payments strategy forum

New Payments Architecture

Payments Strategy Forum 26th April 2017



Agenda

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- A. New Payments Architecture summary
- **B.** Community Roundtables
- C. New Payments Architecture Workstream Status Updates
- D. Key Risks and Issues
- E. Plan up to Consultation Date

Appendix

- I. NPA Organisation & Scope
- II. End User Needs Use Cases
- III. High Level Architecture View

A. New Payments Architecture Summary

Summary

Current Status

Workstream 1: End User Requirements and Rules

- On track
- Requirements Use Cases completed and prioritised for each of the 3 EUN solutions (see appendix)

Workstream 2: Solution Design

- Multiple working sessions run with industry architecture team to focus on specific elements of design blueprint
- Core team formed and WS2 Technical Design Authority initiated (meets weekly).
- Sessions with Bank of England held to align approach on settlement; draft approach documented
- Ramp up of architecture resources slower than anticipated; path to full team in place and factored into plan

Workstream 3: Implementation and CBA

- On track
- Draft Landscape Map approved by WS3 leads and reviewed by PSR. To be presented at this Forum.
- Completed 1:1 sessions with selected PSF stakeholders to walkthrough lessons learnt and issued an updated CBA approach in an Inception Report.

Workstream 4: Funding Model

- On track
- The Workstream has been mobilised with Faith Reynolds appointed chair.

Next Steps

- Requirements review sessions with stakeholders
- Business rules definition
- Production of draft EUN Blueprint document
- Mitigation actions to bring Workstream 2 back on track to meet July consultation timeline are in place
- Work expected to be back on track by mid May
- Iteration of High Level Architecture and drafting of Consultation level architecture documents to support July timeline
- Completion of CBA data collection focus interviews with stakeholders from Industry
- Ongoing iteration to the draft of benefits as focus sessions continue
- The core advisory group is being formed
- Potential funding models will be further developed

B. Community Roundtables

Summary

Community Roundtables are scheduled to be run on 2nd and 3rd May

At the Roundtables, the Design Hub will share the materials with the Payments Community to reflect the current status of activities:

- End User Needs Use Cases
 - Providing a high level view of the agreed Use Cases for Request to Pay, Assurance Data and Enhanced Data
- High Level Architecture view
 - Providing a diagrammatic overview of the current iteration of the layered architecture for the New Payments Architecture
 - This view will be refined and re-issued in advance of the roundtables
- Implementation Plan Industry Landscape
 - Providing a view of the change landscape for the payment industry over the next three years through combining a number of views in one document

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C. WS1: End User Requirements & Rules

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 EUN solutions. Carried out a whole day workshop (7th March) with representatives from the various End User groups out 	 First round of requirements review with stakeholders Business rules definition. Production of Draft EUN Blueprint
 Which we came up with a complete set of Ose cases for the 3 EUN solutions. Socialised the Use Cases with the schemes and organisations (FPS, BACS, Paym Payments UK) to obtain feedback and compare notes on their findings from the work they have carried out. Designed a prioritisation framework against which we tested and prioritised each of the user cases to settle on the essential set core to the EUN solutions that met the detriments identified in the Strategy. 	 Interlock sessions with WS2 and WS3 to test assumptions made by each Workstream. Overall workstream RAG status Previous G G
 principles. Blue print structure drafted and presented to the Design hub. Work on drafting the blue print content in train. 1st Draft of User Stories (Requirements) complete. 	

Serious challenges exist, and the committed baseline has been or will be missed. Mitigating plans and resources are not in place.

Issues exist with some risks to committed baseline. Mitigating plans and resources agreed and in progress.

Issues may exist, but on target to deliver against the committed baseline.

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C. WS2: Solution Design

Key Activities since the Last Forum Update	Key Upcoming Activities		
 Core team formed and WS2 Technical Design Authority initiated (meets weekly) Multiple working sessions run with industry architecture team Sessions with Bank of England held to align approach to NPA architecture, draft settlement paper issued within team confirming centralised settlement. Architecture Principles reviewed by TDA and have been issued to the Design Hub A return to green initiative has been agreed with the Design Hub chairs which incorporates: Reinforcement of the separation of delivery and structure roles from technical content roles. Resource focus to be focussed on WS2 deliverables that are essential for the July Design Consultation documents Organising new resources to maximise productivity 	 Finalisation of Baseline High Level Architecture. Interlock sessions with other workstreams to manage assumptive dependencies Iteration of High Level Architecture and drafting of Consultation level architecture documents 		
	 Previous G Current A Forward A Amber as Resourcing issues have slowed progress in this workstream – resources have joined more slowly than anticipated Expectation of returning back to schedule by mid May as mitigation actions bear fruit		

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C. WS3: Implementation and CBA

Key Activities since the Last Forum Update	Key Upcoming Activities		
 Implementation Draft Landscape Map approved by WS leads and reviewed by PSR. Currently undergoing Iterations to provide insight for the Forum Advisory group membership (BACS, FPS, C&CC, BOE) initiated with meetings underway Work plan and approach, including dependencies have been socialised with concerns raised on WS2 interlocks (Implementation will be informed by WS2 draft requirements/design) Additional resourcing needs and role profiles approved with resources onboarded by end of April Cost Benefit Analysis Completed 1:1 sessions with selected PSF stakeholders to walkthrough lessons learnt and propaged CDA expression 	 Continued working relationship with WS2 ar manage dependencies and assumptive risks Implementation Industry Landscape Map completed (includi views) Industry engagement from Advisory Group Cost Benefit Analysis Completion of data collection focus interview stakeholders from Industry Ongoing iteration to the draft of benefits as sessions continue Draft of the Cost Benefit Analysis for the Copaper 		
proposed CBA approach	Overall workstream RAG status		
 CBA Inception report articulating approach and methodology (including data collection etc.) has been issued and approved by the WS leads 	Previous Current G G		
 Focus interviews with stakeholders across the industry (PSPS, businesses, solution vendors, FinTechs, Government) which will provide data collection have 	 Currently Green as workstream is on track Forward view is Green but is dependent on 		

 Forward view is Green but is dependent on how accurate the assumptive dependencies prove as the WS2 finalises the NPA architecture. strategy

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Consideration on Counterfactual concept is underway

been scheduled

with WS2 and WS1 to sumptive risks.

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- isory Group
- ocus interviews with
- benefits as focus
- sis for the Consultation

Forward G



C. WS4: Funding model

Key Activities since the Last Forum Update	Key Upcoming Activities	
 Workstream 4 has been mobilised with Faith Reynolds selected as the chair. Draft Terms of Reference (ToR) has been populated and shared with the Design hub for review. Draft structure of the consultation paper has been produced. Introduction meetings with WS2 and WS3 leads held this week to identify dependencies and scope of other workstreams. 	 Confirm the working group volunteers. Meeting with WS3 CBA on 19th April. Meeting with the core group of WS4 to confirm ToR, draft document structure and align on next steps. 	
	Overall workstream RAG status	
	Previous Current Forward G G G ► Green as the Workstream has drafted timeline with dates for the working group to approve that meets the July consultation timelines. July consultation timelines.	

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D. NPA Design HUB – Key Risks, Issues and Dependencies

Key F	Key Risks and Issues					
ID	Туре	RAG	Res. Date	Title	Description / Impact	Actions/ Decisions
NPA - 1001	Issue	R	30/04/17	Limited Architectural Resources impacting delivery	Remaining resources need to be secured for work stream 2. This jeopardizes the activities scheduled for July in terms of design artefacts. Activities are behind schedule	 Re-worked plan and increased rigour of approach agreed as part of 'Back to Green' plan to bring production of Consultation Design Artefacts back on track
NPA- 1002	Issue	A	30/04/17	Stakeholder Engagement	Stakeholders do not buy into the NPA Solution Outline as only a small proportion of them have been represented through the process	Regular stakeholder management sessions to be held within WS2.
NPA - R001	Issue	A	30/04/17	Time Constraints	WS2 requires rapid decision making from leadership and is drawing increasing amounts of time from WS leads	 Assist managing diaries by providing as long term view as possible of the demand for WS leads Discuss with WS how best to structure engagement to support decision making as part of activities moving forward
NPA - R002	Risk	G	30/04/17	Industry Resource Contribution	Initial approach on resourcing for WS2 assumed significant support and contributions from industry, if these are not forthcoming WS2 plan may be impacted	 Expressions of interest from PSF website are being analysed and donated time is being assigned to key activities. This will be monitored on an ongoing basis
NPA - D001	Dep	A	30/04/17	WS3 has a dependency on WS2	Implementation design is proceeding on an assumptive basis and there if a risk that the workstream will be delayed if those assumptions prove incorrect.	 Regular communication with WS2 leads and project team to ensure no slippage and provide mitigating plans if appropriate
NPA - D004	Dep	G	30/04/17	Procurement Position	NPSO has a dependency on the Design Hub to provide deliverables which could be used as the basis for a competitive tender	 PSO resources are involved both at a workstream and a Design Hub level. The appropriate level of documentation has been a focus of each workstream.

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E. Plan Up to Consultation Date



* Dependent on final pilot scope decision

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Appendix I: NPA Organisation & Scope

Appendix I. NPA organisation structure – April



Appendix I. NPA workstreams scope

Solution	In Scope	Out of Scope
NPA WS1 - Requirements	 Document a suitably detailed set of the collaborative business requirements for Request to Pay, Assurance Data (including Confirmation of Payee), and Enhanced Data for consultation and ultimately handover to the NPSO by the end of 2017. Document the outline collaborative rules and requirements Develop a clear overview of the Legal/Risk implications of the three user needs solutions (e.g. data protection implication of 'confirmation of payee'). Documented requirements will factor in measures to guard against financial crime and ensure customer protection. Specific financial crime requirements input will be gathered through specific review sessions. 	 NPSO will facilitate the accreditation of various providers to offer these services will be provided by the NPSO. Customer journeys: The workstream will not design the associated customer journeys for each of the EUN solutions. These will be left to the competitive market.
NPA WS2 – Design & Transition	 Design of the New Payments Architecture to a level suitable for consultation, to allow the market to develop competitive solutions and to a level that does not to stifle innovation. Design a limited prototype of the New Payment Architecture to test still-to-be-defined capabilities if appropr The high level design of the transitional arrangements from the current systems to the NPA, including any interactions with RTGS. 	 Creation of procurement artefacts or writing of procurement documents. Technical reference architecture design and implementation. Detailed Design.
NPA WS3 - Implementation & CBA	 Develop the Payment Landscape map, detailing the activities and initiatives across the payment ecosystem. Develop a detailed implementation plan for the NPA and a high-level migration plan from existing systems, which will include transition periods and system end dates. The Cost Benefit Analysis (CBA) will reflect, to the best of the Forum's ability, the input / opinions of a range of industry / community engagement and provide a fair reflection of their opinions. 	The transition plan / migration plan will only pertain to the NPA solution design and the Forum's current way of thinking, with industry input, as at the end of the year
NPA WS4 - Funding	 Exposition of the current infrastructure arrangement and funding models (drawing on WS2 and WS3). Understanding the financial flows between providers and suppliers at a high level. Articulating the 'layers' of the NPA that need funding and an assessment of whether these are best provided through a competitive or collaborative approach. 	 Funding of the NPSO, including the NPSO's set-up and transition costs. A competitive procurement exercise for the NPA. The level of actual pricing of the NPA funding options. An economic business case for investing in the NPA.

Appendix I. Update on Volunteers

Summary

- There are 42 volunteers, with interest split by:
 - ▶ NPA only: 19
 - ▶ FinCrime only: 7
 - Both work-streams: 12
 - ▶ No preference stated: 4
- ▶ The process we have undertaken is as follows:
 - ▶ 1st contact via email all NPA Volunteers
 - 2nd contact: 30 min call with each individual to explain context and assess suitability
 - Srd step: allocation to a workstream within NPA or a Vendor Advisory Group
 - The key activities currently in progress are:
 - Update Design Hub ToR to be updated to reflect the impartiality of all volunteers and that any participant adhering to this ToR will not be precluded from bidding against a procurement that results from the work of the Forum
 - Volunteers from vendors/third parties have been invited to participate in a NPA Vendor Advisory Group that will be kept abreast of updates and engaged in working sessions to feed back on evolving deliverables.
 - Additional volunteers could be engaged as architects in WS2 providing they adhere to entry the ToR, WS2 is confirming the basis on which additional volunteeers will be engaged as a second second



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Appendix II: End User Needs Use Cases

Request to Pay

Payee's view

	Initiate request to pay
	Provide related data (Invoice, receipt, etc.)
	Receive payer's response Reconcile payment
	Update payers account
	Initiate debt recovery
6	Contact customer
	Capture communication preferences
	Update Payer's contact/account information
	Create a request to pay back (Refund)

Example Green Energy (GE), a UK energy supplier, would like to get paid by John and Mary, for energy supplied last month. GE sends John and Mary a request to pay with a bill amount and due date. Two days later, GE receives a response from John. He will be paying half of the amount and the rest later. One day before the due date, GE receives a second response from John saying he will pay the remainder immediately. On the same day, GE receives a response from Mary saying that she will be deferring the payment for a week. A week later GE receives a second response from Mary declining the payment. She requests to be contacted. GE sends her a message requesting her preferred contact details. The next morning, GE calls Mary to her mobile as she had previously specified. At the end of the payment cycle, GE reconciles the payments made. They utilize the Request to Pay Reference captured on the payment. They realise John has overpaid and send him a request for refund. John responds with the preferred payment method. payments strategy

EUN Use Cases

Inherited Use Case

Supporting Use Case (Included / Extended)

Main Use Case

Inherited Use Case

Supporting Use Case (Included / Extended)

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Request to Pay

Payer's view



Payer's view

Assurance Data

Determine Payee identity using an associated reference or proxy

Determine Payee identity using 2nd Level reference or proxy details

Confirm Payee's identity (Special case)

Determine tax status

Confirm Payee's identity

Determine Residence

Determine Organization type

Determine Status of payment made

Determine position on journey to Payee

Confirm Receipt

Confirm destination account

Confirm debit status

Example:

Peter has received a text message from Mark, his window cleaner, with some bank account and payment details for a job Mark just concluded. Peter wants to be sure that the details he received are correct and that the account actually belongs to Mark when he makes the payment. Peter accesses his online banking account, inputs Marks account details and confirms that the account does belong the correct Mark he is willing to pay.

The next day Peter consults the payment he made given that he wants to be sure the payment has reached Mark's account and that the full amount has been accredited to him.

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Main Use Case

Inherited Use Case

Supporting Use Case (Included / Extended)

EUN Use Cases

Assurance Data

Payee's view

EUN Use Cases

Confirmation of Payer's identity

Determine Payer identity using an associated reference or proxy

Determine Payer identity using 2nd Level reference or proxy details

Example:

British Mobile, a Telco, is setting up a Direct Debit for Matt to pay for his mobile bill and they want to confirm that the bank details that Matt has provided them with are accurate and effectively belong to him, so they don't pull the payment from a wrong account.

When setting up Matt's Direct Debit, British Mobile inputs Matts detail into the system and they immediately are confirmed that the details are valid and do belong to the correct Matt

Main Use Case

Inherited Use Case

Supporting Use Case (Included / Extended) payments strategy forum

Enhanced Data For reconciliation purposes

Payee's view

EUN Use Cases



Enhanced Data For analytic purposes

EUN Use Cases

E Identify payment description Identify value of payment Identify line items (Item description, item cost, quantity, etc.) Identify date of payment	
Identify source of payment	
Identify currency of payment	Example: Timi can't remember the reason of all his June expenses. Therefore Timi accesses his online
Identify merchant / business category	banking account and looks into his statement and identifies what was he paying for, how much did he paid, how did he paid and to whom did he paid on every transaction.
Identify tax details of payment (VAT, customs, etc.)	
Identify payment method	
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Main Use Case

Inherited Use Case

Supporting Use Case (Included / Extended) payments strategy forum

Appendix III: High Level Target Architecture

NPA High Level Target Architecture



NPA High Level Target Architecture - Users

WS02

Name	Description
ASPSP Customers	 The full range of PSUs will be supported, their key use cases will be used to drive the design. Retail. (Instant Payments, DD/SO management) Commercial. (High value, Bulk) Corporate. Direct Access for Salary submission, DD Mandates Government. (BACS grade 3) Agency. (Indirect payments)
ТРР	 Created under PSD2, TPPs will provide alternative channels and innovative payments, for multiple ASPSPs Hold the consent for payments and execute against ASPSP following authorisation Can implement Request To Pay, using PSD2 APIs Can provide Channel alternatives and Aggregation and disbursement solutions ASPSP can be TPPs for their own customers
ASPSP	 Direct or Indirect Participants, holders of customer accounts Provide Payment Assurance APIs Conversion of existing formats to single PUSH model Manages interoperability across Overlay options
Clearing	 Provides coordination for PSP to PSP payments messaging Registry records valid PSP participants and roles managed by the FCA/NPSO, ISCD level reference data, CASS account transfers and BACS customer reference data Assures validation and correct routing Separates payments and associated messaging Real time attended payments will be credited immediately to customer accounts with an accept response (Qualified Accept will be withdrawn) Unattended and bulk payments will be acknowledged with separate refunds as necessary.
Settlement	 Single point of settlement control for all payment instructions Flexible settlement cycles supported by overlay type, to manage settlement risk Each PSP will have a single BOE RCA Account Dynamic Earmarking for each payment overlay type supported by the account

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NPA High Level Target Architecture Components

WS02

Summary and Key Architecture changes

Name	Description
API	 NPA builds on the PSD2/Open Banking APIs and security models. TPP are recorded in the Registry, allowed to hold consent per role ASPSP manage customer authentication and authorisation PSD2 will need extension to support specific use cases (variable amount, TRA)
ISO 20022	Message content will be based of ISO types - NPA will support JSON syntax for API communications - 4/5AMLD will require that data is not truncated
Request to pay	The request equates to a PSD2 authorised consent held by the TPP - Customers can change (amend, cancel, defer) consent with the TPP - Customers can withdraw authorisation directly with their ASPSP
Enhanced Data	 Support for data content which can be captured by channels or APIs Current FPS supports limited additional reference data ISO20022 supports additional data content (including images, cloud data storage references) Payment messaging is enhanced for optimised business processing
Registry	 Provides reference data (EISCD equivalent, CASS migrated accounts, BACS Reference data, PSP and TPP endpoints, roles and certificates) Managed by the NPSO Data replicated to participants attended channels (< 10 min) and unattended channels (< 1 hr)
Overlay Services	Are approved by the NPSO and implemented on top of PUSH mechanisms - Can be used to emulate existing scheme messages (e.g. FPS, SIPs)
Single Push Rail	 Routes and manages attended and unattended payment instructions between participants Ensures that instructions finality rules are followed Supports multiple overlay payment types, whilst maintaining resilience and safety
Network Connectivity	The network is in the competitive space and can be provided by competing telecom providers that comply with the technical standards and rules set by the NPSO.
Settlement Processing	Ensures BOE instruction finality rules are followed and interfacing to BOE RCA accounts - Supplies only the required information for bank to bank transfers