

ISO 20022 Migration Guide

February 2021

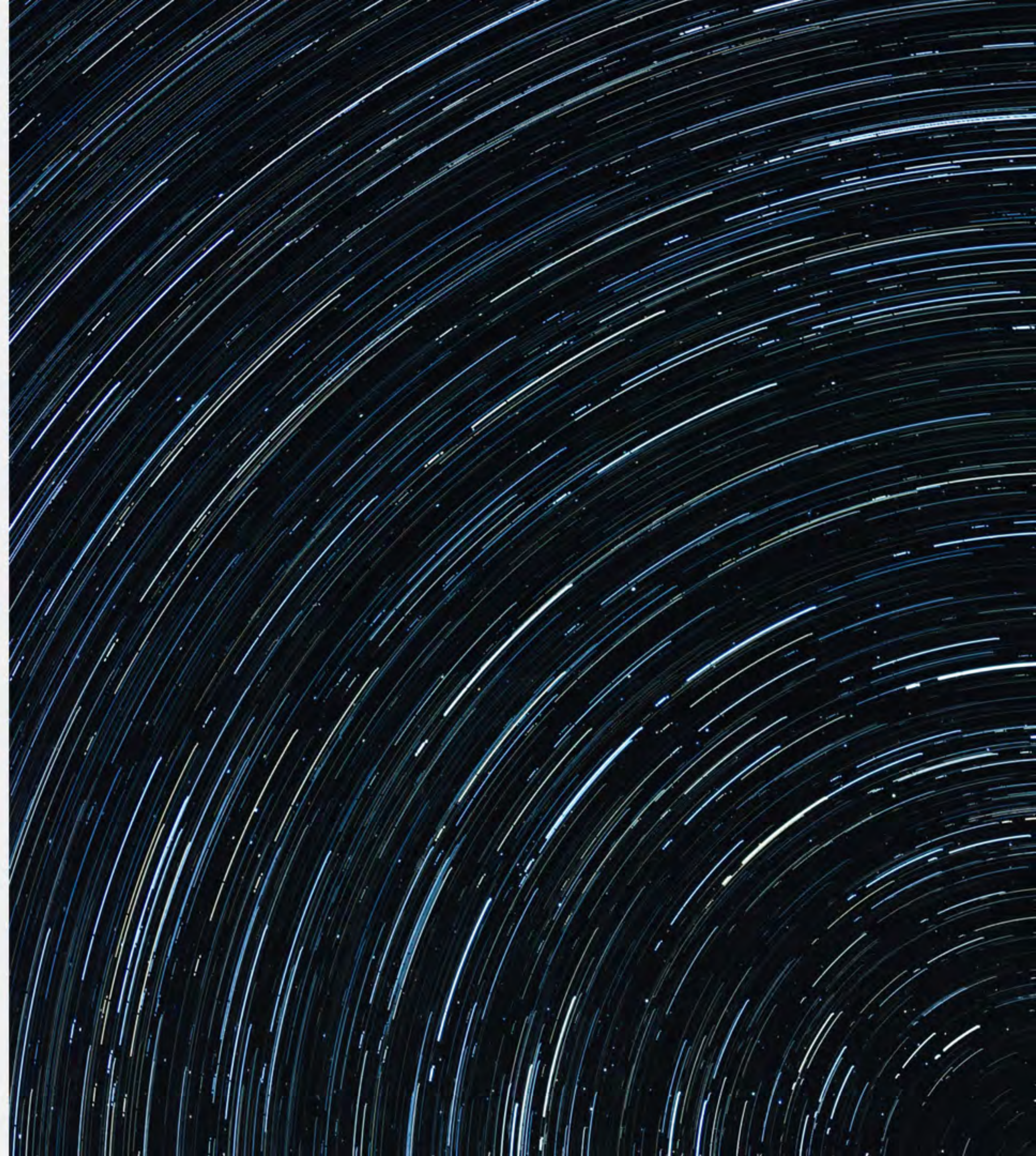
Foreword

Driven by the digitalization and rapid technological developments, the finance ecosystem continuously evolve. Regulatory pressure, increasing competition with the new market players and the customer expectations to experience faster, frictionless and end-to-end transactions are additional and equally important drivers of change. The current messaging system used in the payments services has an unstructured data nature which leads to complexities and require manual intervention most of the time and eventually increases the time, cost and effort spent on these processes.

An update on the financial messaging standards was needed and the ISO 20022 provided the solution to the challenges of the digital era by offering smoother customer experience, higher efficiency in terms of budget, time and operational processes, and better compliance. The current standard of ISO 15022's unstructured data remains insufficient in meeting the expectations of the banks and other financial institutions. Therefore, ISO 20022 aims to fill the gap by bringing in benefits of better compliance with structured data, higher interoperability among domestic and international channels and transactions, faster and smoother reconciliation and, higher automation and less ambiguity in data reading and communication.

The purpose of this whitepaper is to elaborate on the highlights of the ISO 20022 migration process by summarizing the four important payments methods that are commonly used, the differences between the ISO 15022 and ISO 20022 as well as the conversion of messaging standards widely used (MT type and emerging MX type) are explained. Advantages and new features introduced with the ISO 20022 migration, timeline, and other essential outcomes of the comprehensive standard transition are also reviewed within the scope of this whitepaper.

Ahmet Vefik Dinçer, CEO



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This white paper explores depths of the current payments landscape, key contributor aspects of ever-changing financial ecosystem and the infrastructure renewal of cross-border payments by ISO 20022 migration, a transition that will replace the predecessor, ISO 15022, almost three decades later. It also addresses the benefits and pitfalls of this immense transition period by highlighting the differences between ISO 15022 and ISO 20022 standards.

How current payments landscape can be improved with ISO 20022

The most compelling difficulties faced in the current payments landscape are the lack of integration between high and low value systems, limited interoperability among different international clearing systems, inability to provide a full and detailed remittance data and rapidly increasing regulatory and security demands. The payment methods used in the current payments landscape are as follows:



Using various messaging standards and formats in the payments caused problems for interoperability and eventually delays in the transaction processes.

- **High-value payments (RTGS):** With wires becoming widely used in every field of life, the high-value payments or in other words RTGS (Real Time Gross Settlement) transfers came into existence to be preferred mainly for the safe and fast money transfers in between businesses. High-value transfers are also named as wire transfers by many and; they are known for providing real value in receipt time and, in comparison to other electronic payment systems, for being more costly.

- **Low value payments (EFT):** Low-value payments which are also referred as Batch EFT Systems or Automated Clearing House (ACH) batch payments are characteristically sent in batches and they cover smaller payments which are under \$100.000. Batch EFT systems do not require immediacy and finality by nature, the exchange of batches of money transfers happen on daily basis and the settling of the transfers next day.

- **Conventional checks and drafts:** Conventional payment systems are listed as the checks and drafts which are the oldest no-cash payment methods where it is expected that an instruction is written on a paper by sender to make a payment to another person or party.

- **Card-Based Payments:** In addition to the debit, credit and stored value cards, the card-based payments are now also including mobile wallets as they are supporting the most recent payment systems used for the e-commerce and retail transactions. The trends of digitalization, cashless society and online shopping, the tendency to prefer cards as the main payments method is becoming more and more visible.

ISO 20022 messaging standard aims to improve interoperability, to answer compliance-related requirements and to deliver more detailed and clearer remittance data with its richer and structured nature, eventually supporting a more innovative and comprehensive payments environment. By offering a global messaging standard for the payments, ISO 20022 sheds a light on the problem of the lack of interoperability to a great extent and improves the high and low value payment infrastructures. The messaging standard of ISO 20022 will be convenient for all end-to-end payment types which are from customer to bank (payment), from bank to bank (clearing and settlements) and reporting (cash management). In conjunction with the adoption of ISO 20022 standard in the high and low value payments systems, both the financial institutions (FIs) and Payments Service Providers (PSPs) can benefit from a structured and richer data in transaction messaging procedures.

It is expected that ISO 20022 will innovate the way payments (especially the high-value payments) are made and even support bigger alterations that will increase the overall efficiency of the payments industry. The advantages of the ISO 20022 implementation may not be limited to harmonization in the payments messaging formats. The high-value payments system can become more flexible and responsive for adapting into new technologies.

From MT ISO 15022 to MX ISO 20022: migration process



From MT ISO 15022 to ISO 20022: More structured, modernized, transparent, and ubiquitous payments language

The current language of the payments landscape remains insufficient in many ways with the rapid changes in the technological developments. The challenges including inability to achieve a unified and collaborated operation in cross-border payments, ever-evolving and changing regulatory requirements, disintegration between low and high-value payment systems and lack of efficiency in presenting extended settlement information are still impacting the payments environment negatively. A more structured, modernized, transparent, and ubiquitous payments language has become a necessity.

As a solution to the current challenges in the payments industry, the new messaging standard for the payments and reporting to be used in the high and low value systems via SWIFT's messaging service was introduced and is planned to be fully adopted by the end of 2022.

The current messaging standard, ISO 15022, is using the MT standard which was revolutionary back in the 2003 when it was first introduced; however, in today's technological atmosphere, it remains insufficient for analyzing and classifying data efficiently because of its limited character set and number as well as the unstructured data arrangement. It is highly open to unwanted complications which require manual intervention and time. Inclusiveness on the compliance issues, resilience and easy processing are other deficiencies of the ISO 15022 standard.

Behind the idea of migration from ISO 15022 to ISO 20022, the main drivers are:

- To achieve more structured, richer, more automated and easily classifiable data/
- To make the code definitions more flexible and external. MT standard codes are limited, stiff and hard to track. With ISO 20022, the codes will be free from the definition of the message which enables simpler and more effective code maintaining and updating.
- To remove the ambiguity arising from the unstructured organization of data and increase the accuracy and efficiency in the messaging processes.

Benefits of ISO 20022 migration

Interoperability in cross-border transactions

Operational execution of cross-border payments are one of the most formidable issues for the financial institutions due to the different payment requirements for each country and market. In most of the cases, banks have to repair, change or ask for more data in order to localize the payment details and these processes result in extra work, delays and sometimes loss of data. Following the full adoption of ISO 20022 in the global level, data about payments will be richer, structured and standardized which means increased interoperability in between various international institutions in payment processes. This unified approach will ensure transactions to move around the globe more smoothly and the settlement reconciliations will become faster and easier than ever before. Further benefit of this migration is that financial institutions will have the chance to analyze customer behavior and counter party interactions better that will help them to work on more targeted and profitable services tailored by the needs and interests of their clients.

Improved compliance with more structured data

The unstructured data organization in payment and reporting processes causes problems of misinterpretation of data and compliance screening which in turn increase the number of false positives and finally results in suspensions in the payment processes. The structured nature of MX messaging standard offers a successful streamlining of compliance related requirements since the XML tags that it incorporates makes data more structured and therefore easily readable. This feature of the XML tags creates the possibility to group and screen data more easily and accurately while at the same it helps prevent false positives. Ultimately, financial institutions can save tremendous amount of time, effort and resources that might have been spent on identifying the incorrect alerts.

Seamless Reconciliation Process

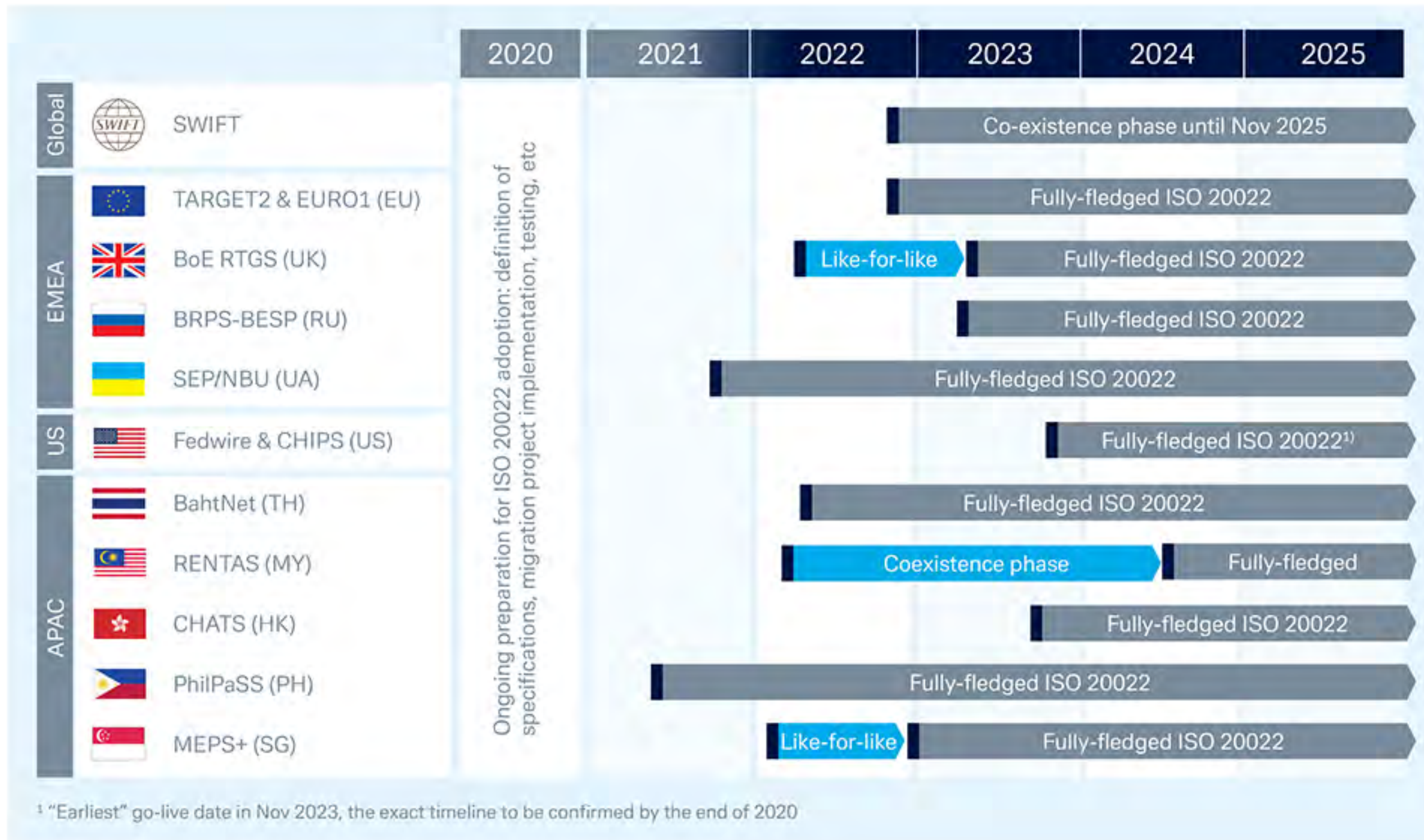
The process of reconciliation is a compelling topic for the financial institutions because the current payment messaging data can not reconcile entering payment data with the outstanding invoices belonging to the items or services already delivered or completed. What the rich and structured data of ISO 20022 offers is a facilitation and accuracy on the reconciliation process with the possibility to carry invoice data. By making the Enterprise Resource Planning (ERP) systems ISO 20022 compatible, the reconciliation process can be automated and unified with a consistent message standard available from the beginning of payment to the reporting phase (Morgan, 2020, p.4).

Increased automation and clarity in communication among institutions

The purpose of Exceptions and Investigations (E&I) service of SWIFT is to arrange the payment-related inquiries in a specific order to simplify the process. Modification in the payments and request to return funds are among the most common Exceptions and Investigations (E&I) operations (Morgan, 2020, p.3). With the increasingly demanding nature of regulatory requirements, the E&I inquiries have become even more serious and frequent. The MT messaging standard currently used by the financial institutions is inefficient in terms of time, cost and manual intervention. On the other side, when the free format messages are used for E&I activities, the automation cannot be achieved. ISO 20022's structured data configuration can enhance E&I processes by increasing consistency, literacy and clarity in data. Advanced automation can diminish the number of E&I inquiries while at the same time accelerate the speed of the processes of reconciliation.

The key benefits of migration include improved data quality and compliance with structured data, as well as higher automation and reduced costs with a better operational resilience, and effective fraud detection.

Timeline of the transition



In 2020, SWIFT announced that the implementation of ISO 2022 will be delayed to November 2022. Together with the outbreak of global pandemic, the approaches to the ISO 2022 migration in the financial industry have been, inevitably, re-shaped. In order to remain in alignment with SWIFT's migration timeline, other institutions decided to postpone related projects respectively:

- European Central Bank's T2-T2s consolidation project
- EURO1's migration to ISO 2022
- European Central Bank Clearing's STEP2.

A-year delay in the process of ISO 2022 transition does not necessarily mean that the banks and financial institutions can postpone their preparations for the migration because there are actually substantial number of details to be fulfilled. It is better for them to use this extra time to identify what they need to focus on and which touch points they need to address. Afterwards, they need to plan, schedule and implement the necessary changes all of which will take time and are to be completed by November 2022. The estimated timeline for the full adoption and migration to ISO 2022 is 2025.

Source: Deutsche Bank

Difference between MT and MX standards

MT (TXT) standard:

```
:59:/1234567890  
Cuba Libre Bar and Grill  
1234 Ocean Drive  
90099 LA
```

MX (XML) standard:

```
<Cdtr>  
<Nm>Cuba Libre Bar and Grill</Nm>  
<PstlAdr>  
<StrtNm>Ocean Drive</StrtNm>  
<BldgNb>1234</BldgNb>  
<PstCd>90099</PstCd>  
  
                                <TwnNm>Los  
Angeles</TwnNm>  
<CtrySubDvsn>CA</CtrySubDvsn>  
<Ctry>US</Ctry>  
</PstlAdr>  
:  
etc.  
:  
</Cdtr>
```

The main differences between the messaging standards of MT and MX are unstructured vs. structured data, higher transparency and better end-to-end transaction monitoring with MX, speed, data quality, flexibility and more efficient cross-border payment processes.

Briefly, MX standard offers structured field sections, in contrast to MT messaging type that helps prevent complexities in data reading and provide richer information on account of sender and receiver. It eventually eliminates or minimizes the need for manual intervention and diminishes the time spent tremendously while the process of fund transaction goes smoothly.

An example of how the unstructured and structured data looks in MT and MX standards (SWIFT, September 2019)

Effects of ISO 20022 in the settlements process for cross-border payments



Settlement, which is also referred as availability, is the last stage of the payment process indicating that the funds are transferred to the beneficiary's account from the payer's account.

The final settlement or finality is when the value transfer is irrevocably completed in between banks and the beneficiary knows that the funds received cannot be taken back. So, there is a difference in between the settlement and the finality, and in order for the settlement to be final, the payment should be irreversible and indisputable.

While the time of finality depends on the payment systems used most of the time, the value depends on the payer's bank whether withdraw the payment or not. This variational situation creates financial problems for global businesses that use different payment systems all of which flow into a central cash pool.

Settlement processes in between international banks are handled differently than the domestic ones when local banks may use common accounts opened at the central bank of their country. In the U.S., Federal Reserve Bank are responsible for holding the common accounts, which are called reserve accounts (Treasury Alliance Group, 2018, p.16). In the case of cross-border payments, banks from different countries prefer to use correspondent accounts which can be defined as the depository accounts to settle the money transfers of their clients via their reserve accounts in correspondent banks.

The problem in this system occurs due to the currency differences and the necessity to use the intermediary banks. The payer and receiver's banks have to use the correspondent banks in the currency used in the payment transaction. For instance, if a sender in U.K. would like to send money in US Dollars to a beneficiary in Singapore, the payment should go through the correspondent banks in US which have a reserve account in US Federal Reserve Bank. This means the involvement of two extra intermediary banks in the process. Even the simplest transactions and settlements turn into a complex situation with higher costs and loss of quality of the payment data in most cases. Another challenge in this process is related to the diverse procedures of regulatory compliance in national and global level.

With the adoption of ISO 20022's harmonized data standard, increase in the interoperability between global payment systems will be possible and consequently, the complexities and the costs regarding the cross-border settlement processes will be mitigated. Richer data structure of ISO 20022 can be effective in improving Know Your Customer (KYC) and Customer Due Diligence (CDD) procedures while decreasing the compliance-related costs. Automation and reconciliation improvements offered with ISO 20022 boost overall efficiency and flexibility in the cross-border settlement processes.

The reasons behind the transition



The current ISO 15022 system used in the financial messaging processes remains limited in many ways with its restricted character set and unstructured data.

In the age of digitalization and technological advancements, the current ISO 15022 system used in the financial messaging processes remains limited in many ways with its restricted character set and unstructured data. Manual intervention is required in most cases of the transactions that are using current payments messaging standard and it means higher costs, more time and less efficiency for the financial institutions. Together with the technological improvements thriving in each field of life, transforming the services and the expectations of the consumers, in the financial environment, the consumers have started to expect easier, faster, more secure and seamless financial experience. Therefore, the current financial messaging system needed to be updated to comply with the demands of the digital age which are qualitative and standardized data, flexibility, transparency, more demanding regulatory compliance requirements and secure environment.

The dysfunctional and ineffective features of ISO 15022 including unstructured data organization, lack of flexibility, non-comprehensive nature of compliance assistance and overall complexity in the processing are expected to be solved with the introduction of ISO 20022 standard with a more structured, richer and accurate data, increased transparency and flexibility in transactions and more automated processing.

The expectations of digital customers are also to be addressed with ISO 20022 as it offers faster, more secure, less costly and simpler payments procedure. Emergence of new technology-driven players in the payments landscape such as FinTechs and RegTechs, is another driver of change with demands of the industry.

Finally, ISO 20022 brings in the concept of data dictionary for the payment processes in order to move the system into a more structured environment. The purpose of standardized data dictionary is to catch payment data easily and instantly, to remove the complex situations by ensuring a more coherent customer experience and to support compliance requirements conveniently.

Pitfalls of the transition



The delay announced by SWIFT affects the interoperability among the Eurozone banks and systems.

The delay of the adoption of ISO 20022 announced by SWIFT this year caused some controversy in the financial industry. The postponement was seen as an advantage for the banks or other financial institutions that are not ready yet especially in the turmoil of COVID-19 outbreak, while it also caused some complications for the banks in Eurozone.

On the one side, the financial institutions that underestimated the complexity of the migration process and remained late in starting the transition will be able to benefit from the 1 year delay since they will have extra time to work on the strategic solutions. However, on the other side, there are other FIs who have already started their migration to ISO 20022 and are ahead of the program. The delay will not affect early adopters because the ISO 20022 migration will eventually happen and change is inevitable. Early starters can have the privilege of being advanced in the transition process and will have more time to find out or develop new services by using this structured and richer data. It is possible for them to benefit from this situation as a business opportunity, rather than just a regulatory requirement.

On the other side, the delay announced by SWIFT affects the interoperability among the Eurozone banks and systems. The information that legacy MT messages carry is in different structure and less in comparison to richer nature of ISO 20022 MX messages, therefore if the Eurozone banks fully move to ISO 20022 earlier, the correspondent banks that still use MT messaging format may not be able to reach or read data in the ISO 20022 messages. Thankfully, many visionary and tech-driven vendors are already in the process of developing a MT-MX converter which will be necessary and vital in the postponement period.

As a result, the decision on the timeline of TARGET consolidation project had to be discussed. The aim of this project is to consolidate the Real-Time Gross Settlement (RTGS) systems of TARGET2 and T2S by improving them technically and functionally to ensure a better service in the changing environment of the market demands. An alternative option to the delay was continuing with the full adoption of ISO 20022 and using a like-for-like approach, which basically is the implementation of a limited subset of ISO 20022 that has the same function as the MT format, by reducing the scope of the messages. However, this alternative solution meant extra cost and work for the industry. Therefore, the final decision was to delay TARGET2 migration as well.

It is crucial for the financial institutions and banks to realize that in spite of the delay in the timeline of the transition, the fundamental necessities to be fulfilled in this process remain unaltered. Although the full migration to ISO 20022 is predicted to be completed by 2025, the magnitude of the operations and the tasks require financial institutions to continue pushing the pedal. At this point, another important value is coordination and cooperation within financial institutions and between SWIFT and different market infrastructures.

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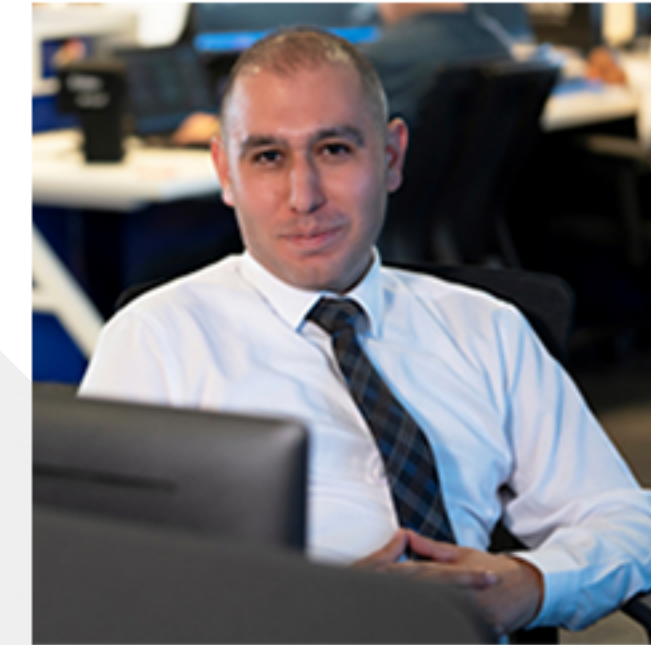
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About Us

Milestones

Fineksus was founded in Istanbul, Turkey in 2002 as a software and professional service provider to deliver technical consultancy, outsourcing services, standalone / SaaS AML and payment software solutions for banks, brokers and corporations. In the beginning of 2013, Fineksus started managing its ongoing GCC Region operations at its new office in Dubai, UAE.

Fineksus is the market leader of compliance and financial messaging solutions in Turkey by providing its products and services for more than 95% of the banking industry, and aims to expand its offerings global wide which makes the company at the forefront for providing AML solutions and financial messaging tools.

PayGate™ Financial Messaging Suite

Fineksus offers a wide range of software products by facility management and data processing services for both local and global payment systems especially for SWIFT. PayGate™ financial messaging tools are suitable for all the needs of your messaging services by integrating a secure and effective system.

- o PayGate™ Maestro
- o PayGate™ Search
- o PayGate™ Reconciliation
- o PayGate™ Analytics
- o PayGate™ Message SDK
- o PayGate™ Converter

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