cryptoassets, e-money and payment tokens, asset-referenced tokens and stablecoins, and colored coins.

DTIF as a Registration Authority (RA) will assess the eligibility of the token to be issued with a DTI and reserves the right not to issue DTI if the token does not meet the above requirements.
DTI REQUESTS FOR TOKEN REGISTRATION

All digital token registration requests should be submitted via the registration portal on the DTIF website. Prior to submitting a request, users must register through the portal and confirm their email address.

Once the request has been made, the DTIF will verify the information supplied by the registrant to ensure that:

1. The token exists and is eligible for DTI
2. The token has not been issued a DTI already
3. Normative and/or Informative data supplied by the registrant meets the validation criteria

General Guidelines

- Registration eligibility is based on objective, verifiable information provided by the registrant.
- The assignment of the identifier offers no warranty on the features, purpose, compliance to any regulation, or value of the digital token.
- The identifier is assigned to the token, not registered to the registrant.
- Registration can be rejected if objective data associated with the token has already been assigned to an identifier.

The information set out within this digital token identifier registry is provided for general information only. It is not intended to amount to advice on which you should rely and you must obtain professional or specialist advice before taking, or refraining from taking, any action on the basis of this information.

Notwithstanding our allocation and registration of a digital token identifier in respect of a digital token and/or our inclusion of a digital token within this digital token identifier registry, we do not endorse any digital token in any way and we provide no warranties as to the features, functions, legal status, suitability for investment, or regulatory status of any digital token.

Provisional issuance

In cases where some or all normative information is not available at the time of the registration submission, DTIF, at its discretion, will issue a provisional token. Normative data on the token must be populated within one month of the token issuance. The issuer must contact the DTIF within this time period to either supply the normative data or advise on the timeframe when this will be available.

If, for any reason, the issuance of the token is cancelled, the token will be marked as deleted and removed from public registry. The DTI will not be re-used.

Token Issuer details

Token registration process is open to all market participants. If the request is submitted by the token creator, initiator or maintainer, these details can be optionally added to the request and will in due course be added to the public registry. Acceptable entries include the LEI code, Company Name or Business Identifier Code.
Distributed Ledger Technology Registration Request

The Distributed Ledger Technology Registration Request form can be used to:
- register a Distributed Ledger Technology (DLT);
- register its native (privileged or protocol) token(s), if applicable;
- submit details on mechanism(s) used to create auxiliary tokens, if applicable.

The glossary of terms is available on the DTIF website: https://dtif.org/glossary-of-terms/.

If relevant, use the comments section in the form to add any other details that will help DTIF to verify the application.

Auxiliary Digital Token Registration Request

The Auxiliary Digital Token Registration Request form can be used to register an auxiliary digital token. An auxiliary token is defined as a digital token created as an application on distributed ledger.

If relevant, use the comments section in the form to add any other details that will help DTIF to verify the application.

Please use DTI Interactive JSON Explorer to view a list of supported auxiliary ledgers and mechanisms. Please contact support@DTIF.org if ledger or mechanism is missing from the drop down list.

Functionally Fungible List of Tokens Registration Request

Functionally Fungible is defined as a list of tokens that are not technically compatible, but considered equivalent (e.g. TetherUSD on both Ethereum and Omni Layer networks). Fungible in this context means capable of mutual substitution between the individual units of digital asset.

Please email support@DTIF.org with a token list that should be included in the functionally fungible group together with the reason for the group creation.
DTI DATA ELEMENTS AND VALIDATION

This section lists all the data elements that are included in the registry and the relevant validation steps that DTIF performs at the time of registration submission.

In cases where provided normative data is missing or differs from official token sources or market consensus, DTIF will update the record and inform the registrant. If the registrant disagrees with the DTIF amendments, the registrant can raise an amendment ticket through the helpdesk. Further details on amendment and the dispute process can be found under the Requests for Amendments and Disputes section of the DTI Implementation Guide.

Private ledgers (Public Distribution Ledger Indicator=N) are validated against information supplied by the registrant, sources of validation are not made public by the DTIF.

Normative Data Elements

The set of normative data elements are technical facts unique to each digital token that establish the 1:1 relationship of a digital token to its assigned DTI. This is a set of objective data that can be validated by the registry during the assignment process. A list of applicable data elements per DTI Type can be found in Registry Token Data Elements section.

<table>
<thead>
<tr>
<th>Digital Token Identifier Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The type is assigned to the token by DTIF based on the form used and official details of the token. Possible values: 0=Auxiliary Digital Token 1=Native Digital Token 2=Distributed Ledger Without a Native Digital Token 3=Functionally Fungible Group of Digital Tokens</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Digital Ledger Technology Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The type is assigned to the token by DTIF based on the form used and official details of the token. Possible values: 0=Other 1=Blockchain</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Genesis Block Hash Genesis Block UTC Timestamp</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validated and/or populated against the native block explorer on block 0. Where native block explorer is not available, a number of different random block explorers are used.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Genesis Block Hash Algorithm</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validated against official white paper, official press releases and/or source code of the ledger.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public Distribution Ledger Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validated against information supplied by the registrant.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auxiliary Digital Token Mechanism Auxiliary Digital Token Distribution Ledger Auxiliary Digital Token Technical Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validated against the specified digital token ledger to ensure the Technical Reference exists on the specified ledger and on the correct mechanism.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functionally Fungible DTIs List</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validated against the official site of the token or information supplied by the applicant.</td>
<td></td>
</tr>
</tbody>
</table>
Informative Data Elements

Data elements included in the registry if required, and/or provided by the registrant. In the event that informative data elements are disputed by other users, the registry record shall be noted as disputed and follow the dispute resolution process.

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Validation Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Token Long Name</td>
<td>Validated against official token explorer (if relevant) and/or commonly used market data aggregators</td>
</tr>
<tr>
<td>Digital Token Short Name(s)</td>
<td>Validated against links supplied by the registrant, official token explorer (if relevant) and/or commonly used market data aggregators</td>
</tr>
<tr>
<td>Original Language Digital Token Long Name</td>
<td>Validated against information supplied by the registrant</td>
</tr>
<tr>
<td>Original Language Digital Token Short Name</td>
<td>Validated against information supplied by the registrant</td>
</tr>
<tr>
<td>Underlying Asset External Identifiers Type</td>
<td>Accepted values: CUSIP, SEDOL, QUIK, ISIN, RIC, FIGI (Based on SecurityIDSource – FIX Tag 22)</td>
</tr>
<tr>
<td>Underlying Asset External Identifiers Value</td>
<td>Validated against information supplied by the registrant</td>
</tr>
<tr>
<td>Digital Token External Identifiers Type</td>
<td>Accepted values: ITIN, FIGI</td>
</tr>
<tr>
<td>Digital Token External Identifiers Value</td>
<td>Validated against information supplied by the registrant</td>
</tr>
<tr>
<td>Digital Token Unit Multiplier</td>
<td>Validated and/or populated against the native token explorer for auxiliary tokens. Validated against white paper and other official documentation for native tokens.</td>
</tr>
<tr>
<td>Public Distribution Ledger Indicator</td>
<td>Possible values: Y/N</td>
</tr>
<tr>
<td>Digital Token Reference Implementation URL</td>
<td>Validated against information supplied by the registrant</td>
</tr>
</tbody>
</table>
Fork Record Normative Data Elements

Applicable only to records where Digital Ledger Technology Type = 1 (Blockchain) and where Digital Token Identifier Type is either 1 (Native Digital Token) or 2 (Distributed Ledger Without a Native Digital Token).

Terms such as hard fork and soft fork are sometimes used to distinguish backwards compatibility changes to the consensus mechanism of a blockchain. This document uses the term fork to encompass both scenarios.

If fork block height is submitted, DTIF would verify against the official block explorer of the token. All details are validated against the official white paper, official press releases and/or the source code of the token.

DTIF reserves the right to add to the fork records as and when they become public.

<table>
<thead>
<tr>
<th>A reference to the base record the fork record modifies</th>
<th>DTI of the underlying Digital Token.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fork Block Height</td>
<td>Block height of the block immediately after a fork has occurred.</td>
</tr>
<tr>
<td>Fork Block UTC Timestamp</td>
<td>Timestamp of the block immediately after a fork has occurred.</td>
</tr>
<tr>
<td>Fork Block Hash</td>
<td>Block hash of the block immediately after a fork has occurred.</td>
</tr>
<tr>
<td>Fork Block Hash Algorithm</td>
<td>Algorithm used to produce the block immediately after a fork has occurred e.g. SHA-256</td>
</tr>
<tr>
<td>Consensus mechanism change response</td>
<td>Possible values: Y/N</td>
</tr>
<tr>
<td></td>
<td>Indicates if consensus mechanism on the blockchain has changed between block just prior to fork to the block immediately after a fork has occurred.</td>
</tr>
<tr>
<td>Digital token creation response</td>
<td>Possible values: Y/N</td>
</tr>
<tr>
<td></td>
<td>Indicates if this token has been created as a result of a fork. For a given base record, this data element shall be Y for zero or one fork record.</td>
</tr>
</tbody>
</table>
DTI FORMAT

The DTI is displayed using capital letters.

The DTI is nine characters in length, consisting of the eight character (alphanumeric) basic number and a check character computed using the method specified in Annex A of ISO standard 24165.

The alphanumeric basic number excludes vowels (A, E, I, O, U) and the letter Y. The DTI will not start with zero.

The basic number of a DTI is randomly generated and intended to be semantically meaningless. In a case where a randomly generated identifier may inadvertently appear to be semantically meaningful, that identifier may be discarded at the discretion of the DTIF and a new identifier assigned.

Registrant shall notify DTIF if they become aware that the basic number of the DTI allocated and registered to the Digital Token is semantically meaningful in any language.

REQUESTS FOR AMENDMENTS AND DISPUTES

Any user can raise a request for amendment of data in the registry by emailing support@DTIF.org. All requests are validated against user supplied reasons for amendment and publicly available information. If the amendment is agreed by DTIF, the update is made in the registry and the user is notified of the change.

In a case where DTIF disagrees with the amendment, DTIF will provide the reasoning for disagreement, including any publicly available information. The user has a right to question the decision, in which scenario this request becomes a Dispute.

All Disputes are raised to the DTIF Product Advisory Committee, which makes the final determination. The record is marked as “Disputed” until the final decision.

INFORMATION CLASS INDICATORS

Each record in the registry is marked with status as either Provisional or Validated. In addition to this, each record is marked as either Private or Public.

Validated
Marked against a DTI record where all the data elements have been validated. The level of validation required for each data element varies as described in DTI Data Elements and Validation. All the data elements that make up a validated DTI record are considered to be validated.

Provisional
Marked against a DTI record where one or more data elements have not been validated. The provisional record will either become validated once all the individual data elements have been validated, or deleted from the registry. All the data elements that make up a provisional DTI record are considered to be preliminary.

Private / Public
Every DTI is either Public or Private based on the Public Distribution Ledger Indicator. If the Public Distribution Ledger Indicator = N, then all the data elements that make up a private DTI record are considered to be private.
REGISTRY TOKEN DATA ELEMENTS

Digital Token Identifier Type = 0 (Auxiliary Digital Token)

- Normative
  - Auxiliary Digital Token Mechanism
  - Auxiliary Digital Token Distribution Ledger
  - Auxiliary Digital Token Technical Reference
- Informative
  - Digital Token Long Name
  - Original Language Digital Token Long Name
  - Digital Token Short Names
  - Original Language Digital Token Short Names
  - Underlying Asset External Identifiers Type
  - Underlying Asset External Identifiers Value
  - Digital Token External Identifiers Type
  - Digital Token External Identifiers Value
  - Digital Token Unit Multiplier

Digital Token Identifier Type = 1 (Native Digital Token)

Elements when DLT type is Blockchain (Digital Ledger Technology Type = 1)

- Normative
  - Genesis Block Hash
  - Genesis Block Hash Algorithm
  - Genesis Block UTC Timestamp (If present)
- Informative
  - Digital Token Long Name
  - Original Language Digital Token Long Name
  - Digital Token Short Names
  - Original Language Digital Token Short Names
  - Underlying Asset External Identifiers Type
  - Underlying Asset External Identifiers Value
  - Digital Token External Identifiers Type
  - Digital Token External Identifiers Value
  - Digital Token Unit Multiplier
  - Public Distribution Ledger Indicator
- Fork information
  - A reference to the base record the fork record modifies
  - Fork Block Height
  - Fork Block UTC Timestamp
  - Fork Block Hash
  - Fork Block Hash Algorithm
  - Consensus mechanism change response
  - Digital token creation response
Elements when DLT type is Other (Digital Ledger Technology Type = 0)

- **Normative**
- **Informative**
  - Digital Token Long Name
  - Original Language Digital Token Long Name
  - Digital Token Short Names
  - Original Language Digital Token Short Names
  - Underlying Asset External Identifiers Type
  - Underlying Asset External Identifiers Value
  - Digital Token External Identifiers Type
  - Digital Token External Identifiers Value
  - Digital Token Reference Implementation URL
  - Digital Token Unit Multiplier
  - Public Distribution Ledger Indicator

**Digital Token Identifier Type = 2 (Distributed Ledger Without a Native Digital Token)**

Elements when DLT type is Blockchain (Digital Ledger Technology Type = 1)

- **Normative**
  - Genesis Block Hash
  - Genesis Block Hash Algorithm
  - Genesis Block UTC Timestamp (If present)
- **Informative**
  - Digital Token Long Name
  - Original Language Digital Token Long Name
  - Digital Token Reference Implementation URL
  - Public Distribution Ledger Indicator
- **Fork information**
  - A reference to the base record the fork record modifies
  - Fork Block Height
  - Fork Block UTC Timestamp
  - Fork Block Hash
  - Fork Block Hash Algorithm
  - Consensus mechanism change response

Elements when DLT type is Other (Digital Ledger Technology Type = 0)

- **Normative**
- **Informative**
  - Digital Token Long Name
  - Original Language Digital Token Long Name
  - Digital Token Reference Implementation URL
  - Public Distribution Ledger Indicator

**Digital Token Identifier Type = 3 (Functionally Fungible Group of Digital Tokens)**

- **Normative**
  - Functionally Fungible Group of Digital Tokens
- **Informative**
  - Digital Token Long Name
DTI Implementation Guide v2.0

- Original Language Digital Token Long Name
- Digital Token Short Names
- Original Language Digital Token Short Names
- Underlying Asset External Identifiers Type
- Underlying Asset External Identifiers Value
- Digital Token External Identifiers Type
- Digital Token External Identifiers Value

DTI REUSE POLICY

DTIs assigned by the DTIF will never be reused.

GLOSSARY OF TERMS

The glossary of terms is also available on the DTIF website: https://dtif.org/glossary-of-terms/.

Auxiliary Digital Token Technical Reference Overview
Description of an element, such as a smart contract address, used to uniquely identify an auxiliary digital token’s origin on a distributed ledger technology platform.

Auxiliary Digital Token Verification Details
Explanation on how digital token can be viewed and verified on the DLT (e.g., a link to DLT explorer(s) if available)

Auxiliary Mechanism Name
Protocol used to create an auxiliary digital token. (e.g., ERC-20)

Auxiliary Mechanism Description
Description of the protocol used to create an auxiliary digital token (e.g., the ERC-20 (Ethereum Request for Comments 20), is a token standard that implements an API for tokens within Smart Contracts)

Auxiliary Token
Non-native digital token created as application on DLT.

Business Identifier Code
The BIC is an 8 character code, defined as ‘business party identifier’, consisting of the business party prefix (4 alphanumeric), the country code as defined in ISO 3166-1 (2 alphabetic), and the business party suffix (2 alphanumeric).

Company Name
Name of the company as represented in alphanumeric basic Latin characters.

Distributed Ledger Technology Type
For example, Bitcoin and Ethereum use blockchain-based distributed ledgers. IOTA utilizes a directed acyclic graph for its distributed ledger, which is not a blockchain, and thus would be considered distributed ledger technology: Other.

External Identifiers
Any identifiers, external to this standard, that may be used to identify either the digital token or the underlying asset that this digital token represents. Additional fields will appear to add either underlying asset or a digital token.

Genesis Block Hash Algorithm
Algorithm used to produce the genesis block hash e.g. SHA-256.

**Genesis Block Hash**
Block hash of the first block (Block 0) on the chain.

**Genesis Block UTC Timestamp**
Date and time of the generation of the first block (Block 0).

**Legal Entity Identifier (LEI)**
Legal Entity Identifier Definition: A Legal Entity Identifier (LEI), is a code that is unique to a legal entity such as a Limited Company, Fund or trust or any organization. The LEI code consists of a combination of 20 letters and numbers.

**Long Name**
String containing the full name of the digital token, as represented in alphanumeric basic Latin characters.

**Native Token**
A digital token(s) with a privileged position in DLT.

**Original Language Long Name**
Long name of the token in the original language if it is different from the long name already specified.

**Original Language Short Name**
Long name of the token in the original language if it is different from the long name already specified.

**Public Distributed Ledger indicator (public/private)**
Indicator whether the ledger is private or public.

**Short Name**
One or more short names or ticker symbols used to represent this digital token.

**Unit Multiplier**
Multiplier used to map from the unit of value stored on the distributed ledger to the unit of value associated with the digital token long name. For example unit multiplier for Bitcoin is 8 or 100000000.