FDTF Call Notes

*01 June 2021*

# Attendees

* Mike Bennett
* Rob Nehmer
* Pete Rivett

# Agenda

* RFI

# Meeting Notes

## The RFI

### What issues are left?

* Define what we already know or should know
* What background to put in Background section on this
* What we want to learn from the industry
* Potential future standardization activities that could result from the RFI

### What do we want to find out?

### Money and Currency Knowledge

We've been doing research on currency / money.

What types of product are people considering as digital currency?

For example:

Would an EFT be regarded as digital currency – we want to know what people to consider to be DCs, i.e. what's the range between these things in general, and e.g. Bitcoin

EFT = Electronic Funds Transfer

 - interested in knowing if some people would consider that to be a digital currency.

Clarify:

Given the term 'digital Currency', what are people hanging onto that term.

EFT: a transfer of $x to some recipient.

If I am someone in an industry that is writing checks using currency, for that person, does DC include an electronic transfer of funds that doesn't use a physical instrument.

This is so we understand the scope of what different people think is meant by Digital Currency.

#### Simple question:

"What do you consider to be Digital Currency?" – or the range of things that are digital currency.

#### Follow-up questions:

Which of these things would you regard as digital currency (add any others):

* List

What do put in the list:

* Electronic Funds Transfer

Define each of the things in that list.

### Definitions

EFT: The electronic transfer of funds without the use of physical currency.

(we are open to the possibility that some classes of people may consider it that; some government folks seem to be at least partially thinking in this way: creating a system that allows USD to be transferred in a secure way, and between what).

Between what: e.g. between banks; Fed to retail bank; bank to individuals; individuals to individuals.

Role of Wallets – are these 'part of' some digital currency, from some people's perspectives.

**Examples:**

Ecuador – had a digital currency from around 2014/15, withdrawn in 2017.

Other examples:

* Kinds of cryptocurrency (ETH etc.)
* Fiat currency, transferred electronically
* Other kinds of token

PR: If we can't define the term, the RFI would be only one question since other questions that depend on that definition would be meaningless?

RN: Disagree that we need to define DC; part of what we want to know is how people are conceptualizing digital currency.

MB: not sure that (Pete's assertion) would follow.

RN: Say 'based on your definition, please answer the following'

So there is effort in parsing answers. But how many are we expecting?

#### Another possible question:

Specific DC by name. Get a more complete list of DCs in that way.

### Broad structure:

We can:

* Ask what people understand by some of the terms
* For a given digital currency, ask people to name that and address their answers to that currency
* For a given kind of end user /responder etc.: for your understanding of these things, answer the questions

The questions might want to be different depending on how we want to do that.

Would we pick the currency?

MB: No.

Seem to be a couple of options here:

* List some possible currencies / kinds of currency / exemplars of a given kind (e.g. specific cryptcurrencies) and ask them to pick one or more and answer a set of questions for each
* Get the responder to specify a currency or kind of currency and answer a set of questions for each one they named
* Or both?

#### On one option (list the specific currencies):

We want to get the responder to respond in terms of some specific currency

e.g. someone might respond with respect to Bitcoin, someone else wrt Virtual Renminbi or something else. (some CBDC)

#### Third option:

Give them a list of currencies. "From this list pick one or add your own, then answer the questions that follow"

The first list: kinds of thing:

* EFT
* CBDC
* Cryptocurrency
* Stablecoin
* NFTs
* Something else
	+ E.g. community currencies – is there an analog in the digital world?

#### NFTs

Same question(s) as for EFT: we want to ask about NFTs.

 - the answers would be interesting because:

* Money is generally considered to be fungible
* NFTs are not fungible (the NF in NFT)
	+ Except where they are

So how the money / currency definitions apply or don't apply to these, is interesting.

#### Broader Questions

Are there other ways to be a DC?

 - can add to that list of questions

What ways are there to be a DC?

#### Option 1 above: where we list specific currencies or examples

If we list specific ones (or an example of each sort)

List some of reach category

e.g. Crypto: BTC, MIOTA, ETH

CBDC: (examples)

Stablecoins (UDST, UDSC)

## Definitions

Need definitions for:

* Currency
* Cryptocurrency
* Stablecoin
* NFT
* EFT

**We could:** give the definitions as we see them, mark as tentative. Give examples of what we think are things in each categories. Then Ask 'do you regard this as one of those / does it come under that definition?'

**Avoid:** the idea that we are handing down the definitions from on high

**What we want:** establish how people out there think of things.

**Rationale:** for a future RFP, we would need a formal definition. This wants to be one that comes from industry (via this RFI) not something we have made up.

Then we can ask for each kind of thing:

* What are the essential components of (Thing)

Can be:

* Process
* Features
* How used
* Other

The result should be some set of sub-classes of these concepts

Some of this may be in the DIDO Reference Model.

These should be complementary:

* DIDO: focus on ecosystems and how they are managed (DLT and more)
* DC RFI: focus on currencies (Cryptocurrency and more)

We needed to look at the current DIDO to see if that division of concerns stacks up.

### DIDO

Currency mentioned in Section 2 and in Section 3.

#### Section 2

When the Fungible Data represents a currency as in cryptocurrencies, the identifiers represent accounts, however, when the fungible data represents data such as commodities, inventories, public records, etc., the identifiers may not represent accounts.

#### Section 3: applicable standards

Section 3 seems to be a collection of standards that may be applicable to DLTs and other DIDOs (mainly not unique to those).

4 mentioned:

1. Audit: ADS-AICPA – relates to audit data
2. Transactions: DSA/ECDSA - Deterministic Usage of the Digital Signature Algorithm (DSA) and Elliptic Curve Digital Signature Algorithm (ECDSA) - Deterministic Usage of the Digital Signature Algorithm (DSA) – relates to signatures (encryption)
	1. And other things in the Transaction section
3. Identities
4. Wallets
	1. E.g. ERC20

### Token and Account Based Currency

A common thing in our discussions and the DIDO material:

In the Ontology of Money paper from Bolzano they have this distinction:

* Token based versus Account based (ledger based)

So some of the perceptions around EFT, and also some of the DIDO stuff on Transactions, relate to the use of the ledger.

Is there an intelligent question to ask on that?

e.g. (make as many responses as you wish)

"for [your chosen currency / type]: is it token based or account based?"

 - point them to the definitions on that.

#### Definitional

*Added note to the RFI outline, copied below in Times New Roman font*

[add material about]

* Token based versus account based

(use 'account' rather than 'ledger' since DLT terminology use the word 'ledger' in a broader way, to refer to the storage).

Also to ask: relationship between [the currency] and any kind of 'ledger' – and clarify what you mean by the term 'ledger'.

**Comment:** Almost back to the EFTs thing

### Overall

In addition to the definitions of individual words like 'currency' and 'stablecoin' we also have more expository explanations of money, currency etc. e.g. with reference to the Bosen/Bolzano paper.

So we need to unpack a whole lot of stuff.

## RFI Questions

Did we come up with sets of questions?

Yes – we have set of questions

Reviewed the Questions section in the RFI to assess completeness.

**Completeness:**

Under Standards we have an actual question.

For the rest we have sets of things we want to find out.

### Backing

New concept we had not previously address: in what way is a given currency 'backed'? (and what we mean by that).

See new section added to RFI on 'backing'.

#### Aims

What we would like to get a sense of is what the crypto people regard as 'fiat'. Why dismissive?

Does fiat necessarily imply central bank stuff?

Is it only debt / can it only be debt / tries to reflect economic activity?

Do we want to understand how other people understand some of these principles for money and currency generally e.g. where the Crypto world has a given perception of 'fiat'?

Yes, the reason being that where we can see what people's understanding of a thing is and share a common understanding, that's where standards work is.

One possible outcome of this RFI work is simply a well-attested vocabulary. Could go into a white paper or something like that ('Discussion Paper' is the correct term).

### Exchange

Need a new section on that – see new section. NB Exchange not Exchanges.

Why I mention cattle?

If there is a fuzzy boundary between exchangeable things and 'money' (e.g. how fungible)

Then NFTs have the same kinds of questions in the digital world.

Again with interesting boundaries as to fungibility.

e.g. what if I had 2 NFTs representing things that were themselves freely exchangeable (fungible) then what does this mean?

## Potential Outcomes

* Vocabulary
* Potential standards?

Pick up this question next time to focus our discussion on the remaining questions and structure.

Attach RFI Section 2 in its current state to these meeting notes.

 - see Annex 1 below.

## Next call

Next week. See above.

Annex: RFI Section 2

# 2. Information Being Requested

## 2.1 Summary of this RFI

This Request for Information is intended to gather information about the full range of types of digital currency, including how they are used, how people classify them, and any information responders consider to be relevant in terms of usage, risk, potential issues, applicable standards and so on. This includes but is not limited to crypto-based currencies. By extension this includes Central Bank Digital Currencies.

Digital Currencies are considered as being an extension, or specialized implementation, of money and currencies in general. This includes any token-based or ledger based (balance sheet based) items that may be used as a unit of exchange or a store of value. For example currency based on some underlying economic activity or debt (sometimes called 'fiat' currencies), alternative currencies based on cryptographic 'mining', currencies pegged in some way on the value of assets (metals etc.) or of some other currency (so-called 'stable coins'). These may include for example community-based or 'local' currency initiatives as well as more formally issued currencies.

From this universe of possible things that can be considered to be money or currency, we seek new information, insights and industry perceptions on those which are digital i.e. computationally based in nature.

## 2.2 Detail

### 2.2.1 Background

We understand that there are a distinction to be made between:

* Digital currencies in general
* Cryptocurrencies (e.g. ETH, Bitcoin, MIOTA)

Currency in general may also be considered to be token based or based on a numeric value in some ledger or balance sheet.

Money is generally defined in terms of that which is fungible (i.e. a number of tokens may be exchanged at parity for the same number of any other tokens identified as being of the same 'currency'). Meanwhile in the world of cryptocurrency there are also 'non-fungible' tokens (NFTs). For completeness we would also be interested in responses covering these NFTs and similar or identical concepts such as 'colored' coins or Unspent Transaction Output (UTXO)

Under crypto there are other distinctions such as:

* Permissioned v Permissionless
* Public v Private
* Centralized v Decentralized
* Token types e.g. UTXO (non fungible) v fungible tokens
* [REVIEW: What other DLT variants may be relevant to Digital Currency considerations? Are all the above distinctions relevant to DC specifically?]

One item of interest is the perceived relationships, if any, between these and other DLT variables and the nature of any digital currency that uses these systems. This includes 'native' cryptocurrency accounted for on the distributed ledgers of these systems, additional cryptographic currencies (such as stablecoins) and non-fungible tokens (NFTs).

### 2.2.2 Definitional Distinctions

[add material about]

* Token based versus account based

(use 'account' rather than 'ledger' since DLT terminology use the word ''edger' in a broader way, to refer to the storage).

Also to ask: relationship between [the currency] and any kind of 'ledger' – and clarify what you mean by the term 'ledger'.

## 2.3 Questions

### 2.3.1 Terminology Questions

Terminology questions – establish how the respondents define some of the key terms e.g. ‘What do you understand by…?’

* Digital currency
* Token
* Proof of Stake
* Proof of Work
* Mining
* Various kinds of ‘coin’ e.g.
	+ Stablecoins
		- E.g. USDT / Tether
	+ Non Fungible Tokens (NFTs)
	+ So called ‘colored coins’ (and alternative labels for the same concept)
	+ Relevance of these to any use as ‘digital currency’ (as distinct from other uses e.g. NFTs as claims on some artwork)

[Find out – NFTs v Colored coins - fungibility versus identifiability; relation to UTXO v balance

* Might be interesting to see that relates to the Ontology of Money stuff on Token versus Account
* Question: is there a direct equivalence between UTXO/not-UTXO and conventional (fiat) Token v Account based currency? Are they the same]

### 2.3.2 Central Bank Digital Currency questions

Fungibility (if any) between currency in issue by a CB in general and the issue of a CBDC token

* That is, are these (sometimes / always / never) part of a distinct and separate issue of currency by the CB, than existing currency (whether token based or balance sheet based)?

Whether token based or account (ledger) based.

### 2.3.3 Other Currency Types Questions

Questions around ‘local’ or community-based token currencies

Background: historically there have typically been physical tokens (notes or vouchers) issued for use within a specific community or tourist site. Comparable arrangements in the digital realm may for example include community based tokens for spending on products or services within that (digital) community.

Are there any digital currencies in development that are effectively a digital version of the same kind of thing?

* Would you consider these to be ‘currency’?

If so, are these based on cryptographic currency arrangements or other digital arrangements? How are units and balances accounted for?

### 2.3.4 Standards Questions

What standards are you aware of or make use of? e.g.:

* EIC standards
	+ E.g. ERC20 (a token standard)
	+ The ERC NFT standard [reference]

Are the EIC standards used in the work you are involved with? Can they be?

Do you see a use for any / specific EIC standards in digital currency?

Are there features of the existing EIC standards that you would want to extend or specialize for any initiatives you are working with? Is it likely that such extension would go through the EIC RFC process?

For the standards you are aware of, what is their applicable scope (e.g. what DLT, what currency etc.)

**Explanatory note**

Potential motivations for standards use may include things like interoperability, trading, conversion from one to another currency, movement of currency units (tokens) from one exchange to another and so on.

### 2.3.5 Questions about Exchanges

### 2.3.6 Questions about Exchange

i.e. how one currency is exchanged for another, barter etc.

Definitional questions as to when is something money

e.g. cattle.

Where is the boundary between money and things you might other barter? Is anything you can barter also effectively currency.

Also relates to backing:

Gold as a unit of exchange

Currencies pegged to the USD or other e.g. ZAR.

### 2.3.7 Questions relating to digital wallets

### 2.3.8 Questions related to identity

### 2.3.9 Questions about 'backing'

[ find a better word]

Examples:

* Gold / metals
* Mining
* Scarcity
	+ Virtual – mining
	+ Physical – cowrie shells
* 'Fiat'
* Memes / Elon Musk etc. (bubble stuff), pump and dump, HODL etc.
* Bretton Woods

### 2.3.10 Other Questions