Fighting friction in corporate actions

A collaborative innovation pilot

Results report
March 2023

Swift

Contents

Fighting friction in corporate actions

Executive summary

When an event takes place at a publicly traded company (e.g., a merger, general meeting, or dividend payment) the information needs to be immediately shared with investors, asset managers and all other stakeholders involved. There are, however, often numerous firms involved in any given investment (e.g., local and global custodians and fund managers) and each is required to inform all stakeholders about corporate action events.

In consultation with our community, we have identified frictions in corporate action processing as a significant and longstanding pain point that the securities industry must overcome.

Complicating matters, these institutions often use different data standards in the financial messages they use to communicate corporate actions, which can result in inconsistent message content and structure.

Firms downstream – e.g., asset managers, custodians and brokers – therefore often receive messages from multiple sources about the same corporate event. And the information they receive can be inconsistent, inaccurate, or, in some cases, have missing data. The onus is then on the recipients to compare and clean the data in order to arrive at a single picture of the event in question. Only then can they take a decision on the event or further pass the information on to individual customers.

Swift network activity shows that an asset manager can receive corporate action (CA) notifications from 100 sources for the same event. In almost all cases, the details about an event – which are communicated using the MT 564 message over the Swift network – contain differences between providers, including in some cases critical information such as market deadlines and event options. This complexity can make it difficult for users to understand when and how a specific data point was introduced or updated in the process, which can be essential in the event of an error.

A recent survey from The ValueExchange supported by ISSA estimates that losses caused by corporate action errors are costing each market participant between USD 3 to 5 million every year at a business unit level. Yet, previous attempts at solving this costly problem have had limited success industry-wide.

A fresh approach

At Swift, our strategy is to enable instant and frictionless transactions across our network of more than 11,500 institutions and 4 billion accounts in over 200 countries worldwide. In consultation with our community, we have identified frictions in corporate action processing as a significant and longstanding pain point that the securities industry must overcome in order to reduce the cost of doing business and unlock resources tied up in legacy processes.

With collaboration at the heart of our innovation agenda, we have been working with six securities players representing different parts of the securities ecosystem – including American Century Investments, Citi and Northern Trust – to pilot a scalable solution to this challenging issue. The collaboration takes a new approach to how corporate action data is shared between providers and receivers by trialling a solution based on blockchain technology capable of normalising data from multiple sources to give all participants a single, accurate view of a given corporate action event – as well as providing an immutable shared audit trail of all data updates and ensuring data privacy.

With the pilot a success, we will now progress to the next phase of exploration, working alongside a wider group of industry players to assess the requirements needed for a fully viable and scalable solution.

Our pilot

The pilot focused on corporate actions related to complex voluntary reorganisations such as tender offers, exchange offers, full calls, stock splits, and Dutch auctions. The participants provided file extracts of Swift MT 564 messages of the specified event types that were then uploaded onto the blockchain-based platform network developed for the pilot. Swift's Translator was deployed onto the pilot network as the engine to transform Swift messages into a blockchain system readable format for comparison.

With all private data redacted, the participants could view events within their own firms, search for internal matching events, and then assemble groups of messages pertaining to a single event. Notably, the messages could also be shared with other pilot participants across the blockchain, allowing data fields to be matched and exceptions flagged. Mutual matches between participants could be identified and a 'shared copy' created for an event based on a composite of event fields received from multiple sources.

The results

Following a series of technical tests with all participants involved, the pilot demonstrated the potential for tangible benefits across multiple corporate action events. We found that the operational efficiencies offered by blockchain-based exception flagging could reduce manual effort and errors in production processing. The blockchain technology ensured that all messages were authenticated as to their source, stored in a chronological audit trail, and shared privately only to designated counterparties. No third party – including the blockchain provider – had the ability to see events and allocations in relation to a specific asset owner.

Furthermore, the peer-to-peer message comparison over the blockchain demonstrated several additional benefits such as:

– Recipients could receive early notification of changes to an event;
– The data related to an event could be enriched;
– Recipients could have greater confidence when interpreting event data;
– Any discrepancies between the data provided by different providers could be flagged for further investigation.

The pilot participants agreed that the functionalities tested in the pilot warrant further analysis to determine the precise design of a potential solution and are willing to further contribute to this process moving forward. Participants also noted the potential for leveraging machine learning to further automate the message comparison process.

Next steps

With the pilot a success, we will now progress to the next phase of exploration, working alongside a wider group of industry players to assess the requirements needed for a fully viable and scalable solution that enables the automated processing of corporate actions. As part of this process, we will: evaluate the additional features required for a frictionless corporate actions experience; assess the benefits of machine learning tools to automate the decision-making process; identify the best partners to bring the solution to market; and work with new types of intermediaries that currently use the Swift network to exchange CA data.

The business context

The process of communicating corporate actions – i.e., notifying investors, creditors and all other stakeholders that an event[1] at a publicly listed company has taken place – is a complex business. This is largely due to the high number of players involved in any given investment chain.

Once the corporate has announced that an action is taking place, intermediaries–such as central securities depositories (CSDs), local and global custodians, fund managers, and paying agents – each need to notify all relevant stakeholders about the event. On the flip side, recipients of corporate action information – such as asset managers and global custodians – often have their securities held with multiple (sub-)custodians, and thus receive notifications about the same event from all their providers.

Indeed, Swift's network activity shows that an asset manager can receive corporate action notifications from more than 100 sources for the same event. And the information provided, which includes critical details such as deadlines and event options, is almost always different or contradictory from one provider to another.

With conflicting information arriving from various sources, staff often need to spend hours manually scrubbing the data before they can either take a decision on their participation in an event or pass the information to individual investors.

Discrepancies in the information provided by asset servicers are sometimes explainable: for instance, one custodian might offer an additional option to its customers based on a service level agreement (SLA) or might extend a deadline to give customers more time to select an option. Local regulations or legacy local market practices may also impose constraints on how an event must be interpreted or processed. However, most often variations in the data provided by different asset servicers are not explainable and should not change from

firm to firm. These include market deadlines dictated by the issuer and key elements of a specific event.

The problem can be even more acute in voluntary re-organisations – e.g., mergers and acquisitions, exchange offers, and Dutch auctions – which are among the most complicated types of corporate actions. Such events contain additional legal and tax data, and by their nature are more complex than straightforward mandatory and predictable events such as a coupon or dividend payments.

Why solve this now?

Swift data shows that corporate action volumes have increased two-fold since the Covid-19 pandemic, with more mergers and spinoffs. Manual intervention in corporate action processing is not new, but the levels of automation for voluntary reorganisations continue to be extremely low, despite the abundance of data-scrubbing solutions.

Furthermore, The ValueExchange survey shows that only 25% of voluntary reorganisations can be handled without manual intervention. The research also shows that, after a long period of focus purely on measured efficiency gains, firms are now ready to commit to corporate action automation as a headline organisational priority. The research shows that '…at the root of 57% of corporate action costs are data errors – added to by a further 30% in manual errors,' and that these errors are causing each market participant losses of USD 3-5 million per annum at the business unit level. New technology, specifically blockchain, could potentially help solve some previously impenetrable challenges.

Manual intervention in corporate action processing is not new, but the levels of automation for voluntary reorgani-sations continue to be extremely low, despite the abundance of data-scrubbing solutions.

[1] E.g. a merger, general meeting, dividend payment, exchange offer, auction.

The feedback we have received from asset managers and global custodians shows that they are looking for a 'zero-touch' experience for corporate action processing.

Why Swift?

Swift is committed to removing friction from transactions and enabling efficiencies across the securities lifecycle. In consultation with our community, we have identified inefficiencies in corporate actions as a key pain point for the industry that is a significant drain on resources and we are uniquely positioned to bring the community together and find a solution to this intractable, and worsening, problem.

What do market participants want?

The feedback we have received from asset managers and global custodians shows that they are looking for a 'zero-touch' experience for corporate action processing. That means:

– An easy and secure way to share corporate action data with peers;

– A shared source providing a market-wide view of an event, with automatic flagging of discrepancies and inconsistencies across information providers;

– A structured way to communicate questions to custodians and fewer last-minute announcements, with automatic comparison of custody feeds vs data feeds (e.g., Bloomberg);

– And an immutable timeline history linking preliminary, amended and final notifications.

Why blockchain?

In principle, blockchain could unlock previously unsolvable data challenges and create numerous efficiencies. Indeed, the technology is particularly suited to addressing the particular distributed problem in question, whereby multiple firms receive messages from multiple providers without a single version of the truth.

Importantly, a blockchain network creates – by its nature – a natural and immutable audit trail of the lifecycle of corporate action which is a key requirement for this use case. In addition, running local nodes allows for integration into internal systems and safely sharing sensitive data such as positions or entitlements. Participants could also provide aggregated and anonymous feedback on corporate action messages to the network as a whole in order to improve the overall market experience. Furthermore, the use of smart contracts could power statistical AI which can run in the background on the network.

Also important for this use case, the computing power needed for processing all the raw corporate action data is spread across the nodes, rather than becoming the cost and responsibility of a central host.

However, Swift and the pilot participants agree that the ultimate solution should be technology agnostic – as long as it solves the business challenge.

Our approach

In our solution, corporate action data for the same event is shared between custodians, acting as information providers but also between asset managers acting as peer receivers.

Many previous industry initiatives around corporate actions have focused on the supply side of the messages, attempting to ensure consistent standards when issuers and their agents publish notices of corporate events. These initiatives – such as the work done by the Swift community to adapt and evolve the corporate actions communication standards, and efforts made by associations such as the SMPG or ISITC to harmonise market practices – have yielded significant progress for middle and back-office teams.

Specifically for this project, we set out to address corporate actions challenges from the demand side of the market, particularly for the decision-makers acting on the corporate actions. Blockchain technology is known to be decentralised and designed to implement multi-party workflows with dynamic membership on a distributed network. Enterprise blockchain platforms can underpin a secure, industry-wide repository for corporate actions data wherein both publishers of, and subscribers to, corporate actions events can run or access a node on the network and participate in resolving inconsistent events.

Developing an innovative solution

Many vendor solutions exist to help asset managers and asset servicing providers analyse in-house corporate action events received from custodians, depositories, and other sources. Our solution, on the other hand, acts as an external overlay that offers users the ability to share received Swift messages selectively with other market participants, perform peer-to-peer event comparisons and move toward a certain confidence level in a 'proposed shared copy' for an individual event across the market.

The nature of blockchain technology ensures that all messages are authenticated as to their source, stored in a chronological audit trail, and shared privately only to designated counterparties, without any other third party – including the blockchain provider – having the ability to see events and allocations in relation to a specific asset owner.

Under this approach, market participants would have a window into the corporate actions data their peers are receiving, for the first time. For a given tender offer, for example, an asset manager would see what elections are available across other peers in the market, what prices and deadlines are being published and flag any inconsistencies between custodians and CSDs before the portfolio manager makes a final decision, thereby reducing the risk of a mistaken or late election.

Two asset managers with a mutual sharing agreement on the blockchain can publish anonymised versions of their messages to each other, extending the breadth of sources which can be used for comparison. The network effect ensures that a meaningful global composite view of corporate actions can start to be assembled with only a subset of Swift customers. Publishers of corporate actions data, such as custodians and CSDs, can receive feedback reports from the downstream recipients showing any inconsistencies, thereby improving the overall quality of service.

In our solution, corporate action data for the same event is shared between custodians, acting as information providers but also between asset managers acting as peer receivers. A five-step approach is used to address this challenge:

1. **Data translation:** Swift corporate action messages, MT 564, are translated using Swift Translator into XML or JSON to be uploaded into a blockchain network;

2. **Distributed data sharing:** Data is securely shared in the blockchain network with multiple nodes;

3. **Data matching:** Smart contracts compare shared data among participants;

4. **Exception flagging:** Exceptions are flagged and prioritized;

5. **Decision-making:** Decisions can be made based on the exceptions flagged in the previous step.

Our pilot solution

From a technical perspective, the solution consisted of a six-node blockchain network, wherein each participant is assigned their own node and blockchain identity (see Figure 1 below). An Index Data application was adapted (in production with Vanguard since 2019) to parse and display Swift MT 564 messages (MT 565-568 and ISO 20022 messages were out of scope).

Figure 1: The Swift pilot solution: End-to-end process flow
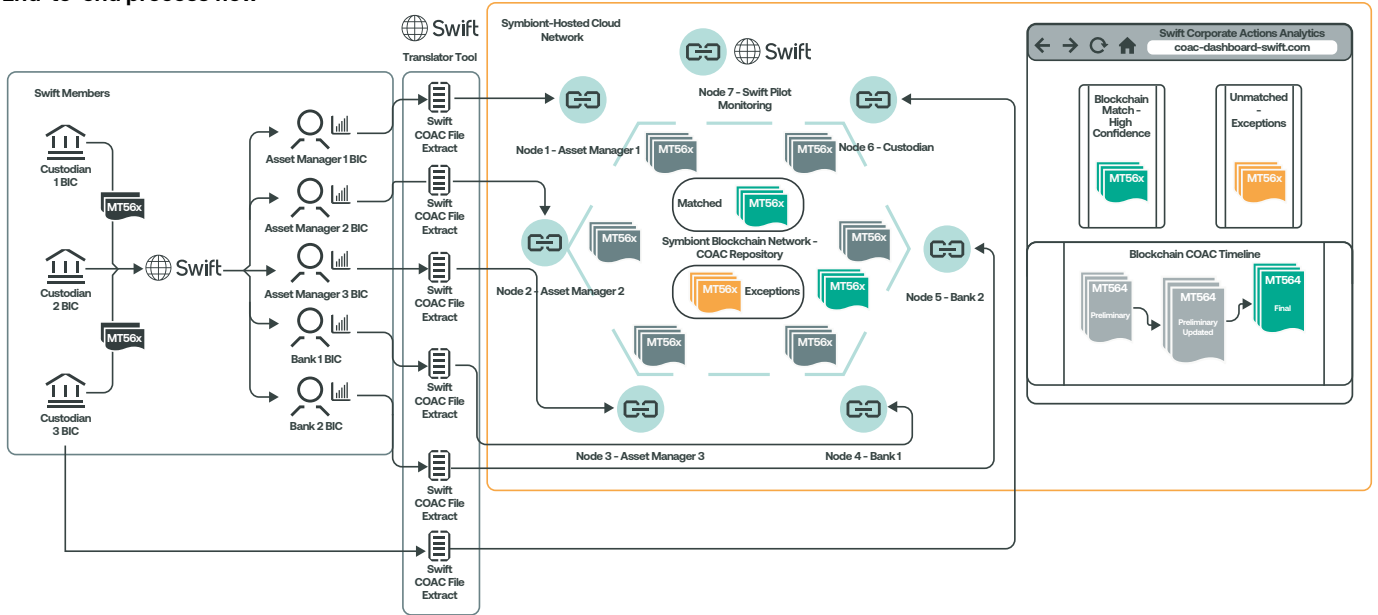
The pilot

To test our solution, Swift led a pilot project with six custodians and asset managers that leveraged a blockchain platform and smart contracts provided by Symbiont[2].

The scope of the pilot focused on complex voluntary re-organisations such as tender offers, exchange offers, full calls, stock splits with certain characteristics, as well as Dutch auctions.

The scope of the pilot focused on complex voluntary re-organisations such as tender offers, exchange offers, full calls, stock splits with certain characteristics, as well as Dutch auctions. These were identified as the types of events which typically had many details and options resulting in ambiguity. Geography was not limited but participants were asked to target the same 100 event types (approx.) with notable activity in the designated event types during the pilot timeframe of over two months.

With sensitive account numbers and holdings redacted, the participants could view events within their own firms, search for internal matching events, and then assemble groups of messages pertaining to one single event. A timeline allowed for views of event changes over time, such as preliminary final and reminder notifications. Notably, the messages could also be shared with other pilot participants across the blockchain. Mutual matches between participants were identified and then a 'proposed shared copy' created for a given event based on a composite of event fields received from multiple sources. Subject-matter experts from Swift's standards team reviewed the data and offered insights and suggestions, which are included here in the findings.

Overall, more than 1,000 events were reported by the six participants during the pilot of which 29% were tender offers, 34% were stock splits, 17% exchange offers, 10% full calls, 6% Dutch auctions and 4% issuer repurchase offers. Potential matches were defined as events which had the same event type, same indicator (mandatory or voluntary) and the same underlying security within the time frame specified. Focus was placed on events that had a completed processing status, as opposed to preliminary notifications (which were nonetheless included). Events often matched across at least two participants, however, some generated more matches – including matches across the full set of participants. The events with more potential matches are the subject of our findings here.

[1]Note that Symbiont.io entered into Chapter 11 bankruptcy in December 2022, but this has no bearing on the results of this pilot or the next phases of the project. Our solution is designed to be agnostic on the underlying blockchain platform used in its implementation. As such, we are currently in the process of identifying the most qualified technology partner to play this role moving forward.

The results

A key goal of the pilot was to evaluate if this type of peer-to-peer sharing across the blockchain could result in:

1. Additional key data points being present to refine event meaning (either via a snapshot or a timeline);

2. A greater confidence level due to many fields matching, or the need to flag an irreconcilable exception due to many fields contradicting one another.

Following extensive testing of a range of representative cases, it was found that the peer-to-peer comparison techniques enabled by blockchain have the capability capable of normalising data from multiple sources to give all participants an accurate view of multiple event types.

The testing demonstrated that the solution is capable of identifying market consensus to a high degree of confidence on key data points relevant to each event type (e.g., the market deadline date and offer price for a tender offer event). The peer-to-peer comparisons were able to clarify conflicting data points received for the same event – such as different payment deadline dates for a cash option – as well as supplementing missing data points. See Annex 1 below for the full detailed technical findings of the pilot testing across the different event types.

Participant feedback

There was general agreement on the need to reduce the number of messages per event which has significant cost implications for firms. Automating the election process was also deemed important, particularly by custodians who often receive the election instructions from their customers a few minutes before deadlines via channels other than Swift and using unformatted data.

Overall, the pilot demonstrated that a shared version of a CA event is achievable, and peer-to-peer sharing between asset managers (i.e., 'data receivers') is capable of delivering a beneficial solution. It will, however, be essential to collaborate with other participants in order to develop a viable offer; notably issuers, and issuer concentrators but also, CSDs, as well as taking into account the various CA solutions that firms use today.

Conclusion and next steps

The challenges faced by asset managers and asset service providers with regard to corporate action events became abundantly clear during the course of the pilot. Discrepancies in event deadlines, record dates, split ratios, as well as available event options not linked to different provider SLAs, jumped out once data was shared and compared across participants via the pilot blockchain network.

Following the success of this pilot project, Swift will work alongside the securities industry to assess the full requirements needed for a viable industry-wide solution capable of delivering the straight-through processing of corporate actions.

Overall, an examination of specific cases in the pilot suggests that peer-to-peer comparison of messages using blockchain could offer several benefits:

1) Early notification of changes to an event;

2) Enrichment of certain key details;

3 Heightened confidence in the market interpretation of an event; and

4) The ability to flag notable discrepancies across the market for further investigation.

A number of potentially useful features were not built for this pilot but would be expected in a production version of the application. Most importantly, seamless real-time and secure copy or routing mechanisms for messages from the Swift network would be critical for use at scale by participants. Also, while participants manually viewed discrepancies and shared messages during the pilot, it would be expected that automation rules and machine learning would allow the blockchain smart contracts to continuously share and detect matches on incoming corporate action events and propose a 'shared source copy' in the background with no touch. Since blockchain nodes are run within participant's own IT infrastructure, the application could also be enriched with private data such as COAC SSIs and be enhanced to compare corporate action event option selections with actual outcomes on the credit/debit of securities and cash.

In conclusion, while it is possible that tighter standards at the origin of messages can help reduce some of the issues confirmed during the pilot, it is not expected that there will ever be 100% alignment on how CA events should be represented. Therefore, a downstream ability for peer-to-peer auditing and comparison of events appears to be an essential supplemental tool for corporate actions operations teams.

Next steps

Following the success of this pilot project, Swift will work alongside the securities industry to assess the full requirements needed for a viable industry-wide solution capable of delivering the straight-through processing of corporate actions. As part of this process, we are collaborating with market participants to prioritise the most important additional features to include in the solution, as well as identifying the most appropriate technology to implement, and assessing additional use cases that need to be covered. In parallel, we are also identifying the best delivery and strategic partners to support its development.

Moving forward, we intend to work with all participants looking for a frictionless CA experience, including CSDs, and investigate the possibility of including issuers or issuer concentrators as data nodes. We will also assess the benefits of machine learning tools to automate the decision-making process and collaborate with current corporate actions processing solution providers.

Want to learn more?

To provide feedback, or if you would like to learn more about our tokenised assets experiments and solutions, please reach out to your SWIFT account manager or contact innovate@swift.com

Annex 1: Technical findings per event type

Event type	Example securities	Notable observations due to peer-to-peer comparison	Utility of peer-to-peer comparison
All event types		Sometimes SEDOLS/CUSIPS and sometimes ISINs are used in messages. Even within the same section, the underlying security may be a SEDOL, but the securities movement section may use ISIN or vice versa. Some narratives have an unparseable colon ":" or other characters at the start of a line. This is fixed by removing the colon and condensing the text with the previous line. Some narrative blocks and party contact sections are greater than the officially allowed length of 35 characters and 10 lines. The same security ID can be present but results in significantly different descriptions of the security in different messages. Global COAF references are often not populated.	Messages including both identifiers would improve clarity on same events. P2P comparison can help match based on descriptions as well. Standards should be revisited for the formation of narratives. P2P Comparison would be improved if descriptions of securities can be more consistent based on inclusion of security master fields (maturity, interest rate, etc.). In the meantime, P2P comparison can help to identify market consensus on a security description. ISIN standard descriptions could also be used. In absence of the COAF Reference, potential matches can still be suggested via P2P comparison.
Tender Offers/ Issuer Repurchase Offers	Athene Global Funding (Fixed Income - US04685A3L31)	Seemingly the same event was represented as Event Type BIDS vs. TEND across different custodians. Payment Date not present with some custodians and varied by 1 day for other custodians. **Market Deadline Date** had time and time-zone in some cases, no time in others. The date itself was the same. Some parties did not have **Market Deadline Date.** **Interest rate inconsistency:** interest specified via InterestRateUsedForPayment in one case, specified as an Offer Price Received for a cash movement in another. Total interest provided in some cases only. **Offer Price Received** was expressed in units of 1000 (i.e. 918) and also in decimal units (0.918).	Across several participants the Market Deadline Date and **Offer Price Received** matched, providing high confidence in the basics of this event. Some parties did not provide an Offer Price Received or **Market Deadline Date.** P2P Comparison could supplement this important missing data.
	Cenovus Energy (Fixed Income - US15135UAR05)	Seemingly the same event was represented as Event Type BIDS vs. TEND across different custodians. All sources specified two different cash options, tender early and tender late, with no price. **Market Deadline Date** was in some cases just the tender early deadline, in some cases each option (early/late) had a different deadline. Early Response Deadline DateTime differed or was not present across custodians. Some custodians provided no other key information such as **Payment Date** or just one **Payment Date** and not the differing dates for both options. Nearly all sources allowed for 3 options (2 cash, 1 no action), however the no action option was missing in some cases.	P2P comparison could help clarify the different deadlines and payment dates for the two cash options: tender early, tender late. P2P comparison would offer confidence to confirm the lack of an **Offer Price Received** from all sources. Comparison would highlight no action as a valid option as well even if not specified in some cases.

Fighting friction in corporate actions

Event type	Example securities	Notable observations due to peer-to-peer comparison	Utility of peer-to-peer comparison
Tender Offers/ Issuer Repurchase Offers (contd.)	Suzano (Equity - BRSUZBACNOR0)	Event sent with Event Type TEND even though it was an issuer repurchase offer (normally BIDS). One source specified the event as **mandatory** while the rest specified it was **voluntary.** Three different local Brazil sub custodians reported differing **Record Dates**. In this case the **Record Date** appeared to be the **Market Deadline Date**, but the deadline was only clarified in the narrative. No corporate actions options were provided.	P2P Comparison revealed that the dates were being extended for the offer period and could trigger an alert for further research.
	Hitachi Metals (Equity - / GB/6429201)	One corporate actions cash option in Yen was received for all messages. **Market Deadline Date** and Yen **Offer Price Received** matched in all cases.	P2P Comparison revealed no meaningful differences, permitting a high confidence in this match.
Dutch Auctions	Deutsche Bank – (Fixed Income - XS2303762475)	One **Description of Security** specifies a variable rate note, another specifies an interest rate. **Market Deadline Date** was consistent across all custodians. **Bid Interval Rate** and **Maximum Price** were the same across all sources. **Payment Date** was consistent across all sources. All sources had 3 options (1. Competitive, 2. Non-competitive, 3. No action). One custodian added **TaxationConditions** indicating a non-qualified dividend; the rest did not. After the Market Deadline, **Offer Price Received** was published at different times from different sources. After the Market Deadline, one custodian marked all options as inactive "INTV" but others did not.	P2P Comparison would offer high confidence that the event is the same due to all factors, even though the security description differs. A shared timeline could result in the **Offer Price Received** being known sooner. P2P enrichment could add the tax considerations provided by one source.
	Interfor (Equity - / GB/BMJ71W4)	**Market Deadline Date** was consistent across all custodians. Some sources provided **Bid Interval** Rate, **Maximum Price** and **Minimum Price** as fields; for others it might be necessary to read the narrative. **ProRation Rate** was specified in one case. **Payment Date** was consistently unknown. Nearly all sources allowed for 5 options (4 cash, 1 no action), however the no action option was missing in some cases.	P2P Comparison in general confirmed most important details as similar with high confidence and could enrich with small details such as the ProRation Rate.

Event type	Example securities	Notable observations due to peer-to-peer comparison	Utility of peer-to-peer comparison
Exchange Offers	Air Liquide – (Equity - FR0000120073)	**Market Deadline Date** was consistent across all custodians for completed notifications, although preliminary notifications had a different **Market Deadline Date.** All sources had **Rates (New to Old – NEWO)** as 1:1. **Payment Date** was the same across sources, except for one which was unknown.	P2P Comparison highlighted general consistency as well as small differences and could be used to supplement some details. A timeline would help detect adjustments to certain fields quickly.
	Gazprom ADR (ADR - / GB/5140989)	Exchange offer had two options – replace the ADR with local shares, or convert to local shares and then liquidate. **Market Deadline Date** was generally the same, however some messages showed a different, earlier **Market Deadline Date** for the first corporate action option (differing even from the same custodian). All sources had **Rates (New to Old – NEWO)** as 2:1. **Payment Date** and **Offer Price Received** were consistently unknown.	P2P Comparison provided high confidence in the rate of exchange of ADR shares for local shares. P2P Comparison revealed there may be an earlier deadline for one option versus the other that not all sources accounted for.
Stock Splits	Internet Initiative of Japan – (Equity, / GB/B05H328)	**Record Date** was the same for all messages. Ex-DivOrDistribDate was the same for all messages. Payment Date was the same for all messages. All custodians except two specified the stock split **Rates** as **Additional for Existing Securities (ADEX)** 1:1. One custodian sent a preliminary notification of **New To Old (NEWO)** 1:1 which was subsequently revised to **ADEX 1:1** and one custodian specified **New To Old (NEWO)** 2:1.	P2P Comparison can lend these event details a high confidence due to matching **Record Date, Ex-DivOrDistribDate, Payment Date** and **Rates** (once normalised). Timeline comparison could have highlighted differences in **Rates** early prior to the revision by one custodian.
	Schroders – (Equity, /GB/0240549)	**Record Date, Ex-DivOrDistribDate**, and **Payment Date** differed by one day in some messages due to subsequent declaration of a bank holiday. Rates varied initially as one source showed **New To Old (NEWO):** 5 : 1 and the rest showed **New To Old (NEWO):** 5.88 : 1. In later messages the **Rates** issue was resolved.	Timeline comparison would capture the shift in **Payment Date** due to a declared holiday early across some sources versus others. P2P Comparison of **Rates** would alert a need to analyze the discrepancy (possibly due to a bonus issue) which was later resolved (as could be shown on a timeline).
Full Calls	Palmer Square Loan Funding – (Fixed Income, / US/69689LAE6) Mizuho Floater – (Fixed Income - / US/60700HHP7)	**Offer Price Received** varied as either Price of "1" in some cases and as Amount/ Quantity in another. Interest Rate Used for Payment was sometimes quoted as a percentage or as a decimal. Payment Date was the same across messages.	P2P Comparison would offer high confidence in the details of these mandatory call events which varied only nominally across sources.

Acknowledgments

Swift team

Tom Zschach
Chief Innovation Officer

Nick Kerigan
Managing Director, Head of Innovation

Jonathan Ehrenfeld
Securities Strategy Director

Amit Mahajan
Head of Innovation Product Exploration

Thomas Mauroy
Product Manager, Swift Translator

Nicolas Neufkens
Head of Product Management, Securities

Ljubov Deheering
Product Manager, Securities and FX

Didier Hermans
Lead Business Analyst, Standards

Jacques Littre
Lead Business analyst, Standards

Swift

About Swift

Swift is a global member-owned cooperative and the world's leading provider of secure financial messaging services. We provide our community with a platform for messaging, standards for communicating and we offer products and services to facilitate access and integration; identification, analysis and financial crime compliance. Our messaging platform, products and services connect more than 11,000 banking and securities organisations, market infrastructures and corporate customers in more than 200 countries and territories, enabling them to communicate securely and exchange standardised financial messages in a reliable way.

As their trusted provider, we facilitate global and local financial flows, support trade and commerce all around the world; we relentlessly pursue operational excellence and continually seek ways to lower costs, reduce risks and eliminate operational inefficiencies. Headquartered in Belgium, Swift's international governance and oversight reinforces the neutral, global character of its cooperative structure. Swift's global office network ensures an active presence in all the major financial centres.

For more information, visit
Web: www.swift.com
Twitter: @swiftcommunity
LinkedIn: Swift