



## Record of the second Interoperability Working Group

14th December 2017

### Attendees:

NPSO	Barclays	BNY Mellon
J.P.Morgan	WorldPay	FPS
RBS	CLS	PUK
SWIFT	FPS	Bank of England
Bacs	Lloyds	

### Principles for Good Interoperability

- The Bank produced a number of principles to further set out what is meant by 'good interoperability'. These principles will help ensure that the implementation of ISO 20022, and other standards, between the UK payment schemes will unlock maximum benefit.
- Principle 1, which was agreed, involves aligning the HVPS message with those of the retail payment schemes. A 'superset' will cover all requirements from a HVPS+ and a domestic scheme point of view. This will have a 'subset' of messages corresponding to different implementations in the schemes.
- There was also a discussion around adding a further principle, namely the need to align with HVPS+. This should state that a general aspiration to stay within the HVPS+ guidelines, although recognising there may be trade-offs. There will necessarily need to be a discussion involving how to resolve conflicts between international and domestic retail requirements.
- Principle 2 involves minimising implementation specific differences as far as possible. One example is that there may be a field for an instant payment containing a cycle number, and this should not conflict with implementation in other schemes. Although variations are inevitable, these should be documented in order to ensure transparency. This principle was agreed by the group.
- Principle 3 was agreed and involved the need to place ISO 20022 messages and implementation under a common change management process. There is a need to define the pace of change that should be adopted in the UK context. The NPSO will be able to draft processes and begin a discussion with the retail schemes on timings. The second bullet point in relation to future needs should be expanded. The working group should also focus on the international angle and consider a permanent arrangement.
- The issue of varying versions of the messaging format were discussed, as there could be a situation whereby one scheme had a later version than another. There is a need to set aspirations around the backwards compatibility policy.
  - Processes should be developed to navigate through different trade-offs. For instance, what should be the default position concerning versions, take the latest standard by default or require a business justification for change?
- Any change processes should put the user view into the centre. We should facilitate an open and transparent process that would allow new proposals. This will involve engaging stakeholders as there is a ripple effect across different users.



- In time, other countries will adopt new elements, which will necessarily implicate the UK in cross-border payments. Additional optional elements to the messaging standard could not be implemented in the message if it is determined that there is no domestic benefit.
- Principle 4 was agreed, and was centred on the need for clear guidelines in order to ensure interoperability UK guidelines can restrict implementation to a subset of the overall ISO 20022 superset.
- These principles are on two different levels: one set helps this group in its work and the other may help to guide the industry as a whole with implementation. Principles 1 and 2 were primarily for this group where principles 3 and 4 reflected potential outputs which will help industry.

### Work plan for future meetings of the Working Group

This follows from the discussion involving a prioritisation of issues:

Area of discussion	Key questions
1. Data truncation issues	What pieces of data are carried, and which are not used for core processing? How can data be housed in an appropriate manner to enable pass-through?
2. Common architecture for clearing and settlement	How can there be an alignment of common reference data standards? What will ensure appropriate message choreography? Is there agreement on the contents of the UK core credit message?
3. Overlay services	What overlay services or 'hooks' should be provided in the message? How can the use of fields to house APIs enable a futureproofed, interoperable message?
4. Harmonisation of security and business application header	Where should security signatures be situated within the message? To what extent should there be common security standards?
5. Account identification	What identifier should be used?
6. Scenarios and use cases	What use cases exist to justify any of the required changes? Have all different scenarios been considered?

### Character set

- Although HVPS' current usage of SWIFT cannot carry non-Latin characters, it was agreed that a long term aspiration should be to support non-Latin characters in ISO 20022.
- Various mappings will need to be developed in order to understand how to translate an extended character set into a basic Latin set.
- There are a number of use cases involving the use of non-Latin characters, for example, improved sanctions screening.



- Following SEPA guidance, the group agreed that non-Latin characters should primarily only be used in certain fields:
  - Name & Address for non-FI identification (except for certain elements, perhaps for the drop-down ISO country code list comprising characters such as 'GB')
  - Remittance information and other related data elements
- There will be a key question in the consultation about when this functionality should be switched-on.
- **Action: The Bank will produce a written proposal for character sets for inclusion in the consultation document. The Interoperability Working Group will comment on this proposal at the next meeting.**

### Addressing and routing

- Addresses are needed for end-points, while routing determines how to get there and are dependent upon the clearing scheme. Different routing rules may be required for domestic and cross-border.
- **Action: A subgroup will develop a set of different payment scenarios to establish the different permutations involved in the identification of parties for addressing and routing purposes including domestic and cross-border scenarios**
  - This will enable the Working Group to understand the specific requirements of each type of transactions.
- **Action: attendees from the retail schemes should share how routing works from their perspective at the next meeting.** It was acknowledged that in order to achieve commonality, we have to have a mutual understanding about how all the schemes currently work.
- A key issue involving the selection of an identifier for addressing and routing purposes surrounds the quality of information to which the identifier relates. There is a need for assurance about the accuracy of the underlying data.
- It was acknowledged that moving completely away from BICs, sort codes & account numbers and the IBAN would be out-of-scope for this work. However, a legitimate question still remains, namely, in terms of clearing and settlement; do we want to have two ways of doing the same thing? There is still scope for making the information available on a more efficient basis.
- The lead time of a financial institution submitting a request for a sort code and actually receiving a designation was discussed, as issuing practices can still be improved.
- There could be a creation of a unique key to which BICs and sort codes both map to. The creation of such a consistent key would not change the underlying routing logic or customer identification.
  - The sort code and BIC could sit under a single network-agnostic 'clearing scheme identifier', or there could be a primacy of one over the other to create a mapping to the rest.
  - This would be facilitated by a directory, so there would need to be governance in place around this



## Appendix A: Reading Pack

### Introduction

The first Interoperability Working Group was held on 22 November. It was agreed that the Working Group will primarily focus on the core of the credit message for all UK payment systems. In doing so it will enhance interoperability between UK payment schemes whilst harmonising with international high value payment schemes.

The second important responsibility will be developing a framework for introducing and developing enhancements without creating subsequent barriers to interoperating. The core credit message will be the basis for each scheme's implementation of ISO 20022, and through aligning it we will ensure efficient, interoperable messaging for the UK payments landscape.

This group will take inputs from the data working group, which will seek to identify enhancements to the current message, including richer data around the identities involved in and purposes for payments.

Whilst this challenge is significant, the opportunity presented by the planned implementation of ISO 20022 in the retail schemes is equally important.

### Objective for 14 December

The next meeting has a whole day set aside. By the close we wish to have agreed on **a set of guiding principles** that can inform and assess the outputs that the Working Group will work towards. This will be essential in ensuring the success of this group, but also in ensuring the ongoing success of the messaging standard.

We will **prioritise issues relating to interoperability** in order to set the agenda and dictate the focus for this group. We are aware that there are many barriers to true interoperability and wish to narrow the scope of this Working Group to identifying and removing those which can beneficially be included within the RTGS Renewal programme.

Finally, we have suggested two **initial topics for discussion: routing rules and character sets**.



## Principles for Good Interoperability

The following is a draft for consideration by the Group at the 15 December meeting. Order is no indication of priority.

The scope of what the Interoperability Working Group will address has been set at the development of the core UK credit message, and the creation of a framework in which to develop, maintain and enhance the messaging standard.

At the first Interoperability Working Group on 22 November it was decided that there needed to be a set of principles agreed that could be used to assess the outputs the Working Group will produce. These principles will help ensure that the implementation of ISO 20022 across UK payment schemes can reduce the barriers to interoperability.

As such, we believe the following should be maintained:

### Principle 1

In all respects the first best outcome is to align the requirements of the high value payments message with those of the retail payment messages and vice versa.

- This will form the core UK credit message and is the cornerstone of the interoperable messaging standard.
- The group must seek to reduce the number divergences in the core message as far as possible, an example being routing rules.
- The core message will form a common subset of each implementation's messaging standard and must be based on the HVPS+ framework.
- This harmonisation should be extended to include the messaging flows in different schemes.

### Principle 2

Where implementation specific differences persist (e.g. cycle number for an instant payment or matching cycle for a CHAPS payment) there must be no contradiction or conflict.

- There must be a consistent approach to differences in the messaging standard that will necessarily exist between schemes.
- For example, fields that are specific to a given implementation must not be used in another implementation for a different purpose.
- It is essential that any conflict is identified and addressed such that effective interoperating between schemes is not subsequently affected.

### Principle 3

There must be processes in place to ensure that interoperability is maintained over time and as the standard evolves.

- The work of the Interoperability Working Group must remain cognisant of the future needs of the system, and ensure flexibility to changing system requirements. This will require open minded and ambitious design that does not seek to replicate and preserve the status quo.
- This will require a permanent governance structure to provide oversight of, and be accountable for, the continuing evolution of the standard.

### Principle 4



There must be clear market practice guidelines to reflect the vision of the interoperable messaging standard.

- Adherence to these market practices will be taken up by the relevant organisations following implementation.
- Guidelines for use of the messaging standard will need to be technical to ensure implementation of said standard is consistent across participants and correspondents and as intended. This may also include key vendor groups or suppliers of relevant technology to participants.
- There should also be narrative guidelines that can be adapted for use by different stakeholder communities to ensure end-users of systems are aware of the specifics of what is required in the messaging standard. As they are often the sources/subjects of the data within a messaging standard it is essential we engage this group effectively.

**Can participants please assess the above and consider what could be added to the set of principles, and consider whether the existing set is correct.**



## Interoperability Issues for Prioritisation

In order to realise the principles for 'good interoperability' set out above, it will be necessary to consider the wider environment in which the messaging standard is placed in order to maximise the benefits of interoperability and to further reduce barriers to this goal.

It is acknowledged that not all barriers to interoperability can be addressed by this group in the given timeframe; prioritisation is essential.

**To this end, attendees are invited to comment on and prioritise the wider issues of standardisation listed below.**

**Can participants please come to the next meeting with a view on these issues and prepared to talk through their prioritisation of the issues in the table above?**

Wider issues of standardisation	Prioritisation for the Interoperability WG (High/Medium/Low)	Details and key dependencies
Ability to mandate standard adoption outside of direct participants		
Character set		See topics for discussion
Choice of code lists for various fields		
Data pass-through options to avoid truncation		
Aligning the message outside of the UK core credit message		
Limits around notifications of intermediary agents		
Provision of appropriate 'hooks' for retail overlay services, such as allowing API call fields		
Security standards		
Standard maintenance process to be agreed		
Standardisation of messages used and extent of message choreography synchronisation between different schemes		
Syntax limitations and nesting issues		The RTGS schema will be XML; this will need to be interoperable with the NPA clearing layer
Use of the Business Application Header		



## Topic for Discussion: Routing

The current primary routing mechanism for CHAPS in RTGS is BICs (Bank Identifier Codes). In FPS, Bacs and the Cheque Image Clearing System, the primary routing mechanism is sort codes. These differences reflect differing requirements, the historic development of the respective payment systems and the difficulties in changing the infrastructure associated with routing payments.

### Sort codes

Sort codes are six-digit numbers which allow a bank and branch where an account is held to be identified. Sort codes are used to represent either branches or products a bank offers. Sort codes were conceived in the 1960s and are not commonly used around the globe.

### BICs

A BIC can consist of 8 or 11 characters that can identify particular bank branches worldwide. They contain a bank code, country code and branch identifier. The BIC 11 contains a three-digit branch identifier.

BICs are common in correspondent banking, cross border transactions or wholesale banking.

### Why does this matter for interoperable messaging standards?

Sort codes and BICs do not map, as a number of sort codes can be associated with any given BIC. Bacs maintain the EISCD and SWIFT maintain the BIC repository. Neither repository is perfect.

### IBAN

Besides sort codes and BICs there exists IBANs as a mechanism for routing payments. They follow the ISO 13616 standard and are maintained by SWIFT.

They standardise ways of allowing overseas banks to handle the account number and bank identifier of a beneficiary in another country. They are currently required for making a European cross border payment.

An IBAN consists of country code, check number, bank identifier (from a BIC), sort code, and account number. An example (taken from Payments UK website):



The IBAN requires existing information from the BIC of the institution, sort code and account number.

### What we want to do on the 14 December?

At the meeting of the Working Group on the 14 December we do not anticipate determining the solution and implementation of aligned routing rules across each infrastructure. What we intend to do is clearly set out the status quo and assess the challenges this presents. This will include:

- Reviewing routing rules in CHAPS, Bacs and FPS
- Identifying the issues with the current routing arrangements



- Considering the opportunities to align routing across different payment systems
- Mapping a preferred end state, where routing rules are aligned across central infrastructures
- Determining the steps that must be taken to reach this end state

In doing so, we ask that participants of the working group do not constrain themselves with the difficulties of moving from the current status quo.

#### Example questions and discussion for routing rules:

- ❖ What does good interoperability look like in respect to routing rules?
- ❖ Can we try to identify the conditions that would have to be met to make IBAN work as a routing tool in the UK? I.e. a clear mapping and widespread international use of IBAN etc.
- ❖ What considerations would there be for business models with customers where there are not IBANs for individual customers? E.g. building societies or fintechs with roll numbers or customer references.
- ❖ How can routing rules and processes be flexible enough to ensure they do not inhibit potential innovation and changing needs in the financial sector?
- ❖ What are the implications of any changes to routing rules for cross-border payments?
- ❖ What other questions should we consider?



## Topic for Discussion: Character Sets

At current, the SWIFT network does not allow non-Latin character sets.

The renewed RTGS service will initially use a SWIFT network and thus will be restricted to the set of characters permitted by SWIFT.

However, we feel that there is a significant strategic benefit to being able to encode and store the full range of special characters beyond the Latin set (i.e. UTF-16).

Having a wide range of character sets allows users of payment schemes to use their domestic alphabet to fill identity fields in payment instructions. This provides some strategic benefits by facilitating the UK supporting international business. More importantly it can assist participants in KYC checks on payments originating from countries such as Turkey, China and the UAE etc.

Presently there is potential for confusion and error when converting non-Latin characters into the Latin alphabet, often resulting in data loss or truncation.

We consider that having the full range of characters is only necessary for a selection of fields and not the whole message. Identifier, remittance information and other free text fields would be examples where non-Latin character sets would be practical; whereas for fields such as currency or country code it may not be feasible to use non-Latin characters.

### Example questions and discussion for character sets:

- ❖ What does good interoperability look like in respect to character sets?
- ❖ What benefits and challenges does adoption of non-standard character sets create? Can you help develop the use case?
- ❖ Should some fields, such as the core settlement information, retain a restricted character list?
- ❖ Should other fields, such as remittance information, have non-Latin characters permitted?
- ❖ What would be the implications of RTGS enabling non-Latin characters? Would participants be likely to pass these changes on to clients and end-users?
- ❖ What technical barriers would you foresee in relation to the implementation of non-Latin characters?
- ❖ What other questions should we consider?