



**MHHS
PROGRAMME**
Industry-led, Elexon facilitated

Design Advisory Group #5

16 February 2022

Version 0.1

MHHS-DEL212

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Agenda

1. Welcome

Justin Andrews

5 mins

2. Ratification of design decision regarding Service Appointment

Ian Smith

20 mins

3. Ratification of design decision regarding Interface Approach

Ian Smith

20 mins

4. Summary and Actions

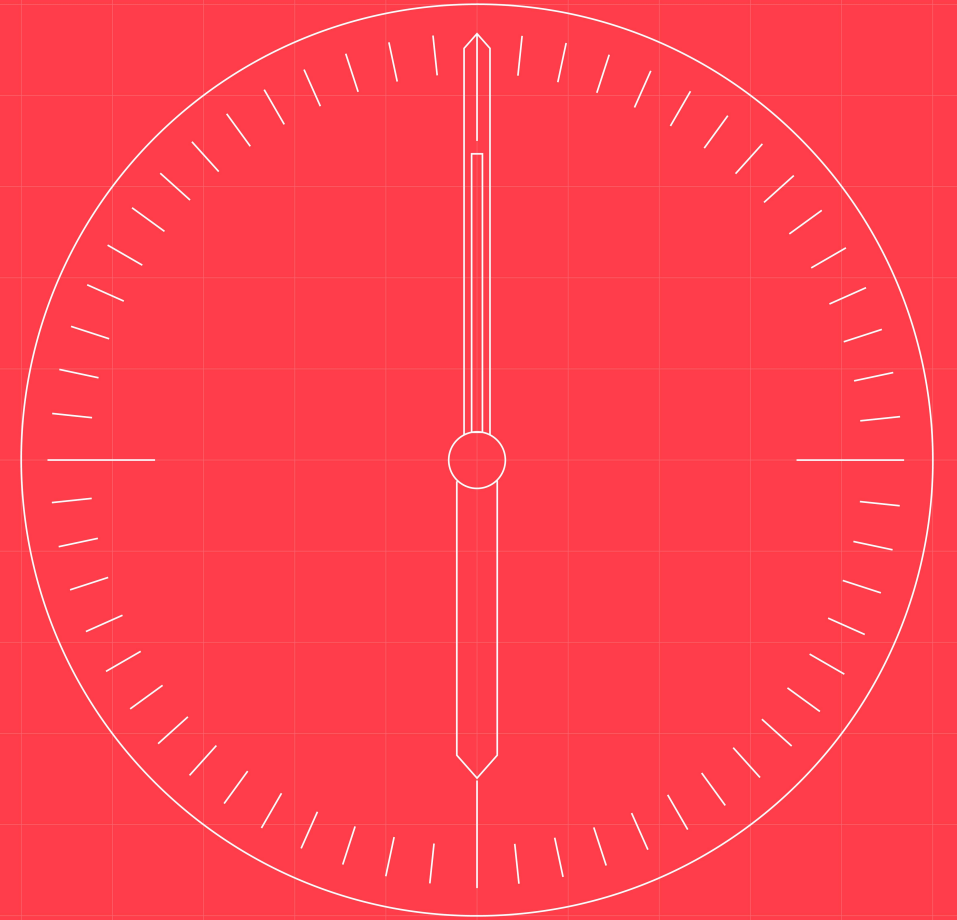
Justin Andrews

5 mins

Ratification of design decision regarding Service Appointment

Ian Smith

20 mins



MHHS Design- DAG Decision Paper- Service Appointments

Context:

As part of the CCDG activity a Registration Mediated approach was recommended to manage Service Appointments within the new TOM. Following responses from industry as part of the AWG consultation OFGEM requested that these responses be considered. The MHHS Design Team has drawn up an alternative process based upon this feedback and further discussion with industry. These options have been presented to the registration working group and a request for feedback made.

Option Summary:

Option 1- CCDG Proposed Approach (Recommended)

Registration Mediated Service Appointments. Existing Supplier-Agent interactions (D155/D11) replaced by new interfaces between Supplier and Registration System via the DIP. Reduced number of supplier interactions around the Appointment process (down from 6 to 2).

Option 2- Alternative Approach

Supplier/Agent Mediated Service Appointments. Existing Supplier-Agent interactions (D155/D11) and new DIP interfaces supported- enabling Supplier/Agents to agree bi-laterally how to communicate Service Appointments. D148/D205 replaced by other update mechanisms managed by the Registration System. Provides flexibility to Suppliers and Services on how they wish to implement appointment notifications bi-laterally, while adopting a common messaging solution for Registration-Service interactions.

Rationale:

Significant benefit in Option 1, as it reduces error in appointment process.

65% of parties who responded were in favour of Option 1.

Agents highlighted the overhead of needing to support multiple communication mechanisms under Option 2, though did recognise the potential to reduce impact on Suppliers. It was also noted that there would be significant change for Agents and Registration Service with either Option.

Several Suppliers noted that on reflection Option 2 did not significantly reduce the impact on their systems and processes.

Several parties suggested the potential use of 'adaptor solutions' to mitigate the impact of Option 1.

The MHHS Design Team support this recommendation as this has significant benefit in terms of reducing errors within the process.

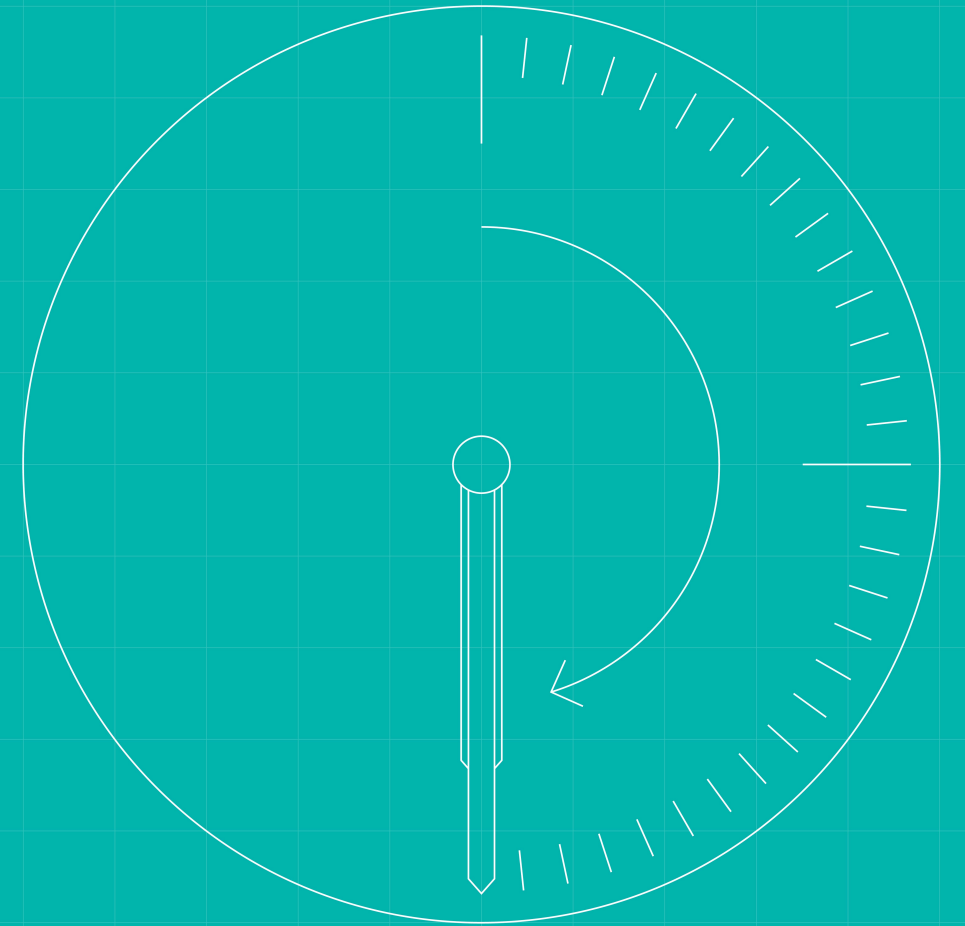
Constituency	Option 1	Option 2	Neutral	Unable to provide a view
Large Supplier	2	1		1
I&C Supplier	1			1
Medium Supplier				
Small Supplier				
Supplier Agent	1			
Independent Supplier Agent	3	1	1	
DNO	1			
IDNO				
Smart DCC	1			
Elxon			1	
Other- IT Service Provider	2			
Total	11	2	2	2
	65%	12%	12%	12%

MHHS Design- Service Appointment Options- Engagement & Response Rates

- A number of meetings were held to socialise the options for Service Appointments with impacted constituency parties.
- 36 organisations were represented in the meetings across all constituencies.
- Responses were received from 42% of the organisations who attended a socialisation session and/or the Sub Working Group meeting.
- 2 parties provided a response but confirmed that they were unable to provide a view on the preferred option due to resource constraints.

Constituency	Organisations Represented	Option 1	Option 2	Neutral	No Response
Large Supplier	6	2	1		3
I&C Supplier	6	1			5
Medium Supplier	2				2
Small Supplier	4				4
Supplier Agent	1	1			
Independent Supplier Agent	6	3	1	1	1
DNO	4	1			3
IDNO	1				1
Smart DCC	1	1			
Elexon	1			1	
Other- IT Service Provider	4	2			2
Total	36	11	2	2	21
		31%	6%	6%	58%

MHHS Service Appointments Options



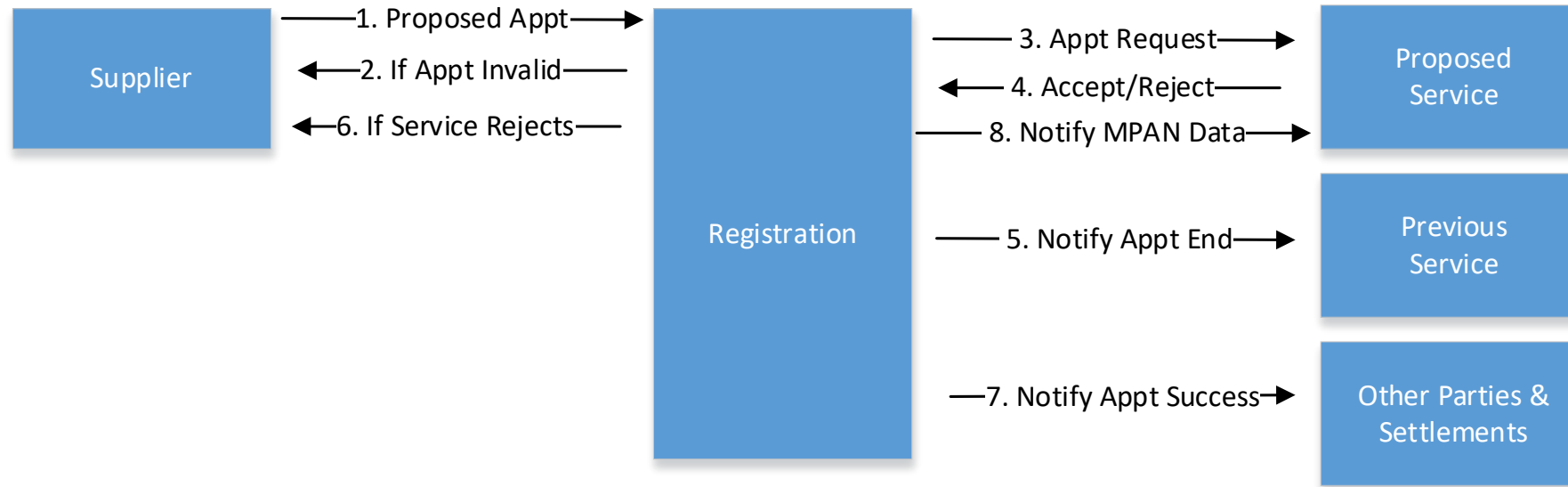
MHHS Service Appointments – Background

- The current business process see Suppliers appointing three agents – Data Collector (DC), Data Aggregator (DA) and Meter Operator (MOP)
- The MHHS Target Operating Model (TOM) sees these agents replaced by new, segment specific, Service Providers :
 - Data Services - Smart Data Service (SDS), Advanced Data Service (ADS), Unmetered Supply Data Service (USDS)
 - Metering Services - Metering Service Smart (MSS), Metering Service Advanced (MSA), Unmetered Operator (UMSO)
- In their previous consultations the CCDG and AWG also suggested a much greater role for the Registration Systems (MPRS), with these now acting as the ‘de facto system of record’ for MPAN ownership and attributes; and which Service Provider(s) are appointed to an MPAN at any moment in time
- Shortly after the formation of the MHHS Programme (late Q3 2021), several representations were made to the Programme suggesting that the high-level approach to the ‘Appointment’ of new Service Providers, as outlined in the CCDG/AWG documentation, would result in potentially substantial change/re-design to suppliers existing systems and processes.
- The MHHS Design Team have looked extensively at all the possible options/variations around how the Appointment process might work – whilst further low level design discussion is still required around *both* options - we believe there are two practical approaches which might adopted.
- As a result of the introduction of new Service Providers, data items and processes – there is no “No Change” option – Suppliers will still need to interact using new interfaces in areas other that Service Appointment

MHHS Service Appointments – Background

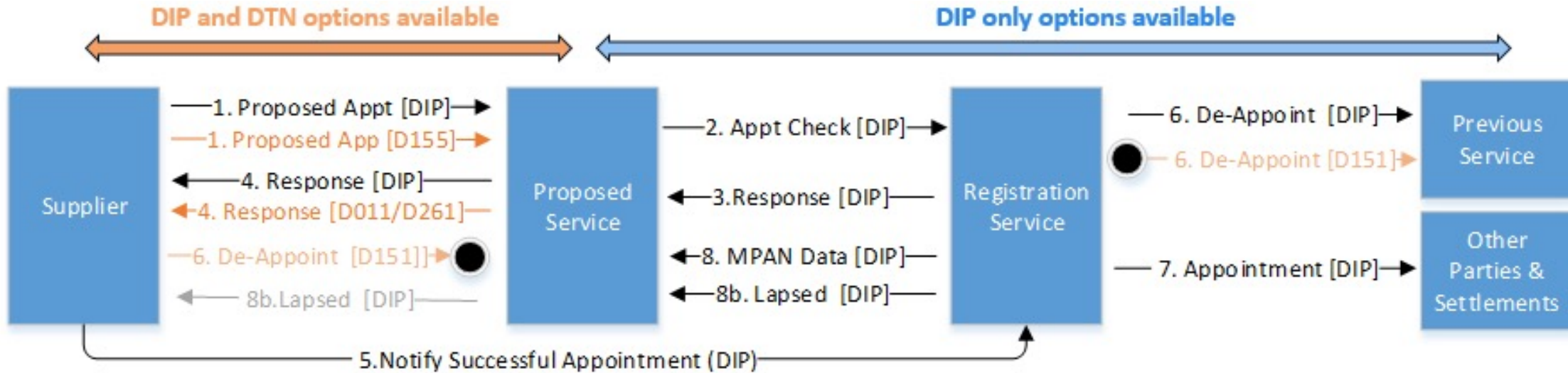
- MHHS Design Team believe that both options meet the Appointment Process Design Principles, discussed in the Registration Work Group Meeting
- Both options seek to maintain the principle that the Registration System is the de facto system of record
- Both options allow for the consideration of allied functionality such as Auto De-appointment, In-Advance Appointments, improved handling of Export Meters (alignment of Service provider) and Customer Direct Contract arrangements etc.
- Should be recognised that *both* options will still require further detailed design activity / discussion before arriving at a finalised design - *this will progressed with the L4 sub groups*
- A decision, on which high-level approach should be adopted, is now required to allow that further design work to progress
- Following further discussion of responses from Work Group participants, this issue needs to be escalated to the Design Advisory Group (DAG) for final resolution
- Feedback Request was to gain a greater understanding of the implications and impacts of both options on participants existing business processes and systems
- The options were presented to the Supplier engagement sessions and sub group and the feedback presented to the registration working group before presentation to DAG

MHHS Service Appointments – Option 1 – CCDG Proposed Approach



- Registration mediated Service Appointments
- Existing Supplier-Agent Interactions (D155/D11) would be replaced by new interfaces between the Supplier and the Registration System, via the DIP
- D148/ D205 replaced by other update mechanisms managed by Registration System
- Reduced number of Supplier interactions around the Appointment process

MHHS Service Appointments – Option 2 – Alternative Approach

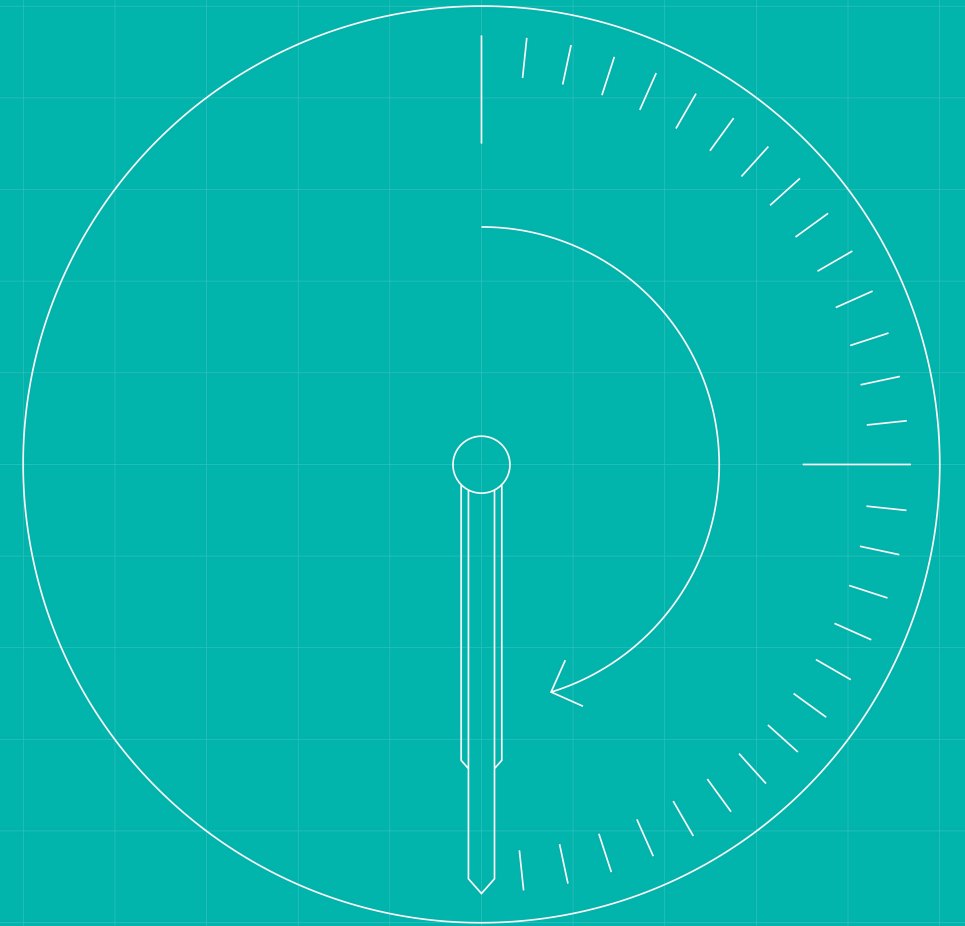


- Supplier/Agent mediated Service Appointments
- Existing Supplier-Agent Interactions (D155/D11) and new DIP Interfaces would be supported – allowing Supplier/Agents to agree bi-laterally how they wanted to communicate Service Appointment
- D148/ D205 replaced by other update mechanisms managed by Registration System
- Gives Suppliers and Services flexibility on how they wish to implement appointment notifications bilaterally, while adopting a common messaging solution for Registration ~ Service interactions.
- There is an element of ‘dual notification’ into Registration, which is a process risk. However there are potential mitigations to this albeit they may move the design even further away from mirroring the existing process.

Ratification of design decision regarding Interface Approach

Ian Smith

20 mins



MHHS Design- DAG Decision Paper- Interface Approach

Context:

L4 Design sub-working groups have been considering the approach to interface design and a number of areas of optionality have been identified. These relate principally to the richness of data contained within the interfaces over and above the essential data required to support the business process. Options were prepared and written responses requested following discussion with the sub-working group. The specific details of the options considered are appended following the summary slides.

Principle Summary:

Transactional Messages- Initial Interaction

Transactional messages should only contain the data items specifically related to the processing of that event, and that ancillary data items not directly connected to that transaction/event should not be included.

Rationale:

Messages only containing necessary data reduces redundant rejections.

As part of the overarching position on interfaces views were sought as to a principle of transactions only containing such data necessary for the processing of that event.

It is felt that the inclusion of data items not strictly pertaining to the event being communicated could lead to unnecessary validation and hence unnecessary rejections.

All respondents broadly support this principle, however, it is recognised that in certain circumstances additional information may be required, the details of which will be determined in finalised interface specifications.

The MHHS Design Team supports the approval of this principle as this best support error market participants resolution processes

Constituency	Strongly Agree	Conditionally Agree
Large Supplier	1	
I&C Supplier		
Medium Supplier		
Small Supplier		
Supplier Agent		
Independent Supplier Agent	2	3
DNO		1
IDNO		
Smart DCC		
Elexon	1	
Other- IT Service Provider	2	1
Total	6	5

MHHS Design- DAG Decision Paper- Interface Approach

Options Summary:

Transactional Message- Reponses- Rejection

- Option 1 – Super Thin (only Rejection Outcome/Message & Core Information)
- Option 2 – Thin (Rejection Outcome/message, & Content of original transaction data)
- Option 3 – Thick (Rejection Outcome/message, original transaction data & Key registration data items)
- Option 4 – Super Thick (All items above, and a full snapshot of registration controlled data)

Transactional Message- Responses- Acceptance

- Option 2 – Thin (Rejection Outcome/message, & content of the original transaction data)
- Option 3 – Thick (Rejection Outcome/message, original transaction data & Key registration data items)
- Option 4 – Super Thick (All items above, and a full snapshot of registration controlled data)

Rationale:

Responses show a strong consensus for a 'Thin' response (either Option 1 or Option 2).

The MHHS Design Team strongly recommends Option 2 on the basis that core information will assist parties in their error resolution processes. Parties who do not wish to use the supporting data are not obliged to do so.

Constituency	Rejection				Acceptance		
	Option 1	Option 2	Option 3	Option 4	Option 2	Option 3	Option 4
Large Supplier			1		1		
I&C Supplier							
Medium Supplier							
Small Supplier							
Supplier Agent							
Independent Supplier Agent	3	2			5		
DNO	1				1		
IDNO							
Smart DCC							
Elexon		1			1		
Other- IT Service Provider	2	1			3		
Total	6	4	1		11		

MHHS Design- Decision Paper- Registration Query Service Approach

Principle Summary:

MPAN Query Service

Participants should have a mechanism for obtaining a Real Time copy of all the current data held by the Registration system for a given MPAN

Rationale:

There is strong consensus that there is a requirement for parties to obtain an up to date view of registration data.

Where parties disagreed it was largely on the basis that the requirement should not be resolved directly to the Registration System.

There are further discussions required as to how this might be resolved, noting that ECOES provides an API enquiry service currently based upon an overnight snapshot.

Given the preference for 'Thin' interfaces, and therefore ancillary data not being exchanged as a matter of course, the MHHS Design Team recommends to DAG the requirement for a mechanism for services to obtain an up to date view of registration data be approved.

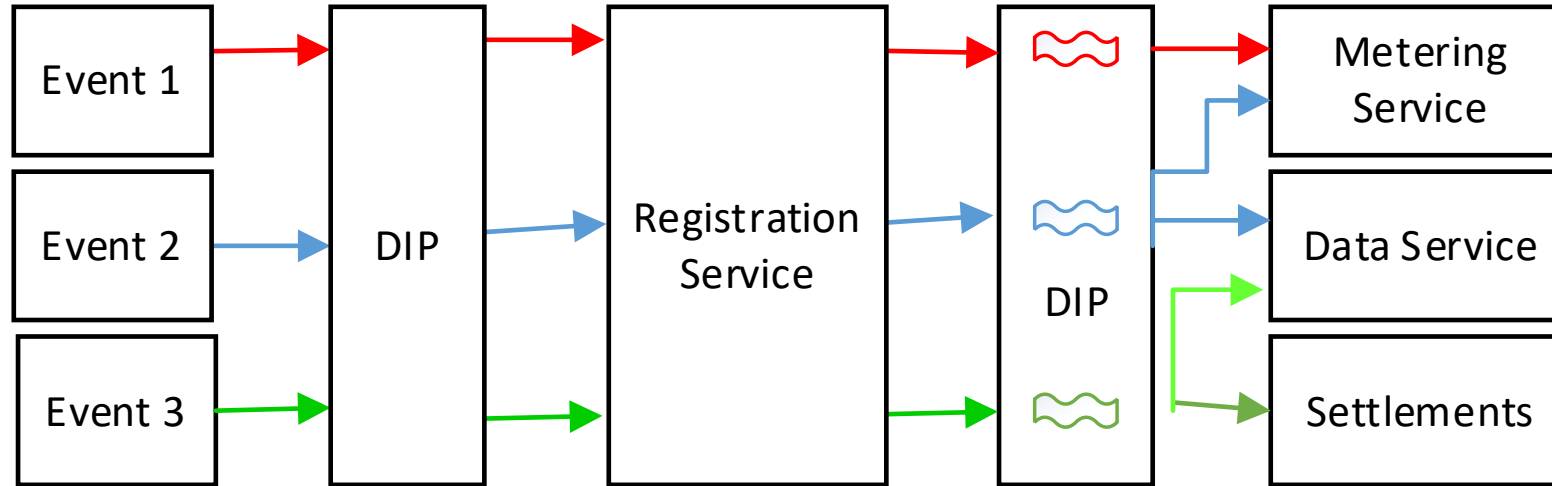
Following approval the next step will be for the TDWG to discuss options for physical resolution of this requirement.

Constituency	Agree	Disagree
Large Supplier	1	
I&C Supplier		
Medium Supplier		
Small Supplier		
Supplier Agent		
Independent Supplier Agent	4	1
DNO		2
IDNO		
Smart DCC		
Elexon	1	
Other- IT Service Provider	2	1
Total	8	4



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MHHS Interface Basics



- Balance the total number of interface pathways with re-use of interfaces where the same basic information is exchanged (e.g. Meter Changes – Install / Removal / Exchange)
- Include an Event Code, this reflects the concept that all transactions are event based. This will ensure that there is no ambiguity between the sending and receiving parties on the nature of the transaction and the validation required to ensure it is valid/complete
- [Initial] ‘Event Notification’ messages should ‘*only contain the data items that are directly relevant to the transaction being undertaken*’. This will ensure that important market transactions are not rejected as a result of ancillary information, not directly connected to the transaction, being out of alignment
- ‘Event Response’ messages will utilise the same interface regardless of outcome. However, in the event of a ‘Rejection’ the DIP shall only return the transaction to the originating party. In the case of an ‘Acceptance’ this transaction shall act as notification to both the original sending party *and* any secondary recipients interested in receiving notifications of that event type.

Note: there is no constraint on the DIP, should it be decided at a later point that secondary parties should also have visibility of rejections (e.g. a supplier having visibility of rejected Metering Updates on MPANs for which they are responsible)

- Uni-directional Distributions
 - Load Shaping Data
 - Industry Standing Data
- Uni-Directional Transactions – information exchanged between parties, where there is no rejection
 - HH Consumption Data
 - Notification of New Supplier
- Bi-Directional Transactions – information exchanged between parties, usually (but not always) *via the Registration System*, but whereby there is the possibility that, subject to validation rules, the transaction might be Accepted or Rejected
 - Change to Metering Details
 - Change of Energisation Status
 - Change of Segment
 - Appointment / Change of Service Provider

Examples of 'Initial' Transactional Interface Messages

Meter Exchange

- Core Information = Event Code / Correlation ID / MPAN / Metering Service ID
- New/Current Meter = MSID / ESME GUID / Mtr Type / Mtr Loc. / Install Date / etc. etc.
- Removed Meter = MSID / ESME GUID / Mtr Type / Mtr Loc. / Install Date / Remove Date / etc. etc.

Change of Address

- Core Information = Event Code / Correlation ID / MPAN / Metering Service ID
- Revised Address = Post Code / Address Line1/Address Line2/Address Line3 etc. etc.

Change of Energisation Status

- Core Information = Event Code / Correlation ID / MPAN / Metering Service ID
- Revised Energisation Status = Energisation Status / Effective From Date

- [Initial] 'Event Notification' messages would contain
 - Segment of Core Information
 - Segment of transactional data where '*only contain the data items that are directly relevant to the transaction being undertaken' is included*. This will ensure that important market transactions are not rejected as a result of ancillary information, not directly connected to the transaction, being out of alignment
- Definitive List of 'Event Codes' would be defined for use in each Interface Type
- Use of more modern data exchange techniques (eg API/JSON) could mean Event Codes were "self describing" eg. MeterInstall / MeterRemoval / MeterExchange – to be discussed as part of Physical Design once interface solutions & technology options are confirmed

Option 1 – ‘Super Thin’ Rejection - there is only the option of making ‘Rejection’ transactions ‘super thin’.

Meter Exchange

- Outcome Code = Reject / Rejection Info
- Core Information = Event Code / Correlation ID / MPAN / Metering Service ID

Change of Address

- Outcome Code = Reject / Rejection Info
- Core Information = Event Code / Correlation ID / MPAN / Metering Service ID

Change of Energisation Status

- Outcome Code = Reject / Rejection Info
- Core Information = Event Code / Correlation ID / MPAN / Metering Service ID

In the case of a ‘Rejected’ transaction – only the Outcome Code/Info and Core Information is returned and only to the originating party

As with Event Codes, the use of more modern data exchange techniques (e.g. API/JSON) could provide an opportunity to provide much richer rejection information than is the case currently, for example:

“MSN-A does not match MSN-B, MSN-C, MSN-D attached to MPAN 123456789” OR “Meter Remove Date 10/01/21 is prior to Meter install date 01/03/21 for MSN-X”

The exact validation rules to be applied to each transaction and the nature of the error message(s) is a separate design discussion and should not impact this discussion on the data to be included as part of transactional responses

Option 2 – ‘Thin’ Response - would contain the **Outcome Code (Accept or Reject +Rejection Details)** & **Core Information** & the transactional information provided in the original transaction sent to the registration system

Meter Exchange

- **Outcome Code** = Accept or Reject / Rejection Info
- **Core Information** = Event Code / Correlation ID / MPAN / Metering Service ID
- **New/Current Meter** = MSID / ESME GUID / Mtr Type / Mtr Loc. / Install Date / etc. etc.
- **Removed Meter** = MSID / ESME GUID / Mtr Type / Mtr Loc. / Install Date / etc. etc.

Change of Address

- **Outcome Code** = Accept or Reject / Rejection Info
- **Core Information** = Event Code / Correlation ID / MPAN / Metering Service ID
- **Revised Address** = Post Code / Address Line1/Address Line2/Address Line3 etc. etc.

Change of Energisation Status

- **Outcome Code** = Accept or Reject / Rejection Info
- **Core Information** = Event Code / Correlation ID / MPAN / Metering Service ID
- **Revised Energisation Status** = Energisation Status / Effective From Date

- Again in the case of a ‘Rejected’ transaction the response would be sent back *only* to the originating party
- ‘Accepted’ transactions would be sent both to the originating party *and* any other parties that had subscribed to that interface type.

- **Option 3 – ‘Fat’ Responses** would contain **Outcome Code**, **Core information**, **all information provided in the original transaction** and a view of the **key registration data items**

Meter Exchange

- **Outcome Code** = Accept or Reject / Rejection Info
- **Core Information** = Event Code / MPAN / Metering Service ID
- **New/Current Meter** = MSID / ESME GUID / Mtr Type / Mtr Loc. / Install Date / etc. etc.
- **Removed Meter** = MSID / ESME GUID / Mtr Type / Mtr Loc. / Install Date / etc. etc.
- **Regi KEY Info** = Connection Type / Segment / Energisation Status / GSP / etc. etc.

Change of Address

- **Outcome Code** = Accept or Reject / Rejection Info
- **Core Information** = Event Code / Correlation ID / MPAN / Metering Service ID
- **Revised Address** = Post Code / Address Line1/Address Line2/Address Line3 etc. etc.
- **Regi KEY Info** = Connection Type / Segment / Energisation Status / GSP / etc. etc.

Change of Energisation Status

- **Outcome Code** = Accept or Reject / Rejection Info
- **Core Information** = Event Code / Correlation ID / MPAN / Metering Service ID
- **Revised Energisation Status** = Energisation Status / Effective From Date
- **Regi KEY Info** = Connection Type / Segment / Energisation Status / GSP / etc. etc.

A small number of ‘key’ data items would be returned as part of the interface response, so as to allow these data items to be validated for alignment with the registration system – this is so as to mitigate not including these data items as part of the BAU transactions.

- **Option 4 – ‘Super Fat’ Response** contains the event related data items connected to the original txn PLUS a snapshot of wider Registration held data items

Change of Address

- **Outcome Code** = Accept or Reject / Rejection Info
- **Core Information** = Event Code / Correlation ID / MPAN / Metering Service ID
- **Revised Address** = Post Code / Address Line1/ Address Line2 / Address Line3 etc. etc.
- **REGI MPRN Main** = Connection Type / Segment / Energisation Status / GSP / etc. etc.
- **REGI MPRN Aux** = Related MPAN Ind. / Export MPAN / Premise Indicator / DCC Serviced / etc. etc.
- **REGI METER 1** = MSID1/ ESME GUID1 / Mtr Type / Mtr Loc. / Install Date1 / etc. etc.
- **REGI METER 2** = MSID2 / ESME GUID2 / Mtr Type / Mtr Loc. / Install Date2 / etc. etc.
- **REGI DS Service** = DataServID / DS Eff. Date / Previous DS / Direct Contract
- **REGI MS Service** = MtrServID / MS Eff Date / Previous MS / Direct Contract
- **REGI Supplier** = Sup ID / Previous Sup ID

Only one example shown here, but the response would effectively contain a ‘super-set’ of all Registration Data Items

Registration Enquiry Interface

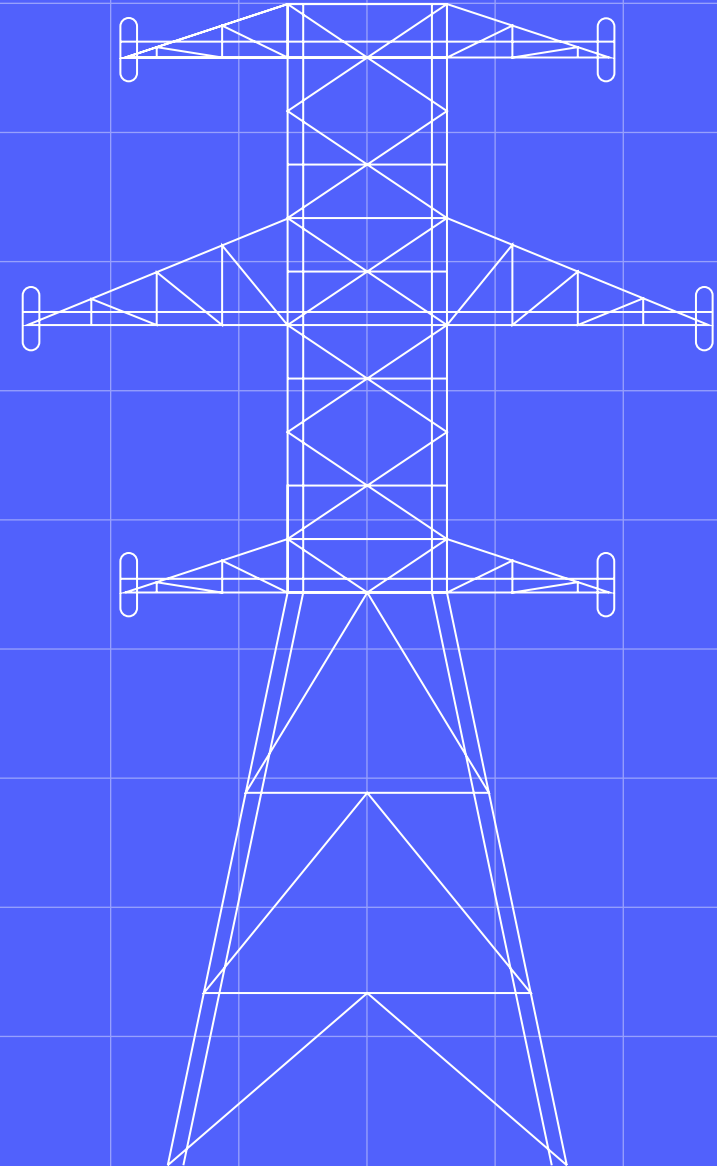
Enquiry Interface / Reconciliation Processes

- Assumption: “if everything works”, then there should not be any opportunity of misalignment of data between parties
- However, at present there is a large amount of reconciliation activity that takes place on a monthly / quarterly basis between different parties.
- Assume that participants would want *some mechanism* to check the synchronisation / alignment of data items between their systems and registration / each other?
- What are people’s views on the need for an MPAN Enquiry Transaction / Interface? Which would allow participants to obtain a current/real-time snap-shot of Registration held data ?
- Does there need to be extracts / reporting on a monthly or quarterly basis to allow for reconciliation?
 - If so then from and between which parties ?
 - What role should the DIP have / or not in facilitating the exchange of these reports / data ?

Summary and Actions

Justin Andrews

5 mins



Next Steps

- Confirm Actions from meeting
- Dates of next DAGs (additional DAGs have been added to the schedule)

Week commencing	14/02	21/02	28/02	07/03	14/03	21/03	28/03	04/04	11/04	18/04	25/04	02/05
Monthly DAG				Weds 9th					Weds 13th			Weds 4th
Additional DAG	Weds 16th					Weds 23rd					Weds 27th	

↑
*DAG meeting in
 May brought
 forward by a
 week*