

HEADLINE REPORT

MEETING NAME	Design Working Group (DWG) – Market-wide Half Hourly Settlement SCR
Meeting number	12
Date of meeting	18 October 2018
Purpose of paper	Information
Classification	Public
Synopsis	Summary of the twelfth DWG meeting and actions arising.

1. Introduction

- 1.1 ELEXON introduced the twelfth DWG meeting and set out the meeting objectives. These were to:
- Understand the possible architectural options that can support the Target Operating Models (TOMs) for Market-wide Half Hourly Settlement (MHHS);
 - Evaluate the remaining TOMs, taking into account the steers to date from Ofgem and the Design Advisory Board (DAB); and
 - Agree the DWG’s recommendations on reducing the Settlement timetable, taking into account the latest Workgroup 4 discussions and Ofgem/DAB steers.

2. TOM architectural options

- 2.1 ELEXON noted that one of the remaining decisions for the DWG in selecting a final TOM is whether or not to make aggregation part of the central Settlement service.
- 2.2 ELEXON presented [diagrams](#) of two possible architectural options for the TOMs, whereby:
- The central BSC Settlement systems maintain a Half Hourly (HH) data hub of all disaggregated Meter Point Administration Number (MPAN)-level HH data, receiving this validated data directly and summarising (aggregating) it as part of the Settlement calculations; or
 - The central BSC Settlement systems receive HH data aggregated by Supplier under a distributed data model, where validation and aggregation of MPAN-level data for Settlement purposes is performed by multiple entities outside of central Settlement.
- 2.3 ELEXON noted that the diagrams show conceptual, rather than physical, architecture which can support all the TOMs and can be configured according to the specific TOM service requirements. It highlighted that there is importance in clearly-defined data governance.
- 2.4 ELEXON noted that, under the first option, the diagram shows a logical divide between:
- Data storage; and
 - Data aggregation, load shaping and ‘analytics-type’ services.
- In this model, there is also benefit in embedding the Load Shaping Service into the central Settlement service because this is where Meter data will be aggregated for Settlement purposes.
- 2.5 The DWG discussed the potential pros and cons of the two models. The DWG:
- Noted, and agreed with, the DAB’s view that maintaining a single hub of MPAN-level HH data gives the ability to support network charging, flexibility and innovation – even though the requirements in these areas currently remain uncertain;

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- Noted the undesirability of maintaining multiple copies of data; and
 - Clarified that making aggregation of Settlement data part of the central Settlement service does not prevent other entities offering non-Settlement, value-added data aggregation services – subject to appropriate access/privacy rules. However, this falls outside the TOM design.
- 2.6 The DWG noted that Ofgem’s policy work on data access and privacy means that ELEXON can only use/share MPAN-level HH data ‘for Settlement purposes’. The DWG noted that ELEXON already has an action from the DAB to advise what activities this needs to encompass, which may include network charging. Ofgem clarified that any other third-party uses for the data will require a separate access regime and that this is outside the scope of the TOM design. The DWG considered that there is a difference between sharing MPAN-level data and less-sensitive aggregated data. It agreed that a central data hub could facilitate the latter by enabling data to be aggregated in many different ways.
- 2.7 Some DWG members asked whether there are security implications of holding all MPAN-level data in a central hub. ELEXON noted a distinction between:
- The physical security of the BSC central systems and any cloud provider (e.g. use of encryption); and
 - The governance regime / access rights for the data, which will be the same regardless of the chosen architectural model. These will need defining later on in the TOM development once Ofgem has made its final policy decision on data access and privacy.
- 2.8 The DWG noted that Ofgem intends to conduct a National Security Threat Assessment, but only after the DWG has chosen a preferred TOM and as part of the Final Business Case. Ofgem and the DWG therefore agreed that it was important to check now that there were no fundamental security/privacy restrictions on adopting this architectural model. ELEXON agreed to establish with Ofgem who the relevant policy makers are, and to then arrange the necessary discussions. DWG members suggested speaking to the Information Commissioner and the Smart Energy Code’s (SEC’s) Security Sub-committee to establish the right contacts.
- 2.9 Ofgem highlighted that the DAB would also like the DWG to consider, for security reasons:
- How long disaggregated MPAN-level data needs to be stored in Settlement; and
 - Whether the data can be disassociated with its MPAN once no longer required for Settlement.

3. Evaluation of remaining TOMs (including DAB update)

- 3.1 At [DWG11](#), after discussing Ofgem’s policy steer¹ on agent functions, the DWG agreed to remove TOM E ‘Single central service covering Retrieval through to Volume Allocation’ from consideration, along with any other fully-centralised variants of other TOMs.
- 3.2 ELEXON presented [slides](#) showing the remaining four TOMs:
- TOM A ‘Combined Retrieval and Processing with Separate Aggregation’;
 - TOM B ‘Separate Retrieval with combined Processing and Aggregation’;
 - TOM C ‘End to end service covering Retrieval through to Aggregation’; and
 - TOM D ‘Separate Services’.
- 3.3 Of these, both TOMs A and D have two remaining variants: one where aggregation of Settlement data forms part of the central Settlement service, and one where it remains a separate competitive service.

¹ Ofgem’s policy steer is intended to provide a least-regrets planning approach to allow the progress of the TOM design work with the aim of having the least impact on overall project timescales. It does not imply that it is the final favoured approach, and the final decision will be taken after consideration of all the evidence.

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- 3.4 ELEXON noted that, in order to select a final preferred TOM, the remaining decisions for the DWG are as follows:
- Whether or not to make aggregation part of the central Settlement calculations rather than maintaining a separate competitive Aggregation Service; and
 - Whether or not to combine the Retrieval Service and Processing Service into a single service.

Aggregation

- 3.5 The DWG considered that establishing separate Data Aggregators had been the most efficient approach for the 1998 Programme because, historically:
- Settlement only needed aggregated Metered Volumes; and
 - IT limitations meant that the central systems could not receive/process disaggregated MPAN-level data.
- 3.6 At the DAB's request, the DWG considered whether Settlement holding MPAN-level HH data could:
- Support Archetypes 1-3 of the smart Meter data use cases ([Stimulus paper 5](#)) developed by the Public Interest Advisory Group (PIAG): The DWG agreed that, while none of these use cases can be considered to be for 'Settlement purposes', they can all be supported in the future subject to an appropriate data access regime for third parties.
 - Create unintended costs for Distributors: The DWG agreed that, while the Targeted Charging Review (TCR) may require use of HH data for network charging, any associated costs to Distributors will be a consequence of the TCR rather than the TOM.
- 3.7 As well as the benefits identified under item 2 above, DWG members considered that making aggregation part of the Settlement calculations could benefit the Reconciliation Run process by drip-feeding data as it becomes available.
- 3.8 A DWG member asked whether there is potential to split aggregation by market segment, so that the central Settlement service aggregates data for smart Meters but not for advanced Meters. Some members suggested that this could avoid impacting the established advanced Meter market. They also suggested that it is easier to resolve exceptions under a multiple Data Aggregator model, since organisations usually provide both Data Aggregator and Data Collector services.
- 3.9 Other DWG members were unconvinced that this is compatible with the Ofgem steer. They considered that the current system is inefficient by design and questioned why a separate entity should be needed to add up data before passing it to Settlement. They also argued that the TOM design should reduce the need for exceptions and ensure that validation rules are in the right place. These members believed that avoiding an impact is not sufficient reason to preserve a legacy model with no other obvious benefit. They noted that the transition approach will consider how to mitigate any potential destabilising effects on existing market segments.
- 3.10 A DWG member believed that, having seen the architectural options, it could still be possible for central Settlement to perform the aggregation by looking at data in multiple stores. They considered that this is an implementation option that could work with the 'Central Settlement Aggregation' variant of both TOMs A and D, and that it could potentially help resolve security concerns over a single data hub.
- 3.11 On balance, the DWG agreed that there appears to be no benefit in having different approaches for market segments. It agreed that the transition approach may differ, but not the TOM design. It also agreed that the 'Competitive Aggregation Service' variants of TOMs A and D satisfy neither viewpoint since they still compartmentalise MPAN-level data but keep the Aggregation Service separate to the Processing Service. The DWG therefore unanimously agreed to remove these variants from further consideration and that

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aggregation will form part of central Settlement under the TOM design. The DWG noted that this remains subject to:

- Ofgem's final policy decision following its [consultation on supplier agent functions under market-wide settlement reform](#); and
- Confirming that there is no fundamental security/privacy barrier as discussed under item 2.

Retrieval and Processing

3.12 The DWG discussed the pros and cons of combining the Retrieval Service and Processing Service.

3.13 A majority of members believed that these services should be combined because:

- The Retrieval Service, as defined, is very 'thin' and appears to add little value as a stand-alone service (as it simply sends requests to the Data and Communications Company (DCC), 'unpacks' the data received and passes it to the Processing Service);
- Having two separate services gives the potential for disagreements over who is accountable for any performance issues – a single accountable entity is preferable from an assurance perspective and also avoids the need for separate Qualification processes for the two roles;
- There are inefficiencies in designing two separate services – due to the need to define interfaces between them and duplicate certain requirements;
- Any entity fulfilling the combined service can still, if they wish, subcontract elements of it to third parties (e.g. if a Supplier wants to act as the Retriever but subcontract the Processor role) – however, this still gives the benefit of a single responsible entity;
- Combining the services does not, similarly, prevent the Retriever receiving Meter data from multiple sources (e.g. from subcontracted Meter reading services); and
- If a single entity wants to perform both the Retrieval and Processing Services, it would be inefficient to have to appoint and Qualify them twice.

3.14 A minority of DWG members disagreed and believed that it would be more flexible to have separate services. These members questioned the benefit of combining the services and considered that it would result in entities having to go through Qualification for the full service even if they preferred to subcontract parts of it to third parties.

3.15 By majority, the DWG agreed that the Retrieval Service and Processing Service should be combined. This left the 'Central Settlement Aggregation' variant of TOM A as the DWG's overall preferred TOM. The DWG agreed that this remains subject to Ofgem's forthcoming policy steer on data access/privacy, as there may be a case for a separate Processing Service if Ofgem requires the inclusion of a 'hidden identity' solution. The DWG therefore agreed to revisit its decision at the next DWG meeting on 13 November 2018, when it will have received the policy steer. ELEXON agreed to keep the draft Retrieval Service and Processing Service requirements separate until then, in case the final decision differs.

3.16 ELEXON noted that it has been continuing to refine the requirements with the DWG's workgroups, ready for the November meeting. ELEXON noted that, now all optionality has been removed from each TOM, it will update the TOM diagrams for the final report.

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4. Update from Workgroup 4 and DAB on Settlement timetable

- 4.1 ELEXON reminded the DWG of the reduced Settlement timetable originally recommended by Workgroup 4 'Aggregation and Volume Allocation Services and Registration Interaction', as discussed at [DWG11](#) on 18 September 2018. ELEXON noted that, at that meeting, the DWG had asked for more evidence from the workgroup that the proposed shortened timetable will not significantly increase the number of Trading Disputes and/or the potential for uncorrected, material Settlement Errors. In particular, the DWG had expressed some concern over the workgroup's proposed 12-month cut-off for the Disputes Run.
- 4.2 ELEXON advised the DWG that the subsequent steer from the DAB, at its meeting on 25 September 2018, is that:
- The Settlement timetable for the TOM should not be based on historic/current performance;
 - The Final Reconciliation (RF) Run can be at 4 months, as recommended by Workgroup 4, but there should be no Trading Disputes except in cases of significant materiality (if the DWG considers that this is not feasible, it should explain why);
 - The DWG should consider how to reduce the Initial Settlement (SF) Run from the 10 Working Days (WDs) initially recommended by Workgroup 4;
 - The DWG should consider how transitional arrangements could facilitate moving to the shortened Settlement timetable; and
 - The DWG should consider what performance assurance arrangements will be needed.
- 4.3 ELEXON noted that Workgroup 4 has held a further meeting to discuss the steers from the DWG and the DAB. It highlighted the workgroup's difficulty in proposing something that can deliver both steers, since these appear to pull in different directions. On balance, the workgroup recommends the following for the TOM:
- The timing of the Interim Information (II) Run should be determined by that of the SF Run (see below);
 - The SF Run should be at 5-7 WDs, with the exact timing to depend on the preferred TOM and the DCC's read capability;
 - The Interim Reconciliation Run should be at 33 WDs, as originally proposed;
 - The RF Run should be at 4 months, as originally proposed; and
 - The final cut-off for the Disputes (DF) Run should be no shorter than 12 months.
- 4.4 The DWG noted the DAB's suggestion to review the current materiality threshold for Trading Disputes. ELEXON advised that the workgroup had considered, but discounted, having separate Dispute materiality thresholds or cut-offs for different market segments. This is because an error in one part of the market will impact all Parties financially through the correction process. The DWG noted that the Disputes Run is not the only mechanism by which Trading Disputes can be corrected, as it is possible to use an Extra Settlement Determination (ESD). However, they considered that using the normal run mechanism is often more efficient.
- 4.5 ELEXON presented [slides](#) showing analysis of current Non Half Hourly (NHH) and HH performance, the root causes and materiality of Trading Disputes, and the age and materiality of Settlement Errors. It also noted the further analysis contained in:
- Performance Assurance Board (PAB) paper [208/15](#) 'NHH Settlement by Meter type' (May 2018); and
 - The [Annual Performance Assurance Report](#) (APAR) for 2017/18 (October 2018).

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- 4.6 The DWG discussed the risks of making the Disputes Run cut-off too short, reiterating views expressed at [DWG11](#). It agreed that the risk of leaving uncorrected errors in Settlement is greatest for the Central Volume Allocation (CVA) market, where errors often take longer to detect and can have high materiality (e.g. those caused by incorrectly-installed current transformers). A DWG member also considered that the existing Disputes process helps avoid litigation between Parties, which might otherwise occur. The DWG reiterated that the Parties raising Trading Disputes are often the ones who are impacted by the errors, not those causing them – as Parties are not currently incentivised to raise Disputes that disbenefit them financially.
- 4.7 The DWG also discussed the risks of overly-shortening the timescale for the SF Run. It noted the desire to reduce the amount of Credit Cover that Parties have to post in order to cover their potential liabilities between the Settlement Day and the SF Run. It also noted the suggestion that the SF Run could be performed quicker if, for customers settled on load shapes, the load shapes used were in kWh and not scaled by the Meter Advances (avoiding the need for an extra interface between the Load Shaping Service and Aggregation Service). However, it considered that, if the load shapes are less accurate than actual Meter readings, this could itself result in Parties having to post more Credit Cover than needed – potentially negating the benefit of shortening the run timing. It also argued that shortening the timing too much could increase volatility between runs, and thereby the risk of bad debt in the event of a Defaulting Supplier. The DWG agreed that it is not possible to analyse whether these risks would arise until after the TOM has been implemented. It therefore agreed not to propose an SF Run timing of less than 5-7 WDs, but noted that moving to a shorter timescale at a later date (based on appropriate analysis at that time) can be considered further as part of the transition approach.
- 4.8 A DWG member commented that even just a 1% error on 30 million Meters will take time to evaluate and process accurately. While they noted that Parties can invest more resources in trying to detect and resolve errors by an earlier RF Run, they considered that the costs of this may outweigh the benefit of an earlier SF Run.
- 4.9 The DWG asked ELEXON to analyse the total changes in volume (both actuals and estimates) in the current HH market between Reconciliation Runs, divided by HH market segment, and bring the results to DWG13.
- 4.10 Some DWG members reiterated support for a holistic review of the Disputes process, including the appropriate materiality threshold, Dispute Run timing and error correction mechanisms. ELEXON advised that this is not currently within the scope of the Performance Assurance Framework (PAF) Review. However, it suggested that the DWG could recommend its inclusion. ELEXON also noted that the new MHHS timetable will require a revised PAF, including consideration of the appropriate performance targets. It suggested that the PAF Review is the most appropriate forum to lead on this, noting that DWG members are not necessarily experts in the PAF or Disputes process. The DWG agreed that the DWG Chairman should draft a letter to the PAF Review lead and/or PAB Chairman (as appropriate), setting out why the DWG recommends that the PAF Review considers the appropriate PAF for MHHS. ELEXON agreed to circulate the draft letter to DWG members for review.

5. Ofgem update

- 5.1 The DWG did not complete this agenda item due to time constraints.

6. Time of Use Scaling Weights – DWG12/01

- 6.1 The DWG did not complete this agenda item due to time constraints. It agreed to consider the paper at its next meeting on 13 November 2018. ELEXON invited DWG members to provide any comments or questions in advance of the meeting.

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7. Gantt chart and 2019 DWG meeting dates

7.1 ELEXON highlighted the DWG meeting dates for 2019, as shown on the [Gantt chart](#).

8. DWG11 Headline Report and actions log

8.1 ELEXON confirmed that the previous meeting's [Headline Report](#) has been published.

8.2 ELEXON provided updates on open and recently-completed actions, as summarised below.

9. Summary, actions and next steps

9.1 ELEXON noted that the key next steps are for it to:

- Confirm, before submitting the DWG's preferred TOM to Ofgem in January 2019, that there is no fundamental security/privacy barrier to a single hub of MPAN-level HH data;
- Refine the TOM service requirements for the DWG's final review at its next meeting on 13 November 2018;
- Receive Ofgem's latest policy steers, for discussion by the DWG at its November meeting; and
- Write to the PAF Review lead and/or PAB Chairman, setting out why the DWG recommends that the PAF Review considers the appropriate PAF for MHHS.

ACTIONS UPDATE

Actions on ELEXON:

08/02 – Consider how to draw out, in the TOMs, what types of Meter-level data will be available at various stages in the end-to-end Settlement process – Open – ELEXON will ensure this is included in the final covering report for the TOM requirements.

09/01 – Consider further the merits of the DWG setting capability requirements for any TOM architecture, provide guidance on what areas these requirements could cover, and clarify where this could fit into the DWG's Stage 2 process – Closed – See item 2 above. Most of the capability requirements are already captured in the TOM service requirements. The remaining requirements are around data governance and access rights – these will need defining later, once Ofgem has made its final policy decision on data access and privacy.

10/02 – ELEXON to discuss with Workgroup 4 how to mitigate any opportunity for gaming the load shapes if Ofgem makes an 'Opt-out' decision on data access/privacy – Closed – See item 7 above.

10/06 – ELEXON to update the Forward Work Plan to reflect the changes to the Gantt chart, as discussed at DWG10 – Closed – ELEXON has published an updated version on the DWG web page.

11/01 – ELEXON to consider how its report will explain the TOMs and service requirements to a lay audience – To be closed – ELEXON has developed 'summary guides' (formerly 'story boards') for inclusion in the final TOM report. Agenda item at DWG13.

11/03 – ELEXON to establish the baseline of DCC read capability – Open – ELEXON and Ofgem met with the DCC on 25 September 2018. We have shared our baseline assumptions with the DCC and are awaiting a response.

11/04 – ELEXON to clarify the analysis undertaken by Workgroup 4 on existing Settlement performance, and whether any further analysis can be undertaken in this area – in particular for the existing HH / advanced Meter market – Open – See item 5 above. Update to be provided at DWG13.

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11/05 – ELEXON to share DWG members’ suggestions on the Disputes process with its PAF Review team, and confirm to what extent the PAF Review is considering Disputes – Closed – See item 5 above.

12/01 – ELEXON to establish with Ofgem who the relevant policy makers are regarding the security implications of a single HH data hub, arrange the necessary discussions and consider speaking to the Information Commissioner and the SEC’s Security Sub-committee to establish the right contacts – Open.

12/02 – ELEXON to update the TOM diagrams now all optionality has been removed – Open.

12/03 – DWG Chairman to draft a letter to the PAF Review lead and/or PAB Chairman, setting out why the DWG recommends that the PAF Review considers the appropriate PAF for MHHS – including performance targets, the timing of the Disputes Run and a holistic review of the Trading Disputes process (especially the materiality threshold) – ELEXON to circulate the letter to DWG members for review – Open.

Actions on other members:

08/03 – Ofgem and ELEXON to investigate what materials are available on the lessons learned from Project NEXUS – To be closed – Ofgem had published a list of the NEXUS lessons learned on p.77 of its [Outline Business Case](#) for MHHS.

08/05 – Ofgem to consider the merits of having a joint set of innovation scenarios for Faster Switching and MHHS – Open – Ofgem is still discussing internally.

11/02 – Ofgem and ELEXON to discuss what further guidance the RFI may need to include on architecture and service provision – Open – ELEXON and Ofgem have held initial discussions and are meeting again on 11 October 2018.

11/06 – Ofgem to confirm that using the Registration Service as the definitive record of TOM Service providers does not conflict with its Faster Switching SCR or its review of the future retail market arrangements – Closed - Ofgem has confirmed that this does not conflict with its work in these areas.