October 2018

# STANDARDIZATON OF FUNDS PROCESSING IN EUROPE

**ORDER AND SETTLEMENT**
**TRANSFERS**
**HOLDING AND TRANSACTION REPORTING**
**COMMISSION REPORTING**
**CORPORATE ACTIONS AND OTHER NOTIFICATIONS**
**FINTECH / DISTRIBUTED LEDGER TECHNOLOGY**

***5th Edition 2018***

***An updated report from EFAMA's***
***Trade, Reporting, Market Infrastructure Standing Committee***

efama
European Fund and Asset Management Association

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## 1. PREFACE

In early 2016 the European Commission set up an expert group on post-trading, including the areas of collateral markets and derivatives, the European Post Trade Forum (EPTF). The objective of EPTF in the context the Commission's Capital Markets Union (CMU) project is "to support the work of the Commission to review the developments in post-trading, including collateral management services, in line with the CMU, in order to promote more efficient and resilient market infrastructures in the EU"[1]. The EPTF Report recognizes the past efforts of EFAMA in the area of fund processing[2], and calls on the fund industry in general and EFAMA specifically to remove barriers to the CMU in fund processing.[3]

EFAMA takes the opportunity of the EPTF report call for action as an opportunity to update this report to support the CMU in fund processing. Indeed, the industry has made good progress since the publication of the FPSG's initial recommendations in 2005, with both market participants and infrastructure providers moving to ISO 20022 as the key messaging standard for funds processing. With regard to infrastructure in particular, a variety of connectivity options now exists, with SWIFT[4] now offering a product for small and medium-sized players alongside other ISO 20022-enabled industry message hub solutions. Indeed SWIFT has consulted the industry[5] and in line with the EPTF Report Barrier 2 recommendation the move towards ISO 20022 as the single securities processing standard sometime in the next decade.[6] The EPTF Report also identified specifically in the fund area the need for more data transparency standards in pre- and post trade stages of fund processing as well as the need for a European standard for static fund data.[7]

The inefficiencies of fund processing are still apparent in the cross-border distribution of funds.[8] This is a very important segment of the European fund industry, which offers UCITS as a global brand far beyond Europe in particular to Asia and Latin America and the wider EMEA region. The importance of open/guided architecture also exacerbates the ensuing operational costs for industry players and investors. Given this, the importance of a global approach to fund processing remains as high as ever.

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[1] The EPTF Report is available at: http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3394

[2] Cf. EPTF Report Annex 3 Detailed Analysis oft he European Post Trade Landscape, Chapter 4 Investment Funds.

[3] Cf. EPTF Report Barrier 5 Section 3.1 Solution 7 refers specifically to the 2011 version of this report.

[4] As well as performing the function of Registration Authority for ISO 20022 - maintaining the message catalogue and data dictionary and overseeing the technical compliance of items in the repository with the ISO 20022 standard, on behalf of ISO - SWIFT is separately a financial industry co-operative, which provides a network over which ISO 20022 messages can be transmitted.

[5] SWIFT launches a full-scale community consultation that sets out its vision for migration of cross-border services to ISO 20022, 23 April 2018, available at: https://www.swift.com/news-events/news/iso-20022-migration_the-time-is-now#

[6] EPTF Report Barrier 2: Lack of convergence and harmonisation in information messaging standards

[7] Cf. EPTF Report Annex 3, Chapter 4, Section 4.34 Data tansparency and Section 4.3.5. on Static transaction data platforms and standards.

[8] On the continuing need to improve cross border fund processing, see the latest initiative: Ailancy: International distribution of French funds -16 recommendations to enhance the attractiveness of the French marketplace, April 2018, available at: https://www.euroclear.com/dam/PDFs/Funds/Funds%20working%20group%20report-final%20EN.pdf

**EFAMA remains a catalyst for change**

Bearing in mind the significant potential cost savings that could be achieved in the processing of fund orders, EFAMA established a group in 2003 to identify obstacles to efficiency in back-office procedures and to outline possible actions for removing them.
Having published the initial recommendations of the FPSG in 2005 EFAMA updated and added to the report in September 2008 and March 2011. It is now updating and extending the report once again, with A new section covers the impact of FinTech i.e. API and Distributed Ledger Technology.

As noted above, much has been achieved already, but more can be done and the effort must continue. National initiatives for the improvement of cross border and domestic investment in funds such as in France and Italy[9] demonstrate the on-going demand for fund processing automation based on standardization. Only when the necessary changes are implemented by all industry players will the benefits truly be delivered to the market as a whole. The key motivations for the industry are:

- greater efficiency - improved scalability of operations and reduced costs, resulting in greater profitability for the players involved with lower costs to investors;
- reduced operational risk - through the elimination and replacement of manual re-keying of orders and other data by straight-through processing;
- enhanced service - through improved response times and standardized interfaces.

**There is a need to monitor implementation**

EFAMA, in association with SWIFT, is publishing data obtained from the Irish and Luxembourg markets since 2011 to illustrate the good growth in automation of fund order processing and the adoption of ISO standards in that space[10]. Statistics on fund processing automation rates in other markets such as Italy and Germany have been added more recently. Output from this initiative enables EFAMA to demonstrate the progress to the European Commission, the European Parliament and others, and the success that can be achieved without regulatory intervention.

[9] Cf. ABI, AMASF, ASSOGESTIONI, ASSORETI, ASSOSIM, GUIDELINES FOR THE STANDARDIZATION OF OPERATIONS IN THE ASSET MANAGEMENT INDUSTRY Version 2.0, 2012
[10] The reports are available for download at: https://www.efama.org/sitepages/publications.aspx?Choice=Standards

## 2. EXECUTIVE SUMMARY

This paper is the third update to the report that was first published by EFAMA in 2005 to present recommendations to increase efficiency in the processing of fund orders and achieve cost savings. This latest version, which includes ar new sections on new technologies still encompasses the full scope of activities that were envisaged when the first report was commanded by EFAMA.

In Section 3, we offer a number of general and overarching recommendations to facilitate and improve the level of automation and straight through processing (STP) within the European funds industry. These include the need for widespread adoption of a revised and more flexible fund reference and sales data message as an industry standard, the use of ISO standard identifiers, such as BICs, LEIs and ISINs, and the continued promotion of ISO 20022 as the single European message standard for fund messaging.

Section 4 considers the order and settlement process and includes recommendations concerning account identification and standing data as well as for automation of the order, acknowledgement and subsequent confirmation processes. The recommendations concerning settlement include a specific proposal to harmonize settlement date on T+2 or earlier, according to the nature of a fund's underlying assets.

Section 5 proposes measures applicable to the single- and double-leg processing models that exist for transfers of title in different markets due to local rules and conventions. The principle aims are to shorten processing timelines and improve communication between the actors involved.

Section 6 makes recommendations to increase the harmonization of basic reporting services provided by fund administrators to distributors and institutional holders. The recommendations focus on the frequency and timeliness of position and valuation reporting and transaction statements.

Section 7 seeks to address various issues that exist in the area of commission reporting. In particular, the actor that calculates and pays commission - referred to as the "commission calculation agent" (CCA) - needs to be provided with the information necessary to allocate the payment correctly. Given this information, the CCA should then be able to make the payment and advise the distributor accordingly in a timely fashion. The recommendations draw on initiatives that are underway in some markets.

Section 8 discusses various aspects in relation to corporate actions, with a view principally to improving communication with the wider market in order that underlying beneficial owners and their servicing agents are able to receive and process the information in a more timely fashion. This section covers income entitlements and those arising from fund reorganizations, as well as communications relating to unitholder meetings and other investor notifications.

Section 9 is a new section and discusses the need for automation in the API and DLT area to be based on open global ISO standards.

Section 10 discusses how EFAMA is working with other organizations to promote the implementation of the FPSG's recommendations.

The definitions of some of the key terms used in this report may be found in the Glossary.

# 3. GENERAL RECOMMENDATIONS

## 3.1 Facilitating straight through processing

1.1.1 Client-side institutions performing the order placement role should encourage the electronic input of orders and other instructions as early as possible in the instruction chain so as to minimize or, preferably, eliminate the re-keying of data.

1.1.2 Fund management companies should arrange for standardized reference and MiFID II sales data (target market and cost information) to be made available for their funds, in order to facilitate their trading[11].

1.1.3 Where legal or regulatory barriers or constraints to the implementation of these recommendations exist, national associations should aim to work with the relevant government or regulator to remove or alleviate them.

## 3.2 ISO standard identifiers

1.1.4 Where possible, financial institutions, including fund administrators, distributors etc., should be identified using their LEI (ISO 17342) or BIC code (ISO 9362).

1.1.5 Fund providers should use ISIN (ISO 6166) codes for all their funds at the lowest (ie. unit/share class) level and should promote its use as the sole identifier for that instrument.

1.1.6 Wherever possible all other items, eg. countries, currencies, etc., should be identified using the relevant ISO standards.

## 3.3 Messaging standards

1.1.7 Communications between client-side and fund-side institutions, including the giving of instructions and provision of reports, should as far as possible be electronic.

1.1.8 ISO 20022 is recognized as the single European standard for funds messaging going forward and should be the basis for electronic communications in this area.

1.1.9 Messages should be used for the purposes for which they were designed and in accordance with any market practice that may be published by the Securities Market Practice Group or its constituent National Market Practice Groups[12].

[11] At the request of the Italian and UK NMPGs a revised ISO 20022 message (reda.004) which is more flexible and wider in scope than the original ISO2022 fund processing data message has been reviewed by the global Investment Funds Securities Market Practice Group. A change request for reda.004 was submitted to the ISO 200222 Registration Authority (change request 0712 'reda.004 MiFID EMT (investment Funds)'. The updated message is expected to be published on ISO 20222 in 2019. The need for more standardized fund dat was confirmed in a Funds Europe survey in conjunction with Clearstream: Whats next for funds? – Managing data – a necessity and an opportunity, at p. 5, to 9.

[12] For more information see www.smpg.info and www. Swift.com/MyStandards.

1.1.10 Proprietary message standards between client-side institutions and fund-side institutions should be avoided.

# 4. ORDER AND SETTLEMENT

## 4.1 The generic processing model

The FPSG considers that order processing messages and standards across Europe can be viewed in the context of a *generic* model of the roles and actors involved (see Figure 4.1 below). Note that funds which are traded on exchange and settled in the same way as equities (eg. in the Danish or Dutch market, as well as exchange-traded funds that exist elsewhere) are not within the scope of this paper.[13]

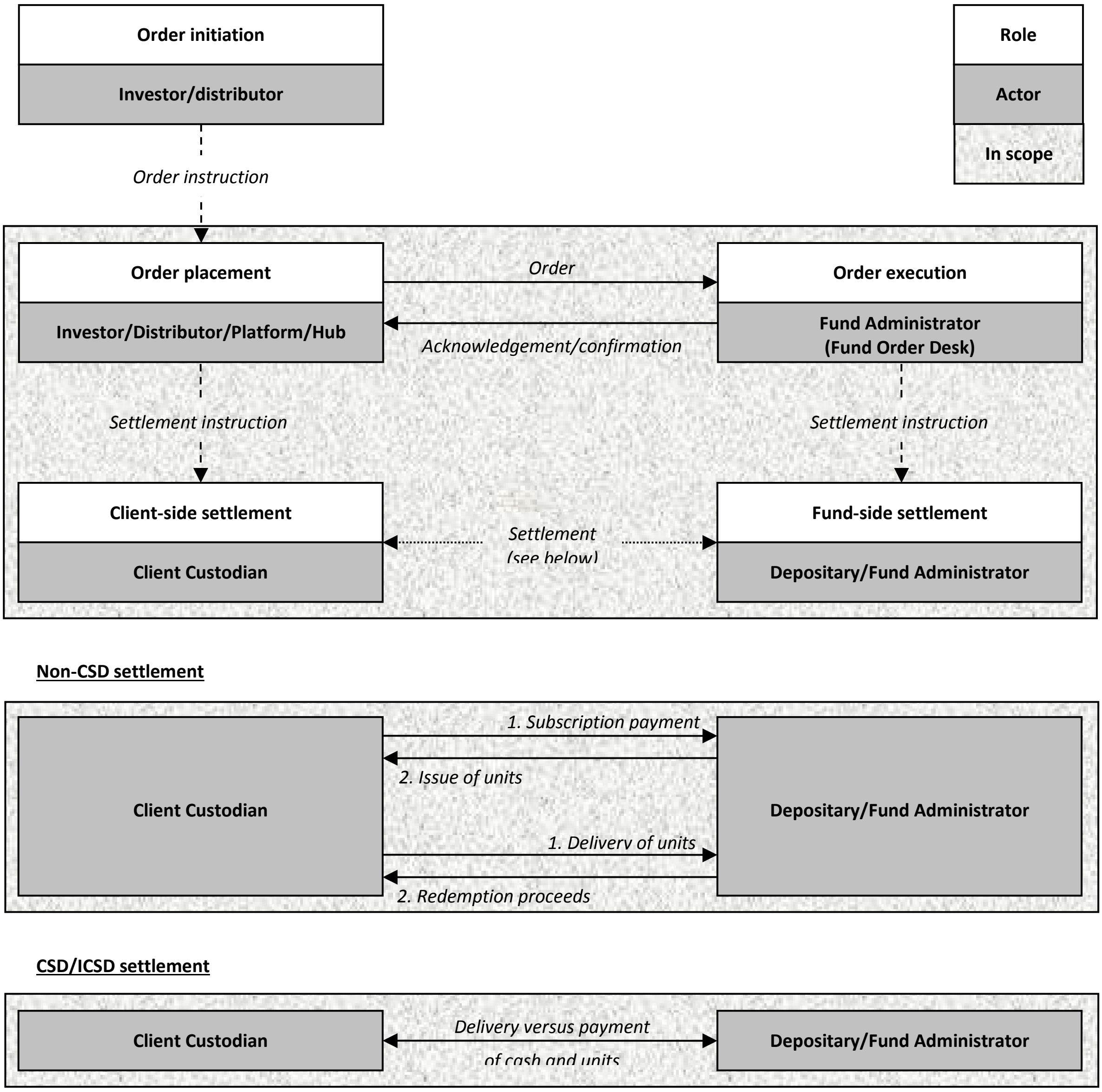


**Figure 4.1**

[13] For specific processing issues with respect to ETF please see EPTF Report Barrier 3: Lack of harmonisation and standardisation of ETF processes.

From the above, it can be seen that there are five discrete roles in the overall order and settlement process:

- *Order initiation* - initiation of the order by the end investor and communication through to the placement stage, directly or through one or more intermediaries.
- *Order placement* - communication of the order to the fund-side institution by the dealing function of the client-side institution and subsequent issue of the client-side settlement instructions.
- *Order execution* - receipt, acceptance and processing of the order by the fund-side institution as agent for the fund or (in the UK) as principal.
- *Client-side settlement* - arranging for payment to be made for units purchased or for title to be given up to units sold.
- *Fund-side settlement* - making or arranging the settlement of transactions on behalf of the fund or fund provider.

Note that a single actor may perform more than one role in the process.

The model has been reviewed against the operating practices in a broad range of European fund domiciles. Which actor executes orders on the fund side will vary - in many jurisdictions it will be the fund administrator, while in others it may be the depositary (eg. Germany) or a centralizing agent (France); in the UK the fund management company usually deals as principal on its own account and arranges for the issue and cancellation of units between itself and the fund. In most markets the final order placement will be undertaken by various types of institution (note that the principal focus of the report is on communications between fund administrators and financial institutions - interactions that may take place with private investors are not considered in this section).

In markets such as France and Germany, settlement occurs in the local CSD. Settlement can also take place in an ICSD. Otherwise, however, settlement occurs typically on the basis of payment or delivery by the client-side custodian, on receipt of which the fund-side institution will complete the process.

The order initiation and placement roles may be performed by the same actor or they may be separate entities that either communicate directly or through one or more intermediaries. Where multiple entities are involved they might, for various reasons over which the fund-side institution may or may not have any influence, choose to use proprietary interfaces. Given, this report remit insofar as order processing is concerned is confined to the placement and settlement stages of the process (shaded). Nevertheless, all parties involved in the input and placement roles should be encouraged to ensure that orders are input electronically as soon as possible in the order chain, using the standards proposed.

## 4.2 Account opening and maintenance

Issues

Where client accounts are maintained by the fund-side institution, identification of the correct holder and holding, whether existing or new, is vital to the correct processing of an order. This issue is not resolved in practice as evidenced for example by the Ailancy report which makes the following recommendations to improve the cross border distribution of funds, and which are of general interest beyond France[14]:

- Ailancy report Recommendation 1 – Promote the development of European Standards supported by the different associations and relevant regulators, if applicable (coordination challenge between the different initiatives in term of KYC/AML standardization, at domestic and international level)
- Ailancy report Recommendation 3 – Enable portability of investor KYCs in line with data protection requirements when the investors is already client of a French institution
- Ailancy report Recommendation 4 – Allocate a unique identifier to an individual investor as defined in his country of residence. Leverage European laws which set out unique identification rules for individual investors (e.g. CONCAT for France as part of MIFID II)
- Ailancy report Recommendation 5 – Provide asset managers with a better knowledge of their investors by using new technologies such as Blockchain.
- Ailancy report Recommendation 6 – Streamline the use of distributor tracking codes by extending the use of LEI (Legal Entity Identifier Codes). In case of 1 to 1 relationship between BIC and LEI preference should be given to LEI. If the BIC contains a higher granularity than the LEI then The LEI and the BIC1 should be send.

No market standard exists yet for the determination and allocation of completely unique holder references - both the client-side institution and the fund-side institution will have their own code.

There will be situations where the client-side institution does not know the relevant account reference, or where no holding exists at that stage. In such circumstances the intended account will be identified by reference to its registration details. The lack of a standard information set and format for these details can result in the creation of duplicate and incorrectly registered accounts, which in turn can lead to confusion and dealing errors in the future.

Recommendations

1.1.11 Where the transaction relates to an existing holding, the account (where relevant) should be identified by way of the fund-side institution's reference. Otherwise a standard set of registration details should be provided (see 4.2.3 below). Use where possibly a unique identifier for an investor (e.g. CONCAT in case of natural persons and subject to requrements of data protection laws and LEI in case of legal entities in a broad sense).

1.1.12 Transfer agency systems and fund registers should be able to accept and store account numbers or distributor references (where applicable) provided by client-side institutions, in order to allow proper identification of the holding. Uniqueness may be ensured by reference to the BIC or LEI code of the distributor associated with the account. In case of 1 to 1 relationship between BIC and

[14] See above FN 10.

LEI preference should be given to LEI. If the BIC contains a higher granularity than the LEI then the LEI and the BIC1 should be send. In the longer term, an IBAN-type approach (with codes being issued by the client-side institution) should be considered for the purposes of establishing a unique account holder reference.

1.1.13 The industry should adopt a standard minimum set of account standing data[15], to be provided in relation to a new or existing holding for which the client-side institution does not have the holder reference. Use where possibly a unique identifier for an investor (e.g. CONCAT in case of natural persons and subject to requrements of data protection laws and LEI in case of legal entities).

## 4.3 Order placement

Issues

Orders are currently placed with the fund order desk by a variety of means, including post, telephone, fax, e-mail and proprietary electronic messaging.

With most of these methods, manual intervention and re-keying is required. As well as being resource intensive, variation in the content of instructions increases the risk of error and has a negative impact on the service levels provided to market counterparties and, ultimately to end investors. Errors occur due to the misquoting or misinterpretation of client details, fund names and other transaction details, which are entered or provided manually, perhaps from abbreviated source information. The problem is made worse by the need for investors and their agents to communicate with different fund providers using a variety of communication methods. Note that the use of electronic communication and common messaging standards are recommended in section 3.3 above.

The institutions concerned will each allocate their own transaction reference to an order. However, this will usually mean nothing to the other party and so confusion can arise as to which order is being processed, particularly when multiple orders have similar details. As a result, confirmations may be mismatched against the original order and settlements can be wrongly applied.

A further problem area is the variability in valuation points and the associated dealing cut-off times between different funds. This both makes asset reallocation between funds difficult to co-ordinate and causes confusion for client-side institutions, which will need to meet different dealing deadlines depending upon the fund concerned. However, it is suggested that standardizing valuation points and cut-off times would create as many problems as it might solve - they are often set in order to avoid a concentration of activity at one point in the day and in some cases are determined due to the trading hours of the markets in which funds invest. However, client-side institutions should have easy access to information regarding cut-off points, which it is recommended should be included within the standard fund reference data (see recommendation 3.1.2).

[15] The SMPG (see section 108 below) has established a set of data in the context of the ISO20022 account management messages market practice. This is published on MyStandards

New techniques such as roboadvisors simplifying the order process as well as improved interoperability standards between CSD and new forms of DLT register as well as order routing plattforms open to all financial intermediaries may further improve the order process.[16]

Switch type orders are also currently not supported in all markets / infrastructures.[17]

Recommendation

1.1.14 Order instructions should include the client-side institution's unique order reference. The fund order desk will, in turn, provide its own deal reference as part of its acknowledgement. All future messages regarding that order should contain both references in order that it may be correctly recognized by both parties.

### 1.2 Acknowledgement and confirmation

Issues

The majority of funds deal on a "forward" basis - the price of units is calculated at the next valuation point after the fund-side institution accepts the order.

This means that confirmation of an order (including the unit price etc.) will not usually be possible until some time after it is placed. Some, but not all, fund-side institutions undertake to acknowledge orders prior to the relevant valuation point, thus providing an opportunity to confirm that they have been received and correctly understood before the prices are allocated. However, these acknowledgements are often in a form that is proprietary to one party or the other and may not easily facilitate automatic matching by the client-side institution with the original order. In addition, acknowledgement currently may or may not represent acceptance of the order for execution.

Most fund administration systems generate confirmations at the end of the day on which the prices are calculated and allocated, for dispatch the following day or shorter periods. This means that the client-side institution will not receive formal confirmation of the transaction until that following day, or later if it is sent by post. Delays in receiving the confirmation may well delay the settlement process, incurring cost to one or other party.

Recommendations

1.2.1 Orders should be validated and acknowledged (which would indicate acceptance for execution) or rejected by the fund order desk as soon as possible after they are received (ideally within minutes).

1.2.2 Except where complete fulfillment of an order is conditional, under the terms of the fund, upon other orders transacted within the same dealing period, cancellation or amendment of the order should be permitted only by prior agreement between the client-side and fund-side institutions. Only orders that have been executed incorrectly by the fund order desk should be cancelled or

[16] Ailancy Report, Recommendations 7,8,9 , see FN 10.
[17] Ailancy Report, Recommendation 12, see FN 10.

amended after the dealing cut-off point, with the fund being compensated as appropriate for any adverse impact that may occur as a result.

1.2.3 Confirmations should be sent by the fund order desk as soon as possible after the prices have been allocated to the orders, and at the latest overnight following the close of that day.

1.2.4 Where a foreign exchange transaction is executed in connection with the transaction, details should be included within the confirmation message.

1.2.5 When fees or charges have been applied to an order, they should be specified in the confirmation with the maximum level of granularity

1.2.6 Client-side institutions should have mechanisms in place to identify discrepancies in the acknowledgements they receive as well as any unmatched orders or confirmations, which should be referred to the relevant fund order desk on the business day of receipt.

## 4.4 Settlement

Issues

The key issues with settlement are that various settlement mechanisms are used (, electronic funds transfer, CSD/ICSD accounting) and that settlement timeframes can vary.

Uncertainty as to the settlement date is frustrating for both institutional investors and distributors and can have a consequent effect on their ability to settle subsequent purchases on time. There is pressure, given the context of funds within the wider European securities markets, for settlement to be harmonized around T+2.

Recommendations

1.2.7 Settlement should occur on a date that is predetermined by reference to the date of the transaction.

1.2.8 Settlement should occur on T+2 (where "T" is the date on which an order is priced) or earlier[18], according to the settlement cycles of a fund's underlying assets. In exceptional cases, the nature of a fund's assets and the associated settlement timeframes may require a longer period.

1.2.9 Settlement for both subscriptions and redemptions should be made electronically between client-side and fund-side institutions or effected via a CSD/ICSD.

1.2.10 Payments should be accompanied by the relevant order reference(s) in order to facilitate reconciliation by the recipient. Buyer payments should be made from the account mentioned in their account opening douments.

1.2.11 Multi-currency delivery v. payment (DvP) solutions for subscription / redemption orders should be facilitated by the market infrastructures.[19]

[18] Money market and cash funds, for example.
[19] Ailancy Report, Recommendations 11, see FN 10.

# 5. TRANSFERS

## 5.1 Generic processing models and recommendations

This section considers the transfer of units between two accounts recorded in the legal register of fund holders, other than where it is maintained by way of book entry within the system of a CSD or ICSD. Transfers involves two parties: the Delivering Party delivering the units (transferor) and the Receiving Party receiving the units (transferee).

Although legislation and market conventions vary between different countries, the FPSG considers that transfer processing across Europe (outside a CSD environment) can be viewed in the context of three *generic* models:

1. Single leg, transferor instructing
2. Single leg, transferee instructing
3. Double-leg

These models are described in more detail in sections 5.2 to 5.4 below.

*Note: the models described within this paper are not intended to address the processes that occur with CSDs or ICSDs. However, these infrastructures may themselves be actors in these models for the purposes of moving units into and out of the (I)CSD environment.*

<u>Issues</u>

Transfers are often instructed using physical documents or faxes. As such, they require manual intervention, which makes them resource intensive and exposes them to the risk of human error. Moreover, their processing is in many cases not time-critical, so they often are not processed with the same urgency as subscriptions and redemptions, leading to delays that can have a knock-on impact on a custodian's ability to service their client effectively[20].

The single-leg models often operate with only the transaction reference of the instructing party, which makes it difficult for the counterparty to reconcile the transaction on the register against their own records. In particular, where it is the transferor that sends the instruction, the receiving party sometimes does not realize they have received the units until they next reconcile to the fund register.

In countries that operate the double-leg model, difficulties can be encountered by the Transfer Agent (TA) in matching the two parties instructions and, indeed, processing is often delayed by non-receipt of the second instruction.

[20] The FCA Investment Platforms Market Study Interim Report July 2018 most recently described issues with "switches"/transfers in the UK, p. 16 et seq.

Recommendations

Fundamental to the recommendations contained in this paper is that communications and processing should be electronic, using the ISO20022 message sets[21] wherever possible. This benefits both fund-side institutions such as TAs as well as distributors. With transfers in particular, electronic processing means that timeframes can be shortened and portfolios can be moved between custodians more cleanly. This enables management and trading of the client's portfolio to recommence more quickly and reduces the administrative/reconciliation burden for the outgoing servicer in relation to business that has been lost.

In some jurisdictions physical transfer documentation may be required as a matter of market convention, while in others it is a legal requirement. General recommendation 3.1.3 is that national associations should work with their respective governments and regulators to remove legal and regulatory barriers to the implementation of the recommendation in this paper. In addition, they should encourage market participants to migrate from legacy manual practices where these are not mandated by law and/or regulation. The EFAMA TRMSC makes the following general recommendations in relation to transfers (in addition to the model-specific recommendations in sections 5.2 to 5.4)

1.2.12 Transfers should be processed electronically unless legislation in a particular jurisdiction requires the delivery of physical instruments of transfer and/or signatures.

1.2.13 A prerequisite should be that transfers are agreed between the delivering and receiving parties before they are executed. In particular, units should not be "dumped" upon a transferee.

1.2.14 Where a transfer involves a change of distributor for the purposes of future trail commissions, this should be clearly identified in the transfer instruction and details of the new distributor provided (see also recommendation 7.8). Note that in some markets the TA may require separate holdings to be maintained for each distributor.

1.2.15 Instructions transmitted by any party to the TA should include the following minimum information:
ISIN
Number of units
Own and counterparty account details
Own and counterparty transaction references
Own and counterparty identifiers (BICs)
Change in beneficial ownership[22]

### 5.2 Single leg, transferor instructing

In this model, the person delivering the units (transferor) instructs the TA to re-register the units from their name into that of the person that is to receive the units (transferee).

Provided the TA is able to validate the transfer (appropriately authorized, sufficient units, complete transferor/transferee details and having received necessary documuments, etc.), it will re-register the units in the name of the transferee and confirm that the transfer has been processed (see Figure 5.2 below).

[21] The SMPG has established a set of data in the context of the ISO20022 transfer messages market practice. This is published on MyStandards.
[22] The minimum level of infos is something we have not discusses yet at SMPG level, maybe the below data are not sufficient.

Although this model appears initially to be the obvious choice, with the existing holder controlling the delivery of the transfer instruction to the TA, a common problem in practice is that units are transferred to the Receiving Party without their knowledge. Consequently they only discover the units in their account in the course of a future reconciliation with the TA's register. It is key, therefore, that the delivering and receiving parties agree the transfer at the outset, and exchange the relevant details (see recommendations 5.1.2 - 5.1.4). The process may commence either with the Receiving Party providing its details and requesting transfer of the units, or with the Delivering Party requesting the information from the Receiving Party in order to prepare the transfer instruction.

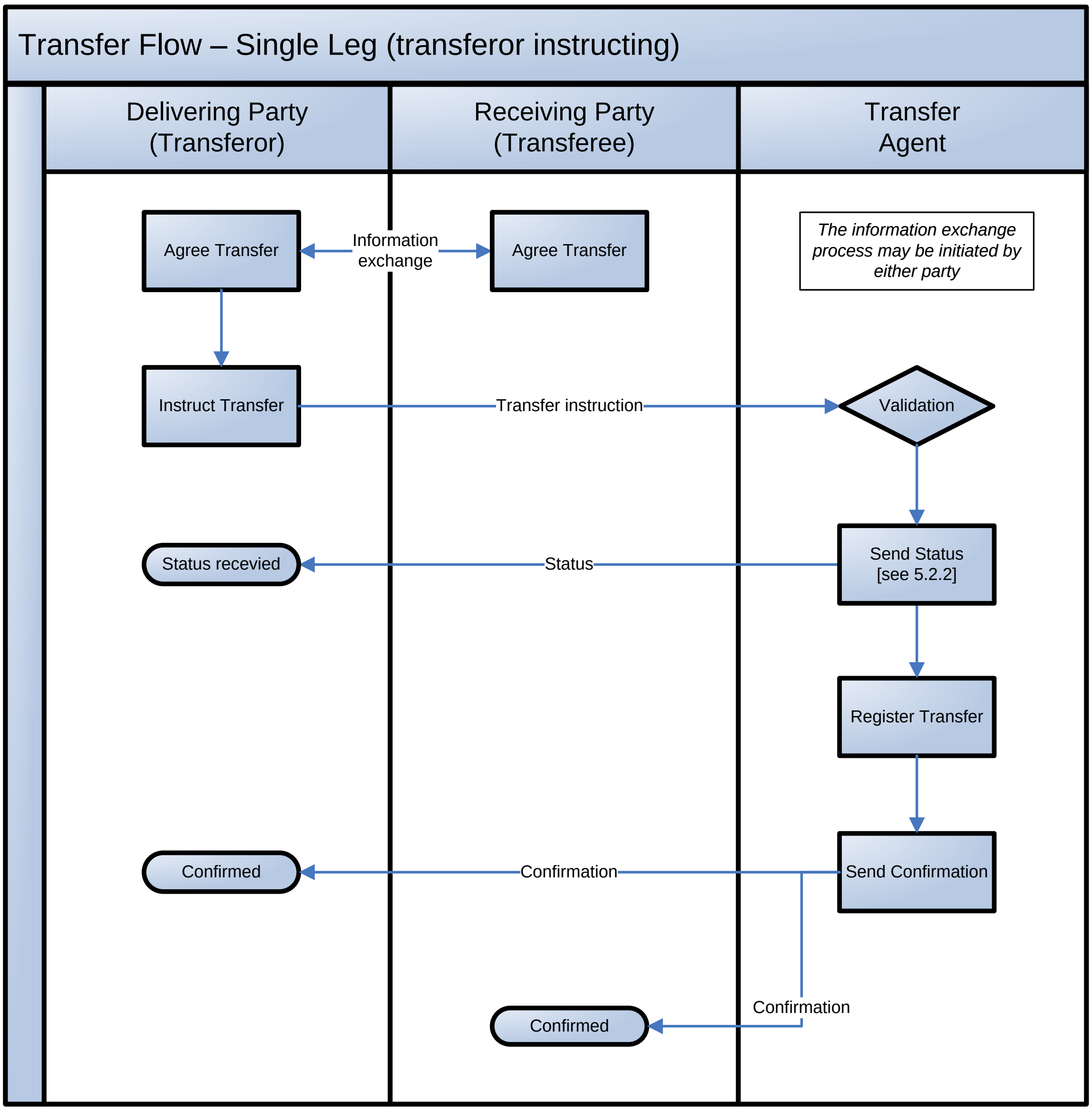


Figure 5.2

Recommendations

1.2.16 The Delivering Party should obtain full registration details from the transferee, as well as its transaction reference, before lodging the transfer instruction with the TA.

1.2.17 Interim status responses from the TA to Delivering Party are not recommended where manual processing continues to be a requirement.

1.2.18 Confirmation of the transfer should be sent to the Receiving Party, as well as to the transferor that lodges the instruction, as an additional measure to ensure that they are aware that the units have been delivered to their account, thereby minimizing the likelihood of it causing a reconciliation break.

### 5.3 Single leg, transferee instructing

The manual process in some markets practice involves the physical transfer documentation being signed by the Delivering Party and passed to Receiving Party, who will forward it to the TA. In addition, legislation in some markets may permit the Delivering Party to appoint someone else, including the Receiving Party, to instruct the TA on their behalf, thus allowing the transfer to be instructed electronically.

This model will not be available in many markets, but where it is the communication flows will be as described in Figure 5.2 above, except that the roles of the Delivering Party and Receiving Party are reversed.

Recommendations

1.2.19 The Receiving Party must obtain appropriate authority from the Delivering Party before instructing the TA and, unless it is submitting a physical instruction that has been signed by the Delivering Party, must give a warranty of that authority to the TA.

1.2.20 The Receiving Party should obtain full registration details from the transferor, as well as its transaction reference, before lodging the transfer instruction with the TA.

1.2.21 Interim status responses from the TA to Delivering Party are not recommended where manual processing remains a requirement.

1.2.22 Confirmation of the transfer should be sent to the Delivering Party, as well as to the transferee that lodges the instruction, as an additional security measure to ensure that they are aware that the units have been delivered from their account, thereby minimizing the risk of fraudulent transfer.

### 5.4 Double leg

In some markets the transferor and transferee may both be required to deliver instructions to the TA, who will re-register the units accordingly, given matching instructions from both parties (see Figure 5.4).

A common problem with this model, however, is that either of the delivery or receipt instructions may be delayed, leaving the TA with numerous unmatched instructions that cannot be processed further. The problem can be exacerbated in a manual environment, where physical paperwork needs to be stored pending receipt of a matching instruction.

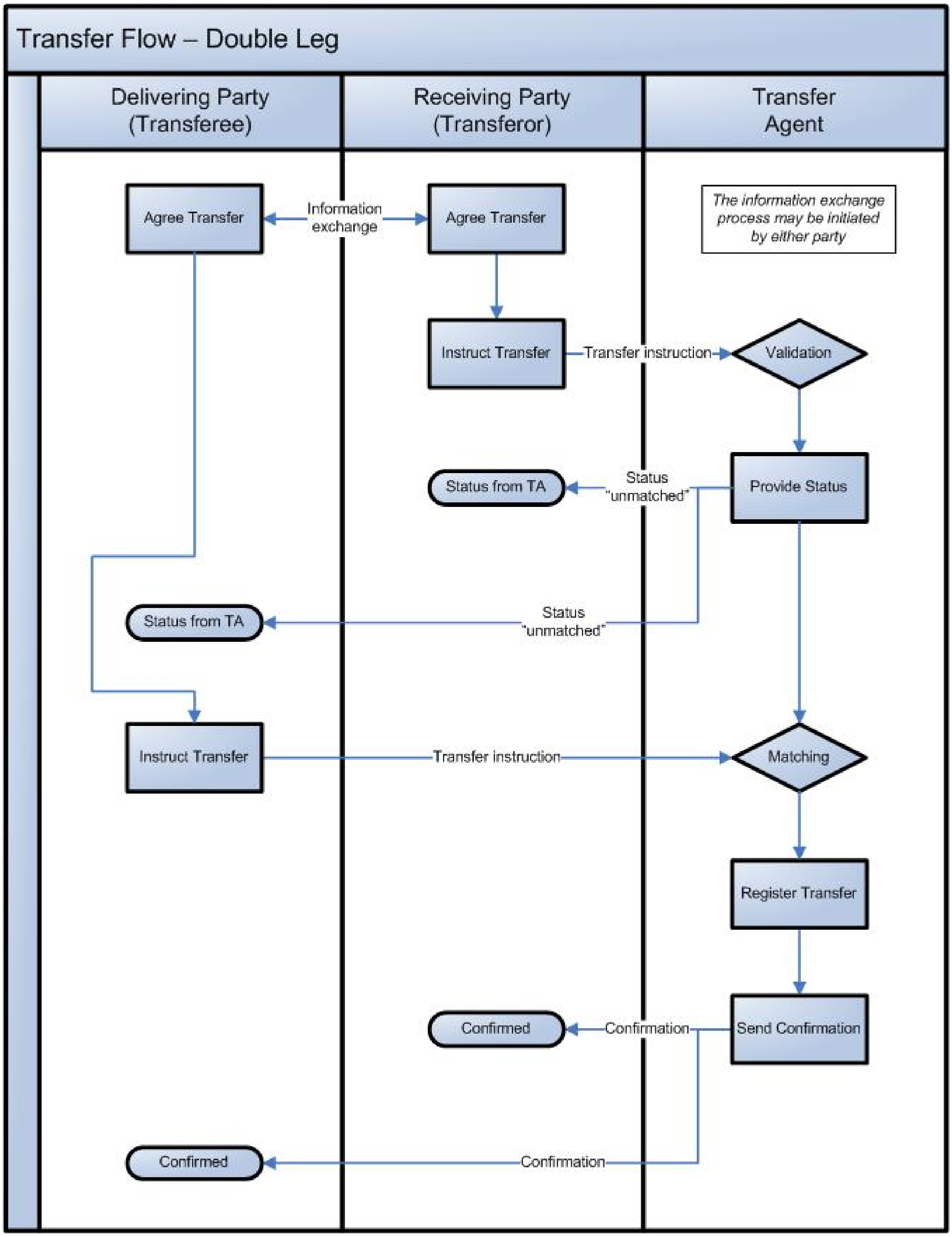


Figure 5.4

*Note that, for simplicity, the above diagram illustrates only the scenario where the Receiving Party sends the first instruction to the TA. In practice it may equally be the Delivering Party that sends the first instruction.*

Recommendations

1.2.23 The double leg model should be adopted only where it is a market requirement and where the instructions can be communicated electronically.

1.2.24 The delivering and receiving parties should exchange the relevant details (see recommendation 5.1.4) and agree the timing of their respective instructions to the TA.

1.2.25 The TA should acknowledge receipt of the first instruction by sending an "unmatched" status message to both parties in order to prompt the remaining party to submit their matching instruction.

1.2.26 Following receipt of matching instructions, the TA should confirm registration of the transfer to both parties.

## 6. HOLDING AND TRANSACTION REPORTING

During its initial investigations into the inefficiencies of dealing with investment funds, the FPSG identified three specific issues concerning the reporting of holdings (including valuations) and transactions to distributors and institutional holders:

(a) variable willingness from fund providers/administrators to meet custodians' requirements in terms of the frequency and timeliness of the reporting;
(b) inconsistency with regard to the format and content of the reporting, and in relation to the status of orders (dealt, settled etc.) that are included;
(c) lack of electronic reporting and inconsistency of message format.
(d) the need for investors to have a consolidated view of their assets across different registers.[23]

There is a need, therefore, to increase the harmonization of basic reporting services provided by fund administrators to distributors and institutional holders. Figure 6 below illustrates the information flows that are within the scope of these recommendations:

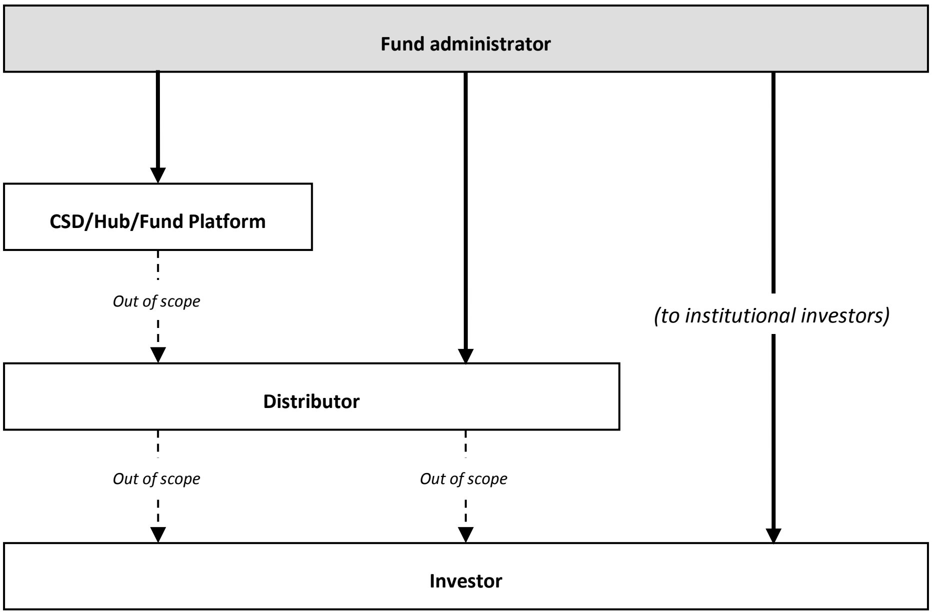


Figure 6

Note that communications between distributors and their service providers (eg. CSDs) or clients are not covered.

Recommendations

1.3 Fund administrators should offer reporting to distributors and investing institutions on at least a monthly basis. They may provide more frequent or ad hoc reporting by arrangement with the institution concerned.
1.4 Fund administrators should offer event-driven reporting (positions eligible for dividend and other corporate actions purposes) where required by the investing or distributor institution.

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[23] This need is acknowledged in the Ailancy Report, Recommendation 10, see FN 10.

1.5 Holdings and valuations should be reported using both "traded" (orders that have been executed and priced but not yet settled) and "settled" (completed orders) positions, as required.
1.6 Valuations should be based on the last published price of the fund calculated prior to the statement cut-off.
1.7 Reports should be provided or available within 3 business days of the relevant statement cut-off date or ad hoc request.
1.8 Reports should be sent by the fund administrator or made available by them in a way that facilitates automated download by the recipient, using ISO message standards.
1.9 The fund industry should explore the implementation of market place repositiories for fund information, corporate actions, and other information which is directly fed by fund issuers to share different types of information with distributors and /or investors.[24]

[24] See for example as proposedin the Ailancy Report, Recommendation 16, see FN 10.

## 7. COMMISSION REPORTING

Issues

In the majority of global and European fund markets the payment of recurring amounts (“commissions”) for advice and services rendered in the context of fund sales is accepted and legally allowed practice. The actor that calculates and pays commissions needs to be provided with the information needed to make the payment and advise the distributor accordingly in a timely fashion. Funds need confirmed distributor holdings and transaction information to pay (recurring) commissions correctly to intermediaries in the custody chain. EFAMA has made already in the 3rd edition of this report recommendations on both positions as well as transaction based reporting, e.g. in France “earmarking” of transactions.

The agreed amended Shareholder Rights Directive does not resolve the commission payment data issue. The EPTF Report therefore recommends to address the specific issue described above in the investment fund business, market players supporting investment funds should move quickly to adopt a recommended standard content, format and transmission methodology for the transmission of information as set forth in this chapter of the EFAMA report.[25]

Distribution agreements between fund sponsors and distributors vary in content and format. However, they always provide at least for the remuneration of the distributor by way of fees or commissions, usually based on:

(a) a full or partial retention of fund entry charges (within limits set in the prospectus);
(b) one-off payment ("initial" commission) depending on the values of subscriptions, eg. to execution-only brokers; and
(c) ongoing payment of "trail" commission based upon the values of funds held.

These agreements also provide for the processing of orders according to specific contractual conditions.
Recommendations for the automated processing of commissions need to reflect market practices and fulfill the following needs:

- allowing the "commission calculation agent" (CCA), which may be the fund sponsor itself or someone else appointed by it, such as the fund administrator, to apply the right commission terms and fund charges to orders received from a distributor and communicate back the net amount to be paid on those orders;
- allowing the CCA to know at any time its obligations regarding the remuneration to be paid in relation to orders and holdings.

While the content and format of distribution agreements can be standardized to simplify remuneration processing, the calculation formulae to be used cannot be harmonized, as these are a matter for market competition. The automated processing of remuneration for fund distribution should not inhibit the commercial terms between the contracting parties, which will reflect their economic diversity. Note also that it is possible for a single distributor to agree different terms concerning the same fund.

[25] Cf. EPTF Report, Barrier 5 Lack of harmonization of registration and investor identification rules and processes , Section 3.1 Solution 7, p. 57..

As a prerequisite, funds that do not operate investor registers (eg. in certain CSD environments), need to be able to identify the individual distributors to whom trail commission is payable and to what they are entitled, given that investor custodians will in some instances commingle investments relating to multiple distributors in a single holding.

In addition issues surround the reporting by CCAs to distributors, to enable them to reconcile payments received to their own positions, as follows:

(a) variable willingness to meet distributors' requirements in terms of the frequency and timeliness of the reporting;
(b) inconsistency with regard to the format and content of the reporting, and in relation to the status of orders (dealt, settled etc.) that are included;
(c) lack of electronic reporting and inconsistency of message format.

Recommendations

1.10 Distribution agreements should be in place between the fund sponsor and anyone to whom front-end, trail or other commission is to be paid. These agreements should adopt a common framework and contain certain core information[26]. The conditions applicable to the orders on which remuneration will be paid should be described in technical annexes to the agreement in order to simplify interpretation and implementation by the CCA and enable investor custodians or other distributors' delegates to understand their interests.

1.11 The fund administrator (and CCA, if different) should be advised of all such agreements and notified of any changes (e.g. bank details) prior to the start of the commission calculation period.

1.12 Distribution agreements should describe a clear process to ensure that the correct and complete commission entitlement information with respect to holdings, transactions, and transfers is available to the CCA. This could for instance be achieved by:
   (a) investor custodians maintaining segregated accounts with the fund administrator or on the fund register for the clients of each distributor, who may receive their remuneration from the CCA directly;
   (b) investor custodians providing the CCA with breakdowns of their commingled holdings and transactions by underlying distributor in order for remuneration to be calculated; or
   (c) the "deal marking" method, which requires distributors to mark each order to identify the relevant terms of distribution that should be associated with it.

1.13 Investor custodians should be able to identify distributor positions, either at the fund administrator or in their own records.

1.14 Distribution agreements should ensure that investor custodians only claim commissions on orders or holdings for which they are the distributor or executing agent.

1.15 Distributors should be identified by way of a LEI or BIC, plus an extension where required, to provide the necessary granularity. In case of 1 to 1 relationship between BIC and LEI preference should be given to LEI. If the BIC contains a higher granularity than the LEI then The LEI and the BIC1 should be send. Where deal marking is used, in simple situations, when the distributor has only one basis of

[26] EFAMA is supportive of the efforts of the Dematerialised Mutual Fund Sales Agreement (DMFSA) project, details of which may be found at www.dmfsa.info.

remuneration, the 'marking' can be composed only of the LEI or BIC.[27] However, the BIC alone might not be enough in some circumstances and the distributor should be identified by an additional reference agreed by the contracting parties.

1.16 Orders should carry the relevant distributor's reference (as above) in order to facilitate the correct allocation and payment of remuneration. This reference should be carried throughout the process chain, by all intermediaries involved.

1.17 Transfers of units between distributors should be reported to the fund administrator/CCA irrespective of whether or not there is a change of custodian or how the holding is registered. The new distributor should be responsible ultimately for ensuring that the notification is made.

1.18 Initial and trail commissions should be reported separately due to the differing nature of the required detail.

1.19 Reports should be provided in association with periodic payment of commission. Ad hoc and periodic reports may also be provided in relation to payments accrued but not yet due.

1.20 Reports should be provided or available within 3 business days of the relevant statement cut-off date or ad hoc request.

1.21 Commission reporting should be sent or made available in a way that facilitates automated download by the recipient[28].

[27] For example, France uses the deal marking method, cf. Ailancy Report Recommendation 6 please see FN 10.

[28] Reports should be available electronically in ISO 20022-compliant formats when they become available.

# 8. CORPORATE ACTIONS AND OTHER NOTIFICATIONS

## 8.1 Definition and scope

This section considers the need to notify investors and others of events that arise from or have an impact upon holdings of units in an investment fund.

These include events that give rise to entitlements, either to income that is distributed by the fund or to units in the fund itself due to a structural reorganization, or to units in one or more other funds due to merger activity. They also include actions and events that require investors to be notified, such as changes to the constitution of a fund and unitholder meetings/voting.

Events that affect entitlements, be they to income or on a reorganization, will require financial institutions that hold units to reconcile their positions. The need for TAs to provide the reporting necessary to facilitate this is discussed in Section 6. The reconciliation process is not covered in this section.

## 8.2 Issues

Some notifications are governed by regulation, but this is often focused on the communication to unitholders, whereas there is invariably a benefit to advise the wider market, for example to assist prospective investors or to inform those who service existing holders. In addition, even where there is regulatory notification obligation, the timing of the communication is not prescribed, leading to inconsistency across the funds industry, which creates inefficiencies for those that might use the information.

The following sections make various recommendations with a view to addressing these issues.

## 8.3 Variations to the General Recommendations

The general recommendations contained in Section 3 apply to this section as they do to the others. However, given the specific nature of corporate actions and within the context of the wider securities industry in which investment funds reside, it is appropriate to consider modification of certain of those recommendations as follows:

8.1.1 *Electronic communications (see recommendation 3.3.1)* - communications between all parties should be electronic to the extent that it is permitted by applicable law and regulation and, in the case of end-investors, accepted by the recipient.

8.1.2 *Messaging standards (see recommendation 3.3.2)* - ISO 15022 and ISO 20022 are recognized as appropriate standards that for the time being will co-exist for the purposes of communications in relation to corporate actions.

## 8.4 Income

The income earned by a fund on its investments may be handled in a variety of ways, but will either be retained within the fund (where the units are usually referred to as "roll-up" or "accumulation" units) or distributed to investors in one form or another.

Where the income is retained it is common among most jurisdictions for it be rolled up with the capital that is available for investment as soon as it is received[29]. Alternatively (with so-called "distribution" or "income" units), the income is removed from the fund periodically and distributed to investors. In some instances the investor may choose to reinvest their income in the purchase of additional units, either as part of the account set-up or by election on a distribution-by-distribution basis.

For roll-up funds the process is internal to the fund and does not generate an event or notification to investors[11]. The event process for distribution funds is described below.

**Process description**

With equities that trade on secondary markets, there is typically a cut-off for entitlement to the dividend (when trading prices change from cum-dividend to ex-dividend) followed by a further cut-off (Record Date) that determines who will actually receive the dividend. There is then a market claims process to restore dividends to their rightful owners where transactions that were executed cum-dividend are not recorded in the unitholder register before the Record Date.

Investment fund orders, however, typically are executed by the fund's TA, who also maintains the fund register, in what is essentially a continuous primary market. As such, units can be traded on a cum-dividend basis right up to the Record Date, which determines both entitlement to the distribution and who will receive it in the first instance - there is no market claim process among unitholders. The Ex Date is then the first dealing day after the Record Date, being the first day on which orders placed with the TA will be allocated ex-dividend prices.

Two main variations of the income distribution process exist for investment funds. The recommendations in this report relate only to what is by far the most common model in Europe, in which the accounting period to which the distribution relates ends some time before the Record Date. The accounts are prepared and audited during the intervening period, allowing the distribution to be determined and declared before the Record Date, subject to the applicable rules, .e.g. T2S, or the timeline for which is illustrated in Figure 8.4 below[30].

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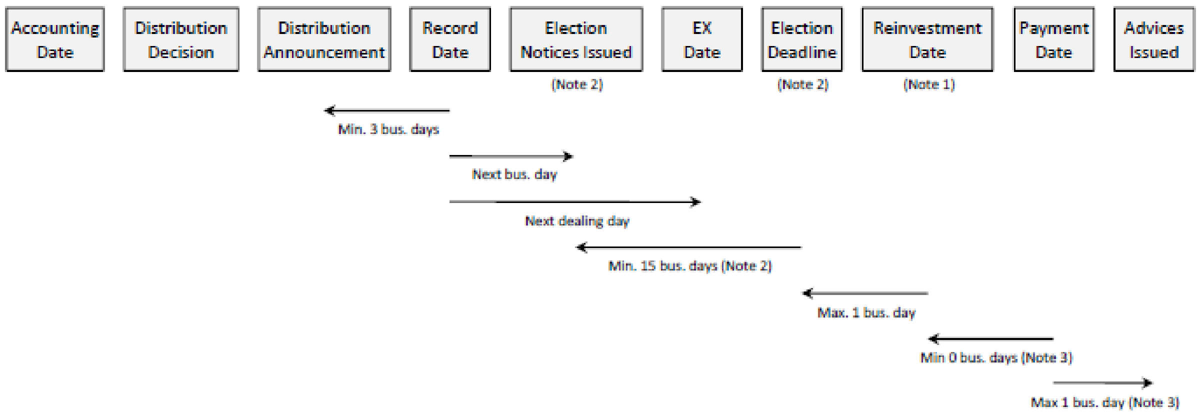
[29] By exception, in UK "accumulation" funds the income that accrues during an accounting period is transferred to the fund's capital at the end of that period and is deemed to have been distributed and treated as income in the hands of the investor for tax purposes. The latter is also true for roll-up funds that are distributed cross-border into the UK. Externally, the event process is the same as for a distribution fund except that there is no payment of money to the investor.

[30] An alternative model operates in the UK, where the Record Date coincides with the Accounting Date. The distribution rate is therefore not known in advance of the Record Date and cannot be confirmed until nearer the payment date.




Notes
1. Applies only where distributions can be reinvested as subscriptions for further shares.
2. Applies only where investors may elect for reinvestment on a distribution-by-distribution basis.
3. In many cases the Reinvestment Date (if there is one) will be sufficiently in advance of the payment date to allow advices to be issued in order to arrive with holders on or before the Payment Date.

**Figure 8.4**

Reinvestment schemes are available for some funds whereby the distribution is used automatically to purchase additional units, which are added to the investor's holding. Reinvestment is not mandatory, but occurs on the instruction of the investor. In some cases this may be a standing instruction, while in others the investor is able to elect to reinvest on a distribution-by-distribution basis (elective reinvestment). In the latter case, election notices are issued by the TA following the Record Date to those who are entitled to receive the distribution. Elections for reinvestment need to be returned to the TA in time for the appropriate arrangements to be made prior to Payment Date. The default option (ie. where no election is received) is for the investor to receive a cash distribution.

The reinvestment process itself will take place on or before the Payment Date, so that the associated subscriptions for units can be settled using the funds made available by the distribution.

As can be seen above, the most limiting factor in terms of minimizing the timescales is the election period for reinvestment, which needs to provide sufficient opportunity for unitholders that are themselves account providers to obtain instructions from their underlying investors. This requires a minimum time span of 20 business days between the announcement and the Payment Date, plus the time needed to determine the distribution rate. Some funds, particularly money market funds, which distribute more frequently, need to complete the process within much a shorter timeframe. They are able to do so by not providing elective reinvestment, which permits the payment process (as well as reinvestment under standing instructions) to commence immediately following the Record Date.

**Recommendations**

Distribution announcements should be made available to the market (including distributors, servicing agents and underlying investors) directly and/or via one or more data vendors, as appropriate.
Such announcements should include details of known dates within the event process.
Event timings and intervals should be within the parameters indicated in the applicable rules, .e.g. T2S, or the illustrations above, noting that the overall timeframe may be reduced considerably where elective reinvestment is not provided.

Payments should be made by electronic means wherever possible and issued with sufficient time to arrive with the payee no later than the Payment Date.

Reinvestment statements, tax certificates etc. should be issued in electronic form, insofar as local law and regulation permits and where desired by the holder.

### 8.5 Unitholder meetings

Note that the actual process and timing of the various steps involved in convening a unitholder meeting will be driven by the laws and regulations that are relevant to the fund concerned. The process suggested below is for illustrative purposes only.

Unitholder approval is usually a prerequisite to any significant change to the constitution of a fund or any reorganization that will have a material impact on the interests of investors. This will involve arranging a general meeting of unitholders, for which advance notice will need to be given, and providing proxy voting facilities.

The specific obligations of fund operators in this respect will be determined by the law and regulation applicable in the domicile of the fund and in some cases also in the jurisdictions(s) in which the fund is registered for distribution. These will cover issues such as:

- the required prior regulatory clearances etc.;
- who is able to attend general meetings and vote, including record dates for eligible unit holdings and restrictions relating to holders that are associated with the fund provider;
- the availability of documentation;
- notice periods etc.; and
- quorum requirements and voting necessary to approve a resolution.

Notwithstanding the likely local variations, a typical process is described below.

**Process description**

Subject to the required regulatory approvals and other clearances, notices will be issued to the unitholders registered on a particular date, containing details of the general meeting and the proposed changes and including the relevant proxy voting documentation. Where relevant, notice of the meeting will be announced publicly for the benefit of holders of bearer units, together with instructions for them to participate in the meeting, in accordance with applicable law and regulation and the fund's prospectus.

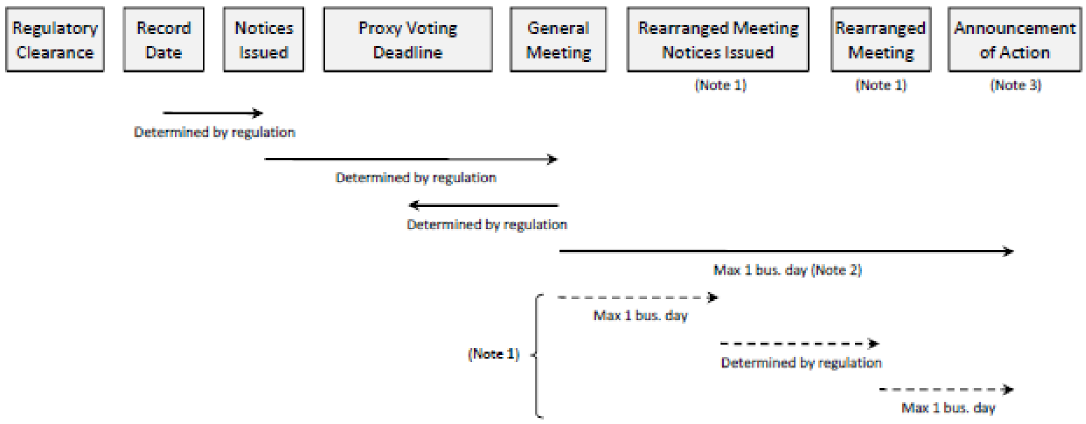
The minimum notice period will be stipulated in local law and regulation, but will need to be sufficient to allow investors to reflect on the proposals and for intermediary holders to obtain instructions from the underlying investors as necessary.

Proxy voting instructions will be returned and recorded up until the meeting or some earlier cut-off, as determined by local law and regulation.

In due course the meeting will be held and, subject to the required quorum being present in person or by proxy, the vote will be taken to approve or reject the change. If a quorum is not obtained, the meeting will need to be rearranged and notice given again to eligible holders. The required notice period for the rearranged meeting will usually be considerably shorter than for the original meeting.

The decision of the meeting (or rearranged meeting, if one is required) will then be communicated to investors and the wider market.

The process is illustrated in Figure 8.5 below:




Notes
1. Only required if quroum not acchieved for General Meeting
2. Unless Rearranged Meeting required
3. If changes approved, this will be Announcement of Event/Closure shown in Figures 8.6a and 8.6b above, or will announce a forthcoming material change to the constitution of the fund (see recommendation 8.7.3).

**Figure 8.5**

**Recommendations**

Meeting notices and announcements should be issued in electronic form, insofar as local law and regulation permits and where desired by the holder.

Addenda should be provided with fund literature and ad hoc communications (eg. order confirmations) to alert prospective and new investors to the impending changes.

Proxy voting should be conducted in electronic form, insofar as local law and regulation permits and where desired by the holder.

Event timings and intervals should be within the parameters indicated in the illustration above, or as may be dictated otherwise by applicable law and regulation.

Announcements regarding the outcome of a unitholder vote should be made available to the market directly and/or via one or more data vendors (see also recommendation 8.6.1 below).

### 8.6 Fund reorganizations

For the purposes of this document, the term "fund reorganizations" refers to events that involve changes to an investor's entitlement. Reorganization events include:

- simple sub-division or consolidation of existing units, whereby the fund's investment portfolio and the investor's interest in it remains unchanged, albeit through a different number of units;
- change to the fund's domicile, whereby the number of units an investor holds might remain unchanged, but in any event will transform to a new ISIN that reflects the new country of issue;
- fund mergers, resulting in the cancellation of the investor's units in one fund and replacement with units in another fund to the same value;

- fund demergers, where a fund is split into two or more separate funds;
- closure of a fund and distribution to investors of their share of the proceeds from the liquidation of the fund's assets.

Fund reorganizations usually require a general meeting of holders and their formal approval. This process is discussed in section 8.5 above.

**Process description**

This section considers the reorganization process after any necessary approvals have been obtained (see 8.5 above), commencing with an announcement to investors and the wider market.

Where necessary, the fund (or funds in the case of a merger) will be valued on the due date for the event for the purposes of calculating the new entitlement. In any case this will be the date on or from which the event will be effective. In many instances, dealing in the units will be suspended for a short period before and/or after the event in order to allow final pre-event preparations and an orderly calculation and allocation of the new entitlements afterwards.

In the case of a fund closure there may be an extended period following the event before entitlements are distributed, while the fund's assets are liquidated and its affairs wound up. During this time there will often be an initial distribution of monies to investors, followed by one or more further payments as funds become available for release.

Figures 8.6a and 8.6b below compare the process and timeline for most reorganization events against that for a fund closure specifically.

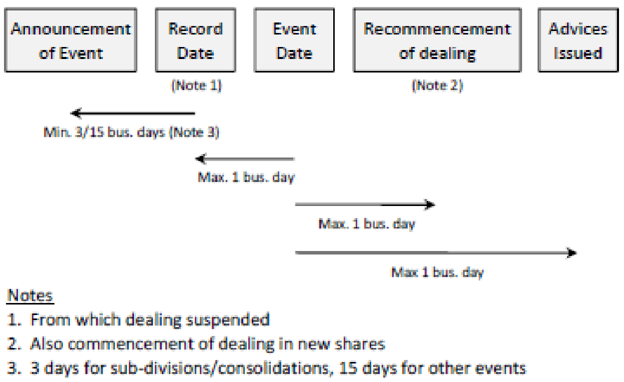



**Figure 8.6a**

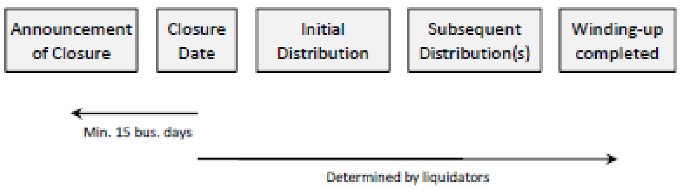



**Figure 8.6b**

**Recommendations**

- Announcements of reorganization events should be made available to the market (including distributors, servicing agents and underlying investors) directly and/or via one or more data vendors, as appropriate (see also recommendation 8.5.5 above).
- Such announcements should include details of known dates within the event process.
- Addenda should be provided with fund literature and ad hoc communications (eg. order confirmations) to alert prospective and new investors to the impending reorganization.
- Event timings and intervals should be within the parameters indicated in the illustrations above.
- In the case of fund closure, distribution payments should be made by electronic means wherever possible, identifying clearly the purpose of the payment.
- Advices of entitlements should be issued in electronic form, insofar as local law and regulation permits and where desired by the holder.

## 8.7 Other pre-/post-event notifications

Fund providers are required to notify investors of any material change to the operation of a fund even if it does not alter the nature of fund or their interest in it. Such changes might include replacement of the TA or depositary, or perhaps alteration of to the dealing cut-off point.

Depending on the nature and significance of the change, such notification may be pre- or post-event. In many cases, however, the change will require prior notification to the regulator and possibly will be subject to its clearance. Whether or not a particular change must be notified in advance will in some instances be determined by local law and regulation, but in others may be a matter for agreement between the fund provider and the fund depositary. Moreover, in some cases, post-event notification to investors may be deferred until the next scheduled communication, eg. publication of the report and accounts.

Whether or not a market notification is necessary will depend upon the nature of the change and in some cases communication to the market may be driven by commercial considerations such as investor and distributor relations.

**Recommendations**

- Announcements should be made to the wider market where appropriate and in any case with regard to changes that will impact on the operations of distributors and servicing intermediaries (eg. changes to dealing cut-off points).
- Market announcements should be made directly and/or via one or more data vendors and, where relevant, through amendment to Fund Processing Passports, in addition to the revision of constitutional and other regulatory documentation (eg. prospectus, KIID etc.).
- Unless otherwise directed by applicable law and regulation, changes that may have a material impact on investors (eg. amendments to a fund's investment policy should be implemented not less than 15 business days after they are announced.
- Addenda should be provided with fund literature and ad hoc communications (eg. order confirmations) to alert prospective and new investors to any impending changes that may impact on a decision to subscribe or redeem.

## 9. IMPACT OF FINTECH / DISTRIBUTED LEDGER TECHNOLOGY

EFAMA is taking a leading role in bringing together market participants to discuss developments in the area of FinTech, such as Application Programming Interfaces (APIs) and Distributed Ledger technology (DLT) in view of making recommendations and will continue to lead the European funds industry's efforts to identify further measures to allow the industry to realize the promises of FinTech. Research forecasts more than £1.9bn worth of potential cost savings for the global mutual funds market as a result of moving to a blockchain-enabled distributed market infrastructure.[31]

For decades, financial industry automation has been based on the exchange of structured financial messages, but this situation is changing rapidly. New automation approaches such as Distributed Ledger Technology have emerged to challenge messaging's dominance, while maturing technology, including Application Programming Interfaces, is being widely deployed in the financial services industry, driven also by regulation and competitive forces. Messaging standards are usually published centrally, with a comprehensive review process that leads to an annual update. By contrast, API development is done in a much more agile and decentralised way. APIs are designed, developed and validated by the application owner as part of the application development cycle. The nature and structure of API calls will largely depend on the internal data model chosen by the application designer as well as the business processes implemented.

This digital transformation of society will need to be taken into account when considering the way financial entities relate with their customers: from ensuring electronic access to providing more targeted financial advice through data analytics. Digitisation will also bring opportunities to develop sounder markets and increase efficiency. The implementation of new technology solutions is sometimes hindered by regulation, e.g. defined settlement periods or by missing regulation, e.g uncertainty of passing of title of CSD registered funds in a DLT environment. Therefore a thorough fitness check by the EU of the existing regulatory framework is necessary to ensure the current framework is up to date, future-proof and does not impede innovation and competitiveness in the Digital Single Market for financial services. At the same time, financial innovation should not introduce new risks. Based on this assessment, some critical factors that need to be addressed for industry wide adoption of DLTs have been identified, including governance, data controls, compliance with regulatory requirements, standardisation, identity framework, security and cyber defence; and reliability[32].

EFAMA shares the view that developments in the Fintech / Distributed Ledger Technology (DLT) domain could have a significant impact on fund pre- (e.g. client onboarding , trade and post trade services, related operational processes and regulatory requirements. However, at this stage an assessment of such impact appears difficult as a number of fund processing proposals are explored by the EU fund associations and industry, e.g.:

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[31] For details please see: http://www.calastone.com/news/calastone-forecasts-over-1-9bn-savings-for-the-mutual-funds-market-in-move-to-blockchain/

[32] The International Securities Services Association paper "ISSA Distributed ledger Technology – Principles for Industry-wide Acceptance (Version 1.0) June 2018" available at www.issanet.org, discusses these aspects in more detail. Please see also SWIFT and Accenture outline path to Distributed Ledger Technology adoption within financial services, 20 April 2016 available at:https://www.swift.com/insights/press-releases/swift-and-accenture-outline-path-to-distributed-ledger-technology-adoption-within-financial-services

1. APFIPP, the fund association of Portugal proposed a future platform for wholesale investment funds distribution, including transaction reporting to the local supervisory agency CNMV, built on blockchain technology [33]
2. FundsDLT is an international platform which is a collaboration between Fundsquare, InTech and KPMG Luxembourg connecting transfer agent activities, payment systems and investors using distributed ledger technology (DLT) and smart contracts[34] .
3. Irish Funds and Deloitte embarked on Proof of Concept to build a blockchain based regulatory reporting platform, 'RegChain' to focus on Money Market and Investment Funds (MMIF), which is a quarterly statistical report for all Irish domiciled funds to the central bank, but which may be expaned to other types of reports. [35]
4. IZNES is a joint effort between SETL and six French asset managers to enable investors and distributors to subscribe and redeem fund units via a direct connection with the asset manager [36], or by service providers such as Calastone. [37]

Business standards are needed to automate complex fund business processes, and a variety of open and proprietary business standards have evolved over more than four decades to drive the messaging systems that enable today's finance. The need for consistent specifications of process and data is largely independent of the technology platform however, so in this time of rapid technology change and innovation it is also good to revisit the basic ideas and intentions underlying financial business standards.

As the recommendations contained in this report target to a large extent harmonisation and consistent specifications of process and data in order to increase efficiency and safety of European fund processing, EFAMA considers them in principal also useful in a Fintech / DLT environment. This means that the industry should not have to repurpose whole systems from scratch but should take the building blocks successfully developed and used over the years and put them to good use, repurposing where necessary.

Financial transactions, whether originating from APIs or running through DLT systems, ideally need to have a common language to reduce risk and cost. EFAMA believes that ISO 20022, with a few improvements to accommodate new technologies, can not only provide the basis for common standards going forward without distorting development practices or technology choices, but actually accelerate projects by providing ready-made, industry-agreed definitions for core business concepts. The same applies to ISO standards defining message content, e, g, identification standards such as ISIN, LEI or country and currency codes . By looking at existing harmonization and standardization successes , industry can ultimately move forward much more quickly and on a more efficient basis.

The time seems right for such stocktaking exercise as many DLT projects have difficulty to go from lab to production. The consultancy Gartner[38] says that we have gone through the first phase of blockchain use

[33] For details please see.
http://apfipp.pt/FrontOffice/informacaoDetalhada.aspx?id_info=3515&MenuCode=bottomHomePage
https://www.linkedin.com/pulse/apfipp-presents-poc-blockchain-platform-wholesale-funds-jose-sarmento/

[34] For details please see: https://www.fundsdlt.net/ and http://www.funds-europe.com/news/the-first-real-blockchain-fund-transaction-takes-place

[35] For details please see: https://www.irishfunds.ie/news-knowledge/newsletter/spring-2017-newsletter-fund-focus/blockchain-enabled-regulatory-reporting

[36] For details please see: http://www.iznes.io/index_EN.html

[37] For details please see: http://www.calastone.com/news/calastone-to-bring-mutual-funds-market-onto-blockchain-in-2019/

and reached the peak fo “inflated expectations “ where DLT may not yet have created sufficient value. Now we are reaching the “phase of disillusionment “ and many organizations may wait until DLTis more robust, more reliable or requires less customized development. This last aspect offers the chance to put DLT more on open global (ISO) standards going forward. With this belief in mind and given uncertainties in regard of scope and time, as well as the safety and efficiency of current DLT solution offerings, EFAMA when reviewing this report, has consciously not proposed specific API or other Fintech nor DLT applications, but considers that they might in the future contribute possible solutions to certain of the diagnosed issues in the area of order-routing, settlement, and asset serving as well as increased transparency of ownership.

EFAMA will need to develop views on how to enable interoperability and harmonization of various proprietary DLT standards, e.g.with the help of W3C interledger standard. In this context EFAMA sees benefits transforming the current proprietary DLT standards into ISO standards everybody can use and which are usually backed by the global regulatory and supervisory community. There is already a dedicated ISO Technical Committee (TC307) which deals with DLT technology and which analyzes the needs for such standards.

**Recommendations**

- ISO 20022 is recognized as the single European standard for funds messaging and should be also the basis for a common language by providing standard business definition and end-to-end interoperability functions in the API and DLT areas[39].
- Where possible, financial institutions, funds and other relevant transaction data should be identified with their respective ISO codes in the API and DLT area, see also Recommendation 3.2 above.
- Proprietary standards in the API and DLT area between client-side institutions and fund-side institutions should be avoided[40].
- Where legal or regulatory barriers or constraints to the implementation of new technology solutions exist, national associations should aim to work with the relevant government or regulator to remove or alleviate them.

[38] For a discussion of the report please see: https://www.finextra.com/blogposting/15236/banks-and-blockchain-hype-cycle-phase-of-disillusionment . The report can be obtained at: https://www.gartner.com/doc/3869693/blockchain-status--market-adoption

[39] For a detailed discussion of ISO20022 in the DLT space, please see ISSA op.cit. at pages 24-27 and 67

[40] ISSA supports the need to collaborate through neutral standards organisations such as ISO to develop DLT-specific business standards that maintain compatibility at the data semantic level with existing industry standards, cf. ISSA op.cit. at p.27.

## 10. IMPLEMENTATION

EFAMA has taken a leading role in bringing together market participants to discuss and develop the recommendations contained in this paper and will continue to lead the European funds industry's efforts to identify further measures, as appropriate.

Implementation, however, requires practitioner support from both fund providers/administrators and buy-side institutions. To that end, EFAMA continues to work actively with other international market associations and initiatives while national funds associations and corporate members of EFAMA are encouraged to endorse and adopt the recommendations from within the funds industry.

**SMPG Global Market Practice**

In parallel with its adoption of ISO 20022 as the single messaging standard, EFAMA acknowledges the key role of the Securities Market Practice Group (SMPG) in developing harmonized market practice concerning the use of the various messages. The SMPG Investment Funds Working Group has been for a number of years created global market practice for various business processes under the ISO 20022 message standards. The market practice is publishedon the MyStandards platform as process documentation and message usage guidelines[41]. These market practice documents are freely available and cover the following investment fund domains[42]:

| Domain | MyStandards Collection Name |
|---|---|
| **Account Management** | SMPG-Global-IF-AccountManagement-Final (2017-05-11) |
| **Order Process investment funds** | SMPG-Global-IF-OrderProcessing-Final_IF (2017-05-05) |
| **Order Process Alternative Investment Funds** | SMPG-Global-IF-OrderProcessing-Final_AIF (2017-05-17) |
| **Transfers – single leg process** | SMPG-Global-IF-Transfers-SLT-FINAL_(2017-12-18) |
| **Price Reporting** | SMPG-Global-IF-PriceReporting-V2.1_Final (25-June-2014) |
| **Statements** | SMPG-Global-IF-Statements-CONSOLIDATED-Draft (2017-05-18) |

[41] MyStandards (www.swift.com/MyStandards) is a collaborative web platform where banks, securities firms, corporates and market infrastructures can centralise and manage their standards releases and specifications more efficiently across their markets and business processes. MyStandards is an easy to use, online repository for all current and MT, MX and ISO 20022 base standards definitions. It's also a platform for creating, publishing and sharing specifications and usage guidelines for users and customers to access in a choice of standard formats (PDF, Excel or XML schemas).

[42] To find a market practice, logon to MyStandards:

ANNEX 1 Enter "SMPG IF" in the search box >
ANNEX 2 Click on "Groups"
ANNEX 3 Click on "SMPG IF"
ANNEX 4 Click on the collection name.

This takes you to a screen listing the usage guidelines of the collection. Click on 'show details' to get access to the collection description and the documents posted with the collection.

Figure 9 below highlights the relationships and mechanisms through which EFAMA seeks to develop its recommendations and promote their adoption.

Ultimately, all market participants are urged to examine their own policies and processes and move towards alignment with the recommendations contained within this document and to make appropriate investment in the automation of fund processing and adoption of the associated ISO 20022 standard messages.

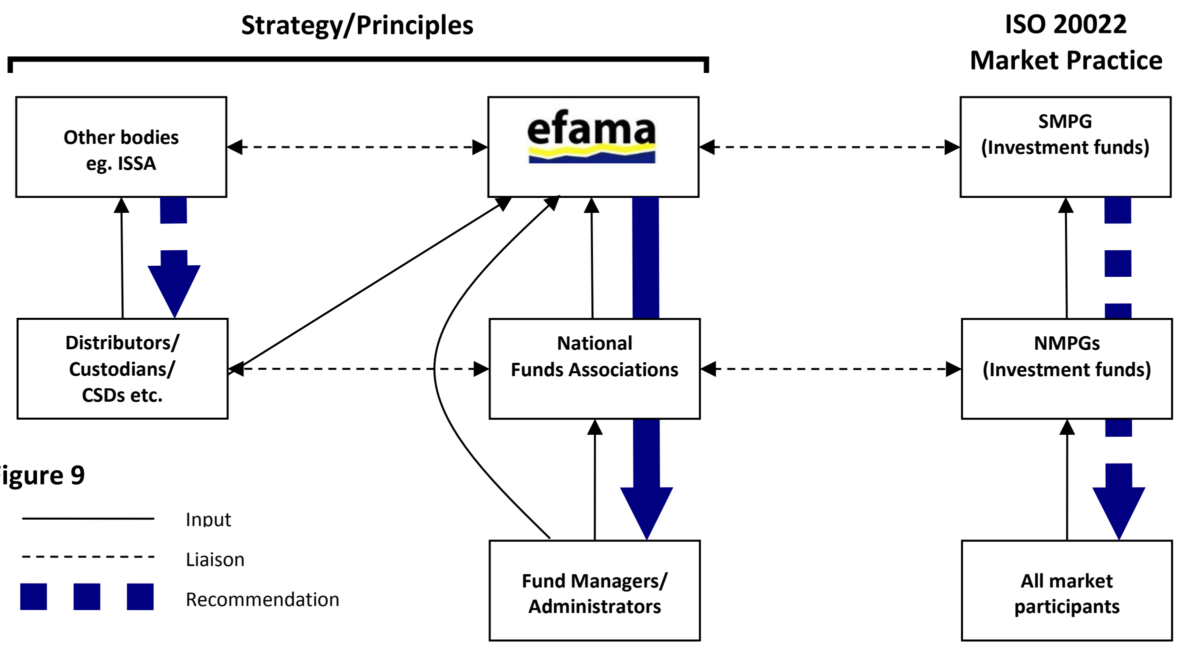


**Figure 9**

## 11. GLOSSARY

*This glossary should be read in conjunction with the ISO 20022 Data Dictionary, which is available at www.iso20022.org and will be updated in due course to include items identified by the FPSG.*

| | |
|---|---|
| Accounting Date | the end of a fund's accounting period, for which the income accrued during that period may subsequently be distributed to investors. |
| accumulation units | fund units, the income accruing to which is transferred to the fund's capital at the end of the accounting period and retained within the fund instead of being paid away to investors; the retained income is nonetheless deemed to have been distributed to investors for tax purposes (see also "roll-up fund/units"). |
| acknowledgement | a message returned by the fund-side institution to the client-side institution, which indicates that an order has been received and accepted for execution. |
| aggregator | a client-side institution that maintains a single holding in a fund on behalf of multiple clients, from whom it receives orders to deal and passes them to the fund-side institution as a single consolidated order (eg. fund supermarkets). |
| BIC | Business Identifier Code - international standard (ISO 9362) reference code used to identify financial institutions as well as other business entities that are involved in financial messaging. |
| CCA | see "Commission Calculation Agent" |
| Central Securities Depository | an entity which holds securities and other assets in order that domestic transactions may be effected for beneficial owners and settled by way of entries within its own books. |
| client-side institution | a financial institution that represents or provides services to the underlying investor in the order and settlement process - includes fund supermarkets and other distributors, as well as client custodians. |
| Closure Date | the date on which a fund is formally closed for the purposes of being wound up. |
| commission | remuneration paid to a distributor by the fund sponsor in connection with subscription orders and the continued holding of the units concerned (see also "initial commission" and "trail commission") . |

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| commission calculation agent | person responsible for the calculation and payment of commission to distributors - usually the fund sponsor or someone (eg. the fund administrator) appoint by them for that purpose. |
| confirmation | a message returned by the fund-side institution to the client-side institution, which confirms the full details of an order that has been executed. |
| cross-border | activities connected to the distribution of funds in counties other than their home domiciles. |
| CSD | see "Central Securities Depository" |
| deal marking | a mechanism for identifying with each order the distributor to whom the order relates, for the purposes of future commission calculations (known in France as "marquage des orders") |
| depositary | see "fund depositary". |
| distribution units | fund units, the income accruing to which is distributed to investors following the end of the accounting period. |
| distributor | a client-side institution that promotes to its customers the sale of units issued by funds of one or more fund provider and acts as the client's agent in the order input/placement process. |
| Event Date | the date on which a fund reorganization is executed. |
| Ex Date | the first dealing day on which fund units will be bought and sold at ex-dividend prices. |
| execution | the processing of an order by the fund-side institution through the fund's or its own books. |
| fund administrator | an entity that carries out the administration functions for a fund or fund management company - includes the fund management company itself and transfer agent, as appropriate. |
| fund depositary | a financial institution that is appointed under a fund's constitution to oversee the operation of the fund and to whom its assets are entrusted for safe-keeping. |
| fund order desk | the function within the fund administrator that is responsible for the receipt and processing of fund orders. |
| fund provider | the fund management company or fund sponsor. |

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| fund reorganization | an event that alters an investor's entitlement in a fund by alteration of the number of units held, or their replacement by new units in the same or one or more different funds, or on a fund's closure and winding-up. |
| fund-side institution | a financial institution that represents or provides services to the fund in the order and settlement process - includes the transfer agent, or fund provider, depositary and fund custodian. |
| hub | • a neutral infrastructure provider that receives orders from multiple client-side institutions and transmits them to the relevant fund-side institution; or<br>• a client-side institution that collates orders from multiple clients and places them individually with the relevant fund-side institution |
| IBAN | International Bank Account Number - an international standard (ISO 13616) reference code used to identify individual bank accounts. |
| ICSD | International Central Securities Depository - an entity which holds securities and other assets in order that cross-border transactions may be effected for beneficial owners and settled by way of entries within its own books (see also Central Securities Depository). |
| income units | see "distribution units". |
| initial commission | commission paid once to a distributor in relation to a subscription order according to the value of that order. |
| investor custodian | a financial institution appointed by the investor or distributor in whose name (or nominee name) fund units the investor's units will be held (known in France as the Teneurs de Compte) |
| ISIN | International Security Identification Number - international standard (ISO 6166) reference code used to identify individual securities. |
| ISO | International Organization for Standardization (see www.iso.org). |
| LEI | Legal Entity Identifier Code - international standard (ISO 17442) reference code used to identify financial institutions as well as other business entities on a global scale (see www.gleif.org). |
| national association | a representative organization, the membership of which consists (wholly or partly) of fund-side institutions. |
| order | a transaction to invest in or sell units in an investment fund (see also "subscription" and "redemption") |

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| Payment Date | the date on which a distribution of a fund's income is paid to investors. |
| platform | a client-side institution that aggregates orders from multiple clients and places them with the relevant fund-side institution (see also "aggregator") |
| Record Date | the date on which entries on the fund's register of holders will determine their entitlement to income or arising from a reorganization event or to participate in a unitholder vote. |
| redemption | a transaction whereby units in a fund are sold back to the fund or fund management company. |
| register | the official record of holders of a fund. |
| reinvestment | the pre-arranged investment of an investors income entitlement automatically in the purchase of additional fund units. |
| reorganization | see "fund reorganization". |
| roll-up funds/units | fund/units, the income accruing to which is rolled up within the fund/unit's capital for immediate investment instead of being retained for distribution to investors; the rolled-up amount is not regarded as income in the hands of the investor (see also "accumulation units"). |
| settlement | the process of transferring the cash value of a transaction to or from the fund or fund management company in exchange for the registration or de-registration (as appropriate) of title to the units concerned - may be effected by actual movements between the client-side and fund administrator or via a CSD/ICSD |
| subscription | a transaction whereby units in a fund are purchased from the fund or fund management company. |
| TA | See "transfer agent" |
| trail commission | commission paid to a distributor on a periodic basis, calculated on the value of units held by its client investors. |
| transfer | the movement of units between two accounts recorded in the legal register of fund holders - may occur between different holders or between two accounts of the same holder. |

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| transfer agent | a fund-side institution in many jurisdictions that executes the issue and redemption of units on the fund's behalf and usually maintains the register of title. In France the equivalent entity is the "centralisateur", which does not maintain the register. |
| UCITS | an investment fund governed by national legislation established under European Council Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS), as amended. |
| units | the participating shares or units in an investment fund. |

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