

In association with:



ACCESS TO PAYMENTS SYSTEMS

UNLOCKING INNOVATION AND
COMPETITION

July 2023

UK Finance is the collective voice for the banking and finance industry.

Representing more than 300 firms across the industry, we act to enhance competitiveness, support customers and facilitate innovation.

We work for and on behalf of our members to promote a safe, transparent and innovative banking and finance industry. We offer research, policy expertise, thought leadership and advocacy in support of our work. We provide a single voice for a diverse and competitive industry. Our operational activity enhances members' own services in situations where collective industry action adds value.

COLM LYON FOREWORD

For FinTechs and payment businesses access to payment systems is an essential building block on which they develop products and services. With the rapid pace of regulatory and technological developments, straight forward access is necessary to ensure that all players can innovate, compete and bring new solutions to market.

The advancements in technology, regulation and business models are all working harmoniously to create an environment where innovation in payments can flourish. Having straight forward access to payment systems ultimately enables a business to access a market.

When we think about “Access” we need to do so holistically.

Access is not just about the legal right to join a payment system. Access is also about information. Information about a system’s suite of services, proposition, rules and access options is very important. Such information should always be easily available to all participants – both existing and new.

The pace of change in technology will never slow down, so the design of payment systems warrants a decoupling of its core clearing layer from its access layer. This will enable future development and changes in the technical access layer without risking the core clearing system’s resilience and reliability. Businesses may also like to independently implement their access and clearing (settlement) requirements.

With the advent of account-based payments, there will be a surge in demand for direct connectivity from both existing and new participants, hence this is a very timely report.

As Chairperson of the Digital PSP Group for UK Finance, I would like to take this opportunity to thank all the Digital PSP members for their contributions to this work.

I would also like to thank PA Consulting and UK Finance for their support in carrying out this very important work.



Colm Lyon

Chairperson Digital PSP Group UK Finance. Founder and CEO - fire.com

UK FINANCE FOREWORD

Access to payments systems enables choice, competition and innovation in the payments market. These systems provide the technical standards, rules and requirements and obligations that ensure safety, security, and resilience.

In the UK our payments systems are being modernised – to enable innovation, give customers more choice about how they make and receive payments and to underpin competitiveness of UK plc. The scale of change and investment required is evidenced by Pay.UK's New Payments Architecture and the renewal of the Bank's RTGS service.

For payments firms, the way in which they access these systems is a strategic business decision. They can choose to access systems indirectly via a commercial arrangement with an Indirect Access Provider (IAP) or directly – since 2016 the number of IAPs and "directs" has grown – access has improved.

Our report, in partnership with PA Consulting, sets out the current options and relative benefits of direct access and indirect access to payments systems. We also provide an early view of how the two major change programmes underway will further open and ease access to the UK's retail and high-value payments systems.

The provision of choice of methods to connect to these new systems, either directly or indirectly through indirect access market providers, will unlock further competition and innovation.

This report would not have been feasible without the contributions from the range of firms we interviewed, as well as contributions from Pay.UK and the Bank of England.

We would also like to thank PA Consulting for their support.

As the UK's payments landscape is taken forward, the technology and modern business practices that underpin access to payments systems will continue to drive further payments innovations and commercial opportunities.



Jana Mackintosh

Managing Director, Payments, Innovation & Resilience
UK Finance

PA FOREWORD

We live in a transactional world, managed by largely invisible payment systems that underpin the economy. Traditionally, big financial institutions have enjoyed almost exclusive direct access to these systems. But this norm is shifting.

Smaller players are keen to participate in direct access arrangements to reduce cost and complexity. This means partnering with payment system operators – and the barrier to entry has been high. Lowering this barrier has the potential to catalyse competition and increase innovation.

Financial services stakeholders are working hard to improve access to payment systems. Two major change programmes include the Real-Time Gross Settlement system (RTGS) Renewal Programme and the New Payments Architecture (NPA). Both aim to increase competition while helping financial services firms to better manage payments. However, many organisations remain unaware of the options available to them, or how to embed these systems effectively.

Together with UK Finance, PA Consulting set out to understand the UK payment access landscape. We interviewed a range of payments firms and payments system providers to map stakeholder views and identify opportunities. Our research identified that the full range of options, including Indirect Access Providers (IAPs), should be considered carefully.

Enablers for wider access include greater awareness of payment access options, and clear guidance provided by system operators, regulators, industry bodies, and access providers. It's up to financial services companies to follow this guidance and select the best option for their unique requirements. A joined-up approach, with more flexible onboarding processes, will ensure new payment access options spur industry evolution and competitive success.

Thank you to Pay.UK and the Bank of England for their contributions to the report, and to our partners UK Finance. We hope you enjoy the report.



Simon Williams

Payments and Banking Transformation expert, PA

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1. EXECUTIVE SUMMARY

The payments ecosystem in the UK has undergone substantial change in recent years with an increasing number and diversity of providers offering a wider range of payment products and services; thereby increasing competition and innovation.

Underpinning these developments have been the payment system operators promoting safe, secure, and accessible payment systems. The two operators – Pay.UK and the Bank of England (Bank) – perform a vital role to facilitate billions of transactions, ensuring that funds moved are settled securely and efficiently. Pay.UK operates the UK's national retail payment systems, comprising of Bacs (including direct debits), Faster Payment System (FPS) and Image Clearing System (ICS) for cheques. In 2022, these systems processed a record 10.7 billion transactions and a total value of £8.7 trillion¹. The Bank's Real Time Gross Settlement (RTGS) system supports CHAPS, a same-day, high-value sterling payment system, which had a volume of 50.8 million transactions in 2022 with a total value of £98.6 trillion.

Access to payments systems comes with a necessary set of requirements and obligations to ensure safety, security, and resilience in line with the use of critical infrastructure. It is overseen by several regulators, each with a specific supervisory regime (see box). Notably, the Payment Systems Regulator (PSR) is an economic regulator with three specific objectives including that of competition and innovation; and undertakes an annual review of the state of interbank payments access, that provides evidence of the changes in the access landscape².

Firms that provide financial services can have direct access to UK payment systems, provided they have the appropriate regulatory status. The number of firms with direct access to payments systems has increased significantly in recent years with the introduction of policy, legal and regulatory changes that are designed to increase access to the UK payments infrastructure – including non-bank PSPs to drive innovation and competition through wider access. In 2015 there were ten direct participants

of FPS, but by 2022 this number had increased to more than 40.

An alternative route to market is via an intermediary, an Indirect Access Provider (IAP), which may be more attractive to firms whose business models and payment volumes are not suited to direct access. For example, firms may choose to take the IAP route to avoid the technical and operational investment needed to support direct access, which also comes with a higher governance and regulatory burden.

The indirect route is supported by a small but increasing number of IAPs that each offer different market propositions. While the features and commercial terms between IAPs and firms seeking access may vary, IAPs are required by the Payments Services Regulation 2017 to provide fair access for indirect clearing services. The IAPs have also established a voluntary Code of Conduct (administered by Pay.UK), in consultation with the PSR, to set out the standards of best practice that indirect participants can expect from an IAP³.

Despite the increasingly open access to payments systems, there is nevertheless merit in regularly assessing how smaller firms secure access to these systems to enable their business models and contribute to the thriving payments ecosystem. The current number of direct participants to FPS, for example, is less than three per cent of the number of Financial Conduct Authority (FCA)-regulated institutions⁴, and far lower than the approximately 1,500 PSPs with indirect access as reported by the PSR. This can be seen as evidence of a strong and healthy IAP market, supporting innovation; or an indication that gaining direct access is a barrier to many firms, which could limit competition and innovation.

¹ <https://newseventsinsights.wearepay.uk/media/e1mdcljg/annual-payment-statistics-2022.pdf>

² https://www.psr.org.uk/media/exyn3n4c/psr_access_and_governance_report-jan2022_clean.pdf

³ <https://www.wearepay.uk/what-we-do/payment-systems/access-to-payment-systems/code-of-conduct-for-indirect-access-providers/>

⁴ <https://register.fca.org.uk/s/resources#Downloads>

This report, by UK Finance in association with PA Consulting, sets out the landscape for access to UK payments systems and views of the various industry stakeholders. It draws upon research interviews with a range of payments firms: payments systems operators; firms with direct access to the payments systems; those with indirect access; and IAPs. We have also sought to reflect views of firms with different business models: non-banks; large retail banks; and international banks. For the avoidance of doubt, cheque and card payments systems are not covered.

Given the complexity of the sector, challenges remain for some firms in accessing payment systems both directly and indirectly via an IAP. Industry research conducted for this report has identified areas that require further consideration to enhance access to payments systems. At a high level, these are:

- **Comprehensive and cohesive information.** This is currently distributed across a number of sources, leading to the danger of market newcomers gaining an incomplete or out-of-date view. Scheme operators, regulators, industry bodies, and indirect access providers all have a role in ensuring information is current, easy to find, and joined-up. Equally, firms seeking access to payment schemes have a responsibility to be informed buyers, taking time to research the options and acquiring industry insight. The annex to this report can be used as a starting point.
- **Industry engagement beyond current participants to meet the needs of an increasingly diverse ecosystem.** Broadening involvement in forums, working groups, and surveys to include regulated firms that are not yet payment scheme participants would help them understand the benefits of access, input into the design of the scheme operations, and enable them to feed future innovation.
- **Onboarding processes with shorter timelines and greater flexibility.** Business models and growth plans can change more rapidly than the current timescales can support.
- **Enhanced technical capabilities.** Simplifying the technical interoperability and integration standards to make the onboarding process more straightforward – such as with the use of the ISO 20022 payments messaging standard and through cloud-native capabilities.
- **Onboarding and operational overhead of direct payment system participation.** The effort required to secure and maintain access to payment systems may be an inhibitor for new participants and the potential for efficiencies that lead to lower costs should continue to be explored.

Some of these aspects have already or are expected to be addressed through the changes in the UK's payments infrastructure landscape with Pay.UK's New Payments Architecture (NPA) and the renewal of the Bank's RTGS service. For example, the Bank has had broad industry engagement on their RTGS Renewal Programme and issued a simplified CHAPS Reference Manual in January 2022.

These developments are expected to lower barriers to entry for participation in the UK payment sector through open technical standards, provide efficient and cost-effective connections, and increased ease of onboarding. IAPs also have a role in ensuring that comparable enhancements continue to be delivered for their customers. This would enable the choice of access model to be based on individual firm's business models, rather than other constraints.

In this report, we provide an early view of how these two major change programmes will further open and ease access to the UK's retail and high-value payments systems as platforms for innovation and competition, while promoting safe, secure, and reliable payments networks.

2. CURRENT ACCESS LANDSCAPE

Firms seeking access to the UK payments systems can do so either directly or indirectly, with access and connectivity options provided by IAPs available to suit their specific requirements.

- Direct Participants (DP)** are organisations with a direct connection to a payment scheme's infrastructure and can send and receive payments directly with other participants. For Pay.UK schemes, these called Directly Connected Settling Participants (DCSP). The direct participant is responsible for the authorisation, clearing, and settlement of transactions. DPs are required to comply with the payments scheme's rules and regulations and have responsibility for the risk management of the scheme by monitoring transactions. Gaining direct access to a national payment scheme is a significant step for a financial services firm and comes with certain non-negotiable requirements. These include the need for regular senior manager attestations by the participants to confirm they are adhering to the scheme's rules.
- Directly Connected Non-Settling Participants (DCNSP)** are organisations connected into one of Pay.UK's schemes that rely on an indirect access provider to provide the ultimate settlement (the movement of money). This option avoids the need for a settlement account at the Bank of England for Pay.UK schemes. It is not applicable to CHAPS.
- Indirect Participants** are financial institutions that do not have a direct connection to the payment scheme's infrastructure but can still send and receive payments through it. They typically do this by working through an indirect access provider. IAPs are sometimes also referred to as 'sponsor banks' or 'agency banks,' or internationally, 'correspondent banks'. Indirect participants also have an obligation to abide by the relevant rules and regulations, and their IAP will support them in understanding these and how to comply.

Regulatory framework for payment system operators and payment service providers

Multiple bodies have oversight of the UK payment systems. A high-level framework sets out the co-operation between the Payment Systems Regulator, the Bank of England, the Financial Conduct Authority, and the Prudential Regulation Authority – and how they interact with one another in relation to payment systems in the UK⁵.

Payment Systems Regulator (PSR) is the independent regulator for UK payment systems. The PSR is responsible for the regulation of payment systems, as designated by HM Treasury, and the participants in those designated systems. It has three statutory objectives:

- to ensure that payment systems are operated and developed in a way that considers and promotes the interests of all the businesses and consumers that use them
- to promote effective competition in the markets for payment systems and services - between operators, PSPs and infrastructure providers
- to promote the development of and innovation in payment systems, in particular the infrastructure used to operate those systems.

It is also responsible, more generally, for any payment system active in the UK under its concurrent competition powers.

The Bank of England is responsible for supervising certain financial market infrastructures (FMIs) in the UK. Its Financial Market Infrastructure Directorate (FMID) supervises certain types of FMIs with the role to protect and enhance financial stability in the UK. FMIs under FMID supervision include: payment systems recognised by HM Treasury; central securities depositories; and central. As well as its role as a regulator, the Bank is also the operator of CHAPS – the UK's high value payment system – and RTGS, which is the settlement infrastructure used by CHAPS and other payment systems.

The Financial Conduct Authority (FCA) has a single strategic objective to ensure that the markets for financial services function well. Three operational objectives support this: securing an appropriate degree of protection for consumers; protecting and enhancing the integrity of the UK financial system; and promoting effective competition in the interests of consumers in the markets for regulated financial services. In addition, the FCA has a competition duty.

The Prudential Regulation Authority (PRA) is responsible for the prudential regulation and supervision of banks, building societies, credit unions, insurers, and major investment firms. The PRA's general objective is to promote the safety and soundness of PRA-authorized firms, primarily by seeking to ensure that the business of the firms is carried out. It will ensure that firms avoid any adverse effect on the stability of the UK financial system, and any failure a firm may experience that could be expected to have an effect on the stability of the UK financial system. The PRA also has a secondary competition objective.

⁵ <https://www.fca.org.uk/publication/mou/mou-boe-fca-psr-pra.pdf>

3. CURRENT ACCESS LANDSCAPE – DIRECT ACCESS

a. Direct Access Requirements

A limited but an increasing number of firms have direct access to the UK payment schemes: Bacs, FPS and ICS for retail, and CHAPS for high value.

Firms considering access to these schemes will need to ensure they have a clear business case that outlines the payment services required to provide products and facilities to their customers and support the reason for having direct access. Firms should also have a good understanding of the requirements set out in the Bank's CHAPS Reference Manual, or the Pay.UK guide.

1. Firm needs to understand and internally confirm its business case for access.
2. Understand the onboarding process. Pay.UK and the Bank have structured processes in place, which are set out in the next section.
3. Confirm appropriate authorisation by the applicable regulatory authority, primarily from the PRA, FCA or FMID. This can be completed in parallel to other onboarding steps, but it is vital that the requirements are understood up front. For banks outside the UK, foreign authorisation may be relevant, but this does not apply to non-banks.
4. Secure accounts at the Bank of England to settle payment obligations (required only for settling participants).
5. Sign NDAs.
6. Understand and be prepared to meet liquidity requirements and anticipate capital requirements that PRA may need to have evidenced on an annual basis.
7. Agree onboarding timescales and testing slots.
8. Confirm level of technical readiness.
9. Secure and confirm internal governance and risk-management process.
10. Agree joining date and confirm testing slots (around two months prior to joining).
11. Live payments testing.
12. Go-live.

Firms will also need to ensure they meet the eligibility criteria, such as being authorised by the PRA and/or FCA (in some cases the HM Treasury, depending on business model) and having a settlement account with the Bank where applicable. Once confirmed, the Bank and/or Pay.UK will work with the firm to support their onboarding.

Each onboarding is treated as a separate project, each payment scheme has a specific approach required, and some steps can be run in parallel with others. At a high level, however, onboarding follows the steps given below over a period of at least a year:

The specific eligibility criteria and onboarding processes for the Pay.UK schemes and CHAPS are set out in Figure 1: Onboarding process for Pay.UK payment schemes and Figure 3: Bank of England onboarding process for CHAPS direct participants respectively.

Pay.UK onboarding process for FPS and Bacs

Pay.UK provides guidance for firms considering access options. It advises that firms should take a number of factors into account, including customer proposition; products propositions; type and volume of payments required; and preferred connection to the payment systems infrastructure.

The onboarding process high-level steps are set out below.

- 1. Eligibility Criteria.** Pay.UK will seek to confirm that the prospective firm has the appropriate regulatory approval and registrations.
- 2. Access Options.** Firms will need to decide their form of access as either directly connected settling participants (DCSP) or directly connected non-settling participants (DCNSP). For DCSP there are regulatory dependencies for RTGS onboarding slots, with specific Bank, FCA or PRA authorisation requirements in some cases. In particular, that non-banks PSP undergo an FCA assessment.
- 3. Connectivity options.** Firms will need to consider whether they want to build and host their own gateway, buy an accredited gateway, or use the services of a technical aggregator.
- 4. Certification testing.** Firms will undergo a process to check technical and functional testing.
- 5. Bank of England will conduct user acceptance testing (UAT) for connection to RTGS.**
- 6. Operational readiness.** A series of tests for operational and technical processes.
- 7. Decision maker approval.** Go/no-go decision point before the anticipated go-live date.
- 8. Friends and family go-live.** Also known as 'live proving', this allows the participant to perform controlled tests before it can start sending live customer payments.

Pay.UK also advises firms to consider whether they want to take on and are in the position to meet the obligations and responsibilities of direct participation. The operator also provides information specifically for authorised payment and e-money institution payment service providers ('non-bank PSPs').

Pay.UK invite firms to contact them via CBDO@wearepay.uk for further details and discussions.

Figure 1: Onboarding process for Pay.UK payment schemes



Bank of England - Eligibility requirements for CHAPS on-boarding

The Bank of England has multiple roles in the context in UK payments. As well as its role as a regulator for payment systems, banks and building societies, the Bank is also the operator of CHAPS, the UK’s high-value payment system, and RTGS, the settlement infrastructure that supports CHAPS and other payment systems.

The eligibility requirements to join CHAPS are intended to provide robust risk management and ensure confidence in this scheme. Two key documents set out these requirements and the process to access CHAPS:

- CHAPS Reference Manual⁶ sets out obligations or other matters applicable to direct participation in the CHAPS System.
- CHAPS User Documents describe certain key elements of the CHAPS System’s design and operations, and the risks and controls relevant to the Bank’s operation of the CHAPS System. The CHAPS User Documents are available to CHAPS Direct Participants.

Prospective firms are required to confirm compliance with the eligibility criteria and set out how they expect to comply with the requirements and by which date. Firms also need to describe their risk management oversight and details of the senior management involved in the attestation or audit process, which should be updated annually. Based on this, the Bank will decide on whether to proceed with onboarding.

The recently refreshed CHAPS Reference Manual is intended to better support the delivery of a more proportionate and efficient assurance process for the Bank and CHAPS Direct Participants.

Figure 2: Key considerations for CHAPS direct access

SETTLEMENT ACCOUNT



Holds a settlement account at the Bank of England.

PARTICIPANT



Be a participant that falls within the definition of ‘participant’ in the Settlement Finality Directive.

LEGAL



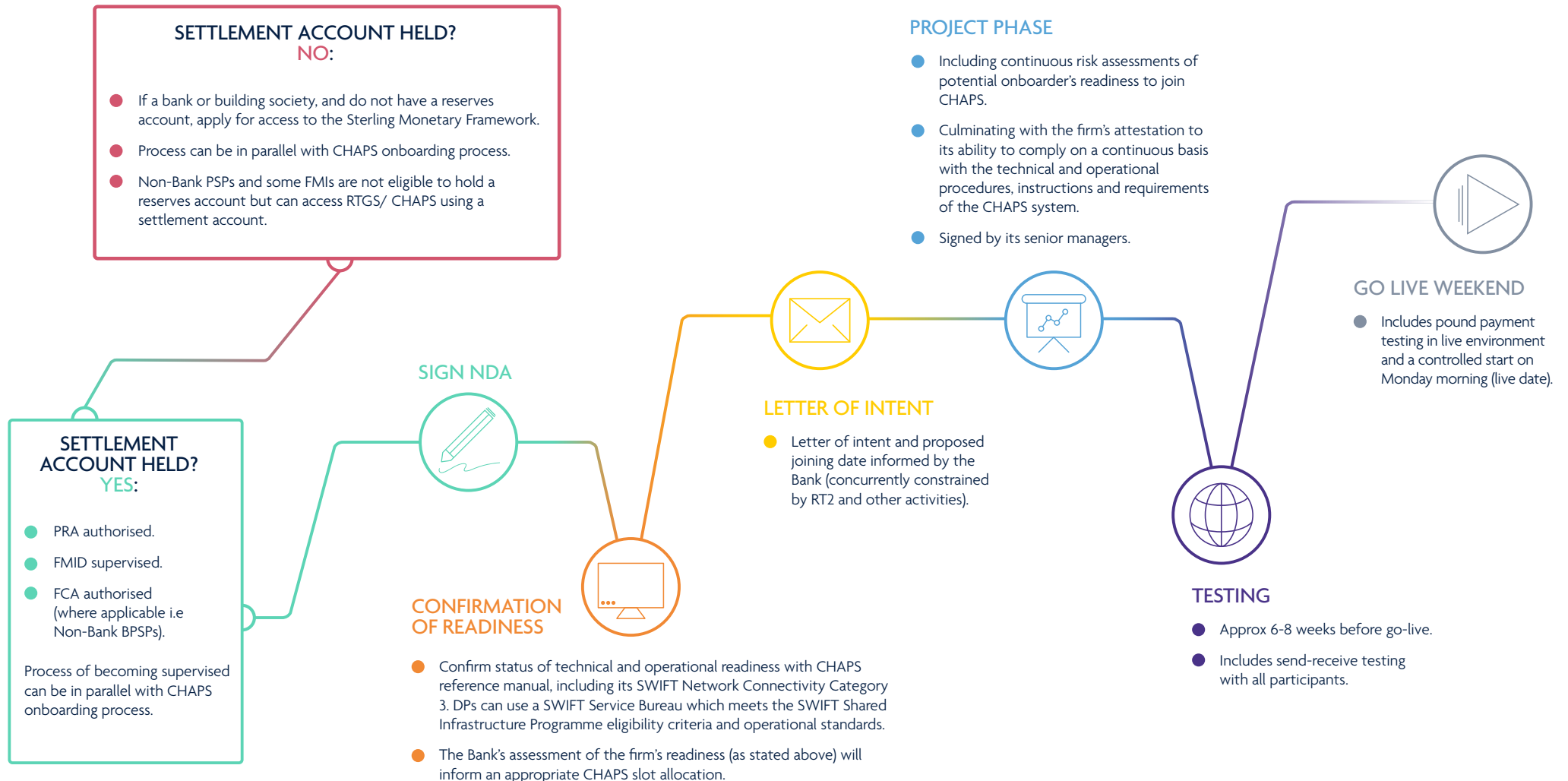
Provide a legal opinion issued by an independent legal advisor confirming the entity’s capacity to enter into and to execute the CHAPS specifications.

Agrees that the CHAPS specifications are valid and legally binding on the entity and enforceable in accordance.

Source: Bank of England, UK Finance

⁶ <https://www.bankofengland.co.uk/-/media/boe/files/payments/chaps/chaps-reference-manual.pdf>

Figure 3: Bank of England onboarding process for CHAPS direct participants



b. Challenges in direct access

Challenges of direct participant onboarding

Becoming a direct participant of the payment schemes requires firms to meet the necessary criteria to protect the security and resilience of the UK's payment systems. These requirements relate to technology infrastructure and interface, legal documentation, capital requirements, and progressing through the process of becoming authorised by an appropriate regulatory body. Some of these requirements can be challenging for certain business models: organisations with few staff may not have in-house legal support; some firms' funding models may not enable access to the required levels of capital; and cloud-native firms will be reluctant to host any physical infrastructure.

In seeking direct access, firms need to consider:

- The infrastructure that banks, building societies and payment service providers are required to connect to is complex and, in many cases, comprises multiple configurations relating to different networks for FPS, Bacs and CHAPS, and specialist hardware dependencies.
- Onboarding requires businesses to review and adhere to extensive legal, rules-based and operational documentation, which often necessitates dedicated compliance teams and lawyers – adding cost to the process. If the business is based overseas, specific legal opinion would be sought regarding alignment to UK requirements, adding a further step to the process.
- The time taken to become a direct participant can be highly variable, depending on factors such as whether regulatory authorisation has already been confirmed (and relevant standards met) and RTGS test slot availability. Industry views of this range from an average of 12 months to a wider range of 18 to 30 months. It is assumed that this discrepancy is based on when the start point of the onboarding process is considered, and the firm's level of readiness at that point. Regardless, this is a process that requires a long-term commitment that may be challenging for start-ups and FinTechs based on their growth stage, business model or nature of their funding.

- Firms need to have sufficient liquidity to cover any intra-day float needed based on their specific business cashflows, and after on-boarding they may need to meet PSR requirements for capital on an annual basis.
- Their payment volumes and their future growth profile, as this is a key factor in the business case: potential operational cost benefits of direct access, versus the up-front cost of the onboarding programme. Both the extent of and confidence around future growth are key factors.

The relative merits of direct participation will depend on a firm's assessment of these factors – they will need to assess the financial benefit compared with indirect participation via an IAP. These factors are more significant for emerging firms that may not have available funding and internal capabilities, and clearly place limits on the growth of the direct participant model for these types of firms.

Assuming the business case is sound, there are steps that firms can take to expedite their progress through on-boarding. Firms could consider their internal readiness at an early stage: understand the eligibility criteria; prepare a detailed business case for direct access; ensure there is internal governance approval for both the business case and the regulatory implications; and check their own technical preparedness. Payment systems operators noted during our research that some firms approach them before verifying that they have met the eligibility criteria or progressed through their internal governance, and this invariably adds time at the start of the process relative to peers.

Challenges of being a direct participant

Providing an organisation can meet the criteria and complete the process, there are challenges to being a direct participant with connection to a critical payments infrastructure.

- Direct participants require expertise to adhere to regulatory requirements and scheme participation rules including annual attestation, which may require building or growing an in-house team. They also carry the risk that regulatory changes could impact or undermine their business model, due to unintended consequences of changes to direct participant obligations. For example, if regulation changes a firm's accountability for the actions of their customers.
- There is also a technical aspect to being a direct participant. An organisation's IT infrastructure must be able to connect to the payment system to enable payments to be sent and received. Organisations must comply with scheme-mandated changes to processes and procedures, which can involve updates to software and hardware. This comes with associated cost and the potential for operational impact if they are not compliant. This is in addition to the overhead of ensuring that these critical systems are kept on current, supported versions of software with required security patches applied.

- Direct participants are required to ensure adequate funding for their settlement accounts during the day. This can be challenging for non-bank organisations that rely on cashflows netting out during the day, without holding large cash buffers and whose settlement accounts do not permit overnight balances.

Historically, direct participants have been relatively large financial institutions that process a large volume of payments. With the rise of digital financial services and firms offering payment-centric products, as current account alternatives, volume has become secondary to an extent. It is now the firm's product offerings that may drive a case for direct access. This has brought many smaller organisations to consider direct access, for whom these challenges are more significant.



4. CURRENT ACCESS LANDSCAPE – INDIRECT ACCESS

Organisations with direct access can also provide services as Indirect Access Providers (IAPs) using their settlement account at the Bank to settle funds on behalf of the indirect participant. There are ten IAPs for retail payment schemes, including large banks and other payment service providers with business models differentiated from established banks⁷.

IAPs provide different levels of service and integration: from real-time payment initiation via an Application Programming Interface (API); to manual payments via a more traditional user interface.

The right service for a given client organisation depends on the volume of payments anticipated and the technical platform of the organisation, so selection of the right service is also a key factor. An IAP can provide the indirect PSP with a unique sort code (this designates the indirect PSP as the 'owning bank' for a sort code in the Industry Sort Code Directory, with the IAP listed as the 'settlement bank').

Each IAP will have its own commercial model, target client segments and risk appetites. Firms seeking a relationship with an IAP will need to identify those that match their own profile and requirements. As with any commercial relationship, building an understanding of the fit between the service provider and client is key.

a. Challenges of being an indirect participant

For many firms, specifically the new market entrants, indirect participation is a practical answer to access payment systems and may be their only viable option. But there are disadvantages to this access approach:

- Indirect participants are dependent on the capabilities of the IAP, and these may constrain the services they can offer their own customers. The specific technical interfaces available and the nature of the business services can be such limitations, as well as the risk appetite of the IAP. There is also the question about the capabilities of the IAP that may limit the services the indirect participants can offer. One indirect interviewee noted that an IAP would offer real-time payment capability but only for a specific service and at a premium.
- There are also technical limitations that mean indirect participants cannot get the same service as direct participants. For example, only direct CHAPS participants, as customers of the Bank, receive certain push notifications from the Bank.
- Indirect participants are dependent on the risk appetite of their IAP, which may limit the users they can support. Indirect participants' chosen customer base may be perceived as high risk by the IAP, limiting their ability to service these customers.
- Several indirect participants said that they had limited visibility of industry developments or the opportunity to connect with relevant industry bodies and fora; which led to limited scope to shape and inform the industry dialogue. There is a general feeling of being 'outside of the system'.

⁷ <https://www.wearepay.uk/what-we-do/payment-systems/access-to-payment-systems/indirect-access/>

PARTICIPATION MODELS – RELATIVE BENEFITS

Indirect participation – benefits	Direct participation – benefits
Lower liquidity requirements.	Lower cost per payment.
Can still have many of the benefits of direct access, including own sort code and real-time payments (at a price).	'At the table' with a voice in industry discussions.
Quicker and easier to set-up and manage: applicable to smaller UK banks and London branches of foreign banks.	Readily enables oversight of payment and settlement in real-time.
Insulated from some of the technical changes required within the payment schemes.	Not limited by IAPs' technology.
May be isolated from some of the regulatory requirements that only fall to direct participants.	Ongoing access is not dependent on IAPs' business model and risk appetite.
Lower administrative burden; with certification, technology, and wider support with issues all managed by the direct participant.	Complete control of your own business and ledger.
Appropriate for a stable business model with low payment volumes, such as building societies or where the UK is not the primary market.	Supports a dynamic growing business model, may include some FinTechs.

5. INDUSTRY VIEWS

In this section, we set out the findings of the industry research interviews conducted with a range of payments firms (directs, indirect, IAPs) and those with different business models (small, mid-tier and large banks, non-bank PSPs).

Several themes have emerged from our industry discussion with firms' experiences of seeking and securing access and onboarding, as well as from organisations supporting access to the payment schemes.

It is worth noting that the findings below reflect the perceptions and opinions of those interviewed and should be considered in this context.

Requirement for comprehensive and cohesive information

- In a complex ecosystem, the availability of comprehensive information is imperative. While several information sources exist, the materials are distributed across the Bank, FCA, Pay.UK, PSR and IAPs, and are not always easy to find.
- The many sources of information can be hard to navigate and can be complicated by out-of-date information remaining available online. It is difficult for the industry to provide a single source or a one-stop-shop for this information, as the parties involved have different commercial and regulatory responsibilities.
- Good information sources exist:
 - Pay.UK and the Bank as payment system operators play a role in providing greater transparency, especially to support new entrant firms navigate the ecosystem. For example, through the non-bank PSP guide⁸.
 - IAPs, as providers of commercial services, offer different propositions that reflect their own commercial model and risk appetite, and make information publicly available on their websites. A list of IAPs is available from Pay.UK.

- Firms seeking access should do their research and engage with the payment system operators, IAPs and industry organisations to ensure that they are well informed of the relative benefits and requirements of the direct and indirect routes, the required processes and obligations, and the costs and internal governance required to access payment systems.

In the annex to this report, we have set out the industry sources available in the public domain that can help firms navigate the options and processes for access to payments systems, as well as a list of useful definitions. Within the main body of this report, we have also included an outline of the access options, plus the regulatory authorities (and their respective roles), and a list of useful definitions.

Industry engagement that can meet the needs of the increasingly diverse ecosystem

- Respondents suggested that the Bank, Pay.UK and the IAPs could engage more with non-bank PSPs that do not currently have direct access, to improve their understanding of the benefits of direct versus indirect access, equipping them to be informed buyers of their payment services. Recently, in response to similar feedback, Pay.UK has published a brochure outlining the benefits of the NPA (see annex 1). The Bank engages with non-banks on demand – where access is being sought to one of the Pay.UK systems, this should be via Pay.UK in the first instance, or directly with the Bank for CHAPS.
- With the development of the NPA, respondents suggested the need to improve engagement with organisations that are potential future participants. For example, opening up visibility of plans and consultations to a wider range of FCA authorised firms, beyond the current payment scheme participants. Pay.UK has established the Chief Business Development Office (CBDO) to engage with the market about providing its products and services, including includes development and fraud mitigation.

⁸ <https://www.wearepay.uk/wp-content/uploads/2019/12/Non-bank-PSP-guide-2019-updates.pdf>

- Incorporating the needs of organisations who are regulated but not yet participants, particularly in the design phase, could have a dual benefit. Emerging industry participants could help inform the design, while early engagement with prospective participants could result in increased direct participation in the future. A newly launched group, the Industry Advisory Council (IAC) by Pay.UK, has been created with members being included from across the payments industry.
- There were suggestions for an engagement model that reflects the diverse industry audience. For example, consultation processes could be less formal and less technical; making use of workshops, surveys, and face-to-face engagement including industry conferences that non-bank PSPs could engage in more readily. The Research & Insights Team within Pay.UK has been working to seek to understand the ecosystem in this way. The Bank's RTGS Renewal Programme has included consultation, workshops, surveys and face-to-face engagement including at sessions run by trade associations.
- The Bank has a Strategic Advisory Forum that includes end-users and indirect participants in CHAPS to gather representative input. Looking ahead to the Bank's future roadmap beyond 2024 (that is, what changes after the new core settlement engage for RTGS), the Bank has undertaken public consultation and workshops. It has set up three co-creation thematic engagement groups (resilient channels, extending operating hours, synchronisation) with a diverse range of attendees including indirect participants, non-banks, software providers, and various end-users.

Onboarding processes with shorter timelines and greater flexibility

- Many respondents noted the length and complexity of the on-boarding process, both for direct and indirect participation. Currently, there is a need to commit to a go-live date for direct access from 18 to 24 months in advance. Organisations with ambitious growth plans see this as a barrier, as it requires a significant commitment to a specific on-boarding window, when their actual growth may require an earlier or later date.
- A publicly available, high-level view of the onboarding process from Pay.UK and the Bank for interested organisations would support firms before they approached the operators. A specific request was for a template project plan for the onboarding process. Some of this information can be found online (see links in the annex to this report), but respondents may not be aware of this or been able find this information when required in the past.
- Further support is sought from IAPs to work with firms to prepare them for the indirect access onboarding process and thereby reduce lead times, which can be take as long as 12 months for indirect participation. Understanding and meeting settlement requirements was called out by one IAP as a specific challenge for new indirect participants.
- The RTGS Renewal Programme will increase the number of onboarding slots for CHAPS. The operational changes required for the Renewal Programme have, however, constrained the availability of slots in the short term. The Bank expects this constraint to ease from the second half of 2024. However, slots for access to some of the retail schemes in 2023 are empty due to lack of take-up (but are now too late to take up).
- In general, advice given by both payment scheme operators and current participants was consistent that, while the onboarding process can be complex, prospective participants should seek to understand the eligibility criteria and process early, and secure their internal preparedness before they seek participation. This can help accelerate the process. See annex.

Enhanced technical capabilities

Our research suggests that improving technical interoperability and integration will simplify the onboarding process, making direct access more straightforward. Increased standardisation of payment messages under ISO 20022 and the use of APIs are two of the ways the industry is exploring this.

The renewal of RTGS and introduction of the NPA will be critical to easing the technical barriers to access. For example, through the increasing availability of APIs to manage RTGS accounts and potential future alternative options for connectivity. Some aspects of testing will be automated and there will be a new approach to testing slots.

- Several firms with a smaller UK footprint suggested that the Bank and Pay.UK consider deploying a cloud-only and cloud-native model as hardware deployed on-premises, rather than as a virtual component, was cited as a challenge for cloud-native financial services firms. Introducing improved technical compatibility, particularly with cloud-based PSPs, would be crucial for helping new entrants gain direct access. With respect to CHAPS, the Bank already permits use of cloud but also currently requires Swift connectivity.
- Pay.UK is considering three connectivity options for the NPA: customer managed access; cloud; and VPN. However, a detailed technical review would be required to assess whether these options would fully enable a cloud-native DCSP, for example.
- Note that this report didn't fully explore the role of technical service providers or aggregators in facilitating access to the payment schemes, regardless of the scheme membership model. Potential participants should explore whether these services provide a way for them to ease the technical aspects of the access.

Onboarding and operational overhead of scheme membership

- Costs associated with securing and maintaining access were cited as areas for further consideration, with points raised by respondents ranging from infrastructure costs to participant fees. Specific participant and transaction fee levels were not discussed, but some interviewees expressed nervousness around how these might change in the future.
- Looking ahead to the NPA, respondents understood the challenge of funding the capital cost in a way that neither places undue burden on existing participants, nor acts as a disincentive for additional organisations to become direct members from day one or soon after. Organisations with significant future growth intentions raised specific concerns about the challenge of committing to payment volumes in advance, for example.
- The Bank has consulted on its tariff framework for RTGS and CHAPS that will take effect in mid-2024 to help users understand the shape and level of future charges.
- Additional overheads reported by interviewees were related to the need to have specialist staff to ensure scheme rules are understood and complied with, and that attestations are completed.
- The cost of proprietary connectivity was seen as being relatively expensive compared to connection costs for non-proprietary networks such as Internet or VPN.
- For one interviewee with indirect access to both CHAPS and Bacs, and direct access to FPS, the primary reasons for direct access were the lower costs, followed by liability and reliability.

Industry comments

The [Swift] portal for access to a Bank of England account is difficult to log into and requires a smart card reader. Overall, it is difficult to connect to and leads to manual steps.

Booking a testing slot (with the Bank) is an 18–24 months lead time and, in an organisation like ours, securing resources that far in advance and confirming business cases where ROI is low is very challenging.

We are looking at becoming a direct Bacs participant; there are a few hurdles in ensuring all the requirements are clear and the process should start within 12 months; there's a large dependency on sponsor banks until we directly onboard.

One clear benefit of direct participation is to have a voice and know what is happening firsthand.

Indirect participants must choose a sponsor bank carefully; some are able to provide a better service than others depending on their specific business model or technical requirements.

If you want to provide access to newer organisations, you can't assume that they come in the same shape as your traditional banks.

6. PAYMENT SYSTEMS RENEWAL PROGRAMMES

The UK payments landscape is set to undergo significant transformation with the introduction of the NPA and the RTGS Renewal milestones scheduled for this year and next. These programmes will introduce substantive improvements to access and participation models, including addressing some of the friction and challenges that are currently experienced in the onboarding process.

We discuss below the positive impact these two major infrastructure renewal programmes will have on access to payments systems.

The RTGS Renewal Programme

The Real-Time Gross Settlement system (RTGS) is the infrastructure that holds accounts for banks, building societies, and other institutions. It directly supports the CHAPS payment system, as well as underpinning other payment schemes by providing the mechanism for settlement. According to the Bank, the Renewal is required because of “the way payments are made has changed dramatically in recent years, reflecting changes in the needs of households and companies, technology and an evolving regulatory landscape”. The Renewal Programme is planned to deliver a range of benefits focused around: increased resilience; greater access; wider interoperability; and improved user functionality⁹.

As well as replicating the functionality provided today, the new RTGS service will deliver a range of new features and capabilities for payments and settlements between financial institutions. RTGS Renewal is expected to ease some of the technical challenges relating to direct participation of payment schemes outlined in this report. For example, firms temporarily needed to provide onboarding set-up data a full year in advance, which is no longer expected to be the case. The use of APIs to manage RTGS accounts and potential future alternatives to existing connectivity may resolve some of the technical challenges that some participants face today.

While eligibility and attestation requirements will remain high, the Bank is reviewing its CHAPS onboarding process for the renewed RTGS. It is considering a leaner onboarding process and greater flexibility for prospective participants to confirm readiness to join, and flexibility in on-boarding slots. Also under consideration is the approach to the pre- go-live testing window and allocation of go-live slots.

The Bank is also reviewing further improvements, including rationalised and more automated testing. The Bank has indicated that by 2025 it will have the ability to onboard multiple participants at the same time, and a more agile approach to allocating testing and onboarding slots.

In parallel with RTGS Renewal, steps have already been taken to simplify and rework the CHAPS Reference Manual, which had become complex over time. Further work is underway to make the rules for CHAPS proportionate for smaller organisations with direct access.

⁹ <https://www.bankofengland.co.uk/payment-and-settlement/rtgs-renewal-programme/the-renewed-rtgs-service-key-benefits>

The New Payments Architecture (NPA)

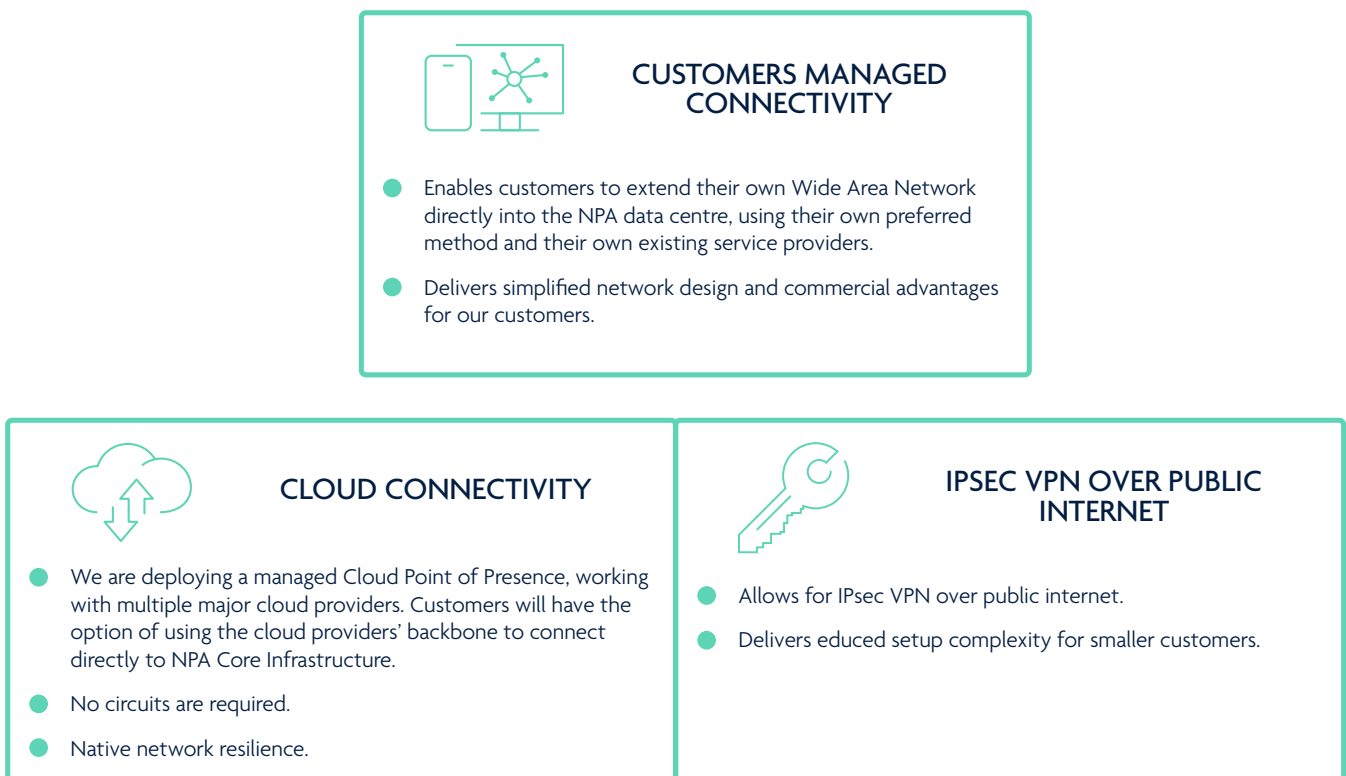
The NPA, to be operated by Pay.UK, will deliver a new way to process payments in the UK¹⁰. The NPA is designed to increase competition in the payments ecosystem and, like the RTGS Renewal, is a response to the changing payments landscape, and the increasing volume of digital payments and new types of payments.

The NPA replaces the existing FPS and provides a framework for potential future modernisation of Bacs, subject to regulatory approval. The initial day-one NPA offering will provide an ISO 20022 compliant like-for-like replacement for the FPS service, with different payment types being considered for the future. It will continue to use a pre-funding model, as with FPS today, requiring direct participants to manage their liquidity during the day. However, a crucial difference is that the NPA will offer

dynamic settlement to complete balance clearance and effectively remove the net sender cap, negating the need for both a prefunding account and a settlement account in RTGS. In the short term, however, the fact that FPS is to be superseded by NPA was cited as a reason for some firms to delay plans to move to direct access.

Pay.UK expects to provide greater choice in connectivity to the NPA, with the aim of reducing the cost of access, lowering barriers to entry and driving competition. It is considering three new connectivity options: customer managed access; cloud; and VPN. The commercial model for the NPA, is intended to support both established and emerging participants, with the pay-per-click approach intended to provide an equitable cost allocation. This is consistent with Pay.UK regulatory obligations to support an equitable outcome for the market. The diagram below provides more insight into three of the connectivity options proposed by Pay.UK.

Figure 4: New connectivity options being considered by Pay.UK for the NPA



Source: Pay.UK

¹⁰ [https://www.ukfinance.org.uk/news-and-insight/blog/get-ready-new-payments-architecture#:~:text=The%20New%20Payments%20Architecture%20\(NPA,replacement%20to%20the%20Bacs%20scheme](https://www.ukfinance.org.uk/news-and-insight/blog/get-ready-new-payments-architecture#:~:text=The%20New%20Payments%20Architecture%20(NPA,replacement%20to%20the%20Bacs%20scheme)

Changes in payment processes are also likely, with failed payments being treated differently. Rather than wiping out the entire file, any errors will be processed separately, allowing the other payments in the batch to continue. This will improve automation and lower the impact on liquidity.

There will be support for new payment types and third parties, developing new capabilities sitting on top of the raw payments services as overlays.

As the NPA will support the global ISO 20022 messaging standard, this will improve technical interoperability. The move to ISO 20022 as a global standard could allow participants to enable dynamic routing between payment schemes based on value and availability.

NPA – Customer definition options

Direct Settling Participant (DSP) - A Direct Customer that executes and settles payments using the NPA; they own an NPA settlement account at the Bank of England.

Direct Non-Settling Participant (DNSP) - A Direct Customer that executes but does not settle payments using the NPA; they have an arrangement with a Liquidity Service Provider to settle payments on their behalf.

Technical Service Participant (TSP) - Provides a shared gateway that allows Direct Customers and Submitters to submit payments to NPA.

Data Service Provider (DSP) - With the appropriate controls in place DSPs are responsible for making NPA data available to third parties.

Liquidity Service Sponsor (LSS) - A financial organisation that settles payments using the NPA; they own an NPA settlement account at the Bank of England as they are a DSP. They act in the LSS Role to sponsor the use of that settlement account to allow DNSPs to settlement payments.

Source: Pay.UK

7. CONCLUSION

Access to payment systems has greatly improved in recent years, and it is anticipated that RTGS Renewal and the NPA will enable further progress, especially regarding lowering technical barriers. Specific aspects of how this will work – such as the alignment of ISO 20022 message usage, use of lower cost connectivity options, and agile allocation of testing slots – will be key to the degree of progress achieved. Ensuring industry engagement is holistic will deliver better access outcomes particularly for those firms who are likely future direct participants.

In parallel to these programmes, there is an opportunity for all parties to improve information access. Payment system operators, regulators, industry bodies and indirect access providers can ensure that the information they make available is easy to find and current, and also links together where applicable. Firms interested in access to payments should ensure that they have explored the resources available, using the annex to this report as a starting point.

Finally, the role of Indirect Access Providers (IAPs) should not be overlooked, providing a path to payment scheme access that may be preferable for smaller organisations and those whose business models are still developing. Not only should firms considering access explore the range of indirect options available, scheme operators and regulators should continue to ensure that IAPs and indirect participants are considered and encouraged when designing systems and regulations.

8. APPENDIX

Annex 1: Industry resources

This appendix summarises the information UK Finance have found in the public domain regarding access to payment schemes.

<p>Bank of England</p>	<p>For settlement account and CHAPS operator</p> <p>Introduction to role of Bank of England as settlement agent (for payment systems) https://www.bankofengland.co.uk/payment-and-settlement. This includes the settlement account and services policy as well as the omnibus account policy.</p> <p>Requirements for direct access to CHAPS – updated information will be made available as this further evolves ahead of 2024 onboarding slots. https://www.bankofengland.co.uk/payment-and-settlement/chaps</p> <p>For future operation of RTGS</p> <p>Future RTGS/CHAPS tariff from mid-2024 https://www.bankofengland.co.uk/paper/2023/rtgs-chaps-tariff-consultation-response</p> <p>Future roadmap for RTGS beyond 2024 https://www.bankofengland.co.uk/paper/2023/roadmap-for-the-real-time-gross-settlement-service-beyond-2024</p>
<p>Pay.UK</p>	<p>Access to retail payments schemes</p> <p>Following requests and requirements from the PSR, Pay.UK provides guidance and information of access to payments (below). https://www.wearepay.uk/what-we-do/payment-systems/access-to-payment-systems/</p> <p>Faster Payments Service Principles A Guide for Prospective FPS Participants Pay.UK-Faster-Payments-Service-Principles.pdf (wearepay.uk)</p> <p>Getting Started check list https://www.wearepay.uk/what-we-do/payment-systems/access-to-payment-systems/getting-started/</p>

Pay.UK**Code of Conduct**

Pay.UK also administers the Code of Conduct a voluntary code that has been developed for indirect access providers, by the subscribing organisations, in consultation with the PSR. The code sets out standards of best practice for key elements of the commercial arrangements between indirect access providers and indirect PSPs. It aims to improve the experience of the latter by clearly outlining the responsibilities of organisations subscribed to the code. Pay.UK also runs a code consultation group, which seeks indirect PSP views and shares information. Last reviewed about three years ago, the Code may require a review to reflect the changes brought on by the imminent introduction of the NPA.

The Code now has six subscribers. Each subscriber's performance is reviewed annually. Firms providing indirect access need to publish clear information on their websites about indirect access. The platform providers that provide access as a service are not subject to the Code.

<https://www.wearepay.uk/what-we-do/payment-systems/access-to-payment-systems/code-of-conduct-for-indirect-access-providers/>

Pay.UK**Guide**

Access for non-bank providers guide produced by Pay.UK, Bank of England, FCA December 2019

<https://www.wearepay.uk/wp-content/uploads/2019/12/Non-bank-PSP-guide-2019-updates.pdf>

NPA

Pay.UK have published a brochure [NPA Brochure – Pay.UK \(wearepay.uk\)](#)

Industry**Access to Payments Good Practice guidelines**

Developed by UK Finance and its members in July 2019, with the input and co-operation of the Association of Foreign Exchange and Payment Companies (AFEP), the Payments Association (formerly Emerging Payments Association) and the Electronic Money Association (EMA), the Access Good Practice guidelines are aimed at both credit institutions providing access to payment account services and applicants seeking access to such an account within the UK. The guidelines aim to bring together the most relevant guidance around access to payment account services for applicants and credit institutions, focusing on the responsibilities of both parties.

<https://www.ukfinance.org.uk/policy-and-guidance/reports-publications/access-to-payment-account-services>

The main sponsor banks (also the Code subscribers) publish certain access-related information, as required by the PSR, so this information should be available on their public facing websites.

PSR	<p>Access and Governance</p> <p>Report on Interbank Payment Systems January 2022 https://www.psr.org.uk/publications/policy-statements/access-and-governance-report-on-interbank-payment-systems-january-2022</p>
FCA	<p>Authorisation</p> <p>Authorisation ‘What’s involved’ and ‘How to’ guide https://www.fca.org.uk/firms/authorisation</p> <p>Online application system ‘Connect’ (and list of regulated activities that require authorisation https://www.fca.org.uk/firms/authorisation/apply) and suggested timelines: “up to six months if your application is complete but could take up to 12 months if your application is not complete.”</p>
PRA	<p>Authorisation</p> <p>New firm authorisation https://www.bankofengland.co.uk/prudential-regulation/authorisations/new-firm-authorisation</p> <p>Process including pre-authorisation meeting, meeting feedback and challenge session. Application submission and PRA’s assessment criteria and approach.</p>
Bank of England, PSR, FCA and PRA	<p>Memorandum of Understanding</p> <p>A high-level framework sets out the co-operation between the Bank of England, the Financial Conduct Authority, the Payment Systems Regulator, and the Prudential Regulation Authority – and how they interact with one another in relation to payment systems in the UK. https://www.fca.org.uk/publication/mou/mou-boe-fca-psr-pra.pdf</p>

Annex 2: Useful definitions

TERM OR ABBREVIATION	DESCRIPTION
Aggregator	An organisation providing technical access to a payment system's central infrastructure through a shared gateway.
Bacs	The regulated payment system that processes payments through two principal electronic payment schemes: Direct Debit and Bacs Direct Credit. The payment system is operated by Pay.UK.
Bank of England settlement account	A settlement account in central bank money, used to transfer funds in the Bank's real-time gross settlement (RTGS) system. An account is required in order to be a direct participant in FPS, Bacs, CHAPS and cheque image clearing.
CHAPS	The UK's same-day, high-value sterling regulated payment system, where payments are settled over the Bank of England's real-time gross settlement (RTGS) system. It is operated by the Bank of England.
Credit institution	A business that is to take deposits or other repayable funds from the public and to grant credits for its own account.
Direct technical access	A technical solution that directly connects a PSP (or other authorised user) with the central infrastructure of a payment system.
Faster Payments	The regulated payment system that provides near real-time payments as well as standing orders. It is operated by Pay.UK.
Indirect Access Provider (IAP)	A PSP that provides indirect access to a payment system to other PSPs for the purpose of enabling the transfer of funds within the UK. This is the case irrespective of whether the IAP provides the indirect PSP with a unique sort code (whether the indirect PSP is listed as the 'owning bank' for a sort code in the Industry Sort Code Directory, with the IAP listed as the 'settlement bank').
LINK	The regulated payment system that enables end users to take cash out of their accounts (among other activities) using the network of ATMs in the UK. It is operated by LINK Scheme.
Pay.UK	Retail payments operator for Bacs, Faster Payments and Cheque Clearing service.

Source: PSR, UK Finance

Annex 3: ISO 20022

Historically most global payments are communicated over the Swift network using MT messages. These message formats are decades old, pre-1970s, from a time when messages needed to have a limited, fixed number of characters. Many central banks and other payment system operators and bank are moving to the ISO 20022 global payment messaging standard for the benefits it can support. Swift will also be retiring the MT message standard in 2025.

As ISO 20022 message can carry more data in a more structured way, this opens opportunities for new and enhanced payments capabilities. Payment service providers will be able to provide new services but will also be required to capture and provide more data. In time, firms will need to be ready to provide this data, which in some cases will also require them to collect more data from their customers. The move to ISO 20022 messaging standards is a managed, long-term programme by payment system operators around the globe.

