

Data & Technology Advisory Group

Meeting 3 Minutes

Date: 28/06/2023	Location: Virtual
Start: 13:00	End: 15:00

Participants

Attendee	Organisation
Sebastian Van Dort (Chair)	BSI – British Standards Institute
Erwin Frank-Schultz	IBM
Tom Pollock	Northern Gas Networks
Prof Gareth Taylor	Brunel Institute of Power Systems
Abbas Mahmood	Energy Networks Association
Simon Evans	Arup
John Bintu	Arup
Jonathan Barcroft	ESO
James Edwards-Tombs	ESO
Divya Mahalingam (Facilitator)	ESO

Agenda

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- 1. Apologies for absence**
 - 2. Discussion: Common framework factors covered**
 - 3. Discussion: What input we would like from you**
 - 4. Discussion: Structure of the attachment**
 - 5. Next meeting**
 - 6. AOB**
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Discussion and details

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- 1. Apologies for absence**
 - Bethan Winter - Wales & West Utilities
 - Dr Priya Mothilal Bhagavathy - PNDC – Power Networks Demonstration Centre
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2. Discussion: Common framework factors covered

- The Virtual Energy System (VirtualES) 'data and technology' Advisory Group will cover seven factors, of which three technical factors have been prioritised for immediate consideration.
 - Increasing data visibility & enabling sharing
 - Creating an interoperable tech stack
 - Aligning Models & Taxonomies

Reflection Point

- ***Do you feel that the prioritised three technical factors have been covered sufficiently and are you comfortable with that approach?***

Discussion

- It was recommended under data sharing process, to start by defining a metadata in an agreed format and then start sharing data. It would be useful if the process starts with exchange of metadata which then allows us to transform the data needs to be in an agreed format to exchange.
- It was agreed that it's better to prioritise standardised metadata first and then over time you can standardise the actual data.
- It was mentioned that the VirtualES will adopt some of the best practices and principles of a 'data mesh' approach, which is an industry approach for implementing distributed architectures. These principles will not only support the technology decisions but also guide the behaviour of the participants using the VirtualES.
- It was advised to define the target audience for this approach and what the executive summary will look like to educate the audience to understand digital twins - the concept, the technology and the use of them.
- It was suggested to include an appendix with reading list and background for the best practice document.
- Discussion concluded that these factors are highly related and difficult to separate, as the inherent need for the VirtualES is to enable sharing and visibility of data through an interoperable tech stack that ensures models and taxonomies are aligned, ensuring trust and interoperability between actors.

3. Discussion: What input we would like from you

- For this Advisory Group, we would like your input and feedback on the following areas:
 - Structure of the document, and the decision to combine the three prioritised factors in one document.
 - The story telling aspect of the document to ensure a reader, unfamiliar with the programme, understands the various prioritised factors and how they interact with each other to enable a successful implementation.
 - The potential use cases that can benefit from the VirtualES, and other use cases from your experience that can support the VirtualES

Reflection Points

- ***What are your thoughts on the structure and story arch of the document?***
 - ***Does the workflow process described in 'Section 4 - How the VirtualES works' in the guidance explain the use of the VirtualES sufficiently for data providers and consumers?***
 - ***Is it clear to you how your organisation would interact with the VirtualES as a result?***
 - ***Do the use cases in 'Section 6 - Developing the VirtualES through a use case driven approach' suitably resonate with your organisation to make the proposed technology stack understandable?***
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Discussion

- It was agreed that the document is written well to provide background and a story arch as it is considered suits an audience that will not always be familiar with the programme and its existing work.
- It was explained that data providers and consumers will follow key steps which can be supported by the VirtualES ensuring compliance with standards, ability to search and find data, and for the distributed sharing of datasets via APIs.
- The high-level design of the VirtualES incorporates several key components and functions that will ensure that distributed data sharing is possible in a secure and controlled environment.
- ESO accepted that the high-level design would be clearer if explained alongside a user journey and agreed to implement that.
- It was discussed that use cases are the long-term development statements to reform common purpose and grant greater access. It is important to keep the use case programme as open as possible to fully understand what they are, their scope and purpose and how they fit into the whole energy system. Also, it was suggested to possibly include more use cases across the energy sector.
- It was agreed that the document has got some interesting and useful descriptions for the audience of taxonomy, metadata, information systems and Common Information Model (CIM).
- It was discussed that the aim of this workflow is to simplify the high-level design into a set of steps which are more consumable for wider audience. Furthermore, the workflow is applicable to any VirtualES use case i.e., they are the high-level activities that will likely occur for the data producers and consumers, for any use case.
- The adoption of approved and secure APIs for publishing data through energy system will ensure that data is shared securely and in a standardised way. Also, the publishing process should enable the application of security and governance controls to the data.
- It was acknowledged that the structure is clearly understandable, organisations can relate to it at high level, how and why to interact was clear and explained.
- To develop the required technology stack for the VirtualES, a use case driven approach has been adopted to ensure that the required components are delivered iteratively through user requirements.
- It was suggested by the group that in the proposed use cases examples an additional column could be added to detail the stakeholders or actors and how much they could participate.
- It was agreed that the high priority use cases and process were good. The concept of linking back to the existing diagram and showing how that works worked well and describing the process to 'must haves' from 'could haves' would be helpful.
- The use case theme could be considered electricity centric, and the group discussed:
 - Could we apply some of the concepts to gas?
 - Linking electricity and gas networks - having greater synergies between the two, how each network might impact the other and modelling threats for resilience on the network.
 - For example, on ADO could you model the impact on the gas network if you dispatch something somewhere? ESO to take this to the ADO project.
- ESO explained that the common framework demonstrator aims to link to gas use case examples in the future, although they are currently in an initial and less developed stage.
- It was concluded that there needs to be a focus on the overall architecture, the use cases need a strong sense of direction, while also acknowledging that some experimentation may be required.

4. Discussion: Structure of the attachment

- The structure of attached best practice document is as follows:
 - Section 1 – Setting the scene: Outlines the VirtualES programme definition, and work completed to date.
 - Section 2 – Priority factor overview: a description of the three prioritised factors.
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- Section 3 – Data sharing options: Outlines data sharing principles, and guidance notes on various data sharing options.
 - Section 4 – How the VirtualES will work: an outline of the mechanisms that enable VirtualES.
 - Section 5 – Key considerations and enablers: An overview of critical aspects such as security, user experience, standards, etc.
 - Section 6 – Developing the VirtualES through a use case driven approach: A guidance on how VirtualES will be delivered with use cases such demonstrator, CrowdFlex, and ADO.
 - Section 7 – Next steps: An overview of the future roadmap to deliver the programme.

Reflection Point

- ***Do you have any other comments or suggestions for the document?***

Discussion

- The group confirmed that the structure of the best practice document is well written, easy to read and understand and needs no changes before being published to industry.
- It was suggested by the group to mention the Future System Operator within the documents to keep the audience aware of the change happening in 2024. ESO confirmed that we're still waiting for the bill to go through Parliament and get royal assent.
- It was advised that beyond the delivery of the initial use cases and roadmap, development of the VirtualES should continue to support future use cases. Over time additional, potentially more complex use cases are expected to emerge. The VirtualES' capability should continue to evolve to meet these use cases using the established architecture.
- It was concluded that the structure of the attachment identifies and underscores the crucial considerations of security, governance, user experience and accessibility that must be taken into account to guarantee the successful implementation of the VirtualES.

5. Next meeting

- The next meeting will be held on Wednesday 6th September from 13:00 to 15:00.

6. AOB

- ESO mentioned about their involvement in the Future System Network Regulation (FSNR) work stream.
 - ESO confirmed that the Virtual Energy System - Priority Factors reports will be shared and published on the webpage when they are ready.
 - The Chair thanked the group for their attendance and contribution.
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