Faster Switching

- Consultation Response -

Contents

Foreword from the Xoserve CEO, Sian Baldwin

Dear Rachel,

Thank you for providing the platform to consult with a wide audience over the role that UK Link could play in delivering the CSS solution for Faster Switching more quickly, with less risk and at lower cost than any alternative.

Looking back at the previous Faster Switching consultation responses, I have been struck by how many respondents identified the inherent advantage in re-use of the UK Link infrastructure to support Faster Switching, even at a time when the industry lacked confidence in Xoserve and in a Nexus go live. Not withstanding the significant early challenges of project Nexus, it was eventually a successful go live; and the trials and tribulations to get there are now themselves a huge body of knowledge and lessons learnt available for re-use. I am yet to meet any person, team or company who didn't learn how to do something of this scale really well, without first having to go through the pain of learning from mistakes. It would be an incredible return on the investment made by everyone in Nexus, to leverage that collective learning while it is still fresh; and consequently an incredible risk to start again with someone new.

As you know we have engaged widely with industry during the consultation period, including 1 to 1 meetings and a number of sessions with Energy UK and ICOSS. In addition, on the 4th September 2017 we held an event in London, which brought key regulatory and technology professionals together from across gas and electricity, to discuss and debate the risks and opportunities that centralised Faster Switching represents for our industry.

From these conversations and the event, I have summarised what I heard into key themes, however this is not to imply that it reflects the views of everyone unanimously, but I have attempted to represent the majority view arising from our engagement.

The consensus of opinion across the industry seems to be that:

1. Whilst centralised switching will bring great consumer benefit, introducing a brand new centralised Faster Switching Platform carries an extremely high risk profile - more work needs to be done to understand and quantify this risk.

2. Re-use of existing infrastructure, software and processes, where such re-use can comfortably enable the RP2a switching process at scale, will reduce implementation risks (and total cost of ownership for the industry).

3. Between gas and electricity suppliers and the underlying settlement infrastructure (supported by the DNOs and transmission), there are a large number of companies performing somewhat duplicate activities, all with their own costly governance structures. The introduction of yet another new company to this space (with no commensurate reduction in costs or complexity elsewhere), seems at odds with our overall ambition to reduce the cost we pass onto consumers.

4. There is widespread support for reviewing the time and cost of the planned procurement process for the CSS, and that the evaluation criteria need to support consideration of the total cost of ownership for the industry (as opposed to the CSS in isolation), and that any procurement decision making process should include a representative panel of industry participants.

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Our customers also told us about their concerns with UK Link and Xoserve. These were centered on our ability to participate in a competitive procurement process, our capability to deliver the CSS solution given the difficulties experienced during the earlier phases of Project Nexus, and the need for changes to our governance model to enable the ongoing provision of a Central Switching Service. We have addressed each of these matters in the body of our consultation response.

I share the above views and concerns of our customers, but want to stress two points in particular.

The first is the value in re-use of existing infrastructure, software and processes, as stated in point 2 above. Our industry consists of a lot of physical infrastructure and as I talk to gas and electricity DNOs I like to draw out the following example:

"If following year one of a five year infrastructure roll-out, the cost of new pipes or cables dropped by half, or the application of new techniques could increase capacity by 20%, would you rip out all of the infrastructure already installed and start again?"

The infrastructure leaders in our industry look aghast at this and say, "of course not". I usually follow this up by saying, "ok then, would you just buy new pipes or cables and lay them alongside the existing ones so you have duplication, but are still taking advantage of the new technology?" Again the answer is usually a more agitated, "that would be crazy". At this point I say, "So why would you do it for software and data centre infrastructure?" This is the philosophical challenge faced by our industry – whether to buy new pipes and cables (aka a centralised Faster Switching Platform) within a year of laying down infrastructure (new UK Link) perfectly capable of supporting the RP2a process for gas and electricity?

At a time when there is great concern over the affordability of consumer energy bills and great scrutiny over energy prices, I find it hard to countenance investment in duplicate systems a matter of weeks after Nexus go live, given that Nexus is among other things, a brand new switching platform designed to switch gas *and* electricity now, today.

The second point I want to stress relates to the procurement process. In seeking to deliver benefits to consumers through a competitive procurement, there is also a need to ensure that the procurement process itself is appropriately sized to the investment level required in the new CSS, is demonstrably efficient, and does not result in an unrealistic cost and time burden on those seeking to participate. The evaluation criteria should also recognise the end to end costs of the CSS solution, including the broader market benefits of leveraging existing industry assets.

There is a significant risk that the procurement approach for centralised Faster Switching could lead to procurement costs which, in aggregate, exceed the cost of the CSS itself, result in duplication of the IT landscape for the market and increase the total costs that will need to be passed on to consumers. It is unclear to me how we will be able to collectively explain why this is the best outcome for consumers, when a brand new switching platform was launched using consumers money only four months ago.

I have attached our detailed response to the consultation. It starts with a summary, then provides an overview of UK Link, our assessment of the fit of UK Link with the RP2a requirements and then details our response to your four specific questions.

I hope the response is comprehensive, but please let me know if there is additional detail that you need to support your decision making, or if you require any subsequent deep dive sessions into particular topics. We are excited to work with you on next steps and are committed to a supporting you wherever possible.

With kind regards

Sian Baldwin

Executive Summary

1. On 31st August 2017 the industry successfully completed exit from the Project Nexus Post Implementation Support period on schedule, following implementation in June. Project Nexus was funded by industry investment of over £100m and has resulted in a new UK Link solution, based on best in class technology, that:

   a. Is currently processing the equivalent of 4m gas switches per annum.

   b. Is powered by a highly configurable and flexible switching framework and process engine which has been built to handle both gas and electricity and which can be easily amended to reflect the specific process steps defined in Faster Switching Reform Package 2a and to include electricity and dual fuel switching.

   c. Comprises a data model based on the concept of a single premise with pre built fields to include both the gas and electricity meter data and technical details required to support faster switching.

   d. Is connected to more than 40 gas shippers (many of whom are already operating as a dual fuel supplier) plus industry participants (MAMs, DMSPs) and the DCC.

2. In Xoserve's view, re-use of the UK link solution to provide the CSS would:

   a. Simplify the market environment. A significant portion of UK Link will need to remain in place even if a non-UK Link based solution is adopted for the CSS. If UK Link is the CSS solution participants would need to integrate with only one system, not two.

   b. Accelerate delivery, as UK Link is already built and operating at scale, which means we can re-use the UK Link platform to simplify the CSS delivery; thus shifting the focus from a lengthy and complex greenfield system build, towards a simpler project that re-uses industry assets. In addition, it would negate the need to migrate into the new CSS the 24 million gas meter records just migrated into UK Link as part of Project Nexus.

   c. Allow for a phased delivery of the CSS to reduce the risk of a big bang with the potential for delivery of an initial release in advance of Ofgem's proposed implementation plan for Faster Switching. This would save the Faster Switching programme the time and money required to run a lengthy procurement process.

   d. Reduce the risk of the delivery as UK Link is based on proven industry standard software, and already has all the functional capability and data model to support both gas and electricity switching.

   e. Reduce cost by re-use of the existing infrastructure, integration technology solutions and support capability.

   f. Allow for innovation. Xoserve has already started to enable the SAP Cloud platform, which allows the underlying data held in UK Link to be exposed to industry for innovative and analytic solutions. The SAP Cloud provides a scalable and future proof solution which both SAP and AMT have committed to continue to invest in and to upgrade which includes ongoing research and development around distributive technologies, such as Blockchain.

3. The re-use of UK Link would be complemented by widespread re-use of people, process and infrastructure across all of Industry who have collaborated together and learnt in the delivery of Nexus. This would contrast markedly to the adoption of any technology solution with which the industry is not familiar.

4. We have heard the suggestion that the entire energy industry should move to a decentralised switching model in one go through adoption of a Blockchain solution. This would require a gargantuan governance effort, a risk which would need to be overlaid on top of the risks of a greenfield implementation, scarcity of Blockchain resources and capability and the lack of clarity of the specific Blockchain solution that all industry participants would agree to and the changes that they would need to make to their systems and data models. For these reasons we do not consider Blockchain to be a viable solution for Faster Switching in the near term.

5. 5. As we have made clear throughout our recent engagement with our customers and the wider industry, Xoserve is currently in the process of transforming itself to address the weaknesses and failings in the early years of the Nexus programme. This won't be easy, but we are moving at pace. We are already injecting new skills and capabilities into the organisation, restructuring and tackling long held cultural norms. Xoserve's strategy is to become much more customer centric, to be data powered, to be operationally excellent and to demonstrate change leadership. Significant steps have already been taken in this regard over the last 100 days, with a further ramp up between now and the end of the financial year. By the time Ofgem is ready to take the next step in Faster Switching, it will be hard to compare Xoserve with anything you know from history.

6. But we recognise that, even with this transformation, we will not deliver the CSS alone. We will therefore partner with PwC, who bring experience of managing industries through large scale change (e.g. the Nexus programme); alongside leveraging the delivery capabilities utilised in Project Nexus by Xoserve from all our partners.

7. In order for Xoserve to take on the role of the CSS, there may need to be some changes in Xoserve's governance. We see a number of options to resolve any governance concerns and have presented these options in our detailed response to the consultation.

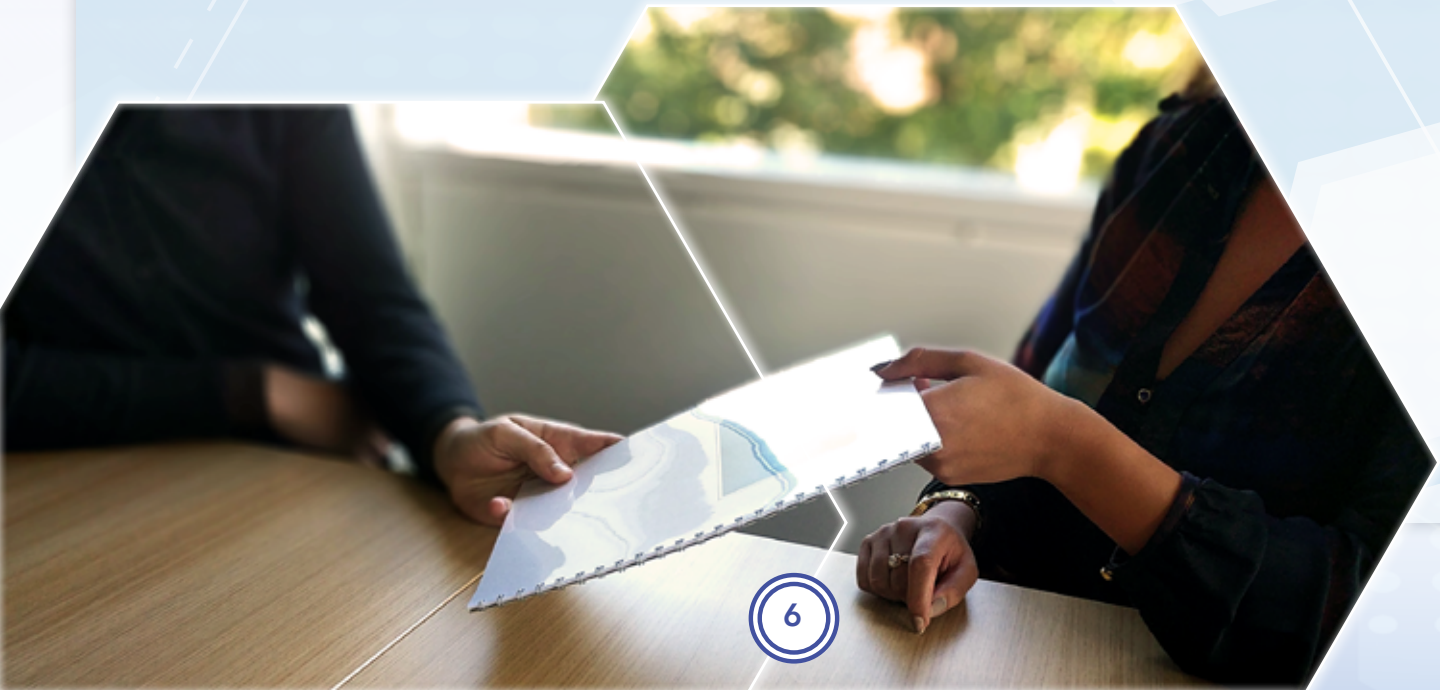
8. Over the last eight weeks, we have engaged widely with the industry individually and at an industry day attended by over 30 companies. We have heard many strong messages of support for the concept of the re-use of UK Link. However, we recognise that while we are confident that UK Link is the right solution, we have not yet physically demonstrated to industry (including Ofgem) that UK Link can support the RP2a processes.

9. Since the industry event, we have completed some detailed analysis of the RP2a processes and their fit with UK Link in much more detail. We are now very confident that we can modify UK Link to fit with RP2a through configuration changes to timeline parameters (e.g. for the objections window). We therefore propose to schedule a demonstration to show how straightforward it is to use UK Link for switching based on the RP2a processes. We would work with our stakeholders to agree the scope, governance and objectives of the demonstration, but envisage it would have three components as detailed below.:

Stage	Description	Timing	Purpose
1	Optimisation of gas switching process by adjustment of SAP parameters	Immediate	Demonstrate that solution can deliver faster switching with very minimal change.
2	Migration of selection of data from one MPRS system into UK Link	Immediate	Demonstrate the flexibility of and single premise view of the data model in UK Link.
3	A dual fuel switch which operates to the process and timeline of Reform package 2a	Post Stages 1 and 2	Demonstrate that UK Link can provide a dual fuel switching function based on the gas switching process created in Stage 1.

10. Xoserve has already committed to work collaboratively with Gemserv to provide MIS requirements set out in Ofgem's RP3 option to enable the industry to leverage the central service provider's capability rather than procure a new solution and adding to service delivery landscape.

We are committed to working with industry and Ofgem in developing an action plan to deliver near term improvements in the switching process utilising the output from the MIS and to meet the objectives of the near term improvement programme outlined in paragraph 1.21 of the Faster Switching Consultation issued on 21st September 2017.



Ofgem Question One: Do you agree with the benefits outlined in 3.7 a-c below. If so, how significant do you consider these benefits could be for the purposes of implementing more reliable, faster switching?

Re-use of UK Link will leverage industry investment, simplify the market landscape and reduce delivery risks, implementation and support costs.

UK Link can provide a solution for the Central Switching Service (CSS) that will deliver architectural simplification in the centre of the energy market and reduce delivery risks and costs.

Before providing our view on the specific areas of benefit identified by Ofgem, we have first provided an overview of the UK Link solution, highlighting that it is a proven solution, based on market leading best in class technology, which is scaleable and future proof and provides a platform for innovation. We have then provided our assessment of the changes required to UK Link to support delivery of the CSS under Reform Package 2a (RP2a), highlighting that the RP2a dual fuel processes can be delivered through configuration changes only, within the switching process already configured in UK Link; and that the UK data model is already based on the concept of a premise and is designed 'out of the box' to be extended to include electricity data.

UK Link is a proven solution, based on market leading best in class technology, which is scaleable and future proof and provides a platform for innovation.

UK Link is a proven solution

Xoserve is already responsible for gas switching. Using the new UK Link systems, we are currently processing the equivalent of 4m annual customer switches, which are being completed in accordance with the rules and performance standards defined in the Unified Network Code (UNC).

UK Link is based on best in class, market leading technology having recently been upgraded

The industry has invested over £100m in upgrading the UK Link systems, through Project Nexus. Project Nexus has replaced the legacy UK Link systems with a new best in class set of systems for gas switching and settlement.

The cornerstones of the new UK Link solution are a SAP utilities (IS-U) solution and the AMT Market Flow product. Both are market leading and best in class; and used widely throughout the energy sector globally.

- SAP IS-U is used by four of the major energy retailers in the UK market as well as by over 120 utilities globally for managing electricity, gas and water consumers. More than 4,000 utilities worldwide run SAP systems. SAP IS-U is used for market settlement for gas and electricity by a number of market operators globally and by a number of companies in the UK for TUSO and DUOS billing.
- AMT's Market Flow product is also well established in the UK and Irish energy markets. It supports messaging flows for over 35 million gas and electricity customers across the UK and other geographies.

It is straightforward to integrate other technologies into SAP IS-U, with many cloud offerings providing connectivity through standard SAP-Connectors, which supports current and future innovation outside of re-use of SAP and AMT.

As well as the core SAP IS-U and AMT products, there are a number of other components to UK Link that could be re-used for the delivery of the CSS, including a SAP business warehouse (BW) solution, a portal for online access to UK Link functionality and a set of embedded and mature service management tools.

Appendix 1 provides an overview of the market leading technology capability provided by SAP and AMT Cybex.

UK Link provides a scalable and future proof solution

SAP is the world's largest provider of enterprise solutions. It has invested in its IS-U product over many years. Xoserve has implemented IS-U v8 on the ECC6 platform. This version will remain in support until 2025, after which SAP will offer the option of extended support for two years. SAP does not leave its customers stranded and will offer custom support for IS-U on ECC6 after 2027. However, we would expect to upgrade UK Link to the SAP's S/4HANA platform before then irrespective of the decision on Faster Switching.

When we upgrade to S/4HANA as part of our standard upgrade strategy for UK Link, we will be supported by SAP who have already made available a number of tools and accelerators to support the upgrade path. S/4HANA is a lightning fast platform and our standard upgrade strategy ensures that whatever direction switching takes in the UK, UK Link will be ahead of the curve.

Both SAP and AMT will continue to invest in and upgrade their products and we will benefit from future product releases. For example, both vendors are already investing in various aspects of:

- Energy Storage
- Demand Side Response
- Half Hourly Settlements
- Faster Switching
- Water Competition
- Smart Home
- Cloud
- Blockchain
- IOT (Internet of Things)
- Electric Vehicles

UK Link provides a platform for innovation

SAP IS-U is a core SAP product and forms part of the overall SAP architecture. SAP is continuing to invest heavily in research and development in order to make its products more innovative, improve the customer experience and maintain its market leading position. One component of SAP's innovation roadmap is its Cloud Platform. We are already investing in the SAP Cloud Platform to make data available to price comparison web sites through an API link. We have the capability to build on the SAP cloud platform to make the data in UK Link accessible to many parties for innovation and analytics (assuming support via UNC code).

UK Link can be extended to support the specific requirements of Reform Package 2a (RP2a)

We have performed an initial assessment of the existing UK Link architecture against the 45 requirements defined under Faster Switching Reform Package 2a and confirmed that UK Link can support these requirements in full. We have identified eight key changes that will be required to UK Link if it is to become the CSS. These are detailed below:

Ref	UK Link change	Description
1	Extend IS-U data model to create a harmonised premises database* *note: SAP IS-U is designed to be flexibly extended to include fields relevant for local markets, this is made simple and does not require customisation or build activity, as is the case with other products.	Design logical data model and configure IS-U data fields to support additional data fields as defined in Faster Switching architectural_data_model_ report_0.9, including circa 80 additional electricity data fields plus objections and agent details
2	Migrate in MPRS data and manage delta process, including any required integration between UK Link and the MPRS systems	Assess, transform, cleanse, load and validate circa 28 million MPAN records from 14 MPRS systems
3	Enable messaging in AMT and SAP to include electricity participants	Include additional participants for message flows
4	Modify gas switching process in line with agreed fasted switching processes and enable electricity switching process in UK Link	Modify gas switching process to allow for one fails, all fails rule. Copy gas process to become electricity process in IS-U
5	Consolidate IX and DTN networks	Connect or consolidate DTS and IX networks to support common message flows for faster switching
6	Move to XML messaging	Enable and enhance AMT XML messaging to support web services and consider multi-channel capability (file, web services) if required by industry
7	Potential modifications to the nominations process and integration with Gemini to support next day switching	Review of nominations process and timeline and Gemini systems. Gemini currently requires confirmed switch data two days in advance of a switch taking effect for the allocation suite which runs at 10:00 AM for D day. This is to make sure all the records process successfully within Gemini. There will therefore potentially need to be changes to both the process and systems used for nominations to support next day switching
8	Future capability to build SAP cloud platform and analytical solutions, including increased robotics	Potential to build out SAP cloud platform and data analytics solution to expose underlying data to market participants for analysis and value add services

The switching framework in UK Link facilitates a move to Next Day switching through SAP configuration changes

Switching is one of 149 processes which are active in UK Link. The switching process in UK Link follows the standard switching framework and process in SAP IS-U and is highly flexible and configurable.

We have compared the switching process that is currently configured in UK Link with the RP2a switching process. Our assessment is that:

- There is a high degree of commonality between the two
- UK Link can be enabled for next business day switching for gas by some configuration changes to the objection window (currently seven days) and notice period required for the Gemini systems before a switch can be confirmed (currently two days).
- Electricity could be brought in to follow the same process, and adding a one fail, all fail rule that is configuration switch within SAP, giving next business day for both gas and electricity that is consistent with RP2A.

The SAP data model in UK Link is based on a single premise view and can be readily extended to include electricity data.

We have also undertaken an initial assessment of the UK Link data model against the data requirements of the CSS solution. The UK Link data model is already based on the concept of a single premise and supports multiple devices for that premise. This means the data model can be configured to include electricity meter point data.

We have identified two types of additional data that would need to be configured in the UK Link data model to support electricity and dual fuel switching:

- Circa 40 data items to create the standing data to enable parties to participate in the CSS e.g. DNO ID, Supplier ID
- Circa 40 data items to create the CSS register to enable switch events to be actioned e.g. RMP ID, RMP effective from date etc.

This compares to 210 key data items held per meter point currently held in UK Link, of which around 80 data items support gas switching.

Appendix 2 provides details of the existing data model with UK Link and the impact if Uk Link was also used as the CSS.

We now turn to provide our view on each of the three specific areas of benefit from the re-use of UK Link detailed by Ofgem in its consultation paper.

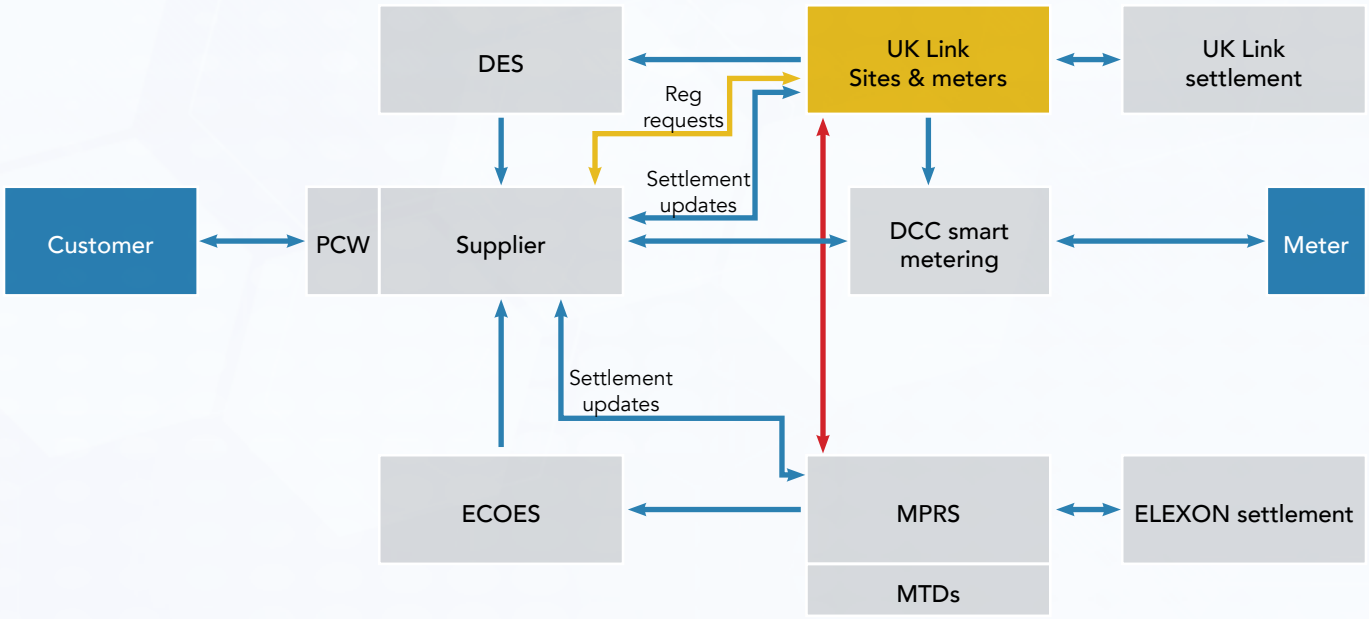
a) The use of UK Link will deliver architectural benefits

UK Link is already integrated with parties who will need to interact with the CSS

UK Link is already integrated with many of the parties that would interact with the CSS. UK Link is integrated with the systems of over 40 market participants, most of whom are also dual fuel suppliers. UK link is also integrated with the Gemini systems which are used for gas nominations and gas balancing and the systems of the DCC.

This means that we can implement RP2a with relatively little changes to the current industry landscape. We have used Ofgem's representation of current industry flows (Figure 1 from the Switching programme strategic outline case) to illustrate the changes required in the event that UK Link was used as the CSS. In the diagram, components shaded blue are already in existence, components shaded amber will require some modification and components shaded red are completely new.

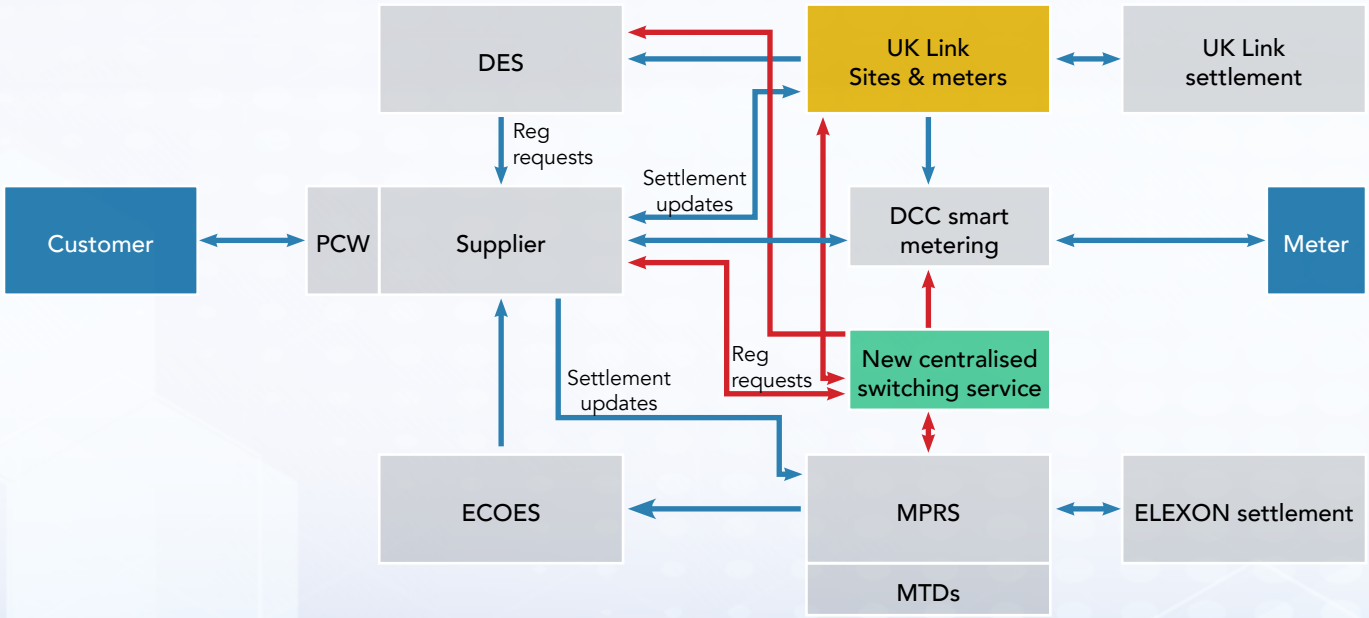
Impact on market landscape of RP2a using UK Link as the CSS



Impact on market landscape of RP2a using a new solution as the CSS

We have then compared the impact of a new CSS. A new CSS complicates the industry landscape, duplicating functionality and integration already in place with UK Link, and results in more changes to the industry landscape. This is shown in the figure below which is based on Figure 3 from Ofgem's Switching programme strategic outline case.

Impact on market landscape of RP2a using new CSS



Complexity of alternative CSS solutions

The use of any new solution for the CSS risks complicating the technology environment and integration for both Xoserve and market participants.

For Xoserve, a decision to select a new CSS could mean that:

- There would be a need to migrate the existing supply point data out of UK Link and into the new solution
- We would need to design, develop, test and maintain a new interface between the new CSS and UK Link and maintain a replication of the data across the two systems
- We would need to procure additional network connectivity to support the integration with the new CSS.

For market participants, it could mean duplicate network connectivity and integration as participants will be required to connect to both UK Link and the new CSS. The industry would also need to understand and manage the impact of other UK Link processes such as Energy Balancing, which would result from a new CSS.

UK Link is lower risk than a distributed ledger based on Blockchain technology

Blockchain is an exciting technology that is generating considerable media coverage. Blockchain solutions provide a highly secure distributed ledger to record transactions. The distributed nature of Blockchain is in comparison to the centralised database approach of the current UK Link.

While there are many examples of small scale pilot using Blockchain technology, there are only a small number of examples where Blockchain has been deployed at scale, and it is still an emerging technology.

We have discussed the potential use of Blockchain technology to support Faster Switching with our partner PwC and with Wipro. PwC has successfully deployed a Blockchain pilot to support micro-grid trading in Germany and has published widely on the use of Blockchain in the energy and utility sector.

We have collectively reached the same conclusion as of the Ofgem consultation of January this year that Blockchain technology is not a viable platform for Faster Switching in the near term and would expose customers to considerable risk and uncertainty. This is because at this time:

- Moving the entire energy industry to a decentralised switching model in one go, would require a gargantuan governance effort, which is a risk which would need to be overlaid on top of the risks of a greenfield implementation Blockchain resources are scarce and resource availability could impact the delivery of the switching programme
- The industry does not yet have any significant experience of Blockchain, or decentralised business models
- The whole principle of Blockchain technology requires all parties to be connected to and part of the chain. We expect that Blockchain would therefore be a larger programme than the implementation of a CSS. The industry as a whole would need to change all their technology and systems
- We are not aware that Blockchain has been proven at this scale in the utility or any other industry.

We have considered undertaking a more detailed comparative assessment of UK Link against a Blockchain solution but concluded that this has little value as the specific characteristics of a Blockchain based solution are not defined or agreed across the industry; and a technical test would significantly understate the governance related changes that would need to be made for this solution to be deployable in our industry.

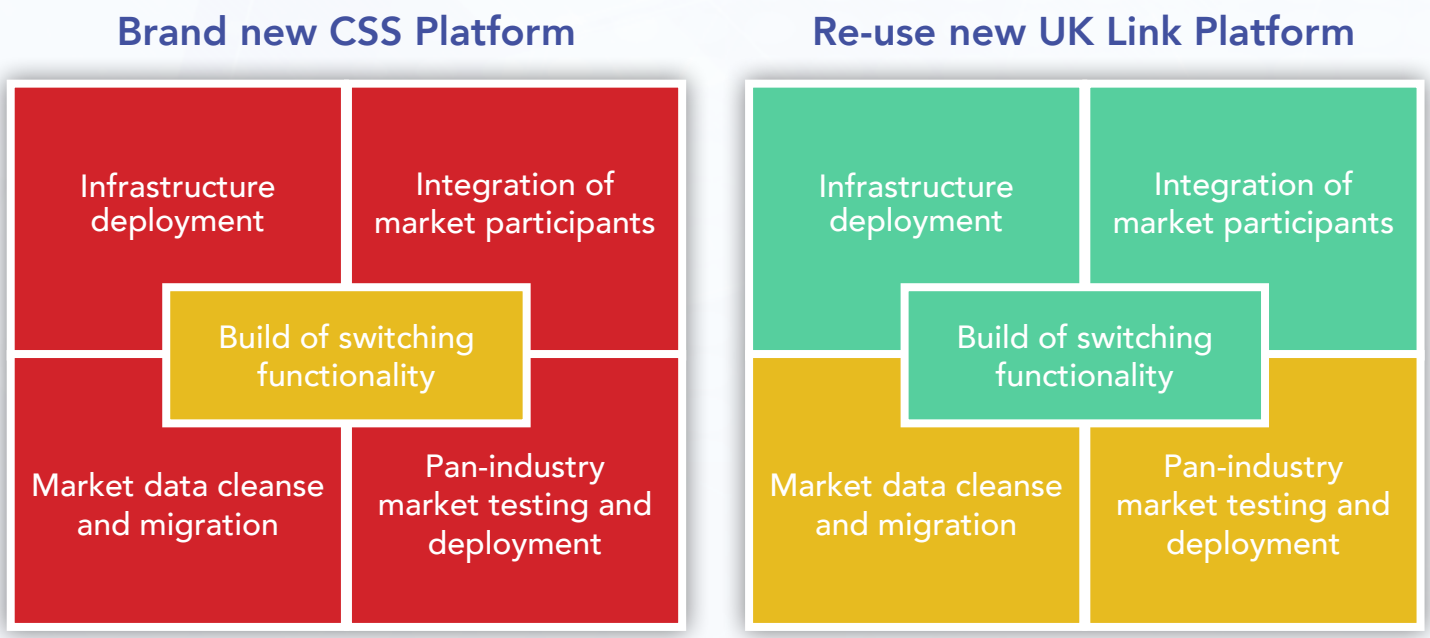
b) The use of UK Link will reduce delivery risks

The use of the existing UK Link platform will reduce delivery risk because it will not require the development of an entirely new system and integration of the new system with all suppliers and networks - UK Link already has interfaces to many of the key CSS users. Using UK Link would mean that only electricity registration data would need to be migrated to the new system. In addition, as UK Link is already built, it provides a platform that facilitates a phased deployment of RP2a.

We have undertaken a high level comparison of the delivery risk of using UK Link with the principal alternatives – development of a CSS using an alternative central database technology to SAP (e.g. an Oracle based solution).

UK Link is lower risk than an alternative central database solution

We have compared the risk of using UK Link for the CSS versus a new solution and believe the risk to be materially lower. Our risk assessment is summarised in the diagram below:



Very complex and very risky (typical cause of cost and time overruns)

Medium complexity

Comparatively straightforward

The rationale for the RAG rating in the figure above is as follows:

- UK Link is sitting in a high availability dual data centre infrastructure that has been sized to cope up to 32 million meter reads per day in line with the roll out of Class 2 and 3 settlement services. Currently UK Link is processing some 350,000 meter reads a day. This means there is headroom in the current UK Link infrastructure to support the CSS in the medium term.
- UK Link already includes integration with over 40 market participants, the majority of whom are dual fuel suppliers, using a standard and replicable integration and messaging approach based on the AMT Market Flow product
- We have an existing infrastructure, tools, process and governance that can be built on to support pan industry testing and recent battle proven experience in utilising the tools
- Switching functionality is already proven in UK Link and could be extended to cover electricity
- UK Link would require the migration of electricity data and processing of electricity switching flows, while a new build solution would require migration of both gas and electricity data and switch processing as well.

In addition, the tools and processes we have used in Project Nexus and the experience we have gained from Nexus would further reduce the risk associated with data migration.

UK Link provides a platform for a phased implementation

Rightly, the Central Switching team is looking to reduce delivery risk by avoiding a big bang implementation and instead phase the implementation. The existing UK Link solution could accelerate delivery of a base CSS solution and provides a number of options to phase the implementation of the CSS. For example:

- We could immediately move to align the gas switching process with the RP2a process design and then drive a lean programme of continual improvement to achieve the target switching timelines to prove the process design before also implementing the new switching process for electricity and dual fuel
- We could phase the migration of data from the MPRS systems into UK Link, testing and validating each migration before to the next. As a starting point, we could quickly implement a Proof of Concept for the migration of data from one DNO
- We could phase and offer options around the messaging technology as this capability is already part of the AMT-SYBEX Marketflow solution.

When we designed the new UK Link solution, we consulted with our customers on the choice of messaging technology. At the time, we did not have a consensus to move to web based services and we deployed Nexus using file transfer. Our thinking is that the first release of the CSS would continue to use file transfer in order to minimise changes for industry participants, not all of whom will be ready for the deployment of web services, but as both Market Flow and SAP already support web based services we can offer flexibility in message flows. For example:

- We could offer market participants choice in messaging, which would allow market participants to choose between file transfer or web services
- We can work with industry to agree the right time to move fully to web services in line with industry capacity requirements (e.g. linked to the SMART roll out).

c) Investment and cost to serve

We agree with Ofgem's consultation paper. We believe that the use of UK Link will lead to lower costs both in terms of the capital investment to develop the CSS and in relation to operations where it will be possible to leverage the cost of existing UK Link service management capability.

We consider that re-use of UK Link would mean that we can minimise:

- New infrastructure costs. UK Link has headroom in the current infrastructure to accommodate the CSS requirements
- Costs to procure, design and deploy service management tools and processes
- Costs to migrate gas meter data
- Costs to integrate the CSS with dual fuel shippers, the DCC and the Gemini systems

In addition, we consider that UK Link could potentially result in lower costs than any alternative for:

- The procurement, design and implementation of a database to support gas and electricity data, as the data model already exists in UK Link
- The costs to deploy the gas switching process, as the process is already deployed in UK Link
- The costs to configure and deploy the electricity switching process, as the UK Link solution has the flexibility to be extended to include electricity switching
- The costs of testing the CSS. The existing UK Link solution and integration will reduce the scale of the CSS programme and hence the scale and duration of required testing
- the costs of ongoing support, as support will be shared across UK Link and the CSS.

The areas of cost savings are illustrated in the table below:

	Using UK Link	Alternative technology
Build new central switching platform for electricity	Only configuration required, as can be based upon UK Link's gas platform	Required
Migrate electricity switching from MPRS to new system	Required	Required
Build enduring interface between new system and residual MPRS	Required	Required
Build new central switching platform for gas	Already exists	Required
Migrate gas switching from UK Link to new system	Not required	Required
Build enduring interface between new system and UK Link	Not required	Required
Build communications to all energy suppliers	Required, but UK Link already communicates to 40 shippers many of whom are also energy suppliers	Required

Ofgem Question Two: Are there other benefits that we have not identified?

We see three key additional benefits – speed of delivery, reduced organisation costs and risk and optionality for the provision of a single integrated network solution across the gas and electricity markets

Through our own assessment and extensive conversations across the industry we have identified a number of potential additional benefits of using UK Link as the CSS.

These are:

1. Speed of delivery
2. Reduced organisation costs
3. Optional alignment with Electralink to reduce network costs

We elaborate on each of these additional benefits below.

Additional Benefit 1: Speed of delivery

We believe that re-use of UK Link could accelerate delivery of the Faster Switching programme and enable the CSS to be delivered more quickly than an alternative solution. Re-use of UK Link would reduce the time required for:

- Data migration, as the gas data is already in UK Link
- System build, as we can re-use components of UK Link and leverage existing switching framework which means we can deliver the RP2a process through SAP configuration rather than have to build a new solution from scratch
- Industry testing, as we have an existing test environment and significant experience of industry test execution that any greenfield solution would need to establish from scratch
- Integration as we already have integration in place with 40 market participants
- Contingency and risk as UK Link is a proven solution.

Additional Benefit 2: Reduced organisation costs

The Ofgem consultation paper focuses on the technology benefits of leveraging UK Link. There are also organisational benefits of leveraging Xoserve. Xoserve has an existing organisation established to deal with the industry, industry governance forums as well as customer queries and data quality issues surrounding the switching process. Xoserve also provides a help desk service for customers. We would propose to leverage our existing organisation to support the CSS.

This would avoid the time, risk and disruption involved in the creation of another new organisation in the sector. It would also avoid duplication of management and operational headcount.

We will need to recruit a small number of electricity experts into the organisation and we will also need to potentially increase the capacity of our help desk, customer query and data quality teams, but the leverage of our existing organisation means that:

- There is no requirement for the costs and risks to build a new organisation and the links between the organisation and the industry and industry governance forum
- We can benefit from the economies of scale and scope by absorbing the support of electricity switching into the existing Xoserve operation
- Xoserve has a longer term strategy to introduce operational automation and robotics, which could offset any increased capacity to accommodate electricity experience.

Additional Benefit 3: Optional alignment with Electralink to reduce network costs

We are considering working with Electralink and using the Data Transfer Service (DTS) as the network platform for faster switching message flows for both electricity and gas. We are in the early stages of exploring the potential benefits and the governance implications of use of the DTS, but see a number of potential benefits for market participants. These could include support for RP2a through existing DTS interfaces at low cost and the subsequent potential to consolidate the DTS and IX networks to reduce cost for the industry.

Ofgem Question Three: Do you see any particular risks or disadvantages? If so, could you please outline them?

We have engaged with our stakeholders extensively to understand and address areas of concern

Through a combination of individual conversations and an industry event that was attended by over 30 organisations from across the industry, we have sought to understand risks and concerns about the use of UK Link. We understand that there are four major areas of concern for the industry. These concerns and our response / proposed mitigation are detailed below.

Concern 1: UK Link is not the right technology

The first concern we have heard is that UK link does not represent the right technology solution for the CSS variously because "SAP is old technology", "SAP can't support electricity", "SAP can't support the specific processes that will be designed as part of Reform Package 2a", "SAP does not support innovation" and "MarketFlow cannot support real time data exchange".

As we have sought to demonstrate at the industry day and in our response to question 1, we have sought to provide greater detail of our underlying technology to address these perceptions. Specifically:

- SAP is market leading technology and SAP is continuing to invest in developing and evolving its product.
- SAP already has over 120 live IS-U implementations for electricity and gas customers
- The current switching process configured in SAP mirrors the elements of the switching process defined to date in RP2a that relate to the CSS, apart from the objections window and the one fail all fail rule, both of which are configuration items in SAP and can be modified
- SAP Cloud solutions and the other components of the UK Link technology solution provide a platform for innovation
- Market Flow supports real-time data exchange via web service capability which it has already deployed to support the Irish energy market.

Concern 2: Impact of CSS on delivery of future Nexus releases

The second concern we have heard is that participation in Faster Switching may impact delivery of Release 2 or future releases of Nexus. We don't believe this is a concern that should prevent UK Link acting as the CSS because Xoserve will need to engage substantially in delivery of Faster Switching whether or not UK Link is chosen as the CSS. This means we will need to balance priorities and workload in any event.

Concern 3: Xoserve delivery capability

The third concern we have heard is about the delivery capability of Xoserve.

Over the last 18 months we have worked closely with Ofgem, PwC and market participants to deliver Nexus successfully to the revised go live date. Post go live we have experienced very low levels of issues and we have successfully exited hyper care on schedule. This is a major achievement for a complex and challenging programme.

This demonstrates the ability of Xoserve and industry to successfully deliver a highly complex change/ transformation Programme, utilising relationships, resource capability, and governance models that have matured and that could be re-leveraged.

However, we recognise that there have been challenges with Xoserve's delivery, particularly in the early stages of Nexus. We also recognise that a major industry change programme will stretch the resources of any lean central market organisation.

To address these challenges we have already introduced changes to the Senior Management team. We have appointed a new CEO because of her extensive background in major programme delivery and she has embarked on a programme to significantly transform Xoserve. As part of this transformation, we will recruit new skills into Xoserve; however, it is not efficient or economic for Xoserve to build change capability for a programme of the scale of the Faster Switching in-house. For that reason, we intend to partner with PwC to deliver Faster Switching. In addition we will continue to build on our existing partnerships.

Concern 4: Participation in the procurement process

The fourth concern we have heard and indeed we share is about Xoserve's participation in the procurement process. Xoserve's participation or otherwise in the procurement process will be heavily influenced by governance considerations which are detailed in our response to question 4, but our participation will also take into account the value for money of the procurement and whether the broader benefits of a re-use strategy are fully considered by the procurement criteria.

Xoserve is governed by and exists to serve our customers in the gas industry and our costs including the costs of participating in any procurement process will ultimately be borne by gas consumers.

However, Ofgem's current plan shows a 12 month procurement process. Many of our customers have already expressed concern and doubt about whether that form of procurement process represents value for money, especially when the costs of procurement being assumed are a multiple of the costs of configuring UK Link to act as the CSS. We will also be concerned to ensure that there is appropriate industry governance and oversight over any procurement process and that the focus of the procurement is on the securing a solution that optimises end to end costs across the industry. We will also want to be assured that the process will be fair and efficient for all parties participating.

Ofgem Question Four: Under the current Xoserve CDSP governance do you believe there are any substantive obstacles to Xoserve's ability to participate in a competition? If so how could these obstacles be overcome?

We see a path through the governance obstacles, so that Xoserve could take on the role of the CSS provider. However, we will need support from our customers and Ofgem to follow the path and overcome these obstacles

1. We have identified a number of different decisions that would need to be taken, or arrangements that would need to be put in place in order to arrive at a position where Xoserve is able to participate, through competition, for the CSS role. These are entry into the bid process, the funding of bid costs and amendments required to current governance. We have outlined each of these below, although we do not anticipate that any of these considerations create insurmountable obstacles to Xoserve taking on the role.

2. It is our customers who will ultimately decide whether we should enter into any procurement exercise. They will need to consider the cost / value for money of our participation in the bid process, whether the overall procurement framework is structured to allow us to bid effectively, and whether the process fairly supports and records all the benefits of a re-use strategy.

3. Once our customers are satisfied with the effectiveness of the bid process and the suitability of the procurement framework, we will need their commitment to fund the bid costs. We think that a decision could be achieved within the existing DSC governance framework which provides clarity in relation to funding responsibilities and seeks to protect customers who would not benefit from us taking on the CSS role from the risk of exposure to bid costs.

4. An important pre-requisite to any decision to participate in the bid, will be to seek clarity from Ofgem on their preference for a target model and any governance changes. It would not be appropriate for Xoserve to commit management time and customers' money without securing such clarity from Ofgem, whilst clarifying related risks for stakeholders and obtaining sign off from customers to any governance model changes.

5. We have identified three options for a revised governance model for Xoserve to operate as the CSS:

   Option one: Xoserve enters into a third party contract for the provision of CSS. This would require the DSC Contract Management Committee to agree to amend the Third Party and Additional Services Policy by varying or waiving the limits set out in the Policy;

   Option two: Signatories to the DSC are expanded to include suppliers and (if required) the definition of CDSP Services is amended so that the provision of a duel-fuel CSS is included;

   Option three: Xoserve establishes a subsidiary company which is not governed by any existing industry arrangements to provide the CSS.

6. In our view all three options (or a combination of options) could work. However, from what we have heard from our customers to date, options one or two are preferred over three, as they have the potential to enable funding and risk to be positioned with the beneficiaries of the service and build on the CDSP / DSC model implemented earlier this year. We also think that it will be important to ensure consistency in the design of the governance model and the Retail Energy Code as proposed in Ofgem's latest Faster Switching consultation.

7. In conclusion, we may require some change in governance arrangements to enable us to participate in a competitive tender and take on the role of the CSS; and we will definitely need the formal support and commitment of both Ofgem and our customers to proceed further. We look forward to working with Ofgem to identify their preferences and then document the required changes ahead of the start of the procurement process

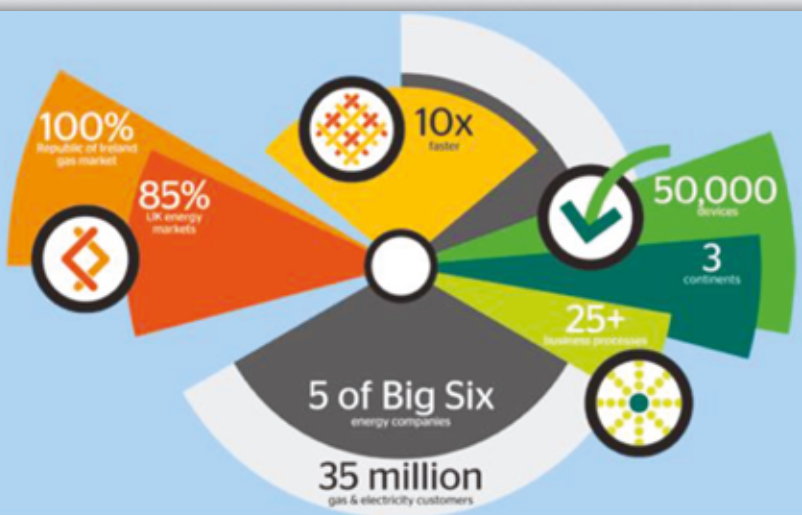
Appendix 1

SAP Utility Customers (Industry Solution for Utilities)

More than 120 live customers using SAP solutions for customer switching (Electricity, Gas and Water)

AFFINITY SUITE®

Our powerful and flexible enterprise suite helps you manage your evolving business challenges. Each product has been designed to solve difficult industry problems. Our clients and partners recognise this - the figures speak for themselves:



AFFINITY SUITE marketflow
AFFINITY SUITE meterflow
AFFINITY SUITE networkflow
AFFINITY SUITE fieldreach
AFFINITY SUITE geofield
AFFINITY SUITE systemreach

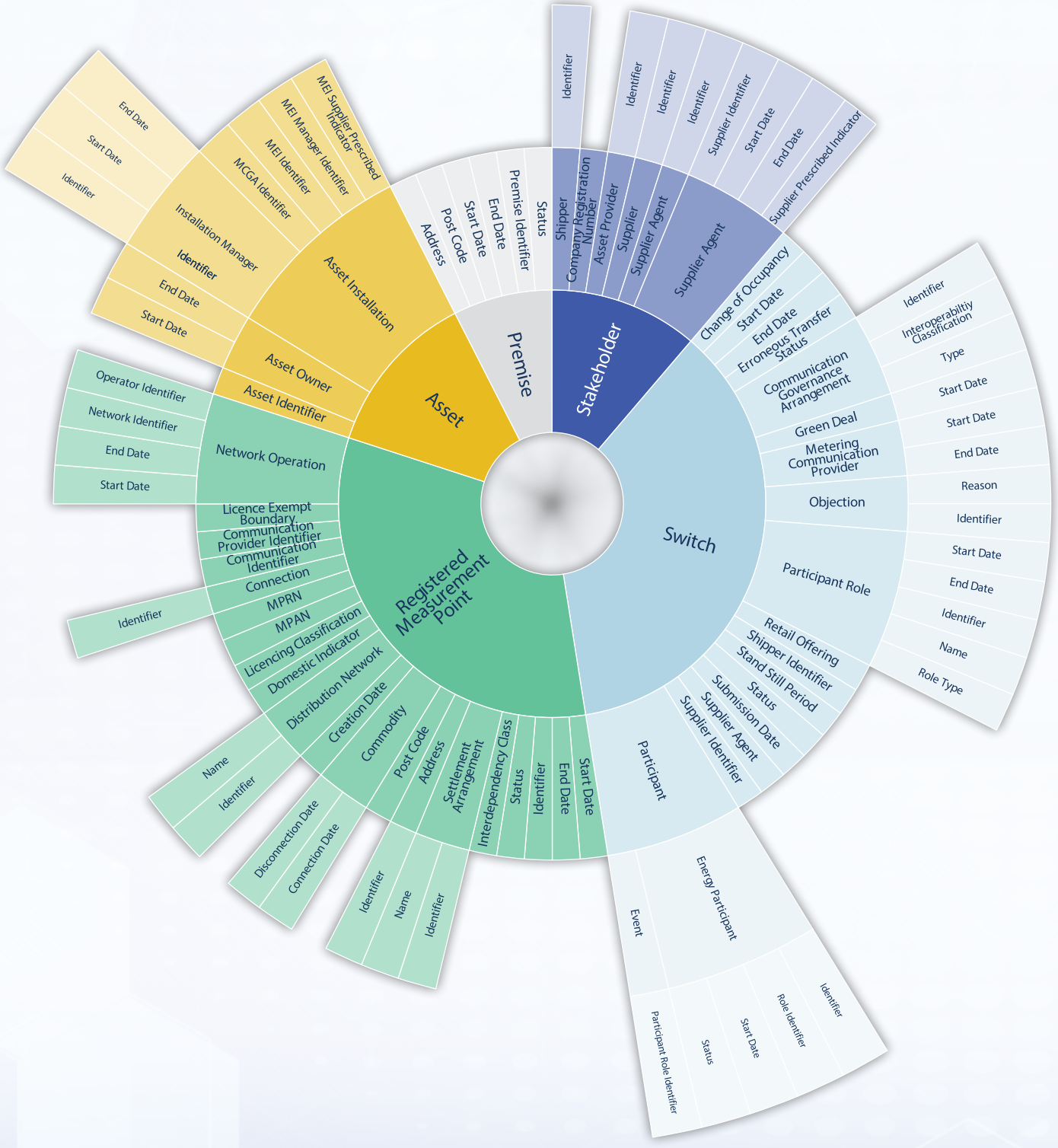
Appendix 2 (page 1 of 2)

CSS Data Requirements

The following sunburst has been generated to show Xoserves understanding of the data requirements stated as required to be held or referenced by the CSS as part of reform package 2.

Source of information is the published Ofgem spreadsheet: Data Elements within Reform Packages.

Further lower level understanding of the individual data items and their interaction with the processes which create, read update or delete this information will be required to ensure full understanding.

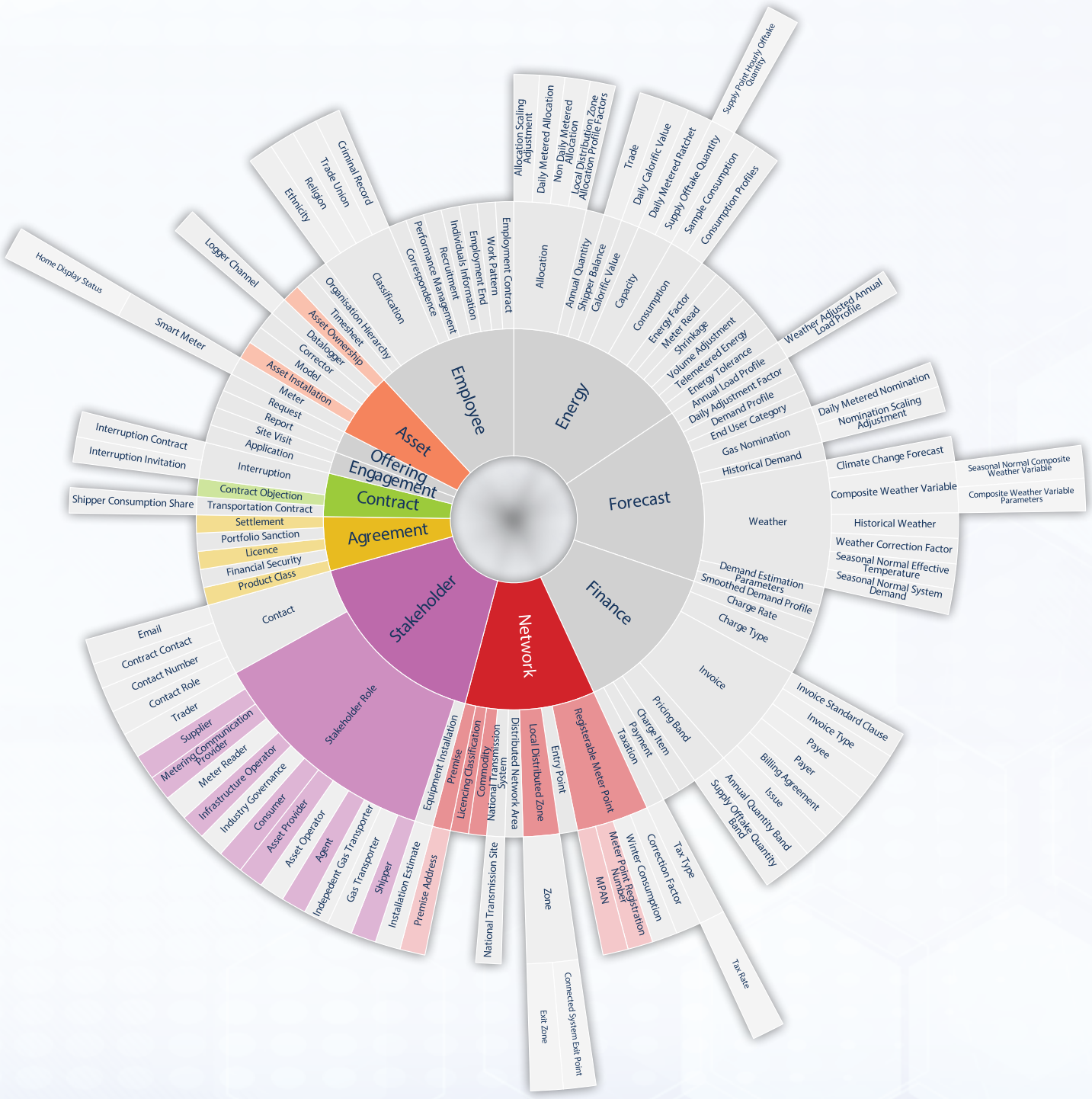


Appendix 2 (page 2 of 2)

Integrating CSS into UKLink

The adapted UKLink Sunburst model shows the Xoserve view upon where the CSS data items, at an abstract level, have similar data concepts that are already in place within the existing UKLink solution.

Based upon the data items that we have understood to be required (see CSS sunburst), we are confident that at a data level information and the inferred relationships that would be required can be support by the SAP ISU solution we have in place.




xoserve