

Title of Product/Paper	<b><i>E2E Transition Plan - Implementation Approach</i></b>		
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## CONTENT

### 1. Product Summary

Our Blueprint phase work has identified that a single-phase, cross-market implementation approach is preferable to a phased implementation on the basis of geography or supplier type (for example). A single-phase, cross market approach will pose less of a risk to data integrity, will be less complex and costly due to the absence of dual running and will not favour any group of suppliers or customers above others.

Nonetheless, we consider a single-phase, cross-market (“big bang”) approach to carry a high level of risk. This concern is also shared by stakeholders. In response, we have developed a proposed staged approach for implementation, based on introducing parts of functionality in stages, but retaining a single cross-market ‘go-live’ event for CSS. A staged approach allows us to gradually introduce interfaces between different parts of the Central Switching Service (CSS and existing Central Data Systems) in production or pre-production environments to enable data migration and improvement prior to the final ‘go-live’ market event (where Market Participants will interface with CSS). This would mean that validation of the most complex system-to-system interfaces could be separated from consumer ‘go-live’, reducing the likelihood of a major early-life failure impacting consumers.

At present our preferred approach is to position CSS ‘go-live’ at the final transition stage having already ensured that it is stable and working in a production environment having migrated and transformed data in line with the new data model.

This approach was supported at September’s Programme Board. However, at this session it was suggested that the post-implementation period should be considered as a distinct transition stage. We have reflected these proposals in the product.

This paper forms part of the DLS Phase E2E Transition product (D-4.3.4) and should be read in conjunction with the In-Flight Switches Strategy paper.

## 2. Essential Background

Transition from the existing switching arrangements to the new switching arrangements will involve a number of complex activities, including:

- establishing new interfaces between operational components of the existing switching services and systems (including suppliers) and the new CSS;
- integrating operation of the CSS across new service providers (such as the provider of an address database);
- migration of data across new and existing system components including any cleansing and transformation required;
- removal of some interfaces between existing components; and
- start-up of the new CSS itself.

We considered a number of approaches to implementation in our Blueprint phase work. Broadly, these approaches can be grouped into two categories: a single 'go-live' event with full functional 'go-live' occurring at the same time for all E2E participants and customers; or an approach where the new arrangements are phased in gradually, either by supplier group, geographical area or customer type.

In the SOC, we argued that to undertake a phased implementation (where some meter points transferred to the new central registration system ahead of others) would require some extent of dual running of existing and new switching systems and processes. This would present significant additional cost of maintaining two systems simultaneously for both the data service providers and market participants such as suppliers and shippers, would increase the risk to data integrity and the technical complexity of implementation, and would potentially disadvantage some suppliers or consumers relative to others. For this reason, we continue to propose to manage 'go-live' of the switching arrangements as a single cross-industry event, so that all users and consumers will access the service as part of a single release.

Whilst this single 'go-live' event across industry remains the most realistic available option, there has been some concern amongst stakeholders that such an approach increases implementation risk.

In response, we have developed a staged approach for implementation leading up to this 'go-live' event, based on introducing parts of the new arrangements in stages, but retaining a single cross-market 'go-live' event for CSS as the master system for registered meter points. A staged approach allows us to introduce the interfaces between CSS and other central data systems in a production or pre-production environment to migrate, cleanse and transform data (and validating that this is stable) prior to Market Participants interfacing to the CSS (and changing their interfaces to existing systems).

This proposed staged approach is based upon accepted best practice for implementation of large-scale systems changes. We will draw on industry expertise to minimise implementation risk, in addition to learnings from the implementation of Project Nexus.

For the purposes of this paper, we will refer to an implementation where the new switching arrangements are introduced gradually by geographical area or supplier type (as rejected in

our Blueprint Phase work) as a phased implementation approach. An implementation approach where the benefits are brought to all consumers at the same time, but with introduction of the functionality conducted over time, will be referred to as a staged implementation approach.

The Implementation Approach is relevant to all aspects of the Delivery workstream, but in particular the Integration, Testing, Data Migration, and Post Implementation products. We will further develop the Transition Approach in the run up to DB3. This work will be informed by the following products:

- D-4.1.5 Solution Architecture
- D-4.3.6 E2E Data Migration Plan; and
- D-4.3.3 E2E Testing Plan.

### **3. Product Summary**

We propose to introduce interfaces between existing central data systems and CSS and any other new central components and migrate data between those systems in a number of distinct stages. This approach reduces implementation risk by allowing interfaces between central data service providers to be validated before external interfaces to users (such as suppliers) are introduced into the live environment..

In practice, this will mean gradually introducing elements of the CSS and its interactivity with Central Data Services (such as UK Link, MPRS, ECOES and DES and Data Service Provider (DSP)) during the DBT phase. This will allow interfaces and system/service components to be gradually introduced, and associated industry data to be cleansed, transformed and migrated, until we have an appropriate degree of confidence that the central systems, interfaces and data are robust before we move to the next stage. Our proposed implementation approach is outlined below.

The timing and content of the stages will depend on the final design of the E2E switching solution. Before Design Baseline 3 we will map the final Solution Architecture (including changes of data mastery) and E2E Data Migration plan onto transition stages, with the intention that publication of Design Baseline 3 should include a detailed mapping for each new system component, interface and data item within the E2E solution onto a transition stage, providing certainty to central data service providers and market participants.

Stages that will be planned include:

- capture and consolidation of data items such as MAP ID and Related MPANs into UK Link and MPRS respectively (requiring changes to MPRS and UK Link)
- staged introduction of production interfaces between the CSS and other parts of the E2E solution, including suppliers, supplier agents, gas shippers, MRPS and UK LINK providers, providers of information services such as ECOES and DES, and the DSP;
- initial data migration from MPRS and UK Link into CSS (meter point and registration data), plus further 'delta' (intermediate) migrations;

- introduction of the interface to the new Address Service, creation of Retail Energy Location address database, and reconciliation of MPAN and MPRN data and existing industry address data with this database;
- changes to aspects of the switching process which are integral to suppliers' ability to register and lose customers, such as the objections process;
- launch of the CSS as the live registration service, concurrent with 'go-live' of the full E2E solution; and
- a post-implementation 'hypercare' period (in practice, a period where market participants retain resources from the DBT phase to resolve early-life issues).

To ensure that all parties and providers are consistent in applying the new switching arrangements across the retail energy market, we will introduce some binding obligations on these parties to cooperate with the System Integrator and other central governance and assurance roles.

It should be noted that programme activity will not end at 'go-live'. Performance and reliability of the new switching system will be monitored proactively following 'go-live' and all participants will be required to produce a post-implementation plan and maintain DBT resources to support the new arrangements until new systems are proven to meet certain quality criteria and can be handed over to a business-as-usual governance and management arrangements. In this model, we have considered this as a separate post-implementation transition stage.

#### Implementation of new non-CSS impacting processes

Some market participants (principally, but not limited to, suppliers) will need to adapt their existing systems and processes (both technical and commercial) to ensure the E2E customer journey is maintained following 'go-live'. These activities will not necessarily impact upon their interaction with the CSS but may nonetheless incur an amount of system change in order to be fully ready for the new switching arrangements.

This will include:

- Changes to marketing and customer communications from suppliers to reflect the improved customer experience;
- Implementation of a new one/two-day objections process;
- Appointment (and de-appointment) and notification of supplier agents;
- Alignment of shipper and settlement processes with next-day switching; and
- Conversion of supplier systems to offer equivalent terms to customers returning to the supplier in the cooling off process.

Whilst these process and system changes will need to be implemented at consumer 'go-live' in order to ensure that customers are able to enjoy the full benefits of up to next-day switching, they will not directly impact the system interfaces with the CSS and are therefore not dependent on the CSS build to be implemented. These changes will not be explicitly covered by this Integration Plan, but following engagement with stakeholders as part of the Delivery Forum we consider that users should be able to implement these process and system changes during the DBT phase ready for implementation at CSS 'go-live'.

## 4. Proposed Implementation Approach

This section details our expectation for the activity that will take place at each stage of implementation. The CSS and E2E designs and the associated CSS and E2E Data Migration Plans will be mapped on to the Implementation plan and a detailed plan for each stage will be produced and communicated to stakeholders during the Enactment phase of the programme.

Transition stages should not be confused with testing phases for parts of the system and individual systems as defined in the E2E Testing plan. Before the system components and interfaces identified below are assembled at each Transition Stage, they will need to fully tested, including Pre-Integration Testing (PIT), System Integration Testing (SIT) and User Integration Testing (UIT), using tools and environments provided by the System Integrator. This is covered in more detail in the E2E Testing Plan product.

### Preliminary stage: Preparation of existing systems

A preliminary implementation stage will comprise changes to existing systems, ensuring that these systems capture data aligned to the new E2E data model. These changes will centralise data that is currently distributed across the industry and ensure that mastery of these data is aligned to the new data governance model. In addition, some new data items will be generated from existing data, where required by the new end-to-end data model.

Existing owners of affected data systems (the target locations in Table 1 below) will be required to carry out the changes. Ofgem will develop transitional requirements in order to direct parties and providers to undertake the appropriate activity (and programme assurance will need to ensure that it is completed to an appropriate standard).

Change activity must be complete before data migration into the CSS is started. In some cases, existing data items will be modified (transformed) and cleansed specifically for migration into the CSS (for example in with the creation of new indicators). As this activity is independent of development of the CSS, it does not necessarily need to wait until the main transition stages below, although the System Integrator will be required to ensure that the data change activities have been completed to an adequate standard, without risk of compromising existing processes and activities, before progression to the next transition stage.

Table 1: Summary of proposed existing system change activity

Sector	Activity	Source data	Target location
Electricity,	Transfer of responsibility for Meter Technical Data updates (MAP, MSN etc.)	ECOES	MPRS
Gas	Creation of separate fields for MEM and MAP ID data	MEMs	UK Link
Electricity	Capture and management of Related	Currently held centrally in MPRS, dataset	Improved dataset in MPRS (will still be

	MPANs (parent/child relationships)	mastered by suppliers	mastered by suppliers)
Electricity, Gas	Licence Exempt Network indicator	Derived from contextual data held by suppliers	MPRS, UK Link
Electricity	Creation of Export MPAN indicator	MPRS	MPRS
Electricity	Creation of domestic/non-domestic indicator for migration into CSS	MPRS (with validation by suppliers)	MPRS
Gas	Introduction of new process for handling LSP (Large Supply Point) nomination requests	Xoserve data	UK Link

Stage 1: CSS establishment and data migration

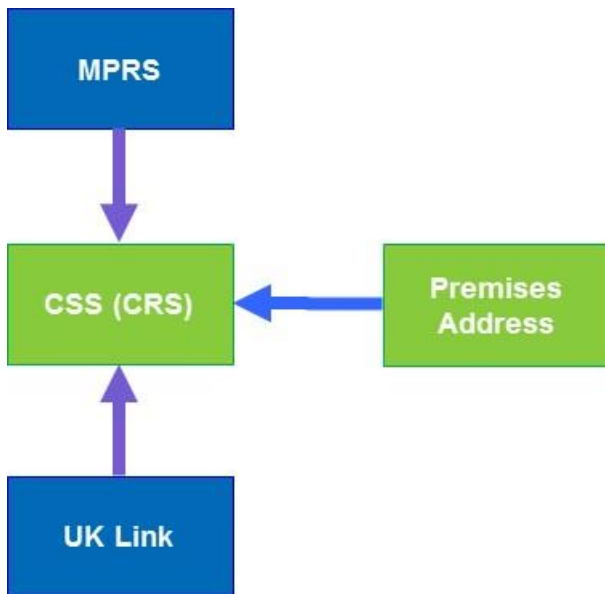
Stage 1 sees the initial integration and synchronisation of industry central systems in a production or pre-production (staging) environment and the initial migration of Meter Point and Registration data to CSS. At this stage, data will be migrated from MPRS and UK Link to populate the CSS. This will allow the production interfaces between these systems and the CSS (including the CSS’s ability to receive data in the appropriate format) to be established and validated. At this point, the CSS will not be the master for any registration data and regular ‘delta’ updates to this data will be required from the mastering systems right up to ‘go-live’ to ensure that CSS remains aligned with the latest RMP and Meter Point data.

The new Retail Energy Location address data item within the CSS is created at this stage, reconciling existing Meter Point address data to a procured GB address data source. The creation of the Retail Energy Location within the CSS is covered in the product D-6.1 – Data Improvement Address Database Remedy.

Activities undertaken at Stage 1 include:

- Initial CSS data migration;
- Establishment of interface from MPRS and UK Link into CSS;
- Migration of Meter Point address data (from UK Link, MPRS, supplier and other sources) into CSS;
- Migration of registration data into CSS;
- Procurement and integration of the Address Service; and
- Creation of the Retail Energy Location address data set within CSS.

Stage 1: Interface Map



### Stage 2: Interfaces with wider Industry Central Data Systems

At Stage 2, interfaces are introduced to manage data flows out from the CSS to populate MPRS and UK Link, in a production or pre-production (staging) environment. MPRS and UK Link will remain as the master data providers for registration data at this stage. This will allow the establishment and validation of interfaces that will be used when the CSS is the master source for registration data, but without disruption to the existing switching system which will continue to operate until 'go-live'.

Further outgoing interfaces from the CSS to ECOES and DES information systems are established, again in a production or pre-production environments. This will allow Retail Energy Location data to be made available from the CSS (which will now be the master source for this data) and can be replicated in other industry data sources, meaning that the benefits of access of this data (such as improved reliability) will be delivered ahead of CSS 'go-live'. The CSS will still not be the master of any data with the exception of the Retail Energy Location, however.

Activities undertaken at and leading into Stage 2:

- Establishment of interfaces from CSS to MPRS and UK Link;<sup>1</sup>
- Establishment of interfaces from CSS to ECOES and DES;
- Establishment of an interface between CSS and DSP (see below); and
- Migration of Retail Energy Location address data (with corresponding into ECOES and DES);
- Implementation of any temporary mechanism required for the management of in-flight switches.

### *Interface between CSS and DSP*

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<sup>1</sup> Note that this will form a two-way interface with the equivalent interface at Stage 1.

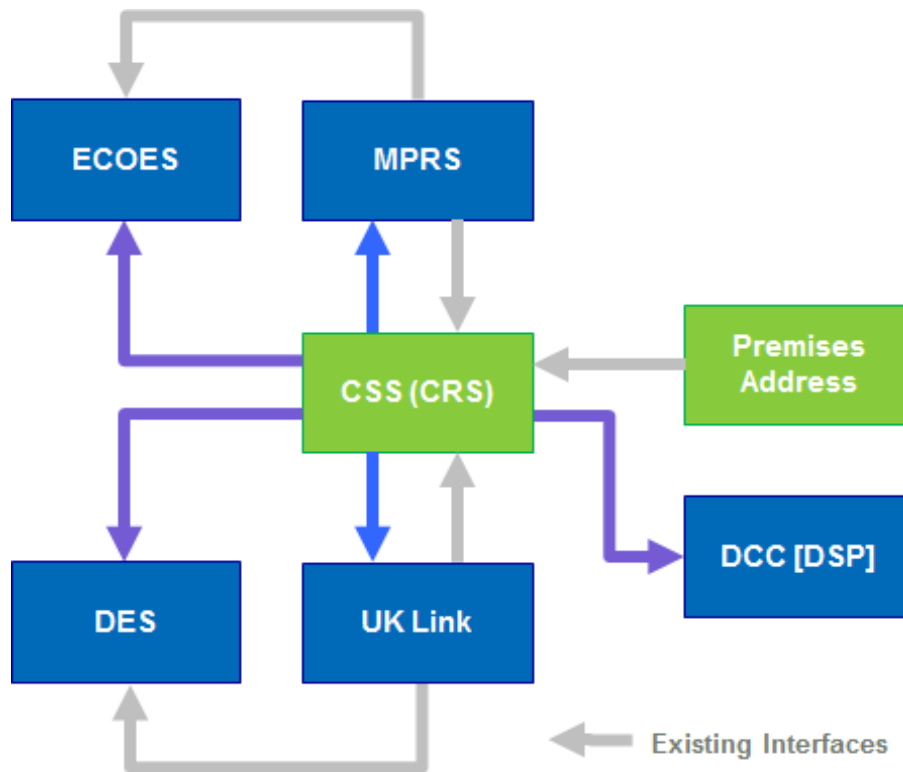
It is possible to implement the build the interface between CSS and DSP within Stage 2 or Stage 3. DSP is the central data service operated by DCC to manage the transmission of service requests and data between users and smart meters. The DSP, primarily for the purposes of access control, requires a feed of Registration and Meter Point data from UK Link and MPAS. This is currently captured by the RDP data interface. Under the new switching arrangements the CSS will provide the required data to the DSP.

If the interface is built at Transition Stage 2, the existing RDP production interfaces can either be closed down and replaced with the CSS production interface, or maintained in parallel until 'go-live' at the end of Transition Stage 3. Alternatively, the RDP interface could be maintained as the sole Authorised Provider until consumer 'go-live', with the CSS becoming the Authorised Provider at this time.

- Close down the RDP interface as the 'live environment' at Transition Stage, as outlined above. This would require part of the CSS functionality to become the Authorised Provider of this data ahead of full 'go-live', with responsibility for provision of this data to the DSP transferred to the CSS Service Provider at this stage. This is contrary to our overall intention that the CSS should not operate in a live environment and become a critical component of the E2E energy retail market operations until full consumer 'go-live' at the end of Transition Stage 3. In the event of a failure of the CSS during the transition process, this could result in the loss of a significant amount of data. For this reason we have **rejected** this option.
- Populate the CSS with duplicate DSP data, requiring users to send a duplicate file of Registration and Meter Point data to the new CSS and the existing systems for the duration of the interval between Stage 2 and Stage 3 of transition, with the existing UK Link and MPAS systems remaining the Authorised Providers of this data and the existing RDP interface remaining operational. In the event of failure of the CSS at or after 'go-live', this would mean that the loss of data from DSP would be minimised or eliminated. Whilst this would in effect comprise limited dual running of existing and CSS systems, we believe that the additional cost required for suppliers would be limited, and activity would in effect involve the sending of a duplicate file to the CSS alongside the RDP file. Our stakeholder engagement has not indicated that this will be unduly difficult for suppliers or other stakeholders. **This is our preferred option at this stage.**
- Delay implementation of the CSS interface with DSP until consumer 'go-live'. This would increase implementation risk, as more functionality would become live in a single 'go-live' event, but would not require suppliers to provide duplicate data to the CSS and the RDP systems. We have **carried forward** this option.

## Stage 2: Interface Map





### Stage 3: 'Go-live' in production environment

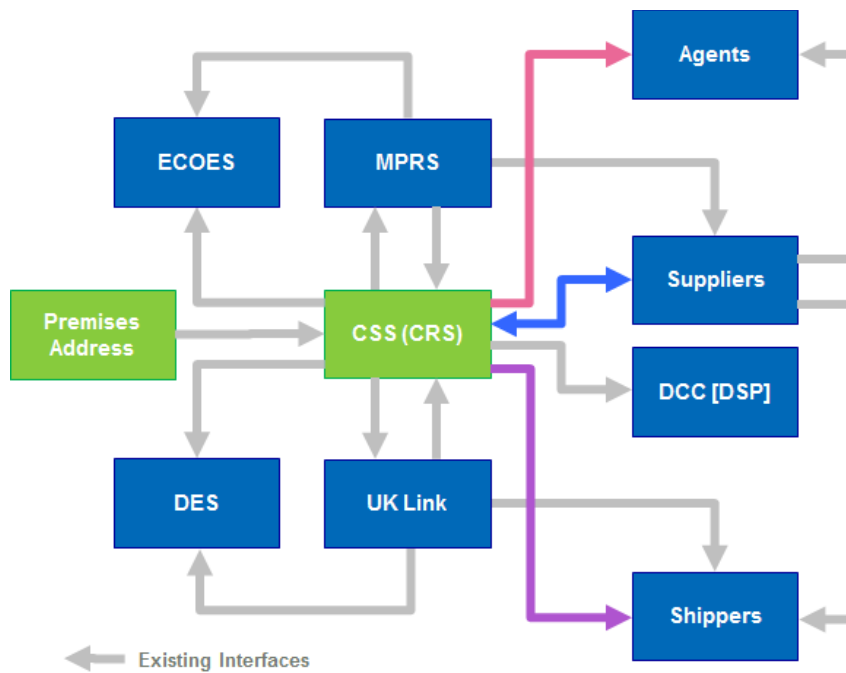
At Transition Stage 3, the CSS will become the active registration service, and therefore this stage represents the effective 'go-live' date for suppliers, gas shippers, agents and consumers. At this point consumers will be able to enjoy the benefits of next working day, harmonised gas and electricity switching. At Transition Stage 3 the CSS will become the master source of registration data.

Production interfaces will be established between suppliers and the CSS, and will become fully operational. Ensuring effective interaction between the CSS and the supplier will have been undertaken during Testing (including any Dress Rehearsal), so this stage has the potential to be disruptive. Similarly, production interfaces allowing flows of registration data to agents and gas shippers will become active at this time, the reliability of which will be essential to ensure the effectiveness of settlement and the ongoing customer experience.

Activities undertaken at and leading into Stage 3:

- All interfaces promoted into the production environments
- Establishment of production interfaces between suppliers and the CSS;
- Establishment of production interfaces from CSS to shippers and agents;
- Establishment of an interface between CSS and DSP (if not implemented at Stage 2 above);
- Management of in-flight switches by suppliers and others ahead of 'go-live' in line with the agreed process; and
- Retirement of superseded interfaces.

### Stage 3: Interface Map



### Post-Implementation Stage

Consumer 'go-live' (represented at Transition Stage 3 above) will not represent full the transition to 'business as usual' arrangements (e.g. steady state Service Management and IT Service Operations and steady state Governance and Assurance). Following consumer 'go-live', there will be a post-implementation period before full transition to a steady state (a 'hypercare' period). During this period, all parties and providers will be required to maintain a level of support for the new arrangements following 'go-live', until the new arrangements have been confirmed as being stable and the steady state management structures are ready to take on full support.

Unlike other transition stages, this stage will not feature the planned build and integration of parts of the functionality of the end-to-end switching system. Instead, market participants and service providers will monitor performance of the new system and retain resources to proactively fix issues as they occur. Releases of functionality or system changes will only take place in response to the need to address and significant early life issues. However, the in-flight switches held at Stage 3 above will need to be fed into the new CSS as soon as possible after 'go-live', but in a manner that does not disrupt or destabilise the new system.

The duration of this hypercare period will not be fixed ahead of 'go-live', but we expect that it will have a duration of between three and six months. The Switching Programme will not be adjudged to be in a 'business as usual' state (marking the end of the post-implementation 'hypercare' period) until the programme is deemed to have met externally established criteria. A full explanation of these criteria, and how they will be defined and monitored, is included in the Post Implementation product.

### Entry and Exit Criteria for Transition Stages

Each transition stage (including the preliminary and Post-Implementation stages) will have defined Entry and Exit Criteria which must be monitored and met before proceeding to the next transition stage. In the case of Transition Stage 3 and the Post-Implementation stage respectively, these criteria will be those for 'go-live' and the move to BAU, respectively.

'Go/No-Go' (GONG) criteria for entry and exit of each stage will be defined and agreed within the Switching Programme governance structure. Assessment of the readiness of market participants to meet entry and exit criteria of transition stages, and the materiality of issues that arise will be informed through various programme governance resources, such as programme assurance, Systems Integrator (SI) (including assessment against the SI's Operational Readiness gate function) and end-to-end co-ordination functions, and input from other relevant stakeholders. Programme assurance will be retained until the programme is deemed to be in a 'business as usual' state. Ultimately GONG decisions, including the decision on readiness for transition to BAU will ultimately rest with the programme sponsor (the Ofgem SRO).

Initial entry and exit criteria for transition stages will be established ahead of DBT (although they may be revised subsequently to reflect changing circumstances). The criteria will vary between transition stages, and are likely to increase in number as the stages become more complex. Whilst GONG criteria for moving from the preliminary stage to Transition Stage 1 (below) is likely to be focussed on assessment of whether the relevant components and interfaces have been built and subjected to relevant PIT, SIT and UIT processes by relevant participants, the GONG criteria for entry and exit for the post-implementation stage (in effect, the 'go-live' decision and decision to move from a post-implementation period to BAU) will need to ensure that the consumer-facing environment is stable and ready for launch.

An assessment of these criteria is included in the E2E Integration Plan and E2E Post-Implementation Plan products.

## **5. Rationale for a proposed staged implementation approach**

### **Benefits arising from a staged implementation**

The key benefit of a staged approach when compared to a single stage implementation is that the pre-cutover incorporation of operational features reduces risk of major, early life failure when compared with a single 'big bang'. We consider that the reduction in the risk of major failure from adopting this approach would be significant. In addition, a staged approach is more in keeping with industry best practice than a single 'go-live' event.

As some new functionality (for example interaction between UK Link/MPRS and CSS, and all data migration) will be implemented in near-live environment (using production or pre-production systems and interfaces), prior to CSS 'go-live', this allows greater opportunity to 'fix forward' issues without additional delay to implementation of the full benefits of the programme. This approach retains this additional flexibility without the necessity for dual running of new and existing systems, which would add significant additional cost and very significant additional technical complexity.

If commencement of the staged approach occurs early enough within the DBT phase, there is no reason why staging implementation in this way should result in a later occurrence of customer 'go-live' than a single 'big bang' approach; indeed it may actually result in an earlier 'go-live' due to the ability to identify and address issues prior to 'go-live'. However, any staged approach as part of the wider DBT phase should be designed using a left-to-right plan to ensure that appropriate time is allowed for all parts of the end-to-end solution to be thoroughly tested and transitioned.

#### Stakeholder impact

The proposed staged approach as set out above should not negatively impact the timing of delivery of the new switching service to consumers, and indeed implementation of the Address Service and recording of improved Retail Energy Location address data in industry systems may allow additional benefits to be delivered for a short period in advance of full CSS go-live. However, we are developing a full left-to-right plan for the implementation of the DBT phase, and our implementation approach and testing plan will inform this planning.

Insofar as a staged approach will reduce the risk of unexpected delays or failure of the system, a staged approach is likely to deliver a positive benefit to consumers when compared with a single 'big bang' launch. Implementation of Project Nexus shows that an unexpected delay caused by one or a handful of market participants on the critical path can have a significant impact on the implementation of the overall programme.

It should be noted that this staged implementation will still require a significant amount of new functionality to be delivered by a number of participants in a single implementation stage (Stage 3 in the approach outlined above). In particular, this staged approach will not eliminate the risk that some participants joining the critical path at the later stages of implementation (such as suppliers or agents) will not be ready for 'go-live' or that they may experience some early life issues which diminishes the experience offered to consumers at 'go-live'. It should be noted that the suppliers who are not ready to interact with the new switching arrangements at 'go-live' will be unable to object to losing existing customers or to take on new ones until they are able to interact with the CSS in a way that is consistent with the overall integrity of the new service.

We are developing overall Testing and Integration plans and approaches alongside this implementation plan and approach, which will mitigate this risk of participants being unready for 'go-live', when combined with PMO function and wider programme assurance.

However, some parties and providers such as the providers of UK Link and MPRS will enjoy an increased opportunity to perform measured data cleansing, transformation and migration and check the synchronisation and integration of their services with the CSS ahead of market 'go-live'.

#### Stakeholder feedback

We have developed this proposal for a staged implementation informally with DCC and other stakeholders working on the programme, within the Design and Delivery Design Teams. The view of these stakeholders is that whilst a phased approach requiring an element of dual

running would be unduly costly, breaking down an implementation into manageable stages better reflects industry good practice when compared to a single-stage implementation. Members of the Delivery Forum (formerly User Group) of external stakeholders, including but not limited to larger suppliers, were positive about the benefits offered by a multi-stage approach and viewed a single-stage approach as offering no benefit by comparison.

Some suppliers within the Delivery Forum indicated to us that implementing changes to processes not directly related to interfacing with the new CSS (particularly the equivalent terms for cooling-off customers) would represent considerable system change (essentially, systems and processes would need to change retain customer data for 14 days after a next day switch and to be able to offer the same or other products on equivalent or better terms), and supported an additional implementation stage allowing for development of these processes.

We have considered whether there would be benefit in adding a further stage, following implementation of the CSS as a live registration service. Whilst there may be some benefit from further de-risking of the E2E solution by allowing the operation of the CSS as the registration service before a move to a next working day or two working day switch and the ability to 'switch back' on equivalent terms during cooling-off (in effect, a 'soft launch' of the CSS functionality), this measure would represent a potential delay to consumers receiving the full benefits of faster switching.

At present it is unclear how challenging implementing these auxiliary processes and system changes will be for suppliers, and therefore the benefit from de-risking by implementing them as a separate stage. Feedback on the cost impact of offering equivalent terms for cooling-off customers in the RfI was equivocal, with the full estimated cost being (approximately) £11m over ten years. No respondents to the RfI suggested that implementing equivalent terms would be unduly difficult or costly, or independently proposed an additional delay. Delivery Forum members also suggested that implementing changes to objections processes would not be especially difficult and would not warrant a delay in implementation of the remainder of the Switching Programme.

## **6. Next Steps**

Following agreement of this high-level implementation approach, we will work with the output of the Design workstream to map a detailed Implementation proposal, with activity intended for each stage based upon the completed Solution Architecture and DLS Phase Testing Plan, as well as the E2E and CSS Data Migration Plans. This work will also inform our regulatory design work and procurement planning in the Enactment phase of the Switching Programme.