

ISSUES PAPER – CONTROL SHEET

Title of Paper	Operational requirements including Service Availability and Incident management (Consumer helpdesk)		
DA Issue Ref		Date:	12 September 2016
Issue Owner (Accountable)	Jenny Boothe		
Author of Paper (Responsible)	Gavin Critchley		
Status of Paper	1 – Initial Development and Review 2- Draft for Workstream Leaders Review 3 – Draft for User Group Review 4 – Draft for EDAG Review		
Timing	These two issues need to be explored and understood prior to the release of the RFI		
Dependencies	These issues are dependent upon the legacy systems deliverable and the solution architecture activity		

Circulation	Workstream Leaders / Design Team / User Group / EDAG / DA Huddle / Website
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Issue	The switching programme is likely to implement a switching solution that will need to interact with existing market participant systems. We have identified operational time constraints in the current system landscape (batch cut offs, limited system availability, etc) which will potentially impact faster switching service availability. This paper discusses this situation, the need for extended system availability, and also identifies different approaches to incident management for consumers facing issues during the faster switching process		
Impacts Domestic?	Yes	Impacts Non-Dom?	Yes
Policy Objective (and reference to ToM v2)	Reference is made to TOM v2 section 8.8		
Previous Positions on this/related Issues	None		
Summary of Recommendations	Service availability – Move to a calendar day basis and seek to operate the core and associated switching systems 24/7x365 Incident management – No recommendation at this stage. Acknowledgement that a number of models could be adopted. Continue to discuss and evolve.		

Internal and External Engagement	
Business Process Design	
Regulatory Design	
Delivery Strategy	
Commercial Strategy	
DIAT	
Legal	
Other Ofgem Teams	
Specialist team review	Nexus (Dave Williamson, Dennis Reagan), St-Clements (Richard Wareham), Electralink (Stuart Lacey and others)
Meetings at which this paper has been discussed	
Workstream Leaders	Yes
User Group	Yes
EDAG	Yes
Other External (Design Team)	Andy Miller, Jill Ashby, Glen Sheern, Robert Wigginton
Ofgem Design Authority	

ISSUES PAPER – CONTENT

Issue

1. This discussion document addresses two topics presented under the banner of operational requirements; service availability and incident management (consumer helpdesk)

Service availability

2. The Target Operating Model (TOM) sets out a future environment where a consumer can elect to switch supplier one day (D), with that switch coming into effect the next day (D+1). It is anticipated that this facility will be available 24 hours a day, 7 days a week, 365 days a year, (24/7x365).
3. For 'Next Day' switching, the solution architecture is likely to need to interact in some way with existing market participant IT systems. A number of these systems (UK Link, Distribution Network Operator (DNO) and Metering Point Registration System (MPRS) systems) have inherent time constraints and limitations in their current operation. Some of them use evening or overnight 'batch' processes to update central databases after a day of data input, arriving (and queued in batches) from gaining suppliers. Also some of these systems do not run at weekends or bank holidays. We anticipate that feed systems may also have inbuilt time delays/lags. It should be acknowledged that they were designed to meet the requirements of current business rules as defined by the various codes.
4. The Solution Architecture team that has been supporting the Business Process Design Workstream, anticipates that the availability of these systems will need to change to be able to deliver next day switching. Batch processes, which currently run in the evening or overnight, may need to be run more frequently (where possible) and (automated to) run over weekends and bank holidays too. The programme will encourage participants to move towards real time, or near real time, processing. The solution options chosen for the RFI will be able to support this aspiration.

Incident management

5. Incident management relates to the resolution of incidents consumers may face in identifying their energy supplier and other retail market issues, and not the wider issue of IT related incidents which may occur in the broader switching IT landscape.

6. It is anticipated that incidents may occur where there are inconsistencies with consumer's address information as held by the registration systems, with further incidents extending into MPAN/MPRN mis/identification.
7. This paper identifies the potential areas where issues could occur and offer recommendations as to which organisation (existing or new) should be responsible for their resolution.

Solution Architecture Themes – Centralised vs Decentralised

8. Our initial architecture work has identified potential solutions which fall into two architectural themes; centralised and decentralised.

Centralised solution

9. Centralised solutions are based on the implementation of a new, central, database and supporting system to manage the faster switching processes. This database would be hosted centrally (by an existing or new industry body), and it would become the definitive repository of switching (and potentially additional market intelligence) data.
10. Any updates in the central database would propagate changes in other market participant systems. Its design would allow for an inherently fast switching process, as the switch activity would be initiated in the central database, and launch auxiliary processes in other participants systems.

Decentralised solution

11. Decentralised solutions are based on the implementation of an extended middleware solution, which can orchestrate and manage the steps needed to execute a switch, using messages to update the existing market participants' systems. This solution design would not deliver a centralised database, but instead initiate switching transactions, running through the steps needed to allow a consumer to switch. In this scenario the underlying market participants' solutions need to be able to process switch information in real time, or in sub 24 hour time, depending on the specific process requirements to potentially meet the 'next day' switch target.

Service availability – Moving from working day to calendar day processing

12. The current systems landscape, for both gas and electricity, were built to accommodate the market requirements at the time of their implementation, and have been further developed as the industry, market conditions, and regulators have required. For today's market participants, this means a normal switch period of 14 calendar days after a request has been sent by a supplier. Specifically for gas, within this 14 day period, there is a flexible objection period of up to 7 working days objection window and a later 2 working day prior to the switch which is used for gas allocation purposes (referred to as the "nomination synchronisation period").
13. Earlier drives by industry to reduce the length of the switching window settled on the current 14 day period, which coincidentally is the same as the cooling off period. The switching period includes a seven business day objections window, and for gas a two day nomination synchronisation period, allowing a switch to occur 14 days after initial instruction.

Service availability of UK Link

14. The current system in which changes of supplier are recorded for gas consumers is called UK Link, specifically the Sites and Meters database. UK Link will be replaced with a SAP-based system. The project charged with implementing the new system is called Project Nexus, however the new system will continue to be called UK Link.
15. The current UK Link environment supports the 14 calendar day switch period after a supplier submits a switch request. There is an additional step for large supply points where a nomination request is sent prior to the switch request.
16. If changes were made to the cooling off process (through implementation of a 'switch forward' process – see Cooling Off below), the 2 day nominations synchronisation process, and the Objections process (potentially to compress it into a work day period), a next day to 2 or 3 day switch could be conducted with both existing and future UK Link gas systems.
17. The current UK Link system operates on a batch processing basis, and the new system has been designed to continue this principle. Information feeds into UK Link in flat file batches (from shippers) throughout the day. These are processed overnight from Monday to Friday (every working day). Inputs received today would be 'live' on UK Link and also Data Enquiry Service (DES), the gas related enquiry service, at the start of the next working day. However, inputs received on a Saturday would not be processed until

Monday night, meaning they would be live in UK Link and DES on Tuesday. At this stage, and unless otherwise directed, UK Link will continue to run its batch processes during workdays only.

18. Therefore to support next day switching (with current and future UK Link) the two main areas requiring operational changes are:-

Optimisation of the two day nominations synchronisation process

19. This is a legacy market requirement, intended to secure the integrity of the network by ensuring that a gaining supplier does not over or under nominate a consumers' offtake during the switching process. It is specifically important for large consumers, and its ongoing use for these is expected to continue.
20. In the 'next day' world, messages would inform the gaining and losing shippers/suppliers, and UK Link, of a switch at the same time. Potentially, any resulting imbalances could be eliminated through the D+5 trading window that exists today.

Run the batch processes every calendar day

21. Batch processes are a legacy of the limitations of early computing technology. Transactions were stored in files and then processed in batches, typically overnight, when there was no user access to the computing systems. This improved performance and secured the integrity of the underlying databases.
22. The new UK Link system has been designed to result in the lowest impact possible to users of the current UK Link system. It has therefore retained the flat file/batch design principle; even though the SAP system at its core can support event driven transaction processing and real time XML based messaging.
23. In discussions, the Xoserve Nexus team commented that operational changes would be required to allow the new UK Link batch processing system to be run every calendar day, but that it was technically and operationally a relatively simple change. They would need to explore further to understand if new UK Link batches can be run multiple times through the day.

Service availability of MPRS

24. We have also spoken with Gemserv and St Clements regarding the capability of the DNO MPRS systems to support next day switching. They operate in a very similar way to UK Link, although there are multiple instances of MPRS, reflecting the regional structure of the DNOs. Although the MPRS systems too have an evening batch processing window, both organisations felt that they could support next day switching if the appropriate changes were made to support calendar day batch processing.

25. St Clements also commented that some technical changes to the MPRS systems would be required. These systems are currently designed to operate their batch systems at the end of a working day, and the batch process itself sets an internal calendar indicating when the batch next needs to run (the next working day). In the faster switching world, the batch will need to run every calendar day. St Clements felt that this technical change was not a major technical hurdle.

Cooling off

26. The current 14 day switching period is coincidental with the 14 day cooling off period. To further reduce the current switching period, a method of reducing or modifying the limitations of the cooling off period will also need to be developed.

27. Initially it is thought there may be an opportunity for a next day switch predicated on the assumption that if the consumer decides they want to switch back (to their earlier supplier) or to another supplier, this can be progressed as another new switch.

28. It is understood that there are some potential impacts and limitations with this process due to interactions with SMETS 2 meters. These will continue to be investigated and are subject to the authorship of an additional paper.

Service availability – Moving to 24/7 x 365

29. Service availability for faster switching primarily reflects the environment as described by the TOM v2. In summary this is a consumer-led market, where switches occur on the next day after being initiated. Section 8.8 of the TOM describes consumers being able to switch on any calendar day, with a potential (illustrative) cut off point at 5:00pm for gaining suppliers to notify the CRS environment they have acquired a new customer and need to process a supplier switch.

30. The TOM therefore envisages a CRS (and supporting market participant IT environment) which operates 365 days a year, a significant change from the current 'working day' arrangements currently in place.

31. The TOM acknowledges the existence of batch process in core legacy system but anticipates the CRS would operate in near real time mode.

32. We anticipate that consumers will desire access to an online switch environment 24 hours a day, 7 days a week, even if the actual switch process subsequently executes (in the registration systems – UK Link and MPRS) in a batch environment due to restrictions with the capability of supporting systems (as described above).

33. In our initial work on potential solution architectures, our working assumption and recommendation is that the CRS, either in centralised or decentralised form, would be operational and accessible 24/7 x 365 (with occasional downtime for routine maintenance). At this stage we have not identified any reason why this should not be achievable.
34. We similarly expect that related systems will also need to operate on each calendar day, and support the next day switching target.
35. The implications of this approach are significant. Current systems have large 'windows' where maintenance can be performed, typically overnight and at weekends. Moving to a high availability environment will mean that these windows are either significantly reduced or eliminated completely. There will be a cost associated with this transition, although this should be seen in the context of most current commercial IT systems having the technical capability to operate 24/7x365.
36. Specific consideration should be given to the relationship between a CRS running in real time, 24/7 and its relationship to MPRS, UK Link ECOES and DES (with their current evening batch windows, and D+1 related time lags). With CRS becoming the definitive source of MPxN and supplier information, it will need to feed MPRS and UK Link with this information, at the time of a consumer switch. If MPRS and UK Link only process this information during an evening batch run, they will be out of date between the switch being confirmed in CRS, and being executed in MPRS/UK Link.
37. Further, ECOES and DES, the enquiry systems fed by MPRS and UK Link (and used extensively by other market participants), will similarly be out of step with information in CRS. This situation will exist until ECOES and DES are replaced by a centralised MIS database.
38. An alternative solution would be for the CRS to issue switch update messages to MPRS, UK Link, ECOES and DES at the point of a consumer switch confirmation. Under this scenario, ECOES and DES would be accurate and inline with CRS, while UK Link and MPRS would need to run a batch process (overnight or earlier) to become aligned.
39. It is acknowledged that ECOES and DES are widely used by market participants, although not all of them benefit from versions which have the most upto date information. Currently, some participants receive only monthly or quarterly updates, which is not only frustrating to them, but ultimately sub optimal for the consumer. Accurate, timely information in ECOES and DES is seen as being a strong supporting factor in ensuring improved switching reliability.

40. It is anticipated that with the introduction of the CRS (and potentially even before that), market participants are given improved access to ECOES and DES, and ultimately to the MIS DB when introduced. With the correct technical infrastructure (and as proven by the online version of ECOES today), a central enquiry MIS database can support hundreds of thousands of data requests daily, quickly becoming an important market data source.
41. Market participants should be encouraged to understand how their current systems would need to be modified to meet higher service availability requirements, and ensure this is documented in the RFI response.

Incident Management (Consumer Helpdesk)

42. For this document we consider the term Incident Management to refer specifically to the resolution of incidents consumers may face in identifying their energy supplier and other retail market issues.
43. A typical example might be where a switching consumer has difficulties in confirming their existing supplier if they have recently moved into a new premises or MPxN identification.

Complexity of incident resolution

44. Given the fragmented architecture of the current (and potentially future) IT environment, the resolution of customer issues could be complex to identify and resolve.
45. There is the potential for the process to stall across numerous points of failure, with no one party having the capability to find or resolve a consumers issue.
46. If we again consider the two main architectural themes of centralised versus decentralised, potential incident management options become apparent.
47. A **centralised solution**, based on a central switching system database (and perhaps an MIS database), would be hosted and managed by either an existing or new industry body. We have discussed how this solution would be seen as the definitive repository of address/MPAN/MPRN/supplier data (exact data elements to be confirmed). In this situation we would anticipate help desk capability would be a natural service offered by this central hosting arrangement, and consumers encountering issues could call this central helpdesk.
48. This team would have transparency of the consumers' meter point data within the centralised system, and also be able to identify if the inaccuracies originated within any one of the other parties' systems. The centralised helpdesk also aligns with strong

stewardship of any centrally held registration data, and an equivalent experience for gas and electricity switching processes.

49. In the **decentralised environment**, the answer is less clear. In the absence of a centralised repository, it is often necessary to resolve issues through accessing the relevant network operator's helpdesk. This requires taking information from and interrogating of ECOES or DES to confirm the consumer's details.
50. Potentially a centralised help desk facility could again be established, either under the management and governance of an existing industry body, or a new industry body. They would have access to ECOES and DES and using these sources they should be able to resolve most consumer issues.
51. Finally, a central helpdesk could also be given access to the underlying systems (MPRS and UK Link) if adequate training and governance were established. This would then allow them to also be able to 'fix' any underlying issues in the source systems.

Federated helpdesks

52. An alternative model would be that each market participant establishes their own helpdesk, each with access to the CRS and other systems which could aid in incident resolution. For example, gas transporters have a licence condition to provide a M number helpline where consumers can obtain their MPRN and supplier details. Between April 2015 and March 2016 this facility received over 500,000 calls, with around 55% routed to call agents, and 45% answered by the voice automation system.
53. DNOs already have helpdesks to assist with their consumers' (non-switching) issues, with a similar number of calls received each year (approx. 600,000). There will be a mixture of queries including; what is my MPAN, who is my supplier, etc. which usually relate to customers moving house. Also there will be supplier related enquiries relating to data flows and some non-MPAS related enquiries. Some DNOs (and GTs) also receive Theft in Conveyance jobs via their lines.
54. Price Comparison Websites also have started to offer similar helpdesks to assist in switching issues, specifically around tariff selection (Uswitch)
55. In this model it is doubtful that any party would be given update access to the underlying systems as there would be valid concerns regarding the ongoing integrity of the source systems. In this case, changes to UK Link and the MPRS systems would need to go to Xoserve and the DNOs.

Conclusion

56. We acknowledge that at this stage of the programme, with the final architecture for the CRS solution not yet confirmed, it is too early to make a recommendation for the help desk operating model. While the systems environment remains decentralised, a similarly federated helpdesk environment offers acceptable support for switching consumers. However, when centralised switching infrastructure is established, the benefits of creating a similarly centralised helpdesk has obvious merits. Mapping of the anticipated switching queries against the various helpdesk operators who could resolve them, would be a valuable next step.

57. We suggest that the topic continues to be discussed and evolved as the programme progresses.

58. The table below summarises the current position for service availability and incident helpdesk for each option.

Option	Do nothing	Do minimum	CRS and Middleware	CRS, MIS and Middleware
Service availability	- Business hours availability - Workday batch processing	- Business hours availability - Calendar day batch processing	- 24x7 - Calendar day batch processing	- 24x7 - Calendar day batch processing
Incident Helpdesk	- Fully federated (Supplier, DNO's and M number helpdesk)	- Fully federated (Supplier, DNO's and M number helpdesk)	- Federated supported by central CRS helpdesk	- Federated supported by central CRS helpdesk

RFI response considerations

The operational requirements and incident helpdesk arrangements needed to support the new switching environment will be included in the forthcoming RFI document to be released during late 2016.

59. Respondants to the RFI should base their responses on a working assumption that the CRS will update MPRS and UK Link during the switching day. The MPRS and UK Link evening processes will then run, bringing them (and ECOES and DES) in line with the CRS for D+1.

60. For the incident help desk arrangements. RFI respondents should assume that a centralised helpdesk will be established by the CRS hosting organisation, at the time the CRS is made live. This helpdesk would be responsible for the support of the core switching processes, and work with other market participants as necessary to resolve consumer switching issues. It is acknowledged that there will need to be close liaison between the central helpdesk, and those of Xoserve and the DNO's regarding resolution of certain enquiries (such as detailed questions about meter installations, etc.

Next steps

Following useful input and comment from the User Group and EDAG, we seek to present this paper for further review.