![pay.uk]

Next Generation Standard for UK Retail Payments

Pay.UK Standards Authority

February 2020

Contents

How to Consider this Consultation

This consultation sets out our proposals for the adoption of ISO 20022 and other key standards for the clearing and settlement capability to be enabled by the New Payments Architecture (NPA) infrastructure. We consider that the direction, technical detail and forward looking proposals in this paper set out the intent of Pay.UK to utilise standards as an opportunity to make UK payment systems work better for everyone.

These recommendations build upon the direction we have previously consulted on in collaboration with the Bank of England. We are continuing our cooperation with the Bank of England, as CHAPS operator, to align payments messaging standards to achieve greater interoperability. Please refer to the joint collaboration statement between the Bank of England and Pay.UK in Annex 1 which sets out our key achievements in 2019 and priorities for 2020.

1. Background to this Consultation

Setting standards is at the heart of what we do at Pay.UK. As the UK's leading retail payments authority, Pay.UK is working to change the way that payments are delivered in the UK. In 2019, our infrastructure carried more than £7 trillion worth of payments and we set out on a programme to transform the rails on which UK payments move. To deliver this transformation, Pay.UK established the NPA Programme. This programme will design the standards and business rules necessary for UK payments and is a once in a generation opportunity to modernise the data and service capabilities that the standards will enable. To undertake this work, Pay.UK established the Standards Authority which has the responsibility to deliver the next generation standard for UK payments. Our key focus initially will be on the standard that will be at the heart of the NPA clearing and settlement capability. This is the NPA standard, which is the focus of this consultation. We plan to publish the findings of this consultation during H2 2020.

2. Structure of the Consultation

To help guide you we have broken down our consultation into three distinct sections which are as follows:

a) **Recommended direction** that we are proposing on the adoption of ISO 20022 for the clearing and settlement capability to be enabled by the NPA infrastructure. We have actively socialised these recommendations during 2019 in line with our consultative approach. We have also continued to work jointly with the Bank of England as Payment System Operators to establish a global standard to modernise UK payments[1]. By setting out our direction and intent **we are not asking you to respond to specific questions on this as part of our consultation**. However, you may wish to make us aware of additional points of view that you consider are pertinent and that you would like us to consider.

b) **Foundational technical details** for the ISO 20022 message standard, including our technical design and ISO 20022 readiness approach. We welcome your feedback on the detailed design and how we have chosen to present it. **We are inviting you to respond to specific questions in this section**.

c) **Future direction on concepts** that have emerged through our consultative approach. We believe these merit further consideration because to enable them requires a degree of standardisation across the payments ecosystem. **We are inviting you to respond to specific questions in this section** and you may wish to make us aware of further considerations to influence our future direction on standards.

3. Our Work to Date

In our role as the Standards Authority of Pay.UK, we have worked closely with industry stakeholders and payment system operators globally to define the NPA standard throughout 2019. We are excited about the wider strategic opportunity that a global standard to modernise the UK payments market will enable. During 2019 we:

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[1] ISO 20022 consultation response paper: a global standard to modernise UK payments, November 2018.

- Set up the Industry Standards Coordination Committee (ISCC)[2], an advisory group to help guide and challenge us on the development of the NPA standard. ISCC membership consists of standards experts from across the payments and financial services industry, UK Government and end user communities that will help us ensure that what we have developed meets the needs of the wider ecosystem.

- Launched the joint Standards Advisory Panel (SAP)[3] with the Bank of England. This industry-facing body advises us on the strategic implementation of ISO 20022 across the UK's retail and wholesale payment systems, with a particular focus on highlighting the benefits of ISO 20022 adoption. Working with the Bank of England, we utilised the SAP to host dedicated workshops exploring the benefits of using ISO 20022 to enable greater efficiency in payments processing and how it could help industry tackle financial crime and payment scams.

- We also issued an open call for bilateral meetings with industry participants and end users to discuss the NPA standard. We met with a cross section of participants and other payment service providers (PSP), UK government departments and representatives of end user communities. This engagement has helped shape this consultation.

Figure 1: NPA Standard - Consulted Stakeholders

We look forward to receiving your feedback on the development of the NPA standard and working with the payments industry, end users of payment services and other stakeholders to shape the adoption of the NPA standard.

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[2] Industry Standards Coordination Committee (ISCC), _Terms of Reference_, January 2019
[3] Standards Advisory Panel (SAP), _Terms of Reference_, November 2018

4. Responding to this Consultation

Who should complete this consultation?

We are inviting current and future participants, Government Banking Service (as the largest volume user of UK payment services) and end user organisations to respond to this consultation. We also welcome the views of other stakeholders such as payments trade bodies, solution providers, central payment infrastructure programmes and anyone with an interest in payments. Your feedback will help define the NPA standard.

What is not included in this consultation:

NPA payment flows and propositions beyond core clearing and settlement are out of scope of this consultation. As the NPA matures, the Standards Authority will consult further on ISO 20022 standards for payment and non-payment flows beyond core clearing and settlement.

How to complete the online questionnaire:

The consultation questions are set out in sections B and C. Please use the online form to submit your response to us. This is located at:
https://www.wearepay.uk/next-generation-standard-for-uk-retail-payments

The deadline to complete and return your submission is the end of the business day **Tuesday 31 March 2020**.

If you have any questions about this consultation or you require additional clarification, please email standards@wearepay.uk

Confidentiality:

Unless you indicate to us any confidential material, we will treat your response as non-confidential and your response may be published. We will not publish the contact details of the individual submitting the response.

Please see our privacy notice for more information on how we use personal data:
https://www.wearepay.uk/privacy-and-cookies-notice/

Following the consultation:

We plan to publish the findings of this consultation during H2 2020.

5. Next Generation ISO 20022 Standard for UK Retail Payments

SECTION A

Recommended direction that we are proposing on the adoption of ISO 20022 for the clearing and settlement capability to be enabled by the New Payments Architecture

This section of the consultation sets out our approach to implementing ISO 20022 to enable the core clearing and settlement capability of the NPA.
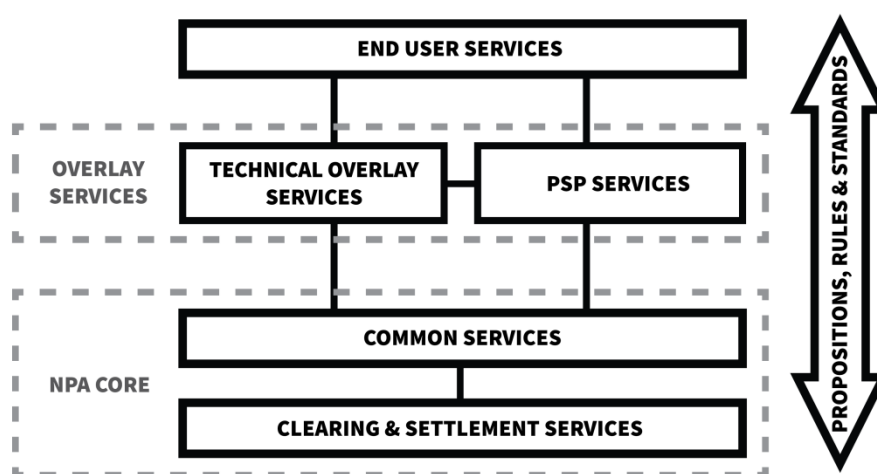
Figure 2: NPA Logical View

In the diagram above, each box represents a logical collection of services, with propositions, standards and rules.

The Clearing and Settlement Services box provides the primary function of the NPA, namely payment clearing and the instruction/reporting of settlement. The Common Services box contains supporting services to enable the NPA. Together these two boxes represent the NPA core.

The Technical Overlay Services box contains enhanced services that provide additional features and benefits. The PSP Services box contains services offered by Payment Service Providers (PSPs) that deliver end user-facing and account-based services. Together these boxes represent overlay services that should be open to innovation and competition.

The End User Services box contains end user channels and services that support payment propositions.

We have prioritised the development of the NPA standard for two reasons. Firstly, it is in scope of the NPA procurement and, as such, the NPA standard establishes requirements on the supplier. Secondly, the NPA standard represents the maximum functionality that the NPA infrastructure will be able to support.

As we move forward, we expect to continue our detailed work with the Bank of England to consider a joint change management process. This will help us work with our participants to assess any future changes to the ISO 20022 standards that underpin the NPA and CHAPS.

As the NPA must be capable of supporting a wide range of possible payment and data services, we have been mindful that the design of the NPA standard should as far as possible be future proofed. We are proposing a range of carefully chosen data enhancements as the building blocks that can be used individually, or in combinations, to support innovation in the payment services market.

Data Enhancement Building Blocks

We are confident that the enhancements set out in this section can be used to deliver significant improvements to help overcome ongoing challenges such as fraud, efficiency, transparency and regulatory alignment. They are also designed to be interoperable with the Bank of England, as CHAPS operator, and are harmonised with the standards of other payment system operators globally.

We expect that these enhancements will enable innovation in payment services and benefit end users. They will enable end users to know more about the purpose of a payment, information about the payment, who is involved in a payment transaction as well as tracing the status of a payment. We consider these building block enhancements (see Figure 3 below) to be relevant to all users whether they are businesses, individuals, government departments or any combination of these.
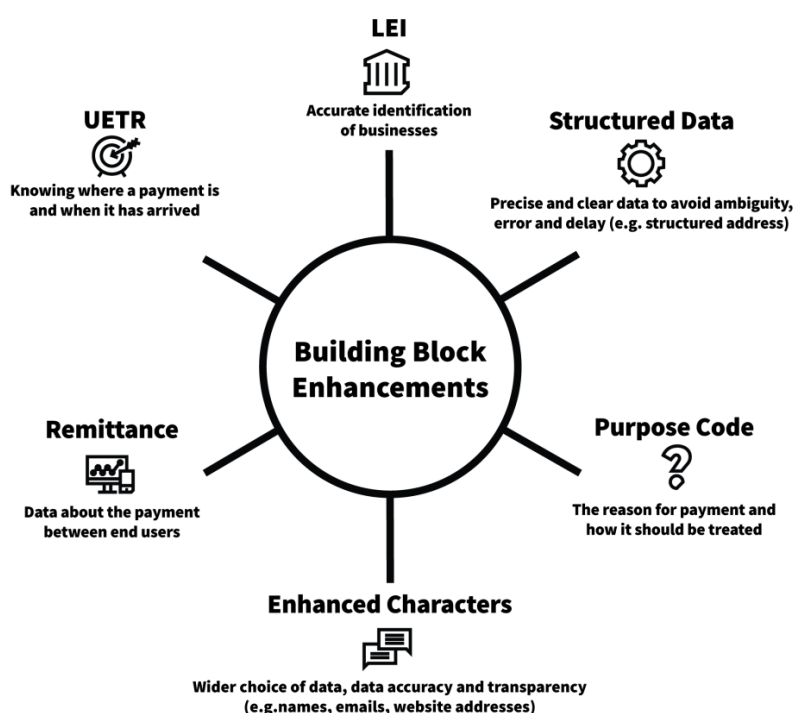
Figure 3: Building Block Enhancements

We will take a consultative approach to define how these enhancements will be implemented by participants. This will ensure clarity of scope and outcome and will help to avoid complexity that can occur when there is extensive optional data included within a standard. Our approach will be to publish specific implementation guides. This is in line with other payment system operators that have implemented ISO 20022 standards including those in Europe, the USA, Australia and Canada.

A key design principle is that we will simplify as far as possible the use of the NPA standard. We believe this will avoid technical complexity and act as an aid to transition. Our approach will be to mandate the data necessary to enable a robust and resilient clearing and settlement service. We will also mandate enhancements where we see a clear and compelling justification for the enhancements to be ubiquitous between all NPA participants. A requirement to mandate an enhancement could be, for example, because of interoperability, regulatory compliance or end user needs reasons.

Legal Entity Identifier (LEI)

Wide adoption of the LEI by all types of businesses in the UK could help unlock significant benefits for the UK economy and we will continue to work in conjunction with the Bank of England and other stakeholders to promote awareness. We believe that if the LEI were more widely adopted it would be a valuable source of identity data within the payments ecosystem. Reliable and verifiable legal entity data could reduce challenges such as misdirected payments and invoice fraud.

Pay.UK plans to mandate the use of LEIs in payments between financial institutions accessing the NPA. Therefore, we will use the LEI as a standardised identifier of a participant legal entity. In practice, this means that all participants using the NPA and its services will need to be identified using a LEI. Our approach is in line with the Bank of England, which plans to make LEIs mandatory for payments between financial institutions during its enhanced phase in 2023.

We do not propose to use the LEI code as a means of routing payments across the NPA. Other standards are well established and better suited for this purpose, such as the UK sort code or the Business Identifier Code, or BIC (ISO 9362).

Legal Entity Identifiers	
What are LEIs?	• The Legal Entity Identifier (LEI)[4] is a 20-character, alpha-numeric code based on the ISO 17442 standard developed by the International Organization for Standardization (ISO). It connects to key reference information that enables clear and unique identification of legal entities participating in financial transactions. Each LEI contains standardised information about 'who is who' and 'who owns whom'. Simply put, the publicly available LEI information can be regarded as a global directory, which greatly enhances transparency in the global financial marketplace.

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[4] https://www.gleif.org/en/about-lei/introducing-the-legal-entity-identifier-lei

Legal Entity Identifiers

What are the benefits of using LEIs?	- The inclusion of LEIs will provide consistent and recognisable identification of parties in the payments process. - This knowledge can be used by NPA participants and authorities to assist and improve their approach to anti-money laundering obligations. - Knowing Your Customer can lead to enhanced straight-through processing (STP) for participants in the payment journey providing operational and risk management improvements and a more efficient end user experience. - It enables Pay.UK, as guardian of the retail payments ecosystem, to offer reporting information to policy makers and authorities.
What are some of the challenges of introducing LEIs?	- LEIs are not widely used in the retail payments industry today. - NPA participants will be expected to have a registered LEI issued by the Global Legal Entity Identifier Foundation (GLEIF) in readiness for the NPA's launch.
How will we implement LEIs in the NPA?	Pay.UK plans to mandate the use of LEIs in payments between financial institutions, supported by the NPA. We will inform NPA participants when and how the LEI should be included in the ISO 20022 messages for the NPA.

Structured Data

Moving to ISO 20022 offers the opportunity to reduce the use of unstructured and free format data. We propose using structured data wherever possible as this will improve machine readability and lead to efficiencies in processing, both for payment service providers and end users. The Bank of England has already set a similar principle for design of messages in CHAPS.

Structured data will include the use of structured addresses, although we recognise that we may need to continue to support unstructured addresses for a period (likely up until 2025) to support interoperability with other international payment systems.

We would expect that structured address data will be required in the NPA standard, although we will work with participants and other stakeholders to ensure that the requirement to use structured data is appropriate and proportionate to the benefits it will enable. We expect an obvious area of benefit will be to prevent data truncation when payments originated overseas are routed across the NPA.

Structured Data

What is structured data?	Structured data is information that has been organised into meaningful individual data elements, or codes, so that it can be made available for more efficient processing by a machine. For example, rather than writing an address on a single line it can be split up into its constituent parts such as house number, street name and town.

Structured Data	
What are the benefits of using structured data?	• Structured address fields can be used to automate delivery details when purchasing goods online, promoting pay-by-bank apps and similar services. • Payment processing will become more efficient for consumers and businesses. • Sanctions checks and processes will become more effective through providing and receiving information in a consistent and standard form.
What are some of the challenges of introducing structured data?	• For NPA participants and end users, adopting more structured data formats could lead to changes to existing systems and procedures. • There may be additional data that an end user has to provide as part of a payment instruction.
How will we implement structured data in the NPA?	• Structured address data in a payment, when received in the NPA infrastructure, must be passed on without being truncated. • To future proof the NPA standard, it will support the use of structured address data. In our implementation guides we will recommend the use of that structure as and when that data is required. We do not propose to mandate structured address data at this stage and have also built in support for a limited amount of unstructured address data. • We aim to phase out unstructured addresses over the longer term. • Whenever possible, codified data will be used in place of text descriptions. Codes will be standardised and agreed as appropriate in collaboration with the Bank of England. Codes can include, for example, Purpose Codes, Error Codes and Payment Type Codes.

Purpose Codes

The ISO 20022 standard allows for specific data to be exchanged using standard codes. One such benefit is to identify the purpose of a payment. This enhancement will help participants and their customers to identify what a payment is used for. This data could also be used to determine priority payments or provide a data point to help to reduce the risk of fraud. Pay.UK and the Bank of England will work together to produce a list of purpose codes for use in UK-originated transactions. Pay.UK will make purpose codes mandatory for certain transactions types such as housing transactions. We can already envisage that, for interoperability reasons, purpose codes set by the Bank of England to be mandatory for CHAPS would also need to be mandatory for NPA, when the payment types are to be supported by both infrastructures (such as housing transactions).

Purpose Codes	
What are purpose codes?	• Purpose codes are predefined codes within the ISO 20022 standard that are used by financial institutions to specify the high-level purpose of a payment, and by the ultimate debtor to specify the underlying reason for a payment.
What are the benefits of using purpose codes?	• Using purpose codes will offer better quality data to enable faster, more accurate decision making about prioritising payments. • Purpose codes can be used in conjunction with other data content to help combat fraud, e.g. identifying patterns.

Purpose Codes

	• The codes can be used by end users to support budgeting, planning and financial management. • Purpose codes create opportunities when automating business and financial processes including tax reporting and payments. • Purpose codes can also be used to support UK financial sector reporting to the Bank of England and other bodies.
What are some of the challenges of introducing purpose codes?	• A single, common list of purpose codes for UK payments must be published if adoption is to be effective. • Ensuring clear responsibility for providing purpose codes in a payment, e.g. whether it is the payer or the sending institution. • Requiring the use of the purpose code could place an additional burden on the end user. • Use of the purpose code data, data protection and consent.
How will we implement purpose codes in the NPA?	• Pay.UK will make purpose codes mandatory for specific payment transaction types in our implementation guides. We will work in collaboration with the Bank of England, participants and other stakeholders to ensure that the requirement to use the purpose code is appropriate and proportionate to the benefits it will enable.

Enhanced Characters

The ISO 20022 standard can be used to exchange a wide range of languages and special characters including, for example, non-Latin alphabets. The NPA standard will support the full Unicode character set encoded using UTF-8. This will remove any need to transform characters from one character set to another. Pay.UK will not mandate participants to implement such wide support and we are already recommending a restricted character set that would enable the exchange of a wider set of data including email and website addresses.

Enhanced Characters

What are enhanced characters?	• A character set is a defined list of characters recognised by computer hardware and software. Characters are used to carry information such as names, addresses and payment identifiers. An enhanced character set extends this primary set to allow the use of specialised characters.
What are the benefits of using enhanced characters?	• The '@' symbol can be used in payments to include email address information. • The same symbol can be used extensively in aliases, supported by the NPA. • Cross-border payments will benefit from the use of a wider set of character data to support improved end user outcomes.
What are some of the challenges of introducing enhanced characters?	• This change will require participants to update their systems and operations to identify, recognise and accept the enhanced characters.
How will we implement enhanced characters in the NPA?	• The NPA standard will support the full character set that can be UTF-8 encoded. We are recommending that participants implement a specific Latin-based character set enabling the

Enhanced Characters

	exchange of a wider set of character data including email and website addresses than is currently exchanged.
	Participants must be able to support the Latin character set commonly used in international communications: a b c d e f g h i j k l m n o p q r s t u v w x y z A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0 1 2 3 4 5 6 7 8 9 / – ? : ( ) . , ' + CrLf Space
	For the following fields only: • all name and structured address fields • remittance data • where an e-mail address or alias can be provided participants must be able to support the special characters below: !#$%&'*+-/=?^_`{|}~ "(),.;<>@[\]
	Note that $ is a special character that is only allowed in a field for populating an email address or alias.

Enhanced Remittance Data

Remittance data is the only capability for end users (payer and payee) to exchange information linked to the payment. This enhancement will allow end users to use the NPA to exchange additional payment information such as an invoice number, payroll reference, email address or website addresses. It will enable a range of potential end user and participant benefits including providing a website link with a payment to give end users the option to link to additional information about, for example, a mortgage payment or benefit payment.

The NPA standard will support structured and unstructured remittance data. We expect the use of either type will be mutually exclusive per payment message (e.g. either structured or unstructured, but not both). Free text within structured remittance will be limited to 420 characters to be interoperable with the Bank of England. Our vision is that unstructured remittance data will be phased out, consistent with our recommendation to use structured data.

We expect to mandate remittance structures in our implementation guides and we will work with participants and other stakeholders to ensure this is appropriate and proportionate to the benefits it will enable.

Enhanced Remittance Data

What is enhanced remittance data?	• Enhanced remittance data is the capability to convey more structured remittance information with a payment than is currently afforded by unstructured fields of restricted length.
What are the benefits of using enhanced remittance data?	• The ability to provide and exchange more structured remittance data will contribute to fraud prevention, e.g. identification of invoice fraud, and enable improved processing and reconciliation.

Enhanced Remittance Data

	• Payment exceptions and investigations processes can benefit from more efficient issue management including payment returns or refunding. • The ability to provide more information from the payer allows payees to have more meaningful and specific information about what the payment relates to, aiding identification and reconciliation.
What are some of the challenges of introducing enhanced remittance data?	• The technical requirements to support structured and unstructured data, including where enhanced characters are supported, will require development and testing by NPA participants.
How will we implement enhanced remittance data in the NPA?	• Pay.UK will initially support both structured / unstructured remittance data and related remittance data with the aim that unstructured data support will be phased out. This is in line with the Bank of England's ISO 20022 CHAPS migration. • Structured or unstructured remittance data will be mutually exclusive per payment message. • Free text within structured remittance data will be limited to 420 characters.

Unique End-to-End Transaction Reference (UETR)

This enhancement provides an identifier reference code which can be used to track and trace a payment end-to-end, similar to a tracking number on a parcel. Pay.UK will mandate that the NPA standard supports the UETR. We will use the UETR as part of our message referencing scheme to ensure that there is complete traceability and auditability of each individual payment transaction across the NPA infrastructure. The UETR also introduces cross-border interoperability benefits and will allow tractability of overseas payments across the NPA.

UETR (Unique End-to-End Transaction Reference)

What is a UETR?	• A UETR or **universally unique identifier (UUID)** is a 128-bit number used to provide an end-to-end reference for a payment transaction when generated in compliance with the UETR standard[5].
What are the benefits of using a UETR?	• A UETR can enable a service to provide exact status-of-payment information so participants and end users can be confident about payments into and out of their bank accounts. • It can enable a real-time view for payment tracking, investigations and liquidity management. • UETR can ensure interoperability with cross-border payment flows and is a means to trace NPA transactions across multiple retail infrastructures.
What are some of the challenges of introducing UETRs?	• Development and testing of new fields to carry the UETR could lead to changes to existing systems and procedures. • UETR is mainly used in correspondent banking and so there may

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[5] IETF RFC 4122

UETR (Unique End-to-End Transaction Reference)	
	not be widespread adoption in the retail payments ecosystem.
How will we implement UETRs in the NPA?	• Pay.UK will mandate that the NPA standard supports the UETR.

Section A: Concluding Recommendations

Our recommended direction on the following topics is set out below and concludes section A of the consultation.

No Like-for-Like for Transition to the NPA

The design of ISO 20022 as an aid to transition to the NPA was consulted on as part of the Faster Payments Service (FPS) Transition Questionnaire. This concept became known as 'like-for-like' and would restrict the use of ISO 20022 messages to emulate as closely as possible the existing standard of FPS. We are not recommending this as a viable option for the introduction of the NPA standard. We understand from stakeholders we have spoken to since the conclusion of the FPS Transition Questionnaire, that there is little support for a like-for-like step because it would:

a) create a suboptimal usage of ISO 20022 that would require significant investment and would effectively become superfluous and redundant once the transition phase had completed, resulting in a throwaway investment;
b) hamper the pace of adoption of data enhancements, introducing inertia into the business rationale to migrate, as participants would likely map old to new standards rather than invest in change to upgrade data capabilities;
c) fail to generate new opportunities for end users as the payment services that would become enabled by ISO 20022 would have had to be based on the capabilities available today.

Market Guidance

Both Pay.UK and the Bank of England, as CHAPS operator, intend to provide more detailed information about the use of our standards to enable specific transaction types, for instance property purchases, tax payments and supplier payments. This work will be critical as it will detail the data that will be required to maximise the benefit of ISO 20022 enhanced data in the context of those transaction types. We expect that this may impact current end-to-end processes for participants and other end users, so we will do this work in collaboration with participant and other representative stakeholder organisations.

Data Translation

We will consider whether there is market demand for guidance on translating data from existing UK retail payment standards to the NPA standard. Pay.UK will not offer translation data services. However, we will continue to engage with participants and the market of service providers that have a wealth of experience offering translation and data mapping services, to consider if we need to take any action.

SECTION B

Foundational technical details for the ISO 20022 message standard including our technical design and ISO 20022 readiness approach

Pay.UK is proposing six separate ISO 20022 message types. These six messages represent the standard interface to the NPA core.

To align with the Bank of England, as CHAPS operator, and to support consistent usage of ISO 20022 across both retail and high-value infrastructures, we expect to adopt the use of the Business Application Header (BAH). The BAH is an ISO 20022 message specifically designed as a 'wrapper'. It is intended to be used in combination with any other ISO 20022 message and, when combined, the BAH and the message, such as a pacs.008, form the 'business message'. The purpose of the BAH is to provide a consistent way for data about the ISO 20022 message to be carried with it. The BAH can be used in a variety of situations to assist the efficient processing and routing of payment instructions.

The functionality of the NPA standard is set out in Annex 2. The technical documentation, including message schemas and supporting material, is available on the Pay.UK [Standards Source Portal](). The documentation can be accessed by registering at https://npa.standardslibrary.org. We are particularly interested in hearing from Developers, who are invited to review the messages and provide feedback focused on the questions below.

NPA Standards Technical Design	
Question 1	Please provide your views and rationale on the content of the messages.
Question 2	The Standards Source Portal is how we intend to present our technical documentation to you going forward. Are there any improvements that you would like us to consider?

ISO 20022 Readiness and Validation

Pay.UK has provided a validation capability via Schematron Schemas for the NPA standard which can be found on the [Standards Source Portal]().

Schematron is a rules-based validation language for making assertions about the presence or absence of patterns in XML trees. It can validate business logic that XSD schemas cannot cover such as conditional dependencies between fields or any content-related business rules. Participants are encouraged to test and validate their ISO 20022 XML messages against each message type. Please consider that these schemas are subject to change based upon feedback from this consultation.

The Standards Source Portal provides detailed error reports linked directly to the relevant field in the implementation guide via hyperlinks. There is also the capability to view and download the error log containing the list of errors, error messages and the message content.

To access the validation service, log into the [Standards Source Portal](), navigate to the Validation Menu and upload your sample test file. Then, select the appropriate standard from the drop down list available under the Standard tab/column and click the 'Check' button. The tab/column labelled 'Result' will contain hyperlinks to the list of errors. On the Error page there are also 'Go'

hyperlinks which take the user directly to the documentation for a failed field within the relevant implementation guide.

We are considering making available additional artefacts on the Standards Source Portal to support readiness and testing. These are:

- **'ISO 20022 Facets':** providing test data examples and samples for ISO 20022 data types, data templates, data structures and data restrictions useful for testing teams.
- **Robust Test Files (XML format)**: detailed commented sample files for each XSD schema populated with valid test data. Their purpose is to validate that clearing and settlement is successful for a message containing every mandatory and optional field in the schema populated to their maximum length.
- **Skinny Test Files (XML format)**: detailed commented sample files for each XSD schema populated with valid test data. Their purpose is to validate that clearing and settlement is successful for a message containing only the mandatory fields populated with the minimum data length.
- **Schematron Rules Test Pack:** containing all the business rules (ISO 20022 and NPA bespoke) implemented in Schematron.

All that we have provided in this part of our consultation is intended to give an illustrative view to guide you and obtain your feedback.

ISO 20022 Readiness and Validation	
Question 3	Do you agree that this approach will add value and enable the NPA standard to be more easily used by you? Please explain.
Question 4	Do you have feedback on refining this approach to make it better for you? Please indicate whether you would like to work with us towards ISO 20022 readiness validation.

SECTION C

Future direction on concepts that require a degree of standardisation across the payments ecosystem

The Pay.UK Standards Authority is in a unique position to work collaboratively with participants and end users, to define standards regarding the wider end-to-end payments ecosystem.

Liquidity Interface Standard

Liquidity management is vital to the operation of the payments infrastructure. Basic liquidity management functionality will be provided by the Bank of England as RTGS operator. Large scale investment in UK payment infrastructure renewal could unlock different ways of working enabled by common standards to support liquidity management. We know from our engagement that participants believe this could be of significant value.

More advanced functionality could be facilitated by a read/write API, enabling participants to connect their own liquidity management solutions. A common standard could help to ensure that third party liquidity management solutions are interoperable with the interface and can support common functionality through the interface.

We propose to continue our work with the Bank of England to ensure that both RTGS and NPA use common standards as a basis for a harmonised liquidity interface.

Liquidity Interface Standard	
Question 5	Please provide us with your views on the provision of a common liquidity interface standard for RTGS and NPA.
Question 6	Do you agree that the Standards Authority should set standards collaboratively with participants and end users in this area (Yes/No)?

Payment Metadata Standards

In 2019 we considered how our standards could improve payments efficiency, known as Straight Through Processing. We expect that the building block enhancements enabled by the NPA standard will introduce significant improvements. In addition, there might also be an opportunity to consider how the NPA infrastructure could be used to exchange additional data about the payment to improve efficiency. We refer to this as payment metadata. This could include standardised data alongside a payment transaction to indicate what type of account the payment has been sent from, e.g. a business or personal account.

Payment metadata could also help to improve fraud profiling, helping institutions on the payee and payer side. Fraud-related payment metadata could include whether a payment transaction has been subject to a confirmation of payee verification or whether a payment is to a trusted beneficiary on a whitelist of the account holder. This metadata could be transferred between participants to allow a more collaborative set of common data points for fraud analytics and pattern matching purposes.

We also propose that any work on this enhancement is done in close collaboration with key representative industry bodies involved in fighting fraud and with industry experts.

Payment Metadata Standards	
Question 7	Please provide us with your views on the concept of payment metadata standards.
Question 8	Do you agree that the Standards Authority should set standards collaboratively with participants and end users in this area (Yes/No)?

Standards to Enable Market Differentiation

Our principle aim is to simplify the NPA standard. We also welcome working with participants to define how the NPA standard could extend the use of data enhancements to serve specific, well-defined participant and end user outcomes.

We envisage that these standards could act as a basis to introduce competitive services enabled by the NPA that would be open to any participants that choose to adopt these standards. For example, this could include a service for the exchange of complex remittance data alongside the payment to enable corporate-to-corporate business payments and supply chain management. Another example is a merchant payment service that enables the use of an instant payment to pay for goods or services. These standards do not have to be ubiquitous across all participants for them to unlock market value. We know that other payment infrastructures in Europe already enable participants to opt into specific service offerings based on enhanced technical standards and business rules.

Standards to Enable Market Differentiation	
Question 9	Please provide us with your views on the use of optional standards as a means of offering differentiated payment services.
Question 10	Do you agree that the Standards Authority should set standards collaboratively with participants and end users in this area (Yes/No)?

Payment Authorisation Standard

We expect the NPA standard to have to support payments that will require more than one authorising signatory at payment initiation. This is functionality that, typically, would be implemented between the account-servicing participant and the account owner. It is most commonly used for business payments where business controls require multiple approvals. We accept that this is not directly in scope of Pay.UK as an operator, but it could be considered in scope of the Standards Authority where we could facilitate the development of market guidance.

Our engagement with end user representative bodies has shown that allowing multiple signatories to instruct a payment remains a challenge for some end users who need additional help managing their payments, for example someone with reduced cognitive ability or failing mental health. We are also aware that other regulated entities, such as Payment Initiation Service Providers, interact between the account owner and the account servicing participant in the process of payment instruction and authorisation. This might increase the complexity of tracing multiple authorisations without common standards.

Payment Authorisation Standard	
Question 11	Do you see a need to set market practice standards for capturing multiple signatories/authorisation as part of a payment instruction based on ISO 20022?
Question 12	Do you agree that the Standards Authority should set standards collaboratively with participants and end users in this area (Yes/No)?

Exceptions and Investigations

There is opportunity to improve how participants exchange structured data across the NPA to help resolve scenarios where the payment clearing and settlement process results in an unintended outcome.

Today, our infrastructure and services often require manual intervention without any structure or agreed industry-wide standards. There are ISO 20022 standards that have been designed to address this problem. By introducing these into the NPA it would enable participants to streamline exceptions and investigations to the benefit of participants and end users.

Exceptions and Investigations	
Question 13	Please provide us with your views on setting standards and rules for exceptions and investigations through the NPA.
Question 14	Do you agree that the Standards Authority should set standards collaboratively with participants and end users in this area (Yes/No)?

6. Next Steps

We welcome your feedback on this consultation. To participate, please use the online form to send us your response by **Tuesday 31 March 2020**. The form is located at:
https://www.wearepay.uk/next-generation-standard-for-uk-retail-payments/

We plan to publish the findings of this consultation on wearepay.uk in H2 2020.

7. Glossary

Clearing	The process of transmitting, reconciling and, in some cases, confirming payment transactions prior to settlement, possibly including the netting of instructions and the establishment of final positions for settlement.
Implementation Guide	Describes how one or more message definitions are to be used in the context of the NPA. The purpose is to ensure that the standard, implemented in the context of the NPA, is done so in a consistent way by creating a set of technical and business rules to ensure a homogenous implementation.
Interoperability	The ability of different information technology systems and software applications to communicate, exchange data, and use the information that has been exchanged.
ISO 2002 Facets	Restrictions on XML elements are called facets. Restrictions are used to define acceptable values for XML elements or attributes.
Message Definition Report	The Message Definition Report (MDR) is made up of three parts: • MDR – Part 1 describes the contextual background required to understand the functionality of the proposed message set. Part 1 is produced by the submitting organisation that developed or maintained the message set in line with a MDR Part1 template provided by the ISO 20022 Registration Authority (RA) on www.iso20022.org • MDR – Part 2 is the detailed description of each message definition of the message set. Part 2 is produced by the RA using the model developed by the submitting organisation. • MDR – Part 3 is an extract of the ISO 20022 Business Model describing the business concepts used in the message set. Part 3 is an Excel document produced by the RA.
NPA Standard	The specification that defines technical interoperability of the data to be exchanged through the NPA.
Participant	An entity that has been certified and/or accredited to consume or provide an NPA service and may have a commercial relationship with Pay.UK.
Rules	A rule will be applied to the NPA standard to define a technical constraint that must be implemented as part of adherence.
Schematron	An ISO standard (ISO/IEC 19757-3:2016) which has uptake in many industries, notably the financial, insurance and governmental record exchange. Schematron is a rules-based validation language for making assertions about the presence or absence of patterns in XML trees. It can validate business logic that XSD schemas cannot cover such as conditional dependencies between fields or any content-related business rules.
Settlement	The movement of money across Bank of England Settlement Accounts to resolve obligations between scheme participants.
Standards Authority	The Standards Authority is responsible for all aspects of standards development, maintenance and modification across the scope of Pay.UK.
XML Schema Definition (XSD)	XML Schema Definition, a recommendation of the World Wide Web Consortium (W3C), specifies how to formally describe the elements in an Extensible Markup Language (XML) document. It can be used by programmers to verify each piece of item content in a document. They can check if it adheres to the description of the element it is placed in.

Annex 1 - Collaboration between Pay.UK and the Bank of England on ISO 20022 payment messages

Payments are critical to the UK economy. Every year, over 8 billion payments messages are exchanged across CHAPS, Faster Payments and Bacs, the UK's three main interbank payment systems.

Since 2017, Pay.UK and the Bank of England ('the Bank') have been working together on our plans to adopt the ISO 20022 global messaging standard. Working collaboratively helps us to better achieve our common objectives of supporting easier access to and wider interoperability between our payments systems, which will ultimately foster greater resilience, efficiency, innovation and competition in sterling payments.

The introduction of ISO 20022 across both CHAPS and the New Payments Architecture (NPA – targeted to provide the next generation of UK retail payment systems) presents a unique opportunity to make UK payment systems work better for everyone through improved payments and data flows (see Note 1). This statement sets out what we have achieved so far and our priorities for the coming year.

In 2018, the Bank, Pay.UK and the Payment Systems Regulator jointly [consulted on the introduction of ISO 20022](#), and in particular proposed to establish the Common Credit Message (CCM). As outlined in our [consultation response document](#), this was well received by industry and since then, we have been working together on detailed delivery of ISO 20022 (see Note 2).

In 2019, we have:
1. Set up and delivered the [Standards Advisory Panel](#), a shared industry group with an independent chair, providing strategic advice on how standards, and in particular ISO 20022, can be best implemented across our payments systems. The group has a particular focus on ensuring that the benefits from adopting a common standard can be realised industry-wide.
2. Undertaken detailed design work on the implementations of the CCM for the NPA and CHAPS, and on alignment of other payment and administration messages. The purpose of this is to align the messages and core fields used in each system to enable easier rerouting, whilst accommodating additional data fields for scheme-specific features and future innovation.
3. Liaised closely with SWIFT and Payment System Operators (PSOs). This is to ensure that the UK's CCM is compatible with the emerging global standards for the use of ISO 20022 messaging by other retail PSOs, in cross-border payments and in overseas high value payment systems.
4. Started work to develop a clearer and more detailed joint view of the benefits that can be realised throughout the economy with the introduction of ISO 20022. In particular understanding what conditions are necessary to allow these benefits to be fully realised, and what our role as PSOs should be in helping foster these conditions.
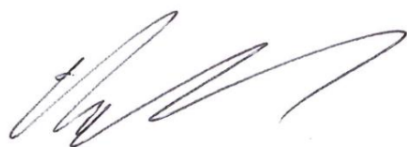
We are committed to continued collaboration, both over 2020 and into the future. We expect that during 2020 we will work together to deliver:

1. A shared approach to introducing common data enhancements in the CCM, such as Purpose Codes and Legal Entity Identifiers.
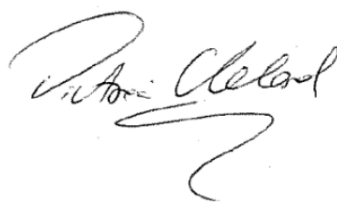
2. High quality documentation, consistent between the two operators, for both participants and end users. These will help enable a smooth implementation of the new standard and allow the benefits of ISO 20022 adoption to be realised more quickly and easily. By working closely with industry, the documentation will deliver thematic guidance for use of the new standards, setting out how information needed in specific use cases should be carried.

3. Continued close collaboration on transition plans to help ensure that the overall impact on participants is managed and optimised in this busy period of change. We are keen to do what we can to ensure that participants have sufficient resource to focus on the scale of change needed to introduce ISO 20022 across both domestic and international payment systems. We will therefore work together and liaise with international payment systems to understand how we can help minimise the burden, for example considering the development of a possible common approach to change freezes during the transition period.

4. A view on a shared and coordinated change management process for the CCM and other ISO 20022 messages, enabling Pay.UK and the Bank to jointly assess which future changes would best benefit our payments systems. We will consider both how we come to agreement on the content changes for the messages, and the timings of such changes.

The close and sustained relationship between Pay.UK and the Bank of England is a world leading example of collaboration between retail and high-value PSOs and we will continue to work together to seize the opportunity ISO 20022 presents. Importantly, we will continue to work closely with the industry to maximise the benefits that can be realised from this once in a generation change in data standards.

Paul Horlock   Victoria Cleland

ENDS

Note 1: The co-ordinated adoption of a single standard across UK payment systems should bring many benefits for payments providers, and for the businesses and households they serve. Risk will be reduced by allowing payments to be rerouted more effectively between systems, and by standardising and improving data supporting detection of fraud and financial crime. Payments will flow more easily across international borders. Entry costs will fall, supporting competition and facilitating the development of new services for users. Richer data, including the purpose of a payment and parties involved, will help streamline compliance and reconciliation processes, and facilitate innovative data services to users. And, in aggregate form, the enhanced data will help to build up a better real time picture of economic activity and financial flows across the United Kingdom, supporting policy makers, including the Bank, in taking more informed decisions.

Note 2: The CCM ensures that where the same information is being carried that it is carried in the same format. Further, where additional data is required in one system or the other (given the different purposes and functionalities of the CHAPS and NPA systems) those requirements and any additional data do not conflict with the other system's requirements.

Annex 2 – ISO 20022 Message View of the NPA standard

Payments Clearing and Settlement	
Fl to Fl Customer Credit Transfer (CCM)	pacs.008
Fl to Fl Payment Status Report	pacs.002
Payment Return	pacs.004
Payment Status Request	pacs.028
Cash Management / Investigation	
Fl to Fl Payment Cancellation Request	camt.056
Resolution of Investigation	camt.029 (response to camt.056)

Financial Institution (FI) to FI Customer Credit Transfer (pacs.008) is exchanged between agents and/or a payment clearing and settlement system to move funds from a debtor account to a creditor. The pacs.008 may contain one or more customer credit transfer instructions.

FI to FI Payment Status Report (pacs.002) is exchanged between agents to inform the previous party in the payment chain about the positive or negative status of an instruction or pending instruction. Pacs.002 may be used to provide information about the status of a credit transfer instruction (pacs.008), a Payment Return (pacs.004) or in response to a FI to FI Payment Status Request (pacs.028).

Payment Return (pacs.004) is exchanged between agents to undo payments previously settled and return the funds.

FI to FI Payment Status Request (pacs.028) is exchanged between agents and/or a payment clearing and settlement system to request information on the status of a previously sent credit transfer instruction (pacs.008) or payment return (pacs.004).

FI to FI Payment Cancellation Request (camt.056) is exchanged between agents to request the cancellation of a previous original payment instruction and must be answered with a Resolution of Investigation (camt.029). Cancellation of a payment instruction can be initiated by either the debtor/creditor or any subsequent agent in the payment instruction processing chain.

Resolution of Investigation (camt.029) is sent by a case assignee to a case creator/case assigner to inform of the resolution of a FI to FI Payment Cancellation Request (camt.056).