



DLPC Working Group
of the
Innovation Council

BAFT DLPC
Distributed Ledger Payment Commitment

Technical Best Practices

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Foreword

For centuries, international trade and trade finance has been paper based, staff intensive, and cumbersome. The industry has made several attempts over the last decade to simplify this complexity by converting paper documentation into digital form for computer processing. Unfortunately, these digital processing platforms suffered from low adoption because they provided only a partial solution to some of the parties involved in a trade finance transaction.

More recently, BAFT and its members saw an opportunity to significantly “leapfrog” forward the digitization of trade finance with the emergence of blockchain/distributed ledger technology (“DLT”). In 2016, the BAFT Innovation Council established the BAFT Distributed Ledger Payment Commitment Working Group (“DLPC Working Group”) to produce standardized rules for the transformation of a payment commitment into a digital asset to be used in any trade finance solution sitting on any DLT platform.

The result of the DLPC Working Group’s efforts consist of these BAFT DLPC Technical Best Practices and the accompanying BAFT DLPC Business Best Practices. These Technical Best Practices set forth specifications for the standardized conversion of the promise to pay embedded in a negotiable instrument used for trade finance into a digital asset. The digital asset, in turn, can work on any DLT platform and, therefore, is interoperable across different platforms. The Business Best Practices provide the parties using a DLPC with a set of rules governing their activity. They also contain a framework that ensures the payment commitment, although converted into a digital form, is still legally binding and enforceable.

BAFT first published DLPC Technical and Business Best Practices in April 2019 for “Trial Use.” After soliciting and incorporating industry feedback, the DLPC Working Group published in June 2020 the “Initial Release” of the specifications with the expectation of wide industry adoption as the use of DLT-based trade finance solutions increases. The DLPC Working Group recognizes that the trade finance industry is still early in its shift from paper to digital assets on DLT solutions and platforms. We consider these best practices to be living documents and now release this version 1.1, containing adjustments based on the use of the DLPC standards in live transactions in the spring/summer of 2020.

BAFT would like to express its gratitude to the captains and other members of the DLPC Working Group who generously contributed their expertise, time, and effort to develop these DLPC Technical Best Practices. These contributors and their affiliations are listed below.

Kitt Carswell	CGI	Eric Marcus	Arnold & Porter Kaye Scholer (retired)
Hector Fuenzalida	CGI	Samantha Pelosi	BAFT
Andy Garner	Wells Fargo	Dave Sutter	TradeIX
Ranga Krishnan	Formerly with Skuchain	John Taylor	Centre for Commercial Law Studies, Queen Mary University of London

Rebecca Liao	Skuchain	Alex Thompson	Wells Fargo
Whit Knapp	GTBInsights LLC	Janna Webskowski	US Bank

Definitions

Any term that is not defined in this document shall have the meaning given to that term in the Uniform Commercial Code as adopted by the US State of Delaware or in the Uniform Electronic Transactions Act of the US State of Delaware and the terms below shall have the following meanings:

Attestation: The act of recording a particular value or state of: (a) information, or changes to that information, on a distributed ledger; or (b) acceptance of that information or those changes. The attestations that may be required or permitted shall be determined by the type of instrument being recorded and the governance rules of the network on which the instrument is recorded. Attestation of events or actions may be effected automatically, if permitted by the relevant network rules and procedures.

Commitment: A commitment means a legally binding obligation to pay a specific amount of money. During the DLPC life cycle, a commitment is made when the terms and conditions are agreed to and the commitment state is recorded as either “Contingent” or “Effective” as described in Section 2 below. When a DLPC reaches an “Effective” state, the DLPC becomes an unconditional promise to pay a specific amount of money.

Committee: The party to the DLPC who is proposed to become or is an actual obligee/beneficiary.

Committer: The party to the DLPC who is proposed to become or is an actual obligor.

DL: Distributed ledger

DLT: Distributed ledger technology

DLPC: A record of a payment commitment on a distributed ledger that conforms to the DLPC Business ([see here](#)) and Technical Best Practices. A DLPC has a lifecycle comprising the following states: (1) Pre-DLPC (2) DLPC Initiated (3) DLPC Contingent (4) DLPC Effective and (5) DLPC Discharged. This lifecycle is described in more detail in Section 2.

Distributed Ledger Business Network: A group of parties that use a distributed ledger to conduct business transactions among themselves. As a precondition to joining the network, these parties must all agree to conduct such business on the distributed ledger compliant to the network rules and governance.

1. Introduction

Several industry initiatives are underway to establish Distributed Ledger Business Networks to enable different types of trade and trade finance transactions to be executed and recorded on DLs. Maximizing the utility of these networks requires that standards be developed to support interoperability between them, independent of the type of underlying DLT or trade finance instrument used, or the participants in those networks. The central contract in a trade finance transaction is usually a negotiable instrument, defined by the law of many jurisdictions as a written document bearing a signature. Embedded within a negotiable instrument, along with other contract terms, is a legally binding and enforceable payment commitment (a promise to pay). This payment commitment is the focus of the BAFT DLPC.

The BAFT DLPC is a payment commitment in the form of a digital asset that has been designed to work with any DLT-based trade finance solution sitting on any DLT platform. The DLPC therefore offers two key advantages over a payment commitment embedded in a paper negotiable instrument: (a) it provides a technology-neutral solution that allows companies to record a digital representation of a payment commitment on DLT that can operate within any DLT-based trade finance solution sitting on any DLT platform and also across different DLT platforms, resulting in interoperability; and (b) it is supported by a legal framework that seeks to provide the same degree of business utility and protections for banks and corporations as is provided by the laws governing negotiable instruments.

These Technical Best Practices specify how the DLPC itself is to be implemented on a DLT.

2. DLPC Lifecycle

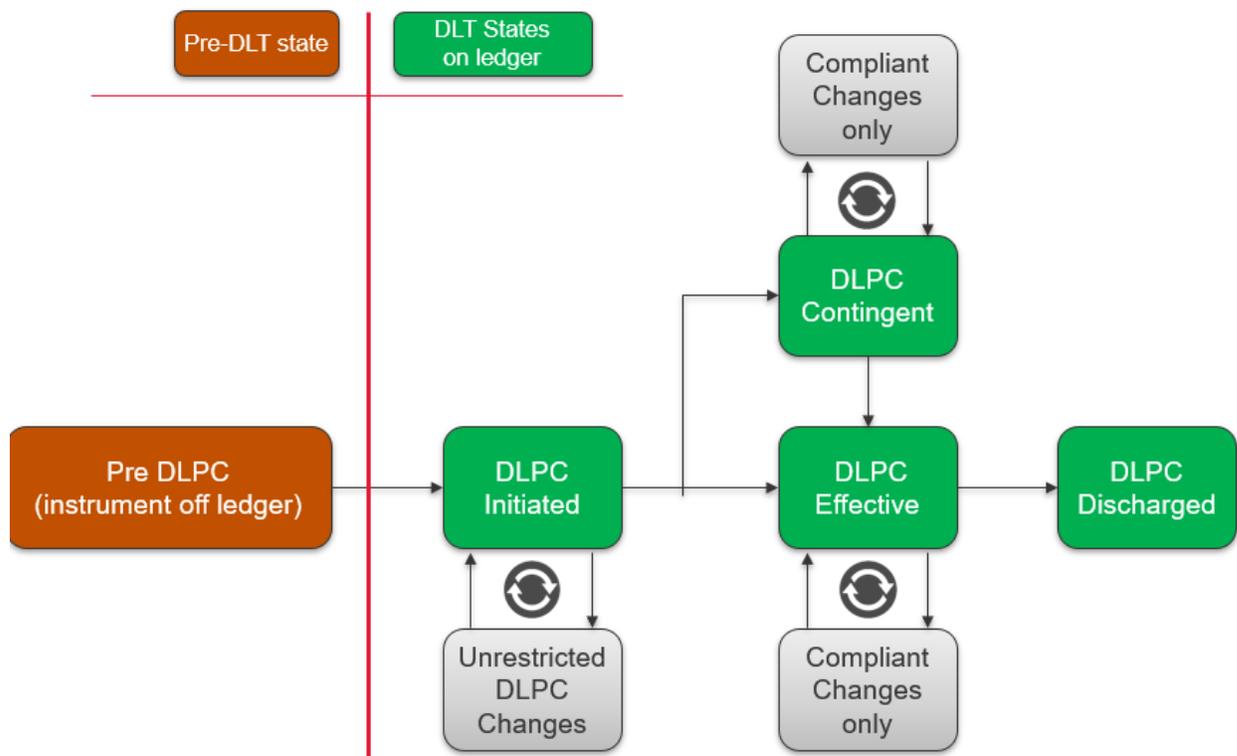


Figure 1: Lifecycle of a DLPC

A DLPC goes through the lifecycle shown in Figure 1 and the changes associated with its state will be recorded in the data fields described in Section 2.1 below. Thus:

- While the terms of the DLPC are being discussed (i.e. “Pre DLPC” in Figure 1), the parties to the trade transaction will formulate the required information to “initiate” the new DLPC record on the distributed ledger. Section 4.0 below defines the minimum required information to initiate a DLPC on a ledger. This includes establishing a globally unique “DLPC ID” Field 1. As additional information is collected, data can be changed or added to the fields in the DLPC record without restriction as long as the field requirements are met. The originator of a proposed trade transaction, or payment obligation, will identify themselves and the origination date and time in the “Originator ID” Field 2. During this period the parties to a trade transaction on a distributed ledger will enter and store on the ledger whatever preparatory data they might like, depending on the type and terms of the trade instrument that they hope to agree upon. Fields 1 and 2 are the only required fields to initiate the DLPC record.
- When the terms of the trade transaction have been agreed upon, the DLPC state is recorded as either “**Contingent**” or “**Effective**” in Field 10, the **Commitment State**. When this state is achieved, the DLPC becomes a legally binding instrument. A DLPC is “**Contingent**” while it, or the trade transaction to which it is linked, is subject to any conditions. When those conditions have been fully met, the DLPC is to be recorded in Field 10 as “**Effective**” and, when “**Effective**”, the DLPC is then in the form of a digital note (an unconditional promise to pay). The associated paper or electronic trade transaction, if one exists, itself will also be identified by a specific description recorded in Field 3, the **Reference ID**. The DLPC recorded on the distributed ledger will then refer to, and thereafter be linked with, that Reference ID. Both the Reference ID and the DLPC ID should be designed to be unique across networks and ledgers so that payment commitments and their underlying transactions may be readily identified in an interoperable manner.
- All fields, with the exception of the DLPC ID Field 1 and the Originator ID Field 2, can continue to be updated without restriction, until the field requirements are met and the **Commitment State** is recorded as “**Contingent**” or “**Effective**”. Contingent DLPCs and Effective DLPCs can only have Compliant Changes as specified in Section 3 of this document.
- An Effective DLPC is recorded as “**Discharged**” in Fields 11 and 12 when the Committer attests that it has paid the promised Amount, or the Committer is otherwise relieved of its promise to pay, e.g. if the trade transaction is terminated (cancelled).

Field 13 provides for the choice of a law and forum to settle any disputes relating to the DLPC, as described in Section 4.2 of the Business Best Practices ([see here](#)).

Each data field in a DLPC carries attestations from the involved parties. The attestations are created as a result of recording the DLPC on the DL. The specific methods would be determined by the DL network. The data fields described in Section 2.1 indicate the attestations required to record or change a field. For a DLPC to record a legally binding commitment, all fields must be populated with the required information and attestations.

2.1 Data Fields and Their Requirements

A DLPC is recorded in 13 simple data fields on a distributed ledger. All data fields must be present and populated as described in this Section and in Section 4. It is, however, not mandatory that all distributed ledgers should represent or record those fields in the same way, so long as the ledger contains a record of all 13 fields meeting the

requirements defined in Section 4. Accordingly, different distributed ledgers may record or show these fields, and the sequences or changes in those fields during the lifecycle of the DLPC, in different ways. **This flexibility ensures that the DLPC may be used on any distributed ledger for any digital trade transaction.**

Whether a field needs to be attested (i.e. agreed) by the Committer [Cr], and/or the Committee [Ce], is shown by the following convention. The inclusion of [Cr,Ce] means both the Committer and Committee must attest to the field. If only one of Cr or Ce is shown, it means that only the Committer or the Committee, as indicated, must attest to the field. Either may attest if [Cr or Ce] is shown.

The 13 data fields of a DLPC are as follows, and requirements relating to changes in the state of a DLPC are described in Section 3 below:

Field 1. DLPC ID [Cr or Ce]: A unique identifier for the payment commitment i.e. the DLPC record. This field is required to initiate a DLPC record on a ledger. This field cannot be changed without cancelling the DLPC record by changing the state of Field 11.

EXPLANATION: This is a globally unique identifier or reference allowing all state changes of a specific DLPC to be tied together. The population of this field initiates the DLPC. If a trade transaction has more than one payment commitment, each payment commitment shall be recorded in separate DLPC records with unique DLPC IDs. For the data formats, see paragraph 4.1 below.

Field 2. Originator ID [Cr or Ce]: An identification of the originator of the proposed DLPC. This field is required to initiate a DLPC record on a ledger.

EXPLANATION: If the Originator of the proposed DLPC has a Legal Entity Identifier (LEI), this should be used together with the origination date and time. Otherwise, the Originator shall use its Legal Name, Registered Address and origination date and time. For the data formats see paragraph 4.2 below.

Field 3. Reference ID [Cr or Ce]: Identification of the trade instrument to which the DLPC is linked, if it exists.

EXPLANATION: This is a unique identifier or reference information referring to the written or digital document (or its link to a storage location) of the trade transaction (e.g. an LC, a draft, bill of exchange, trade acceptance, open account transaction, BPO, etc.) to which the payment commitment (i.e. the DLPC) is linked. This field is required when the Commitment State Field 10 becomes “Contingent” or “Effective”. This field can initially be shown as NULL. If there is more than one payment commitment in a trade transaction, there will be multiple DLPCs (each with a unique DLPC ID), all of which will refer to the same Reference ID field description. If there is no external reference documentation related to this DLPC record, this field shall have the same value as recorded in DLPC ID field 1. For the data formats, see paragraph 4.3 below.

Field 4. Committer [Cr or Ce]: Identifier of the party making the commitment – the obligor.

EXPLANATION: This field shall be NULL until the obligor is known. If the obligor of the proposed DLPC has a Legal Entity Identifier (LEI), this should be used and, optionally, other identifiers as needed. Otherwise, the obligor shall be identified by their Legal Name and Registered Address and, optionally, other identifiers as needed. This field shall be populated with one of these valid formats when the DLPC record becomes “Contingent” or “Effective”. If an additional party becomes a payment obligor (e.g. if a bank adds its confirmation to an LC), that payment

commitment should be recorded in a separate DLPC record with all 13 fields and a new DLPC ID. For the data formats, see paragraph 4.4 below.

Field 5. **Committee** [Ce or Cr]: Identifier of the party benefiting from the commitment – the beneficiary.

EXPLANATION: This field shall be NULL until the beneficiary is known. If the beneficiary of the proposed DLPC has a Legal Entity Identifier (LEI), this should be used and, optionally, other identifiers as needed. Otherwise, the beneficiary shall use their Legal Name and Registered Address and, optionally, other identifiers as needed. This field shall be populated with one of these valid formats when the DLPC record becomes “Contingent” or “Effective”. The Committee may change, for example on a transfer or assignment of the DLPC and, in this case, the current DLPC record and DLPC ID is retained and only the Committee Field 5 is updated. For the data formats, see paragraph 4.5 below.

Field 6. **Currency** [Cr, Ce]: The currency unit in which the commitment is denominated.

EXPLANATION: This field shall be NULL until the currency is known and must be populated when Field 7 contains an amount value other than NULL. For the data format, see paragraph 4.6 below.

Field 7. **Amount** [Cr, Ce]: The amount committed to be paid.

EXPLANATION: This field shall be NULL until the amount is known and must be populated with a valid amount value when Field 10 becomes “Contingent” or “Effective”. For the data format, see paragraph 4.7 below.

Field 8. **Commitment Date** [Cr or Ce]: The date on which the terms of the DLPC are set.

EXPLANATION: This field shall be NULL until the terms and conditions are established and agreed to. When the DLPC terms are agreed to, its state shall be recorded in Field 10 below as “Contingent” or “Effective” and this field shall be populated with a valid commitment date. For the data format, see paragraph 4.8 below.

Field 9. **Due Date** [Cr, Ce]: On demand, or the date specified or determinable on which the committed amount must be paid.

EXPLANATION: This field shall be NULL until the due date is known and must be populated when Field 10 has a value of “Effective”. For the data format, see paragraph 4.9 below.

Field 10. **Commitment State** [Cr or Ce]: The current state of the DLPC: either “Initiated”, “Contingent”, “Effective”, or “Discharged”.

EXPLANATION: During its lifecycle, the DLPC will move through various states, and this field specifies the DLPC’s precise current state (for the data formats, see paragraph 4.10 below) as:

INITIATED: Refers to the time frame when the DLPC record is recorded on a ledger; however the terms and conditions have not been set and some of the data fields or elements are not known. In this case the state of the DLPC is to be shown as “Initiated”. The **Pre DLPC** period refers to the time frame prior to the DLPC being recorded on a ledger and the data recording may be handled in any manner as the parties choose.

CONTINGENT: If (as will be usual in trade transactions) the obligation to make a payment is subject to the satisfaction of conditions which are agreed (including e.g. the presentation of conforming documents or delivery of conforming goods or services), the state of the DLPC is to be shown as “Contingent”.

EFFECTIVE: This state is reached when all terms and conditions of the trade transaction have been satisfied, whereupon the DLPC becomes an “unconditional promise to pay” the Amount to the Committee. In this case the state of the DLPC is to be shown as “Effective”.

DISCHARGED: The “unconditional promise to pay” of the DLPC will normally be discharged by such acts as: (a) due payment of the Amount in full, or (b) the discharge of the obligation to pay (e.g. by the cancellation or renunciation of the right to payment of the DLPC by the Committee, or the termination of the trade transaction to which the DLPC is linked by agreement of the parties or by operation of law). In this case the state of the DLPC is to be shown as “Discharged”. Once the Commitment State is recorded as “Discharged”, the “Discharged” state and date are to be recorded in Fields 11 and 12 below.

Field 11. **Discharge State** [Ce]: Open, Paid, Past Due, or Cancelled.

EXPLANATION: This field shall initially be recorded as “Open,” and then it will show one of the following states (for the data formats, see paragraph 4.11 below), as and when appropriate:

OPEN: the state remains “OPEN” until the commitment is past due, cancelled or paid.

PAID: The state is recorded as “Paid” when the Amount has been paid.

PAST DUE: When the Due Date of a DLPC is past, and the commitment type is EFFECTIVE and the amount is greater than zero, and the commitment has not been discharged, the DLPC is considered Past Due.

CANCELLED: The state is recorded as “Cancelled” If and when the Commitment is cancelled or terminated. When the Due Date of a DLPC is past, and the commitment type is “Contingent” and the amount is greater than zero, the DLPC is considered cancelled and the Committer is no longer obligated for that residual amount.

Field 12. **Discharge Date** [Ce]: The date upon which the DLPC has been paid or cancelled.

EXPLANATION: This field shall initially be recorded as NULL and is to be populated when Field 11 has a value of PAID or CANCELLED. For the data format, see paragraph 4.12 below.

Field 13. **Applicable Rules** [Cr, Ce]: A description and version of the rules governing the DLPC with an optional pointer (URL) that indicates the location of the rules governing the DLPC.

EXPLANATION: This field shall initially be recorded as NULL until the rules are agreed to. This field must be populated (for the data format, see paragraph 4.13 below) when the commitment state of the DLPC is “Contingent” or “Effective”. For recommendations on the choice of law and the forum to govern the DLPC, see Section 4 of the accompanying Business Best Practices ([see here](#)). This choice of law and forum to govern the DLPC may be identical to the law and forum chosen to govern the trade

transaction to which the DLPC is linked, or it may be a different law and forum, if the parties so decide.

2.2 Logical DLPC State

Different distributed ledgers will represent the DLPC data fields and the transactions that change them through different mechanisms. They may also choose different schemes and methods as well as different digital signature algorithms and cryptography to record the attestations by parties to the DLPC state changes. For this reason, the mechanism for recording the attestation time stamp and identification of the party making the attestation is left up to the distributed network governance and operation. While implementations compliant to this specification have such freedom, they shall on demand provide the logical state of the thirteen data fields associated with a DLPC and the network representation of the attestation (time and party) recording that state change. The DLPC logical state shall have the data fields in the format specified in Section 4.0.

3. Compliant Changes to a DLPC

While either party can record data into any of the fields, changes or additions must meet the requirements of this Section and the relevant rules of the Network where the instrument is being recorded. A field in the DLPC can be changed, or added if it is not present, without restriction until the DLPC meets the requirements to be a binding legal commitment (i.e. Contingent or Effective state). Once the DLPC becomes legally binding, only compliant changes that meet the requirements below are allowed. These requirements have been set so that any changes in the DLPC will accommodate different types of trade transactions. They specify the attestations that are required in each data field. It is assumed for the discussion below that only one field changes at a time, and receives the required new attestations, while all other fields retain their prior values and attestations:

1. **DLPC ID:** Change not allowed
2. **Originator ID:** Optional elements: can only be changed by the party that recorded the data
3. **Reference ID:** Optional elements: can only be changed by the party that recorded the data
4. **Committer:** Change not allowed
5. **Committee:** Change allowed by current or new Committee
6. **Currency:** Change allowed by Committer or Committee and must be attested by or on behalf of the other party
7. **Amount:** Change allowed by Committer or Committee and must be attested by or on behalf of the other party
8. **Commitment Date:** Initially recorded by either Committer or Committee and attested by or on behalf of the other party. Change not allowed once Field 10 becomes Effective
9. **Due Date:** Change allowed by Committer or Committee and must be attested by or on behalf of the other party
10. **Commitment State:** When commitment state change is reflecting:
 - “Initiated”: Attestation is optional by or on behalf of either party
 - “Contingent” or “Effective”: the change must be attested by or on behalf of the Committer

- “Discharged:” and when Field 11 reflects Discharged as “Paid”, the change to “discharged” must be attested by or on behalf of the Committer. For attestations of any other Field 11 Discharge State change, the attestation is optional by either party.

When the Commitment State reflects “Discharged,” Fields 10 and 11 must be changed at the same time.

11. **Discharge State:** When discharged state is recorded as “Paid”, it must be attested by or on behalf of the Committer. For attestations of any other change to the Discharge State, the attestation is optional by or on behalf of either party. When the Commitment State reflects “Discharged,” Fields 10 and 11 must be changed at the same time.

12. **Discharge Date:** Change not allowed

13. **Applicable Rules:** No changes allowed once field 10 becomes Effective.

4. Data Format/Representation

For each of the fields in the DLPC, the data format that should be used is specified below. The rules and definitions governing the use of the fields are specified in Section 2 and 3 above. All fields are required; however, some fields have conditions as well as sub elements with specified tag names. Some of the sub elements are required, conditional or optional. These requirements, conditions and options are defined in the individual field definition.

A DLPC is recorded in 13 simple data fields on a distributed ledger. It is again emphasized, however, that it is not mandatory that all distributed ledgers should represent or show those fields in the same way, so long as the ledger contains a record of all 13 fields along with their name and sub element tag names. Accordingly, different distributed ledgers may represent or show these fields, and the sequences or changes in those fields during the lifecycle of the DLPC, in different ways. This structure and flexibility ensures that the DLPC can be used on different distributed ledgers while maintaining the interoperability of the data within the 13 fields.

The technical references to industry specifications sited in this section can be found on the following sites:

[ITU Telecommunications Standards](#)

[ISO Standards](#)

[Internet Engineering Task Force \(IETF\)](#)

4.1 DLPC ID (Field 1)

The structure of the DLPC ID as described here, provides for a globally unique ID that would not be duplicated by any party creating a new DLPC. The DLPC ID is required.

The DLPC ID is constructed by generating a **UUID**. See Section 4.1.1.

4.1.1 UUID Definition and Description

A UUID (Universally Unique Identifier) can be used for multiple purposes, from tagging objects with an extremely short lifetime, to reliably identifying very persistent objects across a network, particularly (but not necessarily) as part of an ASN.1 object identifier (OID) value, or in a Uniform Resource Name ([URN](#)). UUIDs are also known as Globally Unique Identifiers (GUIDs), but this term is not used in Rec. [ITU-TX.667|ISO/IEC9834-8](#).

UUIDs are an octet string of 16 octets (128 bits). The 16 octets can be interpreted as an unsigned integer encoding, and the resulting integer value can be used as a subsequent arc of [{joint-iso-itu-t uuid\(25\)}](#) (or 2.25) in the [OID tree](#). This enables users to generate OIDs without any registration procedure.

If generated according to one of the mechanisms defined in Rec. [ITU-T X.667 | ISO/IEC 9834-8](#), a UUID is either guaranteed to be different from all other UUIDs generated before 3603 A.D., or is extremely likely to be different (depending on the mechanism chosen). The UUID generation algorithm specified in this standard supports very high allocation rates: 10 million per second per machine if necessary, so UUIDs can also be used as transaction IDs.

No centralized authority is required to administer UUIDs but automatic generation of UUIDS (using the algorithm defined in Rec. [ITU-T X.667 | ISO/IEC 9834-8](#)) is provided at [Get a new UUID](#). An example was requested at 4:45 ET on 8/29/2018 with the result:

Online UUID Generator

Your Version 4 UUID:

300dfa9b-1b33-4798-badc-4cd9e1cff8e4

Refresh page to generate another.

UUIDs forming a component of an OID are represented in ASN.1 value notation as the decimal representation of their integer value, but for all other display purposes it is more usual to represent them with hexadecimal digits with a hyphen separating the different fields within the 16-octet UUID. This representation is defined in Rec. [ITU-T X.667 | ISO/IEC 9834-8](#).

Example:

f81d4fae-7dec-11d0-a765-00a0c91e6bf6 is the hexadecimal notation that denotes the same UUID as 329800735698586629295641978511506172918 in decimal notation.

As an alternative, the Internet Engineering Task Force (IETF), published a UUID URN Namespace specification RFC 4122. This is also an acceptable means of generating the UUID. Information on RFC 4122 can be found at <https://www.ietf.org/rfc/rfc4122.txt>.

4.2 Originator ID (Field 2)

The Originator ID field is made up of either the originators assigned Legal Entity Identifier (**LEI**) with the origination date and time (**SysTime**) **OR** the originators legal name (**Name**) and registered address (**Address**) with the origination date and time (**SysTime**). The preferred implementation is to use a LEI. If the originator cannot get a LEI, they shall use their legal name and registered address. Only one of the two formats shall be used. See section 2.1 for the rules governing this field. The Originator ID field is required.

The elements for this field and their tag names are defined below. Tags shall be separated with the “pipe” character (|) as shown in the examples below.

Example: The originator has an issued LEI.

Originator ID: **LEI**=84UKLVMY22DS|**SYSTIME**=2020-04-13T14:19:35+00:00

Example: The originator does not have an issued LEI.

Originator ID:

Name=ANY_COMPANY_NAME|**Address**=ANY_STREET,ANY_CITY,STATE_OR_COUNTRY|**SysTime**=2020-04-13T14:19:35+00:00

The Originator ID field elements are defined below:

LEI= A 20-character alphanumeric string defined by ISO 17442 that is issued to the originator (See 5.2.1 for an explanation of a LEI and its format)

Name= an arbitrary ASCII string of up to 64 characters

Address= an arbitrary ASCII string of up to 64 characters

SysTime= System time shall follow ISO 8601 (See 5.2.2 for an explanation of System Time and its format)

How these elements are encoded into the Originator ID field is left up to the implementer of the DLPC specification. However, the tag names and requirements shall be followed.

4.2.1 LEI Definition and Description

A **Legal Entity Identifier** (or **LEI**) is a 20-character alphanumeric string that identifies distinct legal entities that engage in financial transactions. It is defined by **ISO 17442**. Natural persons may obtain a LEI only if they act in an independent business capacity. The LEI is a global standard, designed to be non-proprietary data that is freely accessible to all. A LEI consists of a 20-character alphanumeric string, with the first 4 characters identifying the Local Operating Unit (LOU) that issued the LEI. Characters 5 and 6 are reserved as '00'. Characters 7-18 are the unique alphanumeric string assigned to the organization by the LOU. The final 2 characters are checksum digits. Examples of LEI codes are shown in Table 1 below:

Structure of LEI Codes

1	2	3	4	5	6	7	8	9	...	18	19	20
LOU-Code				Reserved	Entity-Identification						Check-sum	
G.E. Financing GmbH												
5	4	9	3	00	84UKLVMY22DS						16	
Jaquar Land Rover Ltd												
2	1	3	8	00	WSGIIZCXF1P5						72	
British Broadcasting Corporation												
5	4	9	3	00	0IBP32UQZ0KL						24	

Table1: Structure of LEI Codes

The Global Legal Entity Identifier Foundation (GLEIF) does not directly issue Legal Entity Identifiers, but instead it delegates this responsibility to Local Operating Units (LOUs). These LEI issuers supply different services. LOUs can have different prices for the registration services they offer. GLEIF is responsible for monitoring LEI data quality.

4.2.2 System Time Definition and Description

System time shall follow ISO 8601 and the implementation shall be as follows. The components shown here must be present, with exactly the punctuation shown. Note that the "T" appears literally in the string, to indicate the beginning of the time element, as specified in ISO 8601.

Format-Complete date plus hours, minutes and seconds:

YYYY-MM-DDThh:mm:ssTZD (eg 1997-07-16T19:20:30+01:00)

Where:

YYYY = four-digit year

MM = two-digit month (01=January, etc.)

DD = two-digit day of month (01 through 31)

hh = two digits of hour (00 through 23) (am/pm NOT allowed)

mm = two digits of minute (00 through 59)

ss = two digits of second (00 through 59)

TZD = time zone designator (Z or +hh:mm or -hh:mm)

Two ways of handling time zone offsets are allowed:

1. Times are expressed in UTC (Coordinated Universal Time), with a special UTC designator ("Z").
2. Times are expressed in local time, together with a time zone offset in hours and minutes. A time zone offset of "+hh:mm" indicates that the date/time uses a local time zone which is "hh" hours and "mm" minutes ahead of UTC. A time zone offset of "-hh:mm" indicates that the date/time uses a local time zone which is "hh" hours and "mm" minutes behind UTC.

Note: If seconds are not used, record ss as (00)

Examples:

1994-11-05T08:15:30-05:00 corresponds to November 5, 1994, 8:15:30 am, US Eastern Standard Time.

Or

1994-11-05T13:15:30Z (corresponds to the same instant above).

4.3 Reference ID (Field 3)

The Reference ID field may be initialized as **NULL**. It must utilize one of the formats below when Field 10 becomes **CONTINGENT** or **EFFECTIVE**. The **RefID** element shall always be included as a minimum requirement. Additionally, this field may optionally contain an instrument description (**InstDesc**), a reference link to the digital copy of the instrument (**URL**) and a Hash value of the digital reference instrument (**Hash**). See section 2.1 for the rules governing this field.

If there is no separate reference documentation, the Reference ID field shall contain the value of the DLPC ID (Field 1). In this case, only the RefID element shall be used.

The Reference ID field can contain the following elements. The elements for this field and their tag names are defined below. Tags shall be separated with the "pipe" character (|) as shown in the examples below:

Example: where there is no separate reference documentation and the DLPC ID (Field 1) value is used with no other elements.

Reference ID: **RefID**=300dfa9b-1b33-4798-badc-4cd9e1cff8e4

Example: where optional elements are included and the Reference ID has a different value from the DLPC ID.

ReferenceID: **RefID**=Z123456789|**InstDesc**=GE_CAPITAL_INSTRUMENT_DATED_APRIL
2020|**URL**=https://www.gecapital.com/dlpc/Z123456789|**Hash**=592FA743889FC7F92AC2A
37BB1F5BA1DAF2A5C84741CA0E0061D243A2E6707BA

The Reference ID field elements are defined below:

RefID= External reference ID to original instrument. This element can contain an arbitrary ASCII string of up to 64 characters describing the original referenced instrument. If there is no external reference ID, this field shall be populated with the same value as the DLPC ID (Field 1).

InstDesc= an arbitrary ASCII string of up to 64 characters describing the instrument.

URL= External reference pointer (Uniform Resource Locator) to the location of the documentation in IETF RFC 3986 format. All URLs must be [properly encoded](#) (URL Encoding).

Hash= Hash of the actual referenced document. Hash must use SHA-3, 256-bit or higher. Number of bits agreed upon during network formation.

How these elements are encoded into the Reference ID field is left up to the implementer of the DLPC specification. However, the tag names and requirements shall be followed.

4.4 Committer (Field 4)

The Committer field may be initialized as **NULL**. It must utilize one of the formats below when Field 10 becomes **CONTINGENT** or **EFFECTIVE**. The Committer field may contain the following elements; the company assigned LEI number (**LEI**), the company legal name (**Name**), the company registered address (**Address**) and optional identification data about the Committer (**Opt**).

Preferred Format:

If the Committer has an assigned and valid (registered) LEI, the Committer's valid LEI shall be used. When the element (**LEI**) is used only the optional element (Opt) is allowed. The element (Opt) may be used to add identity information such as a Tax ID or other national/regional IDs. The LEI element is defined in 4.2.1.

Optional Format:

If a LEI is not available, the legal name of the Committer (**Name**), together with their registered address (**Address**) shall be used. The element (**Opt**) may be included with the legal name/address to add additional identity information about the Committer. See section 2.1 for the rules governing this field.

The elements for this field and their tag names are defined below. Tags shall be separated with the "pipe" character (|) as shown in the examples below:

Example: The Committer has a LEI number and no optional data is needed.

Committer: **LEI**=84UKLVMY22DS

Example: The Committer does not contain an assigned LEI number and optional identity is being included. Note if no optional data is being added the "**Opt**" element would be omitted.

Committer:

Name=ACME_INDUSTRIAL, INC | **Address**=ANY_STREET, ANY_CITY, STATE_OR_COUNTRY | **Opt**=TAX_ID_1234567890

The Committer field elements are defined below:

LEI= A 20-character alphanumeric string defined by ISO 17442 that is issued to the originator (See 5.2.1 for an explanation of a LEI and its format)

Name= an arbitrary ASCII string of up to 64 characters

Address= an arbitrary ASCII string of up to 64 characters

Opt= an arbitrary ASCII string of up to 64 characters

How these elements are encoded into the Committer field is left up to the implementer of the DLPC specification. However, the tag names and requirements shall be followed.

4.5 Committee (Field 5)

The Committee field may be initialized as **NULL**. It must utilize one of the formats below when Field 10 becomes **CONTINGENT** or **EFFECTIVE**. The Committee field may contain the following elements; the company assigned LEI number (**LEI**), the company legal name (**Name**), the company registered address (**Address**) and optional identification data about the Committee (**Opt**).

Preferred Format:

If the Committee has an assigned and valid (registered) LEI, the Committee's valid LEI shall be used. When the element (**LEI**) is used only the optional element (**Opt**) is allowed. The element (**Opt**) may be used to add identity information such as a Tax ID or other national/regional IDs. The LEI element is defined in 4.2.1.

Optional Format:

If a LEI is not available, the legal name of the Committee (**Name**), together with their registered address (**Address**) shall be used. The element (**Opt**) may be included with the legal name/address to add additional identity information about the Committee. See section 2.1 for the rules governing this field.

The elements for this field and their tag names are defined below. Tags shall be separated with the "pipe" character (|) as shown in the examples below:

Example: The Committee has a LEI number and no optional data is needed.

Committee: **LEI**=84UKLVMY22DS

Example: The Committee does not contain an assigned LEI number and optional identity is being included. Note if no optional data is being added the "**Opt**" element would be omitted.

Committee: **Name**=ACME_INDUSTRIAL, INC | **Address**=ANY_STREET, ANY_CITY, STATE_OR_COUNTRY
| **Opt**=TAX_ID_1234567890

The Committee field elements are defined below:

LEI= A 20-character alphanumeric string defined by ISO 17442 that is issued to the originator (See 4.2.1 for an explanation of a LEI and its format)

Name= an arbitrary ASCII string of up to 64 characters

Address= an arbitrary ASCII string of up to 64 characters

Opt= an arbitrary ASCII string of up to 64 characters

How these elements are encoded into the Committee field is left up to the implementer of the DLPC specification. However, the tag names and requirements shall be followed.

4.6 Currency (Field 6)

The Currency field shall identify the currency of Amount Field 7 using its **ISO 4217** code. This field may be initialized as **NULL**. It must be populated when 4.7 Amount Field 7 contains an amount value other than **NULL**. See section 2.1 for the rules governing this field.

4.7 Amount (Field 7)

The Amount field shall contain a decimal number. The integer part can have up to 24 numerals. The fractional part can have up to 7 numerals. The amount cannot be negative. This field may be initialized as **NULL**. It must be populated with a positive decimal number when 4.10 Commitment State Field 10 has a value of **CONTINGENT** or **EFFECTIVE**. See section 2.1 for the rules governing this field.

4.8 Commitment Date (Field 8)

The Commitment Date field shall follow ISO 8601 and the implementation shall be as follows. The components shown here must be present, with exactly the punctuation shown. Note that the "T" appears literally in the string, to indicate the beginning of the time element, as specified in ISO 8601.

This field may be initialized as **NULL**. It must be populated when 4.10 Commitment State Field 10 has a value of **CONTINGENT** or **EFFECTIVE**. See section 2.1 for the rules governing this field.

Format-Complete date plus hours, minutes and seconds:

YYYY-MM-DDThh:mm:ssTZD (eg 1997-07-16T19:20:30+01:00)

See Section 4.2.2 for the complete definition and description of System Time as defined in ISO 8601.

4.9 Due Date (Field 9)

The Due Date field shall follow ISO 8601 and the implementation shall be as follows. The components shown here must be present, with exactly the punctuation shown. Note that the "T" appears literally in the string, to indicate the beginning of the time element, as specified in ISO 8601.

This field may be initialized as **NULL**. It must be populated when 4.10 Commitment State Field 10 has a value of **EFFECTIVE**. See section 2.1 for the rules governing this field.

Format-Complete date plus hours, minutes and seconds:

YYYY-MM-DDThh:mm:ssTZD (eg 1997-07-16T19:20:30+01:00)

See Section 4.2.2 for the complete definition and description of System Time as defined in ISO 8601.

4.10 Commitment State (Field 10)

The Commitment State field shall contain an ASCII string with one of the following values: "INITIATED", "CONTINGENT", "EFFECTIVE" or "DISCHARGED".

See section 2.1 for the rules governing this field.

4.11 Discharge State (Field 11)

The Discharged State field shall contain an ASCII string with one of the following values: "OPEN", "PAID", "PAST_DUE" or "CANCELLED"

This field shall be initialized with "OPEN". See section 2.1 for the rules governing this field.

4.12 Discharge Date (Field 12)

The Discharge Date field shall follow ISO 8601 and the implementation shall be as follows. The components shown here must be present, with exactly the punctuation shown. Note that the "T" appears literally in the string, to indicate the beginning of the time element, as specified in ISO 8601.

This field shall be initialized as **NULL**. It must be populated when 4.11 Discharge State Field 11 has a value of **PAID** or **CANCELLED**. See section 2.1 for the rules governing this field.

Format-Complete date plus hours, minutes and seconds:

YYYY-MM-DDThh:mm:ssTZD (eg 1997-07-16T19:20:30+01:00)

See Section 4.2.2 for the complete definition and description of System Time as defined in ISO 8601.

4.13 Applicable Rules (Field 13)

Applicable Rules field shall be initially recorded as **NULL** until the rules are agreed to. It must utilize the format below when Field 10 becomes **CONTINGENT** or **EFFECTIVE**. The Applicable Rules field shall contain a name (**Name**) describing the applicable documentation describing the governing rules of the transaction along with the version of those rules (**Version**). This field can optionally contain an external reference pointer to a location hosting the posting or storage of those rules (**URL**). See Section 2.1 for the rules governing this field.

The elements for this field and their tag names are defined below. Tags shall be separated with the "pipe" character (|) as shown in the examples below:

Example: Applicable Rules listing a name and version only.

Applicable Rules: **Name**=BAFT_BEST_Practices|**Version**=VERSION_2.1_DATED_APRIL_2020

Example: Applicable Rules listing a name and version with an optional external reference pointer.

Applicable Rules: **Name**=BAFT_BEST_PRACTICES|**Version**=VERSION_2.1_DATED_APRIL_2020|**URL**=https://www.baft.com/dlpc/1234567890

The Application Rules field elements are defined below:

Name= an arbitrary ASCII string of up to 64 characters designating the name of the rule set

Version= an arbitrary ASCII string of up to 64 characters designating the version of the rule set

URL= External reference pointer (Uniform Resource Locator) to the location of the documentation in IETF RFC 3986 format. All URLs must be [properly encoded](#) (URL Encoding).

How these elements are encoded into the Applicable Rules field is left up to the implementer of the DLPC specification. However, the tag names and requirements shall be followed.