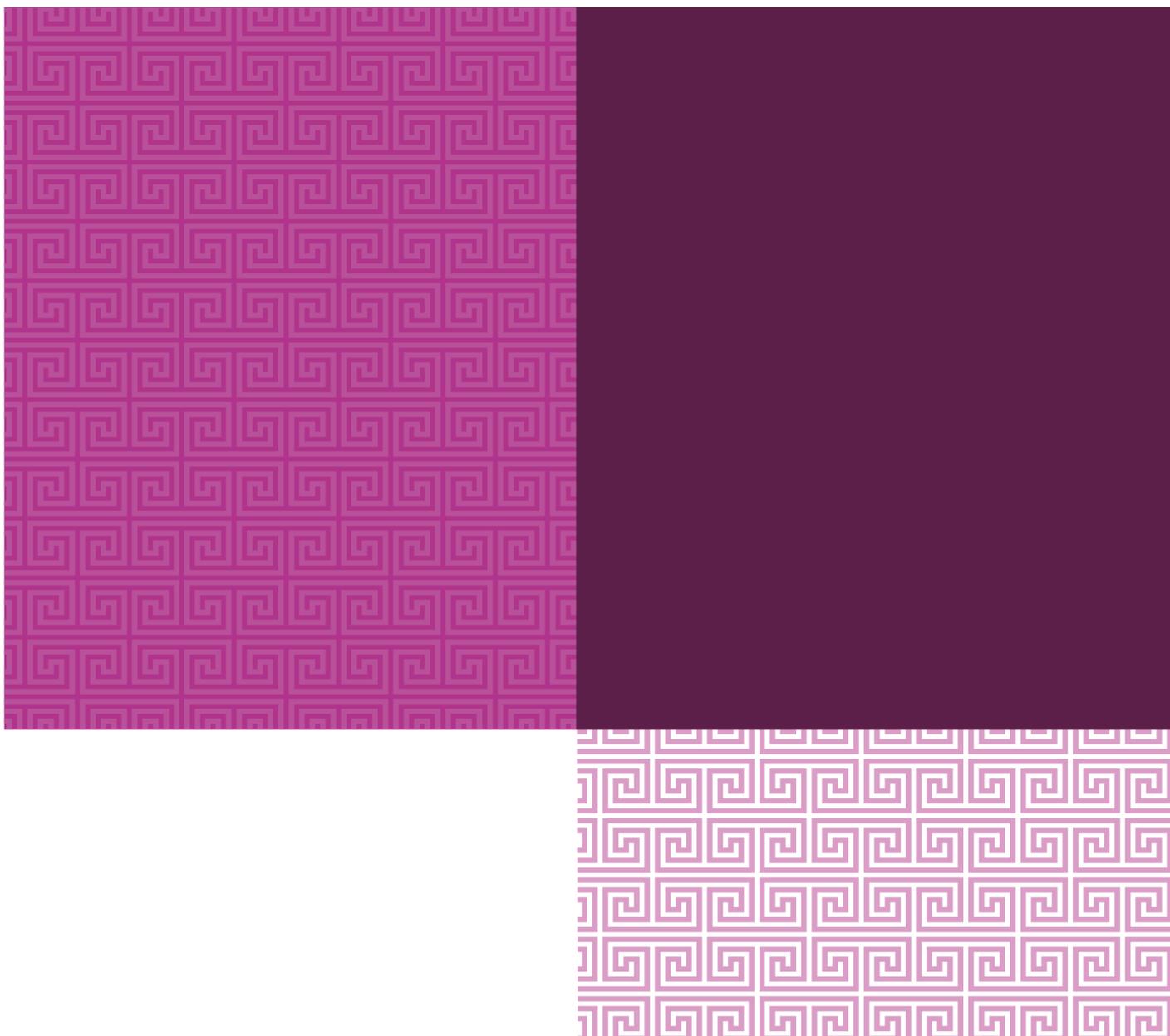




CHAPS & RTGS ISO 20022 migration: revised approach and final schemas

Published October 2020

Updated September 2021: Section 4 has been annotated in red to reflect the up-to-date position on ISO 20022 statements for CHAPS Direct Participants and funding payments for reserve and settlement accounts.



This document supersedes all of the following previously published Bank of England ISO 20022 documents:

- ISO 20022 consultation paper: a global standard to modernise UK payments (June 2018)
- ISO 20022 consultation response paper: a global standard to modernise UK payments (November 2018)
- CHAPS ISO 20022 migration: Draft “like-for-like” schemas review (August 2019)
- CHAPS ISO 20022 migration: implementation update (September 2019)
- ISO 20022 CHAPS migration: information for Direct Participants (December 2019)
- Information for RTGS account holders on transitioning to ISO 20022 messaging’ (December 2019)
- Bank of England CHAPS Enhanced ISO 20022 Messages: Industry Review (July 2020)

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Foreword

In May 2017, the Bank of England (“the Bank”) announced its [vision for a renewed RTGS service](#) to enhance resilience and promote innovation. At the heart of the Renewal Programme is ISO 20022 messaging. We have regularly engaged and consulted with industry stakeholders, including CHAPS Direct Participants, to develop a migration approach that would help realise the significant long term benefits of ISO 20022 messaging for the UK. This vision has matured over time, benefiting from more detail, broader engagement and international alignment. ISO 20022 will help underpin the Programme’s objectives of higher resilience, broader access, wider interoperability, better user functionality and improved end-to-end risk management in the renewed RTGS system.

During 2020 our engagement focussed on finalising development of the ISO 20022 messages. The Bank issued its final Industry Review of the schemas and supporting documentation in July 2020. We received 21 responses providing detailed and focused feedback. Following this, we are now pleased to publish the Bank’s updated and final like-for-like and enhanced ISO 20022 schemas and Technical Guidance for implementation in CHAPS and for reserves account and settlement services. We are also grateful to those who provided responses on the CHAPS policy objectives, such as the use of LEI and Purpose Codes; we will issue a separate update on these by year-end.

Once the benefits of ISO 20022 begin to bed-in, and in order to keep pace with the rapidly innovating payments industry, the Bank recognises that the CHAPS message set and Technical Guidance will need to evolve. We expect that ongoing changes will be required to meet future end-user requirements and to maintain alignment with international best practice. We therefore set out in this document our initial change management framework, which will allow ISO 20022 users to submit Change Requests to the CHAPS ISO 20022 messages.

Another important focus has been planning how best to respond to a number of other key infrastructures changing their ISO 20022 migration timetables, including SWIFT and the ECB. Following their statements, the Bank undertook an intensive period of discussion with CHAPS Direct Participants to understand how these events would impact the Bank’s own migration plans. The clear message from industry was that our timelines needed to change. The Bank recently announced a revised migration approach and timeline for both the ISO 20022 migration and the new RTGS core ledger. Further detail on the Bank’s revised ISO 20022 migration timeline and approach are included here.

We continue to align and collaborate with Pay.UK on their development of the New Payments Architecture (NPA) for UK retail payments. This builds on the joint development of UK’s pacs.008 Common Credit Message (CCM), which forms the cornerstone of the Bank’s enhanced ISO 20022 schemas. Throughout this year we have also continued to work closely and align with other operators and with international market practice wherever possible. Additionally, we have directly supported the G20 initiative to enhance cross-border payments by encouraging the harmonised implementation of ISO 20022 globally. All of this work continues to drive the benefits of interoperability and promotes common international best practice across operators delivering ISO 20022 enhancements.

As ever, we are grateful for the ongoing engagement from CHAPS Direct Participants and the wider payments industry. We recognise that this engagement has come at a time of uncertainty and significant change. We will continue to enjoy proactive discussions as the ISO 20022 vision develops and matures in the future.



Victoria Cleland, Executive Director for Banking, Payments and Innovation

Document Overview

This document forms a new baseline document for all of the Bank's ISO 20022-related documentation and should be used as a handbook for CHAPS Direct Participants, reserves and settlement account holders, and related stakeholders and technology providers.

Section 1 provides detail on the Bank's revised ISO 20022 migration approach (as announced earlier in October 2020), including an updated timeline and further detail on how the ISO 20022 schemas will be implemented in CHAPS and RTGS. We acknowledge that the Bank's review of its approach over the past few months, in response to CHAPS Direct Participant concerns about the impact from changes to other Financial Market Infrastructures' (FMI) migration timelines, has created a period of uncertainty. **The Bank's revised approach is final and is intended to provide stability to the industry's migration to ISO 20022, and to the Bank's new core ledger.**

Section 2 provides an overview of publications and how to find them – including the new ISO 20022 schemas. It also details the feedback we have received and incorporated into the schemas from Section I of the July 2020 Industry Review.

Sections 3 and 4 provide further, more technical detail, for CHAPS and reserves and settlement account Holders.

Section 5 provides the Bank's initial ISO 20022 Change Management Framework. It explains how changes to the ISO 20022 schema documentation will occur from now onwards – in particular any urgent changes required between now and the end of Phase 3, and how users can submit Change Requests if necessary.

Section 6 provides a high-level update on industry readiness and testing, especially focusing on CHAPS Direct Participants.

What do CHAPS Direct Participants need to know?

CHAPS Direct Participants will need to understand and take note of all of this document. In particular, they will need to fully understand the detail in sections 1 – 6.

What do reserves account and settlement account Holders need to know?

Reserves account holders and settlement account holders will need to have an awareness of the contents of this document. In particular, they will need to fully understand sections 1, 4 and 5.

What do CHAPS indirect participants need to know?

CHAPS indirect participants are advised to speak with their CHAPS Direct Participant about how the migration to ISO 20022 will impact them. This document will help inform their understanding of the Bank's approach.

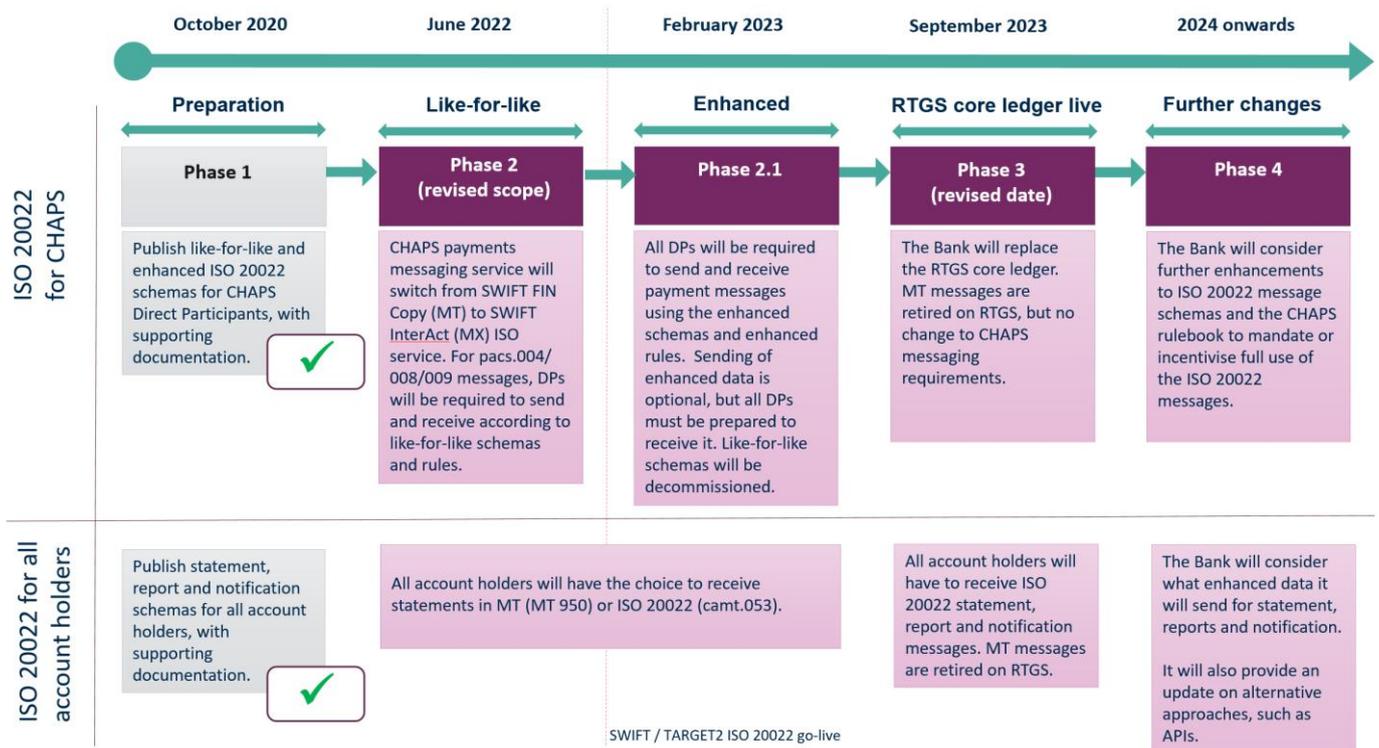
The Bank will summarise feedback to Section II of the July Industry Review and provide a further update on its policy objectives, such as the use of Purpose Codes, LEIs and structured data, in a Policy Statement later in 2020. These are not covered in this document.

If you have any questions relating to this publication, or the Bank of England RTGS Renewal ISO 20022 migration, please either refer to the Bank's [ISO 20022 webpage](#) and [Technical Resources webpage](#) or contact RTGSreadiness@bankofengland.co.uk.

Section 1 – The Bank’s revised ISO 2022 migration approach

As stated in the Foreword, the Bank has revised its migration approach and timelines for adopting ISO 2022 messaging within CHAPS and RTGS. This has been in response to external events and the concerns raised to us during recent intensive dialogue with industry. The revised approach most significantly affects CHAPS Direct Participants, but it also impacts reserves account holders and settlement account holders, as the cutover date to the new RTGS core ledger has also changed.

The migration approach consists of the below phases¹.



From Phase 2 (TS2), June 2022:

- CHAPS payments messaging will **switch** from the SWIFT **FIN Copy service (MT)** to the SWIFT **InterAct Copy service (MX/ISO)**
- **All CHAPS Direct Participants** will be **required to send and receive like-for-like ISO 2022 payment messages** (pacs.008, pacs.009 (CORE and COV) and pacs.004) **using the like-for-like schemas and the like-for-like formal rules**. Enhanced data and rules will not be permitted and messages containing enhanced data during Phase 2 will be rejected.
- **All other CHAPS-related** payments and administration messages exchanged with RTGS will also **switch from MT messages to their ISO 2022 equivalents**.
- **However, all reserves and settlement account holders** will have the **choice** as to whether they receive account statement messages in **MT (MT 950) or ISO 2022 (camt.053)** format. More detail on this is provided in Section 4.

¹ This timeline is based on current planning. It should be considered **indicative only**. Throughout this period the Bank will issue further guidance to industry on ISO 2022 implementation.

- The Bank is aware that after November 2022 i.e. once the SWIFT correspondent banking network switches to ISO 20022 (i.e. CBPR+), but prior to February 2023, CHAPS Direct Participants will need to truncate any enhanced data from correspondent banking messages prior to sending via CHAPS. The Bank has discussed this issue with SWIFT, who has advised that CHAPS payment recipients will be able to use its new Transaction Management Platform (TMP) to retrieve any data truncated from the original CBPR+ message prior to its transmission in CHAPS. Further information on how this facility will work will be provided in due course.

From Phase 2.1 (TS2.1), February 2023²:

- **All CHAPS Direct Participants will be required: (I) to receive enhanced ISO 20022 messages** (e.g. the enhanced data fields and new rules), and **(II) to use the enhanced schemas and rules** for sending ISO 20022 messages; those messages must **contain like-for-like data at a minimum** (see below). Direct Participants will be able, and are **encouraged to send enhanced data within ISO 20022 messages, but will not be mandated to do so at this point**. The like-for-like schemas and like-for-like rules will be decommissioned.
- **The enhanced schemas published alongside this document are “final”** in the sense that they will remain in place until such point that the Bank proposes and/or announces any changes under the new Change Management Framework, as set out in Section 5. **Unless** the Bank is made aware of an **error**, or the **international schemas to which CHAPS messages are aligned change** significantly – we do **not expect any changes to be made during Phase 2 or Phase 3**.

Phase 2 and Phase 2.1: Forward compatibility of schemas and rules

The **like-for-like** schemas and rules for all CHAPS payment messages are **fully forward compatible** with the **enhanced** schemas and rules.

This means that Direct Participants can continue to send the same messages (data and rules) in Phase 2.1 (however using the enhanced schemas and rules) that were sent under Phase 2 (which used the like-for-like schemas and rules). There are no mandatory fields in enhanced that do not exist or would block the message in like-for-like, and all fields within enhanced are less restrictive than in like-for-like.

For example, a field in the like-for-like schemas may have a field rule that restricts it to 140 characters, but that same field in the enhanced schemas may have a rule that restricts it to 280 characters. Therefore, the like-for-like use of that field will “fit” into the enhanced use of that field.

From Phase 3 (TS3), September 2023:

- **The Bank will introduce the new RTGS service core ledger and settlement engine**. This is approximately six months later than previously planned. CHAPS payment messages continue as in Phase 2.1, however account statement messages will switch to ISO 20022 (camt.053 messages). **All reserves and settlement account**

² In the instance that SWIFT has not gone live with ISO 20022 or its Transaction Management Platform, the Bank will consider delaying Phase 2.1. We currently anticipate that Phase 2.1 will need an “air gap” after SWIFT go-live, to mitigate against the risk of congesting industry’s delivery timetable.

holders will need to have made the switch from MT to ISO 20022 prior to Phase 3. Further details can be found in Section 4.

During Phase 4:

- **At a point no earlier than 2024**, the Bank will **require the use of ISO 20022 enhanced data in CHAPS payment messages**. This is likely to include **mandating the use of structured data** for certain fields, and mandating the use of LEIs and Purpose Codes for specific payment use cases. The Bank will provide further information on how it **will actively incentivise and / or further encourage CHAPS Direct Participants to use enhanced data from Phase 4 onwards in a separate publication due later in 2020**.
- **The Bank will introduce more data in its statement messages**. In due course, we will also provide further detail of new, innovative ways that reserves and settlement account holders can access their data (such as through APIs).
- The Bank may need to **make changes to the ISO 20022 schemas and / or rules** to reflect changes and enhancements to the revised RTGS services. In particular **changes to effect the move to a Message Network Agnostic Design** for the new service, and **additional messages** to support the proposed new 'synchronisation' service.

Collaboration with other Payment System Operators and Financial Market Infrastructures

The Bank continues to work with other Payments System Operators and FMIs to help better achieve our common objectives of supporting easier access to and wider interoperability between our payments systems. These in turn will help foster greater resilience, efficiency, innovation and competition in payments.

The Bank is committed to ensuring that the timeline for CHAPS migration remains co-ordinated with other FMIs' ISO 20022 migrations. We have purposefully set the Phase 2 and Phase 2.1 implementation dates to avoid the SWIFT correspondent banking and ECB TARGET2 ISO 20022 transition at end-2022, and will also seek to avoid exact go-live dates with those of other FMIs. This helps reduce both project resourcing challenges for payment service providers, and the technical and legal challenges surrounding go-live dates.

We have also coordinated the technical design of our ISO 20022 messages and technical / market guidance. This has included international collaboration with other PSOs in market practice committees such as the CBPR+ and HVPS+. **Pay.UK and the Bank have also continued to work together** on our plans to adopt ISO 20022 for the UK market. This includes sharing resource and expertise on the design of the schemas, and **aligning the use of fields throughout the message types** used by both schemes, **including the pacs.008 Common Credit Message**, which forms the cornerstone of our collaboration. This means that work to date has underpinned a common UK approach, where appropriate to do so. We look forward to continuing these engagements and dialogue as ISO 20022 matures.

Section 2 – ISO 2022 Schemas and Technical Guidance Publications

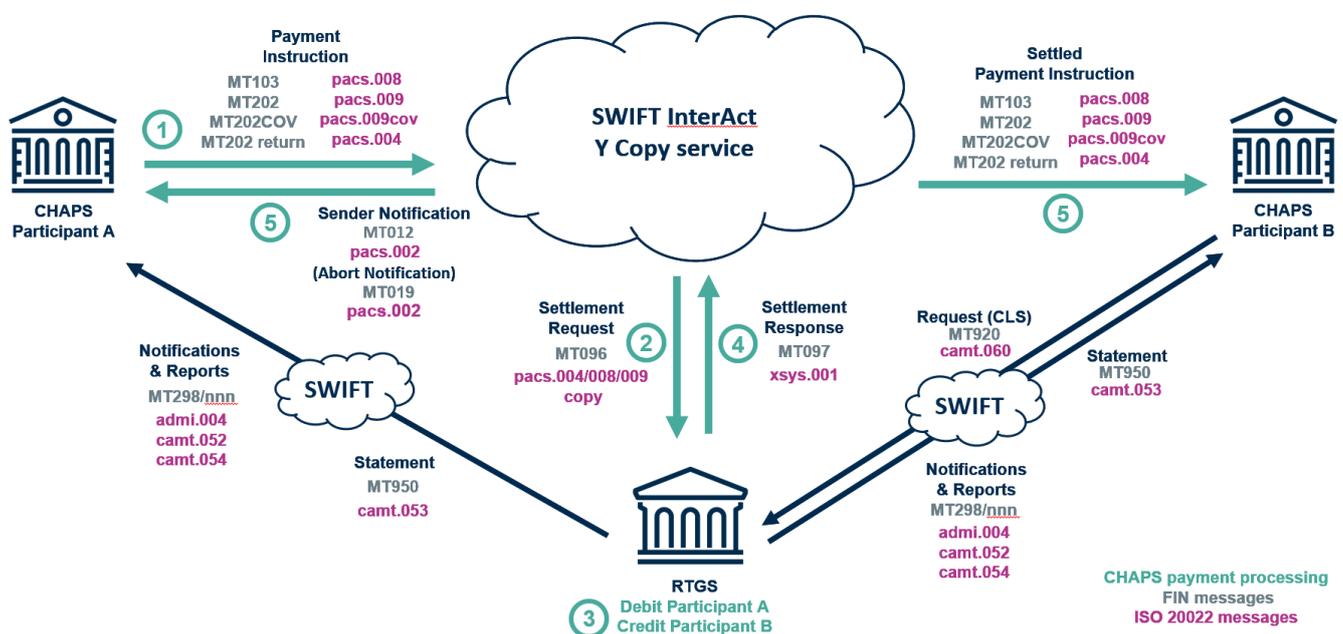
The Bank has published on MyStandards³ both the like-for-like and enhanced ISO 2022 schemas for the CHAPS and reserves account / settlement account services, with accompanying Technical Guidance.

It is important to note that we have made some revisions to the like-for-like schemas previously published in December 2019. In an effort to ensure we are aligned and as up-to-date as possible, we have made revisions to both the like-for-like schemas and the enhanced schemas to incorporate feedback received through our Industry Review. We have also updated schemas to align with the latest international market practice. Furthermore, we have made some small changes to the like-for-like schemas to ensure forward compatibility between the like-for-like and enhanced schemas. **These are the schemas that CHAPS Direct Participants and reserves and settlement account holders should implement and develop against, in line with the revised ISO 2022 approach and timelines as set out in this Section and Sections 1.**

For the avoidance of confusion, **enhanced versions will only exist for the pacs.004, pacs.008, and pacs.009 payment messages, plus the camt.053 statement messages. All other messages will not change** from the like-for-like throughout Phase 2 and 3. See [Annex C](#) for a full list of the messages.

Further details of the feedback and changes made, including a link to the Change Log, can be found in [Annex A](#).

Key CHAPS messages across SWIFT



The Bank can confirm that xsys messages (excluding the xsys.001 message, which DPs do not see) are now replaced by the ISO 2022 pacs.002 message. The pacs.002 message is being developed by SWIFT and is the only message type generated within the SWIFT InterAct Y Copy service and sent to Direct Participants. Though it is not included in

³ The schemas and associated documentation are available on MyStandards. MyStandards is a global repository for standards operated by SWIFT. Users must first register for a free account with SWIFT and then request to join the [Bank of England's ISO 2022 community](#). MyStandards can be found on the [SWIFT website](#).

this publication, we are engaging with SWIFT on the progress of its development and will update industry in due course.

In addition, the Bank has been developing error codes and descriptions to be used alongside the schemas and support implementation. We intend for these to align with the ECB and will provide an update on these in due course.

Standards Source Publication

The Bank intends to publish the schemas on Standards Source in due course, to further support stakeholders and provide a direct comparison with Pay.UK's NPA schemas. Standards Source is an alternative tool, which is used by the UK's retail payment systems operator. As noted with other publications, **MyStandards is the Bank's authoritative "golden copy" of the schemas**, and as such participants should always refer to the MyStandards version to implement and develop their schemas.

Related to this, in 2021 the Bank and Pay.UK intend to publish analysis on how each payment system (CHAPS and NPA) has implemented the CCM – highlighting where any differences lie, and explaining why such differences are necessary.

Section 3 – Further detail for CHAPS Direct Participants

This section provides further detail on the Bank's migration approach. It is directed specifically at CHAPS Direct Participants, but may also be relevant for indirect participants, technology vendors, and other stakeholders.

Working with customers

Throughout transition, CHAPS Direct Participants will need to work closely with their customers, including indirect participants, to ensure that their customers fully understand how payment submission and reception channels will change, including the message formats and payments information which will be required/used. Where Direct Participants accept CHAPS-format ISO 2022 payment messages from indirect participants, the Bank is willing to provide access to relevant ISO 2022 message testing tools. However indirect participants and/or their technology vendors must seek access via their relevant (i.e. agency / client) Direct Participant.

It is the responsibility of CHAPS Direct Participants to support the part of the CHAPS payment chain which they sponsor, so that it will be ready in time for ISO 2022 migration.

Approach for return messages during Phase 2

The Bank is introducing one **new message from Phase 2** which does not have an MT equivalent: the **pacs.004 return message**. This will replace the existing practice of returning payments via MT 202 messages. We are aware that there is demand for a specific return message in CHAPS, and the Bank believes early introduction of this will have two main benefits:

- (i) bringing CHAPS in line with TARGET2 and SWIFT CBPR+ traffic at the earliest opportunity; and
- (ii) preventing market practice building up around use of the pacs.009 (MT 202 equivalent) for returning transactions.

The like-for-like pacs.004 schema maps to the MT 202 specified in the CHAPS documentation to use for returns. This follows SWIFT guidelines. The like-for-like Technical Guidance (see Section 2) provides mappings between CHAPS MT 202 and the like-for-like pacs.004 and also mentions alternative methods for a return message during the like-for-like phase. For example, using the original pacs.008/009 payment details when forwarding down the payment chain, instead of mapping from MT.

The enhanced pacs.004 will be used from Phase 2.1. The Bank is working to ensure that the CHAPS implementation aligns with international practice, which is still ongoing. Further detail is provided in the Technical Guidance on MyStandards.

Migration of collateral-related messages

Collateral-related messages will migrate to ISO 2022 messaging at different times:

- The Euro liquidity bridge facility (where CHAPS Direct Participants can obtain intraday sterling liquidity using Euro cash as collateral) will move to ISO 2022 in November 2022 at the same time as TARGET2, using the standards set by TARGET2. These will follow TARGET2 specifications, and the Bank will issue more detailed information on how to format these payment instructions in due course.

- Any **securities messages** used by CHAPS DPs participants to manage other **collateral movements** (via the Bank's collateral management systems, which are separate to RTGS) will remain in the FIN MT format for the foreseeable future, although the Bank's long-term direction of travel is for these to move to ISO 20022 messages. This reflects the Bank's decision to prioritise migrating payments messages, given that MT messages for payments services will be retired by SWIFT by 2025.

Regulatory and legal consideration

The Bank's migration approach and the detailed ISO 20022 message schemas and rules have been designed with CHAPS Direct Participants' and other account holders' regulatory and legal needs in mind. However, the detailed schemas and rules do not provide guidance about how RTGS account holders should best meet their regulatory requirements, as this is a complex and often use-case specific area. Payment service providers need to ensure they meet all regulatory requirements and are encouraged to follow industry best practice when sending payments, and should refer to the statement previously issued by the FCA in the November 2019 ISO 20022 document, which is repeated below:

FCA Statement

"As firms migrate to new systems, the FCA remind PSPs (and Financial Institutions (FIs)) of their continued obligations under the Funds Transfer Regulation 2015 (2015/847), and their anti-money laundering (AML) requirements under the Money Laundering Regulations 2017. The FCA draws particular attention to obligations in respect of the information that must be transferred – including the Joint Guidelines under Article 25 of the Funds Transfer Regulation.

We also remind PSPs, of the [Wolfsberg principles that set out best practice](#) standards for the collection and transmission of information. The statement explicitly sets out that the standards should be used by parties working on the introduction of new payment methods and platforms to support enhancements in payments transparency. It also sets out that where the payment infrastructures do not provide for transmission of information relevant PSPs should retain the originator and beneficiary information and have processes in place to make such information available to other relevant parties in the payment chain on request. We consider that any information that can be used in the detection, prevention and disruption of financial crime, and in particular sanctions risk, will be of relevance.

The best practice statement goes on to make clear that "Financial institutions should not omit, delete or alter information in payment messages or orders for the purpose of avoiding detection of that information by any other financial institution in the payment process", and that "The Intermediary FI is responsible for: · passing on complete information that is received within payment messages to the next FI in the payment chain."

Agnostic message network structure (V-shape)

During Phases 2 (including 2.1) and 3 of the migration, the CHAPS service will continue to operate on a SWIFT Y copy service. Any change to the messaging network configuration, including to support agnostic message network structure (through delivery of a V-shape network), will not occur before Phase 4 of the programme. The adoption of V-shape messaging would require further changes to the schema and rules, such as fields to carry necessary security information.

It is not possible to co-time the move to the V-shape network configuration with the introduction of ISO 20022 messaging. To do so would delay the delivery of ISO 20022 messaging and delivery of the new RTGS core ledger, and therefore delay the realisation of many of the benefits. It would also create unacceptable delivery risk by changing to

new messages on a new network, changing the network configuration and introducing a new PKI security infrastructure all in one cutover. The Bank will consult on the impact of any change to the network configuration when the final design is better defined.

Section 4 – Further detail for all RTGS account holders

Update September 2021: Section 4 has been annotated to reflect the up-to-date position on ISO 2022 statements for CHAPS Direct Participants and funding payments for reserve and settlement accounts. Annotations are provided here for further reading, however if you have any questions on any topics covered in Section please contact RTGSReadiness@bankofengland.co.uk.

- **For more information regarding the choice of timing of migration to ISO 2022 statement message and notification messages for CHAPS Direct Participants** please see: <https://www.bankofengland.co.uk/payment-and-settlement/rtgs-renewal-programme/consultation-on-a-new-messaging-standard-for-uk-payments-iso20022/technical-resources-for-the-migration-to-iso-20022>
- **ISO 0022 messaging for reserves/settlement account funding**, please contact the Bank. We will now only accept a pacs.009 CORE message for funding your own reserves or settlement account from June 2022 (TS2).

This section provides further detail on the Bank's migration approach for all account holders, including those reserves and/or settlement account holders who are not Direct Participants in CHAPS. It may also be relevant for technology vendors, and other stakeholders.

Summary of requirements

- ~~If you receive a daily statement directly from RTGS~~, you will need to update your internal systems to be able to accept the new camt.053 message before September 2023.
- ~~If you receive a daily statement in another form via a service bureau~~ you will need to contact your provider to determine how you can ensure you continue to receive your statements. They will be aware of the changes we are making.
- ~~If you do not currently receive account statement information~~ on your reserves or settlement account, we encourage you to consider obtaining this, either as a camt.053 message or, once available, via an API to strengthen your reconciliation procedures.
- ~~When you fund your reserves or settlement account~~ you will need use **pacs.009 CORE** messages from Phase 3 onwards. ~~Pacs.008 messages (the ISO 20022 equivalent of MT 103) will not be accepted by the new core ledger.~~

Choice of MT or ISO 20022 statement message

The Bank will start to introduce ISO 20022 messaging for forms of communication with RTGS from 2022, as part of Phase 2. This will directly affect all RTGS account holders, including reserves account holders and settlement account holders.

For notifications and reports, and statement messages the approach will not change from our previous documentation, although the timeframes have shifted in line with our new migration approach. Therefore:

- During all of Phase 2 (June 2022) and most of Phase 2.1 (February 2023), account holders will have the **choice** of receiving their daily statement as a camt.053 ISO 20022 message, or continuing to receive an MT 950 message (although please see below). The choice applies at the individual account holder level; therefore different CHAPS Direct Participants belonging to the same banking group can each choose their own individual approaches.

- ~~Shortly before Phase 3 (September 2023), MT 950 messages will be retired and daily statements will only be sent out as a camt.053 message. We will migrate remaining account holders in a phased approach shortly before cutover—exact timings will be confirmed in due course.~~
- ~~During 2023/2024, we will be introducing additional account messaging functionality. You will be able to choose whether to additionally receive credit/debit advice message notifications (camt.054 messages) for individual credits and debits on your account during the day.~~

~~There is a 2,000 character limit in an MT 950 message, so account holders (particularly CHAPS Direct Participants) that undertake large numbers of transactions during the day are sent a series of MT 950 messages comprising a single statement. The camt.053 message is larger and can carry 100,000 characters (and therefore more transactions). However, during Phase 2 and Phase 2.1, the Bank will only be able to send camt.053 account statements with a maximum 2,000 characters per message (sending multiple messages if necessary). This reflects the fact that the existing RTGS core ledger still generates MT 950 messages. Therefore, the full size of the camt.053 message will not be utilised until the new ISO-native core ledger is in place in Phase 3 (2023).~~

~~If you are not ready to receive the camt.053 messages by the point the Bank retires MT 950 messages (shortly before September 2023), you may be able to build or buy a translator service to convert the camt.053 message into MT 950 messages for use in your internal systems.~~

~~Throughout the change process, you will continue to be able to view your account balances via the Enquiry Link user portal, and through the new user portal once the Renewed RTGS service is in place.~~

ISO 2022 messaging for reserves/settlement account funding

~~At present, due to a legacy issue which will no longer arise in the renewed RTGS service, the existing RTGS ledger can accept MT 103 messages from certain account holders for funding their accounts. That said, the vast majority of account holders already use the correct, MT 202 message for these transaction types.~~

~~From Phase 3, the Bank's new RTGS core ledger **will only accept a pacs.009 CORE message for funding of your own reserves or settlement account.** It will not accept pacs.008 messages from reserves or settlement account holders for funding of your account, as these messages types are not designed for the use of wholesale, FI to FI payments.~~

API messaging services

We are looking at **delivery of exposed APIs (Application Programming Interface)** to facilitate access to many of the services delivered under the renewed RTGS service. Delivery of APIs take place after the implementation of ISO 2022 messaging. We expect that the first APIs offered will focus on read access to transactional and liquidity data, with a later focus on other read APIs and then write APIs. This service will be introduced at a later date, after the implementation of ISO 2022 messaging (therefore it will not be possible to directly transition from MT 950 messages to APIs).

Section 5 – ISO 2022 Change Management Framework

The Bank's ISO 2022 schemas published alongside this document are final. The accompanying Technical Guidance documents are also final, although the Bank may add additional guidance⁴. This section details the initial Change Management Framework (CMF) that dictates the circumstances and process for changes to the ISO 2022 schemas between now and Phase 4, and then from Phase 4 onwards.

Versioning

The like-for-like and enhanced schemas published alongside this document are final, in the sense that they are the baseline for Phases 2 and 3 of the Renewal Programme. In this vein, these schemas are named as version 1.0.0. The Bank will adopt a formal versioning control and naming convention to these schemas going forward.

The first digit signifies a major change to the schema. For example, this would be any major structural changes (i.e. elements added / removed). The second digit would stand for changes related to other important updates, but without impact on the entire structure of the schemas. For example, this could include rules or annotations added or removed. The third digit would carry information about any cosmetic changes that appeared in the messages. For example, fixing a typo. Each change would mean the corresponding digit would increase by 1.

Initial change management framework: From October 2020 Publication to Phase 4

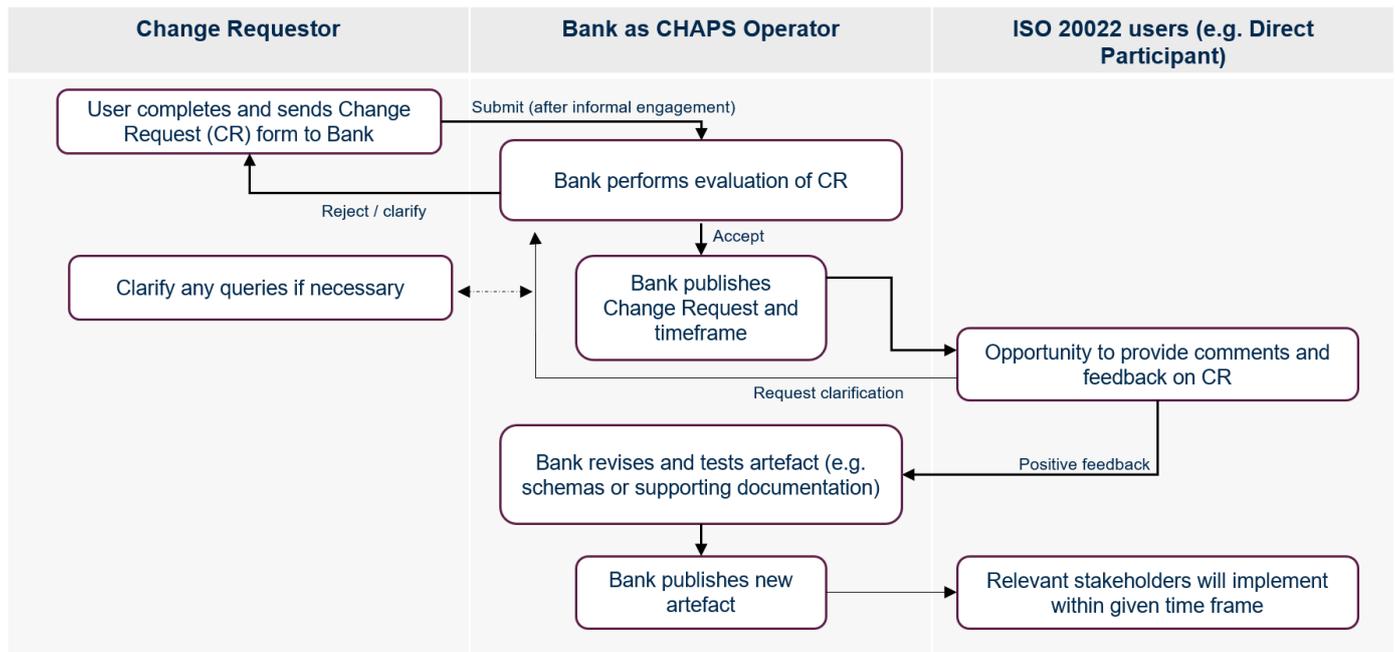
From now until at least 2024 (i.e. until and during Phases 2, 2.1, and 3) the Bank will only make changes to the schemas and Technical Guidance where such changes are critical. This is likely to be either:

- Where an error or ambiguity is evident *and* making an update to the documentation will provide a clear and significant benefit to users of the messages and/or the Bank;
- Where international guidance has changed and the Bank needs to align its documentation in order to avoid a tangible risk to participants, the Bank, and/or wider industry. For example, this could be a change to CBPR+ that if not aligned would cause truncation challenges for participants.

The Bank will not make any changes to the schemas or Technical Guidance for policy reasons or where an alternative approach can be found. The Bank is aware that CBPR+ and HVPS+ may still make changes between publication and the initial ISO 2022 go live from Phase 2. Efforts have been made to ensure this publication is up to date with international alignment; as further changes are made the Bank will decide on a case by case basis if additional revisions to the Bank's documentation are required.

Outline of the initial change management framework (overleaf):

⁴ Any changes where the Bank adds to the Technical Guidance (e.g. includes additional examples of messages) will be excluded from this CMF.



The above process sets out the initial Change Management Framework. Note that this process commits the Bank to being as transparent about the process as possible, ensuring that there is ample time to provide input or challenge and that the Bank will provide sufficient lead times towards implementation. The Bank expects that, where possible, it will parallel run both versions of the schemas to allow for a staggered cut over. For example, if a change is made post Phase 2.1 to schema version 1, the Bank will issue version 2 and will ask users to make the appropriate changes before a given date, when it will decommission version 1. The Bank would take a case by case view on the timeframes here. The Bank does not think dual running schemas will always be appropriate, especially across the phased implementation.

Change Requests may be made by any organisation that holds an account at the Bank and uses ISO 20022, for example Direct Participants or reserves or settlement account holders. Indirect participants and associated technology vendors should speak with the relevant account holder, for example their agency bank. The Bank asks for informal engagement prior to sending in a Change Request during this period, to ensure that we understand why the Change Request is regarded as critical. While the Bank will always fully consider all stakeholders view when reviewing a Change Request, the Bank reserves full discretion over which Change Requests are accepted or declined, the timelines for adoption / decommissioning of the older versions of the schema.

Further details, including how to submit a Change Request to the Bank and what is required, are contained in [Annex B](#). The Bank will provide a public record of this process on its website.

The change management framework: From Phase 4 onwards

From 2024-2025, changes to the schemas and Technical Guidance may be necessary to address:

- Errors or ambiguities in the schemas or Technical Guidance where it is determined that a change is required.
- Changes made to domestic or international market practice, such as HVPS+ or CBPR+; necessitating change to ensure ongoing alignment.
- End user requirements emerge or the Bank's policy position changes such that revisions to the schemas and / or Technical Guidance are required. For example, the Bank expects that it will eventually make the LEI and Purpose Codes fields "Mandatory" in the schemas.

There will also be an appropriate level of coordination with Pay.UK on any changes to ensure that alignment on process and change is managed.

The Bank plans to keep the number of changes to a minimum until late 2025 i.e. once the SWIFT MT/MX co-existence period will be complete and major high value payment systems and Pay.UK will have migrated to ISO 20022 messaging. The Bank and other High Value Payment System (HVPS) operators are therefore considering whether co-ordinated updates to the message versions can take place in late 2025. It is likely however, that a number of changes may be required before then to support functionality being delivered during Phase 4 of the RTGS Renewal Programme (i.e. 2024 onwards).

Beyond 2025, the Bank expects to **introduce a regular change management schedule for the ISO 20022 messaging used in CHAPS**. The Bank will publish further details on this closer to the time, in particular once it has had further discussions with other HVPS operators and Pay.UK. However, the Bank expects that it will work in a similar way to the annual change process currently used by SWIFT, and the process for requesting changes would work in a similar way to the 'initial change management process' outlined in [Annex B](#). One key difference is that depending on the urgency of the changes being introduced, where changes are not critical to maintain alignment / avoid truncation issues, we may allow participants to use either the latest or previous versions of the schemas for a certain period of time.

Section 6 – Participant and Readiness Testing Update

This section provides early information on the testing tools the Bank will provide to support the transition of CHAPS to ISO 2022 messaging, and how the Bank expects CHAPS Direct Participants to use these tools to support their preparations. It also provides indicative timelines for the availability for these tools to help Direct Participants outline and plan their own preparation.

MyStandards Readiness Portal

The SWIFT MyStandards Readiness Portal is currently available for users to begin validating their CHAPS payment messages against the published like-for-like and enhanced schemas. All CHAPS Direct Participants are expected to make use of the Readiness Portal to support their internal readiness for the CHAPS ISO 2022 migration. Indirect participants and software vendors supplying payment systems can also access the portal via a Direct Participant. The Bank will monitor Direct Participants' use of the Readiness Portal as part of our approach to assuring industry readiness for the migration (more information on how and when will be shared via the RTGS Renewal Testing Working Group in December 2020).

The Readiness Portal will validate CHAPS ISO 2022 test messages to ensure they comply with the schemas and that the format meets the mandatory requirements for a payment message to settle in RTGS. It will also enable Direct Participants to validate examples of the cash management and administration messages they will receive from RTGS, to enable them to prepare their systems to process them. It links with the SWIFT MyStandards schema documentation, not the Standards Source documentation.

An updated set of like-for-like use cases, alongside enhanced use cases, have been developed to support validation and will be shared with Direct Participants via email to the RTGS Renewal Testing Working Group. **The Bank expects Direct Participants to successfully complete the like-for-like use cases by May 2021 and enhanced use cases by February 2022**, including ensuring they can still submit valid like-for-like test messages against the enhanced schemas in the Portal. However, users are also encouraged to use the Readiness Portal in any way which supports the development of their CHAPS ISO 2022 messages.

The Readiness Portal will be available throughout the RTGS Renewal Programme. It will be updated to reflect any changes to the schemas going forward, to ensure they remain aligned. However, please note that as outlined in section 5, we will only make changes to the schemas where critical.

Participant Testing Simulator

The Bank has purchased a 'Commercial off the Shelf' (COTS) ISO 2022 test simulator solution. The Test Simulator will provide a more efficient testing regime for RTGS participants via a solution to exchange test messages with dummy banks, removing the reliance on other participants. The Test Simulator will be able to ingest and generate messages from bespoke schemas built on both industry standard ISO 2022 and pre-ISO 2022 standard messages known as SWIFT MT messages (including ISO 15022 messages). In addition, the Bank will also use the Test Simulator for its own internal testing.

The Test Simulator solution will be able to ingest and generate messages from a bespoke schemas implementation built on both industry standard ISO 2022 and pre-ISO 2022 standard messages known as SWIFT MT messages (including ISO 15022 messages).

The 'Bank of England Internal and Participant Testing' Simulator will have two purposes

- 'Bank of England Internal Simulator': used by the Bank and the Technology Delivery Partner (TDP) during development and user acceptance testing. It will enable message exchange via SWIFT or other external networks. The TDP will utilise this environment for performance testing and ultimately supporting the automated testing suite. This will be ready for February 2021.
- 'Participant Test Simulator': The second instance will be used for Direct Participants for 'self-service' message generation via SWIFT. There will be Direct Participant training of this tool conducted in summer 2021 ahead of Participant Testing at the beginning of 2021.

Based on responses from Direct Participants, the Programme team have concluded that a Sandbox solution will not be implemented due to difficulty in Cloud connectivity and overall Direct Participant readiness and need.

Participant Testing

Direct Participants must complete Participant Testing in an RTGS testing environment ahead of cutover to ISO 20022 messaging; using the full simulation tool will be one of the first stages of this testing. The Bank will issue a minimum set of test cases for each Direct Participant to complete ('Participant Acceptance Testing'), alongside their own testing plans which can use either a test simulator or a 'buddy' bank. Once Direct Participants have successfully completed this testing, there will be a wider, more structured test phase ('Group Testing') where they will test multi-laterally with each other, alongside DNS and CREST settlement testing.

Annex A: Feedback from the July 2020 Industry Review

The July 2020 Industry Review was the Bank's final external review of the ISO 20022 documentation. The objective of the Review was to get final feedback on the Bank's enhanced CHAPS ISO 20022 messages. Alongside the Review, we published the Bank's near-final ISO 20022 schemas and Technical Guidance. It followed on from a year of development on the schemas, including three days of workshops to review the documentation with a selected group of stakeholders.

The Bank received 21 responses, nearly all from Direct Participants, with one from an indirect participant. The majority of feedback was specific technical detail on the CHAPS enhanced payments pacs.008 and pacs.009 message schemas. For example, we found most feedback focused on minor inconsistencies with international market practice or made suggestions to the Business Application Header. A high level overview of some of the key themes and responses is provided below.

The Bank has reviewed all feedback and incorporated changes where possible. This has included changes to the like-for-like schemas. We have detailed changes in a Change Log, publish alongside the schemas in MyStandards (see Section 2).

| Name | Description of feedback and what we have changed |
|--|---|
| Enhanced Message Consistency | The Bank received commentary from participants that there were some cases of potential misalignment between the previously published like-for-like versions and the enhanced schemas. We have recognised these and made revisions to align the schemas where relevant. |
| Business Application Headers | The Bank specifically asked for views on how to proceed with Business Application Headers (BAHs). We received some requests to extend the content of the BAH and to include additional elements that are relevant for the Direct Participants. These changes have been made and can be found in the Change Log. |
| Consistency with International Market Practice | The Bank received some comments with examples where there was a lack of consistency in the CHAPS enhanced schemas with CBPR+ guidelines, where participants expected these to correlate. One is example is use of the Return Chain field. The Bank has reviewed each comment and amended as necessary. |
| Additional Rules | Some respondents asked about the potential to apply some additional formal rules in the schemas for certain elements. |
| Charge Bearer | We heard specific commentary on the pacs.004 requesting that the SLEV code not be removed, given it still is present in the pacs.008 and pacs.009 messages. We acknowledge this feedback and have now included in the pacs.004. |

Annex B: Change Request Process for Change Management Framework

This section should be read in conjunction with [Section 5](#). The Bank will provide a public record of this process on its website.

The Bank requests that you contact RTGSReadiness@bankofengland.co.uk to discuss a potential Change Request before it is submitted, so that the Bank fully understands why this change request is deemed critical, given it wants to keep schema changes to a minimum during the industry ISO 20022 implementation period. If you decide a Change Request is still necessary, please fill in the below form, provide any supporting evidence and submit it to the above email address.

Please note:

- You are only permitted to submit a Change Request if you are a Direct Participant or a reserves account or settlement account holder. If you are a technology provider or an indirect participant, we ask that you speak with your Direct Participant / agency bank.
- The Change Request must be submitted by a senior representative of your organisation. For example, this could be the Direct Participant Senior Representative. The views reflected in the change request must reflect the overall views of the entire organisation.
- Please provide as much detail and evidence as possible; especially the need and urgency of the change and whether there is an alternative to the change.

The Bank will provide an initial response of acknowledgement within a month, giving an indication of whether it thinks the Change Request should be actioned. It will also outline whether there are any additional external processes or dependencies (such as whether the Change Request would require equivalent changes to Pay.UK's schemas in order to maintain alignment, or whether it would require changes to the ISO 20022 repository). The Bank will outline when and how it will consult other relevant users (including Pay.UK), when it will make a final decision on the Change Request, and how / when it would implement the change if taken forward – including timescales.

The Bank holds full discretion over Change Requests, alongside its obligations as a Payments System Operator.

| ISO 20022 CHAPS or RTGS message Change Request Template | | [DATE] submitted |
|---|---|------------------|
| Submitter Name | [Job title] [Delete as applicable: Senior Direct Participant Rep; Transition WG member; SMF Senior Rep] | |
| Organisation name | [Delete as applicable: Direct Participant; reserves/settlement account holder; indirect participant]. | |
| Do you have endorsement from your organisation to make this CR? | | [yes/no] |
| Have you spoken to a contact at the Bank about this CR? | | [yes/no] |
| Request | | |
| Name of change | | |
| Description of change | [include detail on what needs to be changed and be specific about documentation / message / field.] | |
| Business reason | [include information on the business need for this change or describe whether there are alternatives to not making this change] | |
| Detail Change Requested | [include detail on what you propose needs to happen – for example, detail the <i>exact</i> change you want to see. You should propose the change.] | |

| Quantifying the change | | | |
|------------------------------|---|---|--|
| How critical is this change? | [describe why it is critical and what risks exist if no change made]. | [Indicate on scale of 1-5: 1= not very critical; 5= critical (i.e. operationally significant)]. | |
| Timelines | [provide an indication of how quickly the change needs to be made] | | |

Annex C: Overview of all messages

| Category | MT Message | ISO 2022 Equivalent Base Message | CHAPS Usage Guidelines (Like-for-Like) | CHAPS Usage Guidelines (Enhanced) |
|------------------|---|----------------------------------|--|--|
| BAH | Business Application Header | head.001.001.02 | CHAPS_head.001.001.02_(Business_Application_Header) | CHAPS_head.001.001.02_(Business_Application_Header) |
| Payments | MT 103 Customer Transfer | pac.008.001.08 | CHAPS_pacs.008.001.08_(Single_Customer_Credit_Transfer)_MT 103 | CHAPS_pacs.008.001.08_(Single_Customer_Credit_Transfer)_MT 103 |
| | MT 202 General Financial Institution Transfer | pac.009.001.08 | CHAPS_pacs.009.001.08_(General_Financial_Institution_Transfer_CORE)_MT 202 | CHAPS_pacs.009.001.08_(General_Financial_Institution_Transfer_CORE)_MT 202 |
| | MT 202 COV General Financial Institution Transfer Cover | pac.009.001.08 | CHAPS_pacs.009.001.08_(General_Financial_Institution_Transfer_COV)_MT 202 | CHAPS_pacs.009.001.08_(General_Financial_Institution_Transfer_COV)_MT 202 |
| | MT 202 Return Transfer | pac.004.001.09 | CHAPS_pacs.004.001.09_(Return_Transfer)_MT 202 | CHAPS_pacs.004.001.09_(Return_Transfer)_MT 202 |
| Statements | MT 920 Statement Request Message | camt.060.001.05 | CHAPS_camt.060.001.05_(Request)_MT 920 | CHAPS_camt.060.001.05_(Request)_MT 920 |
| | MT 950 Statement Message | camt.053.001.08 | CHAPS_camt.053.001.08_(Statement)_MT 950 | CHAPS_camt.053.001.08_(Statement)_MT 950 |
| Statements Other | MT 298/003 Funds Queue Status Message | admi.004.001.02 | CHAPS_admi.004.001.02_(Funds_Queue_Status_Message)_MT 298-003 | CHAPS_admi.004.001.02_(Funds_Queue_Status_Message)_MT 298-003 |
| | MT 298/004 RTGS Status Report | admi.004.001.02 | CHAPS_admi.004.001.02_(RTGS_Status_Report)_MT 298-004 | CHAPS_admi.004.001.02_(RTGS_Status_Report)_MT 298-004 |

Continued...

| Category | MT Message | ISO 2022 Equivalent Base Message | CHAPS Usage Guidelines (Like-for-Like) | CHAPS Usage Guidelines (Enhanced) |
|--------------------------------------|--|---|--|--|
| Other Notifications | MT 298/010 Liquidity Report | camt.052.001.08 | CHAPS_camt.052.001.08_(Liquidity_Report)_MT 298-010 | CHAPS_camt.052.001.08_(Liquidity_Report)_MT 298-010 |
| | MT 298/011 Confirmation of Liquidity Decrease | camt.054.001.08 | CHAPS_camt.054.001.08_(Confirmation_of_Liquidity_Decrease)_MT 298-011 | CHAPS_camt.054.001.08_(Confirmation_of_Liquidity_Decrease)_MT 298-011 |
| | MT 298/012 Confirmation of Liquidity Increase | camt.054.001.08 | CHAPS_camt.054.001.08_(Confirmation_of_Liquidity_Increase)_MT 298-012 | CHAPS_camt.054.001.08_(Confirmation_of_Liquidity_Increase)_MT 298-012 |
| | MT 298/013 Liquidity Pre-Advice | camt.054.001.08 | CHAPS_camt.054.001.08_(Liquidity_Pre_Advice)_MT 298-013 | CHAPS_camt.054.001.08_(Liquidity_Pre_Advice)_MT 298-013 |
| | MT 298/014 Cancellation Advice | camt.054.001.08 | CHAPS_camt.054.001.08_(Cancellation_Advice)_MT 298-014 | CHAPS_camt.054.001.08_(Cancellation_Advice)_MT 298-014 |
| Notifications RTGS internal messages | MT 012 Sender Notification | pac.002.XX X.XX (to be defined by SWIFT) | TBC | TBC |
| | MT 019 Abort Notification | pac.002.XX X.XX (to be defined by SWIFT) | TBC | TBC |
| RTGS internal messages | MT 096 Settlement Request (RTGS system message) | pac.004.001.09 | CHAPS_pacs.004.001.09_(Return_Transfer)_MT 202 | CHAPS_pacs.004.001.09_(Return_Transfer)_MT 202 |
| | | pac.008.001.08 | CHAPS_pacs.008.001.08_(Single_Customer_Credit_Transfer)_MT 103 | CHAPS_pacs.008.001.08_(Single_Customer_Credit_Transfer)_MT 103 |
| | | pac.009.001.08 | CHAPS_pacs.009.001.08_(General_Financial_Institution_Transfer_CORE)_MT 202 | CHAPS_pacs.009.001.08_(General_Financial_Institution_Transfer_CORE)_MT 202 |

| | | | | |
|--|---------------------|-----|---|---|
| | | | CHAPS_pacs.009.001.08_(General_Financial_Institution_Transfer_COV)_MT 202 | CHAPS_pacs.009.001.08_(General_Financial_Institution_Transfer_COV)_MT 202 |
| MT 097 Settlement Confirmation (RTGS system message) | xsys.001.XX X.XX | TBC | TBC | TBC |