

Whitepaper

ISO 20022 and Payments Big Data

**An Analysis of the
Payments Industry,
July 2023**

By Fiorano and Tech Mahindra





Abstract

Payments has emerged as the next battle ground for financial services dominance. Customer acquisition and retention, and payments big data capabilities, enabled by ISO 20022 will help set the leaders apart.

As we write this, in July 2023, ISO 20022 is actually live.

The industry just passed the first main ISO 20022 milestone with SWIFT's co-existence period for CBPR+ / MX messages starting on March 20th 2023. But what does this actually mean for banks and financial institutions? With MX messages now live on the Swift network and many banks actually being able to receive ISO 20022 messages, does this mean the real work is over and the industry can move onto other projects?

In this paper, Tech Mahindra and Fiorano take a look at why the migration is happening, what will change between now and November 2025 when the SWIFT co-existence period ends, domestic / market infrastructure considerations, and options for banks looking to migrate to data-rich, full ISO 20022 / MX messages. For ease of consumption, we have grouped the information presented here into Incoming MX and Outgoing MX categories as many financial institutions are looking at ISO 20022 migrations from these points of view.

Key Takeaways

- Migrating to ISO 20022
- Basic Migration Requirements
- Beyond the Basics. Competitive differentiation
- Implementation Roadmap
- Assuring A Road to ISO 20022 Compliance



Migrating to ISO 20022. What Does it Really Mean?

ISO 20022 introduces a new and complex data language which needs to be learnt by financial institutions and managed in their channels and enterprise systems - systems which for decades have been used to the relative simplicity of MT / FIN messages.

ISO 20022 introduces new fields, new data elements, new field names, structured data, and more characters.

An Overview of the ISO Deadlines: November 2022 | March 2023 | November 2025

In most cases, ISO 20022 deadlines from Swift for CBPR+ are viewed as:

March 2023:

- CBPR+ go-live, for incoming ISO 20022 messages:
- Most Financial Institutions (FIs) are not mandated to publish / send payments files as MX / ISO 20022, however will start receiving MX messages with some structured elements.
- They need to be able to accept and process ISO 20022 / multi-format messages.
- While the format has changed and incoming messages are structured, in many cases MX messages will start with very basic and mandatory data sets, without leveraging the structured benefits and potential of ISO 20022.

November 2025:

- Swifts co-existence period ends
- Support for legacy MT series 1.x, 2.x and 9.x messages will end.
- Banks and FIs need to mandatorily switch over to full ISO 20022 messages.
- Which means processing incoming and outgoing MX.

Between March 2023 and November 2025, we can expect to see increasing data fields being introduced into ISO 20022 messages on Cross Border SWIFT and domestic networks, leveraging additional data field capabilities and value.

The New World of MX

Figure 1: An ISO 20022 pacs.008 file

```
{1:F01MIDLGB22XXXX}{2:I103CHASUS33XXXXN}
{3:{121:12ab499f-215c-49a1-1fba-52db6c5b7f30}}
{4:
:20:Salary-06
:13C:/CLSTIME/1334+0200
:23B:CRED
:32A:20220511USD65000,
:33B:EUR61813,
:36:0,95
:50K:/FR120613112481TUFJSJJVJF99
NE
86 Victoria Circle
FR/France
:52A:ADIBUS33XXX
:53A:BBMEAEAD
:54A:LOYDGB2L
:55A:DEUTGB2L
:56A:DEUTGB2L
:57A:BKKBUS33XXX
:59F:/MD58BUOGEAP9XRAGX7MGLYKA
1/Jeena Davis d/o Samson davis
3/FR/London
:70:/ULTB/Don Joseph///ULTD/June Salary/
//PURP/K90///ROC/Jeena-davis///san/+
:71A:BEN
:71F:USD10,
:71F:USD11,2
:72:/INS/CHASUS33
-}
```

Banking systems are still mapped to legacy MT formats.

```
<CdtTrfTxInf>
  <PmtId>
    <InstrId>pacs8bizmsgidr01</InstrId>
    <EndToEndId>pacs008EndToEndId-001</EndToEndId>
    <UETR>8a562c67-ca16-48ba-b074-65581be6f001</UETR>
  </PmtId>
  <IntrBkSttlmAmt Ccy="EUR">15000000</IntrBkSttlmAmt>
  <IntrBkSttlmDt>2021-04-09</IntrBkSttlmDt>
  <ChrgBr>DEBT</ChrgBr>
  <InstgAgt>
    <FinInstnId>
      <BICFI>RBOSGB2LXXX</BICFI>
    </FinInstnId>
  </InstgAgt>
  <InstdAgt>
    <FinInstnId>
      <BICFI>ABNANL2AXXX</BICFI>
    </FinInstnId>
  </InstdAgt>
  <Dbtr>
    <Nm>Large Company</Nm>
    <PstlAdr>
      <StrtNm>High Street</StrtNm>
      <TwnNm>Epping</TwnNm>
      <Ctry>GB</Ctry>
    </PstlAdr>
  </Dbtr>
  <DbtrAgt>
```

Figure 2: Representative MT 103 equivalent of pacs.008

As is clearly evident, MT and MX files are worlds apart, with almost no similarity between them. Additional (beyond like-for-like) fields in MX messages introduce a number of data management complexities for FIs adopting ISO 20022, with impact reaching multiple departments, and requiring an approach that is beyond a standard compliance project.



Basic Migration Requirements

Bank systems, which from the 90's have been used, stabilized and tested on MT or MT-type payments messages, will need to be able to accept MX messages, along with their corresponding new / additional data fields and characters.

Banks need to also be able to store and manage the additional MX data fields entering their systems, once incoming full MX files start arriving.

The industry has also acknowledged that the originally planned model of adding a '+' mark to denote the point of data truncation in every truncated MX data field, will not serve many operational purposes, including regulatory reporting on structured, enhanced MX data, and functions such as sanctions screening.

Beyond the basics. Competitive Differentiation

In addition to improving cross-border payments harmonisation, the most important reason the ISO 20022 messaging standard is being adopted en-masse by SWIFT, Central Banks and Market Infrastructures globally is for the value in ISO 20022 data - all the additional mandatory and optional fields in MX messages that were hitherto unavailable to FIs in legacy MT / MT-type messages.

ISO 20022 has the potential to deliver internal harmonisation and operational process improvements within a Financial Institution, complementing external harmonisation brought about on Cross Border and domestic networks.

For FIs with an eye on growth and market leadership, ISO 20022 will deliver a once-in-a-lifetime opportunity to bring the power of big data and deep intelligence to the financial services world.



An Architectural Reference Model.

While core upgrades are always an option, in many cases these may be considered an overkill for ISO 20022 migration compliance. Translators such as the Fiorano ISO 20022 Accelerator (view listing under the SWIFT ISO 20022 programme [here](#), and SWIFT case study [here](#)) have gained prominence as an acceptable model to deliver fast compliance, in a non-disruptive manner, sitting in between new, external ISO 20022 networks and existing bank MT / proprietary systems.

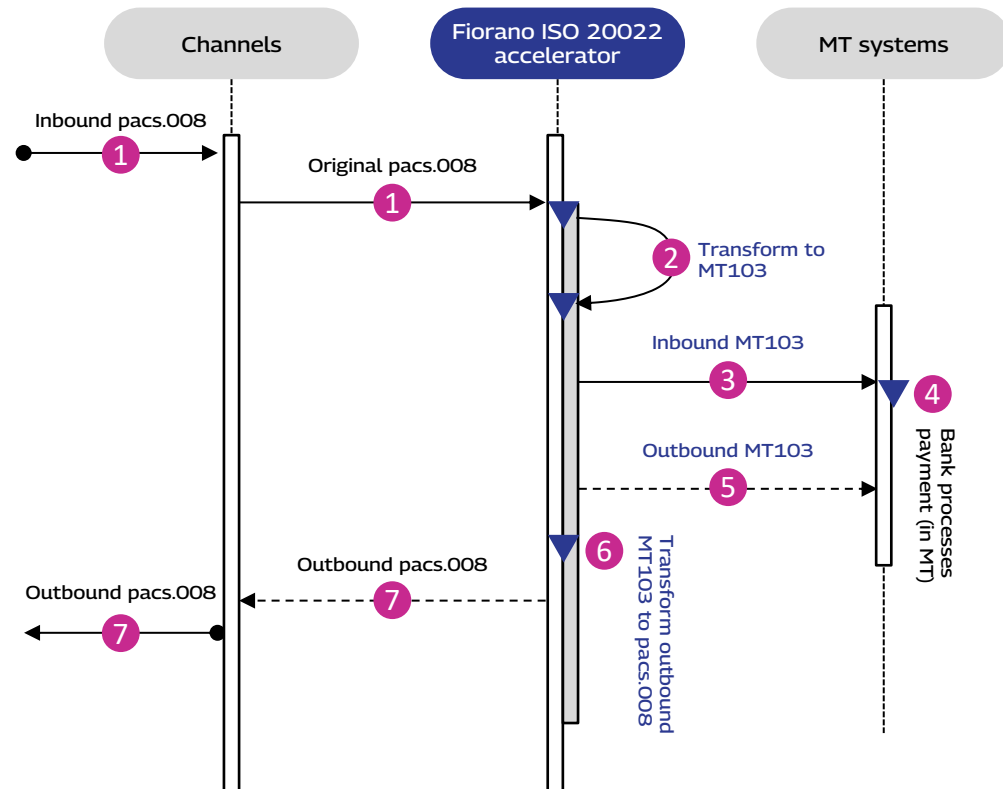


Diagram 1. Incoming MX to MT translation management in Fiorano ISO 20022 Accelerator (FIA)

While this model works well for incoming MX messages, with Fiorano translating in real-time to MX, as per SWIFT and domestic scheme rulebooks, now the incoming deadline is past, banks are looking at the more complex question. I.e. How do we publish structured MX messages with full MX data sets, especially when the additional data required is not available in MT systems.

Is Core System Upgrade, Which is Disruptive, High-Risk and Expensive the Only Option?

Fortunately not, Fiorano ISO 20022 Accelerator (FIA) delivers pre-built MX to MT and MT to MX translations, which means unlike other translators in the market, FIA can also be leveraged to publish structured outgoing MX messages, leaving your core systems intact, and not forcing an upgrade just to meet ISO 20022 publishing requirements.

The following diagram shows how FIA can be used to step-up and inject essential structured and standardised address data along with Swift ref. Data into outgoing MT / MX messages, allowing adopting organisations to migrate to full and rich, outgoing ISO 20022 messages without forcing core upgrades.

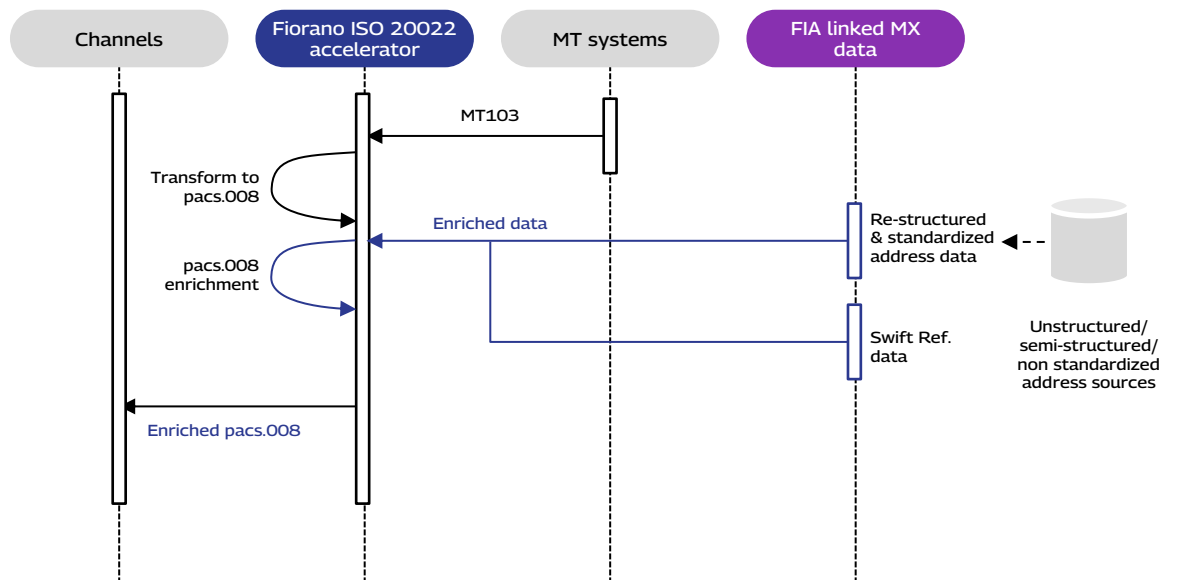


Diagram 2. Outgoing MT to MX step-up and data enrichment.

Some Intermediary Measures

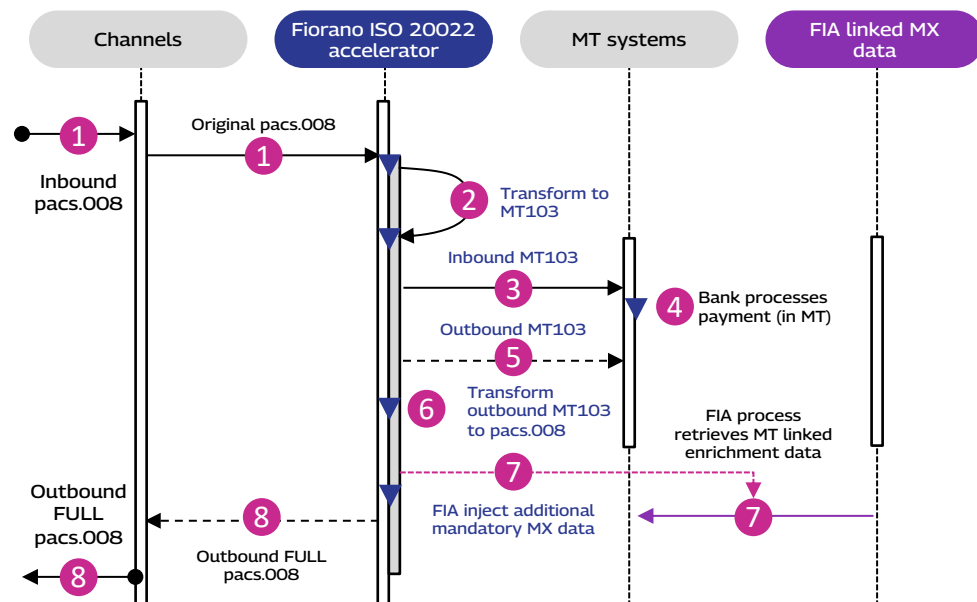


Diagram 3. Data glue-back, using data from incoming MX messages.

Some of the banks, as an interim measure, enrich a copy of outgoing MT103 (before it is translated into MX) with the data from the incoming transaction or sources within the bank's systems to leverage the best of both worlds for back office processes and reconciliation.



Implementation Roadmap

Every customer comes with their own systems - in different sizes and shapes. More often than not, we see the systems ranging from straight jacket product / payment hub implementations, extremely customized environments to bespoke developed solutions for payments processing.

Tech Mahindra has the expertise to study the impacts to the change to receive, process payments, data that goes into satellite systems and the back-office applications. We have a tried and tested roadmap for implementation:





The Road to ISO 20022 Compliance

Technology accelerators

While translators offer fast compliance, it is important to note that all translators are not the same. FIA offers a number of unique, essential features and capabilities that set it aside from normal translators and allow fast support of multiple complex use-cases which are normally outside the scope of standard translators, including from SWIFT.

This capability covers both incoming and outgoing MX support, for MT systems.

Domain expertise

The implementation needs a team that has very strong background of dealing with various product suites, bespoke build technologies on which the solutions of the bank are built to ensure that the implementation, right from the assessment phase goes to plan. Both Tech Mahindra and Fiorano have a proven track record in Payments for the past two and half decades, with a presence globally that can be made available to ensure smooth delivery of the compliance requirements and beyond.

Track Record

- ISO 20022 migration for customers across various instal bases of established products like FIS OPF, IBM FTM etc.,
- Migration of global cross border payments for a large Asian banking major
- ISO standardization of the cash management, treasury, payments, loans, private equity fund administration, trade finance for a global development bank
- ISO 20022 migration for a retail remittances platform (Rupee in and FX out) for a large Indian bank

About the Authors



S Rajesh

Global Practice Head - Payments, Tech Mahindra

Rajesh has 23+ years of diverse experience focusing on consulting and advisory in the Payments and Digital space. Rajesh has helped in building strategies for turnkey programs for large global client engagements. He drives the Payments, Corporate Banking and Digital strategy for BFSI vertical at Tech Mahindra and responsible for building client advisory, Product CoEs, strategy around disruptive technologies and Fintech ecosystem within the portfolio.

subramanian.rajesh@techmahindra.com



Biju Suresh Babu

Managing Director, Banking and Financial Services, Fiorano

Biju heads the Banking and Financial Services vertical at Fiorano, and is responsible for industry engagement, BFSI product strategy and partner strategy. Based in London, Biju specializes in Open Banking, Core modernization (hybrid cloud, banking microservices, OpenShift), BaaS and Embedded Finance.

He is also an author, thought leader and regular speaker at industry events, globally, and part of several industry groups pushing the agenda for modular, composable banking.

ns.biju@fiorano.com

TECH
mahindra



Copyright © Tech Mahindra 2023. All Rights Reserved.

Disclaimer: Brand names, logos and trademarks used herein remain the property of their respective owners.



Brand Finance®
Awards

TOP 10
STRONGEST
IT SERVICES BRAND



Brand Finance®
Awards

FASTEST-GROWING
IT SERVICES BRAND
IN BRAND VALUE RANK