1 INTRODUCTION

On Tuesday 20 April 2021 Ofgem published their decision to proceed with MHHS. In this they said MHHS will be introduced for both import and export related MPANs and on the basis of the Design Working Group's Target Operating Model (TOM). Ofgem said that transition should be completed over a period of 4 years and 6 months, ending in October 2025, and that industry will be responsible for implementing MHHS.

Elexon has published the Architecture Working Group (AWG) recommendation consultation, where they are consulting on their preferred reference architecture which will set the framework for suitable data integration for MHHS services. The consultation will be open for 4 weeks, with responses due by Monday 24 May 2021. Elexon also hosted a webinar on the AWG recommendation and consultation on Wednesday 12 May 2021, which was attended by St Clements. The consultation is of particular interest to architecture experts, as it is an opportunity to consider the preferred reference architecture and provide feedback to Elexon. Following an AWG review of the responses, with changes being made to the recommendation as required, the AWG will submit their final recommendation to Ofgem, for approval later this summer.

This document seeks to provide St Clements' comments on the consultation and the supplementary documentation published with it.

2 CONSULTATION QUESTIONS

The consultation asks 6 questions, shown below. The consultation pack also included a suite of other documents and diagrams showing business process models, data models, data catalogues, although the consultation itself does not ask for feedback on these items.

Question 1. Do you agree that the business and non-functional scope as set out is consistent with Ofgem's business case, target operating model development principles, the agreed TOM and subject areas considered by the CCDG?

Question 2. Do you agree that data integration is the appropriate architecture style to realise the MHHS TOM requirements rather than a more process centric architecture such as process automation or centralised business rules processing? If not, why not and what would be the most appropriate architecture style?

Question 3. Do you agree that Event Driven Architecture is the most suitable data integration style to realise MHHS and should be taken forward to the next stage of design? If not, why not and what would be the most suitable data integration style to realise MHHS?

Question 4. Do you agree that a new data integration service is required to satisfy the data volume and frequency requirements mandated by the MHHS TOM? If not, why not?

Question 5. Do you see any other benefits to industry of having an EDA for data integration available?

Question 6. Do you have any other comments?

3 ST CLEMENTS RESPONSE

The consultation is not asking respondents to give any details of system impacts, costs or timescales for implementation. The information provided is not detailed enough to assess any impact there may be on DURABILL.

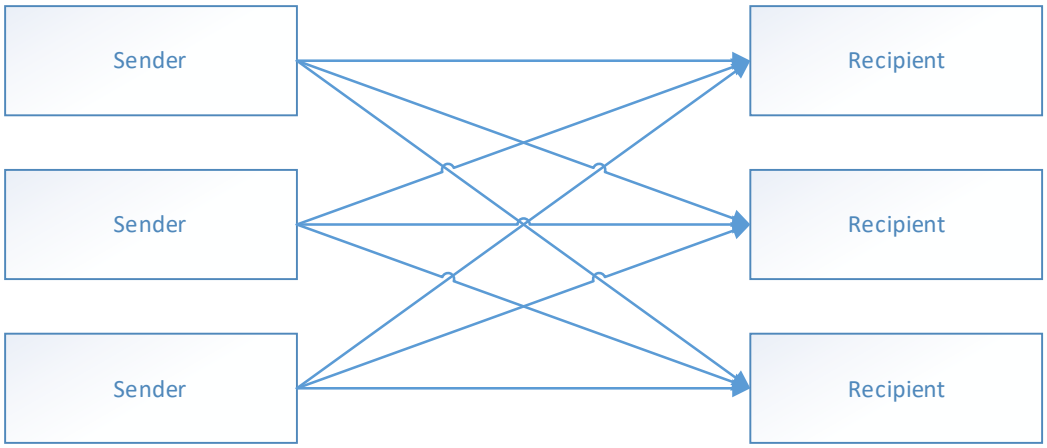
We can provide the following comments on the documentation provided.

3.1 What Is Event Driven Architecture?

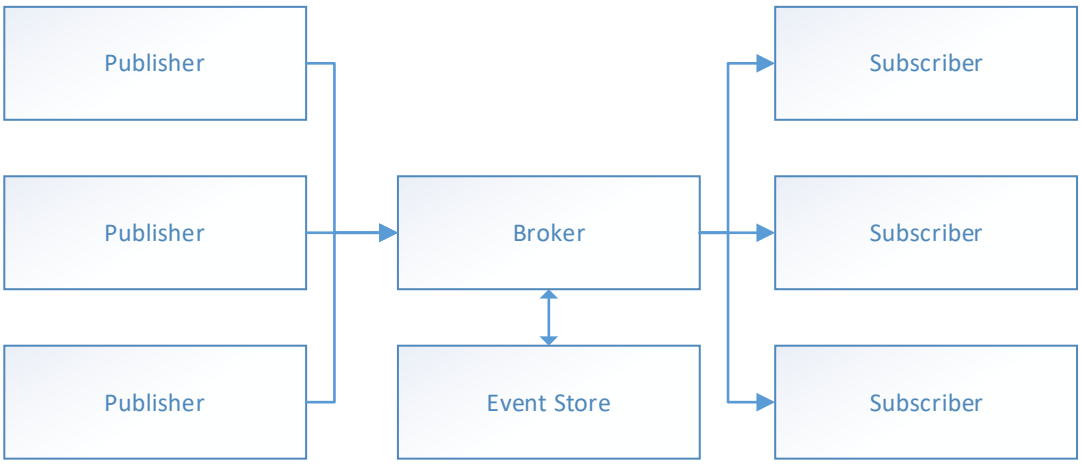
Our understanding of EDA in this context is that when a business event happens, the party that knows about the event tells a central broker. The central broker then tells any other parties who are entitled to know and who want to know. Business events are things like a change of supplier for an MPAN, change of LLFC for an MPAN and new meter readings being made available.

This is quite similar to the current flow-based system, but has some key differences.

The current flow-based system involves parties sending details of events to other parties who need to know directly. Although the DTN service routes these dataflows, it is the sending party that is responsible for telling the DTN who to send the dataflow to, as illustrated in the below diagram.



EDA, or broker integration, involves parties publishing details of business events to a central broker, and the broker sends details on to interested parties known as subscribers. The broker also keeps a record of all of the events that have been processed, giving a single source of the history of these events. The frequency of publication of events to the broker and the frequency of delivery of these events to the subscribers do not have to be the same. For example, a publisher can publish events in real time, and a subscriber can choose to receive details of those events once a day.



3.2 DTN and Adaptors

The current proposal is that both the existing flow-based DTN service and the new EDA service will be running in parallel. Electralink have published a white paper discussing the proposed EDA architecture and how it could be combined with the existing DTN, which can be found here.

Customers will need to consider whether to use an adaptor service to convert EDA messages into files for processing, or to develop functionality in DURABILL to interface directly with the EDA service.

> After considering the different styles of architecture, the AWG is recommending that data integration be accomplished by the application of *EDA (Event Driven Architecture)* to be used as the method for communicating data between all services and roles impacted by MHHS.
>
> To minimise cost to industry, AWG recommends the DTN be maintained for data flows that are not (or only minimally) impacted by the MHHS TOM. Additionally, centrally provided services should be assessed that translate between existing DTN flat file formats and new Event formats (similar to how DTN offers translation to/from XML)
>
> The EDA should not be specific to MHHS processes, allowing industry to update other processes over time as further benefits can be realised.

St Clements believe that where possible, DURABILL should connect to the EDA in the purest way possible, to be able to maximise value gained from the new architecture. This means that the system should connect directly to the EDA service to obtain messages and process them in the system without using intermediary software or transformations. This gives DURABILL full control of how to process messages, taking into account the business requirements for access to data. DURABILL is unlikely to need access to real-time data given the current proposals for DUoS billing laid out in the Access and Forward Looking Charging Significant Code Review (SCR), but connecting directly to the EDA will allow customers to choose how to manage updates. Building in functionality to accept real-time data will also future proof the system should Ofgem wish to progress some of the types of billing that requires real-time data that were discussed in the earlier stages of the SCR.

3.3 Cost of Service

The consultation does not provide any information about how the EDA would be funded, and whether the costs would be higher or lower than the current flow-based system. There is the potential for subscribers to be charged for each piece of data they receive, thereby creating a disincentive to receive and perform validation on settlements data. This could lead to reduced accuracy of settlements overall, as a result of the lack of validation carried out by a variety of parties.

The cost of updating systems to interface with the EDA has not been included in any of the impact assessments previously issued by St Clements. There is not enough information available at present to provide any cost estimates.

3.4 Focus on Central Services

The architecture working group is focussing on the data and processes required for central settlement services. Industry parties currently use settlements data for a variety of other purposes, including validation, billing and forecasting. The use of EDA may provide easier access to settlements data for non-settlements purposes, however it is not clear whether this is being considered in the overall design of MHHS systems.

3.5 Potential Wider Benefits

3.5.1 Management of MPAN Details

The new architecture will provide a mechanism for communicating changes to MPAN attributes via events. This may present an opportunity for DURABILL to use details of these events to update MPANs in the system, and / or to perform reconciliation between the broker's view of MPAN data and DNO's view from MPRS and/or DURABILL. MPAN updates are currently performed via the REG02 dataflow, getting data directly from events rather via the REG02 may reduce the effort required to implement future changes to the way in which MPAN data is managed.

3.5.2 Use for Other Purposes

The broker has a central store of events and so could make use of this to provide additional data to new subscribers, without the need for publishers of events to make any system changes.