

Switching Programme Change Request Form

Part A – For the requestor to fill in

Change Requestor's Details

Name: Ian Marshall

Organisation: DCC Switching Programme

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Please note that by default we will include the name and organisation of the Change Requestor in Switching Programme's published Change Log. If you do not wish to be identified please tick this box

Change Title

Network Requirements Additions

Change Summary

Background

The Switching Programme is reliant on the effective exchange of data between a number of interconnected systems. In the event of any of these systems becoming offline, it is necessary for the success of a switch that no data is lost. This is a necessary requirement if the data is in transit or within the mastering system.

The purpose of this change request is to augment this policy requirement by ensuring the communication network, across which data is transferred, ensures the zero loss of data should it become unavailable for a period of time. This change request is in addition to changes previously defined in CR-E11

The changes required are:

1. Modify requirement FR6024 to change the title from "Non Repudiation" to "**Origin Integrity**"
2. Modify requirement NFR0600 and replace the existing text with the following:

~~The environments for the CSS solution shall consist of~~ **The Switching Network shall provide enduring connectivity and routing, as appropriate, to the environments supporting testing of the CSS Switching solution as defined in D-4.3.2 E2E Integration Plan and D-4.3.3 E2E Testing Plan. The E2E Testing plan combined with the E2E Integration Plan requires** separate concurrent environments to support the different phases of development and test of the CSS solution, ~~to which the Switching Network shall~~

~~provide connectivity and routing, as appropriate~~ and its interactions with market participants and existing service providers, to which:

- a) DEV - Development environments set up and configured for the use by developers in the development (build) of the components of the CSS solution for each Service Provider
- b) PIT- Test environment set up and configured for Pre-Integration Test (PIT) – note that connectivity shall be required to an externally hosted CSS simulator to be provided by the Switching SI
- c) SIT - Systems Integration Test, consisting of all the Central Data Services, together with test tools to simulate Supplier and other interactions
- d) UIT - Test environment set up and configured for Unit User Integration Test (UIT) consisting of all the Central Data Services as well as other Market Participants
- e) Pre-Prod - Pre-Production Environment, consisting of all the Central Data Services as well as other Market Participants

Prior to 'Go-Live', the minimum requirement will be for a single PIT environment per Component. Following 'Go-Live', an additional PIT environment will be needed for all Industry Central Systems, at the same version as Production (PROD), to allow for testing of Production patches and resolutions for Production Incidents

Refer to D-4.3.2 E2E Integration Plan and D-4.3.3 E2E Testing Plan

Note that there may be a requirement to support multiple PIT environments (per Service Provider), and multiple SIT and UIT environments

3. Modify requirement NRF0610 to reflect the Volumetrics referenced in NRF0535 (introduced in CR-E11) along with a predicted 10 fold increase in network traffic.

The text will be changed from:

"The service shall be adaptable such that it provides a flexible platform to support evolution of the energy market"

to

"The service shall be designed in a modular and adaptable way, such that it can provide a flexible and scalable platform to support evolution of the energy market and at least a 10 fold increase in the messages and data volumes defined in NRF0535 (DB4 NFR Volumetrics spreadsheet) and have the capability to scale and have the potential to go further"

4. Modify requirement NRF0780 to reference the Volumetrics in NRF0535 and the growth targets in NRF0610

The text will be changed from:

"The switching network shall be scalable and flexible to automatically accommodate periods of increased network traffic volumes without the need to upgrade to a costlier bearer service."

to

"The switching network shall be scalable and flexible to automatically accommodate periods of increased network traffic volumes without the need to upgrade to a costlier bearer service and should be aligned to the volumetrics defined in NRF0535 and growth targets in NRF0610"

5. Modify requirement DCCPG-01 to clarify the requirement. The text will be changed from:

"Groups of information services, users and information systems shall be segregated on Exchange networks", to:

"Groups of information services, users and information systems shall be segregated on Exchange networks, **this includes any third party entity with a connection to the Switching Solution**"

6. Modify requirement DCCPG-02 to change the text from CSS Solution to "**Switching Network**:"
7. Modify requirement DCCPG-04 to clarify the requirement. The text will be changed from:
"All Exchanges network connections are physically and logically separated from the internet" to
"All Exchanges network connections are **sufficiently segregated** and logically separated from the internet"
8. Modify requirement NFR0640 to clarify the switching network requirement for 99.99% availability. The requirement will be changed to "The service shall have 99.75% overall availability and 99.99% CSS-connection availability (**including the Switching Network**), outside scheduled maintenance periods."

In addition, the following Non-Functional Requirement changes defined in CR-E11 will be incorporated into the product D-4.2.8 Communications Network Requirements:

- a) Insert new requirement NFR0651 "**There shall be a mechanism in place that shall ensure there is no data loss in the event of a network or system failure. In the context of the Switching Network this means supporting diverse routing, so a failure of a single component does not cause the routing of the IP packets to be lost.**"
- b) Insert new requirement NFR1031 "**The switching network shall offer and support multiple connection types, configurable quality and class of service, and bandwidth options as part of its offerings.**"
- c) Modify requirement NFR0590 to qualify the network latency of 200ms as to peak throughput - "Latency across the Switching Network shall be 200ms or less, **including during periods of peak data throughput.**"
- d) Modify requirement NFR0592 "Latency across the Switching Network shall be measured using a declared and agreed method. **A round trip is measured by the local clock in the pinging system, from when the request left to when the reply arrived.**"
- e) Modify requirement NFR0640 to address the specific importance of the CSS-connection - "The service shall have 99.75% overall availability **and 99.99% CSS-connection availability**, outside scheduled maintenance periods."
- f) Insert new requirement NFR0851 "**The Switching Network shall provide a resilient and redundant connection to the CSS**"
- g) Insert new requirement NFR0852 "**Where a combined switching network is provided (i.e. 'the Bridge'), each Service Provider shall ensure that there is a resilient and redundant connection between the networks**"
- h) Insert new requirement NFR0535 "**The Switching Network shall support the network traffic volumes specified within D-4.2.2 CSS NFR Volumetrics V2.0.**"
- i) Insert new requirement NFR1180 "**The Switching Network shall conform to the requirements of product D-10.2 CSS Service Management Requirements, located at <https://www.ofgem.gov.uk/publications-and-updates/css-service-management-products>**"

Change considerations & viewpoint	
<i>Please provide your considerations and views on change using information available to you and stakeholders you have engaged.</i>	
Priority assessment for Change Request A minor change to the scope of a programme, does not involve a change or Non-Conformance	This change is about clarifying the non-functional requirements for the Communications Network so does not change any functionality
Base reason for Change Design - Additional requirements/functionality being added to the programme's scope	This change does not include any new functionality. Its purpose is only to clarify existing non-functional requirements and to align the Communications Network requirements with the common non-functional requirements recently included in CR-E11
Rating of Change implementation LOW - Minor consequence requiring some minor redesign or rework; Minor cost impact; Minor impact to schedule	Note: The impact should be very low, but this option did not work on the pull-down list The very low impact assessment is because this change does not include any new functionality only clarifications to existing non-functional requirements and to align the Communications Network requirements with the common CSS non-functional requirements recently included in CR-E11
"Do nothing" implications	There should be no direct impact if this change is not approved, although there may be some scalability or performance issues if the non-functional requirements are not met
Potential stakeholders affected by the Change	All stakeholders who use the Switching Networks
Alternative sought to reduce negative impact	None as this this change only clarifies existing non-functional requirements
Identify any risks to the implementation of the Change	None as this this change only clarifies existing non-functional requirements
Specialists and/or stakeholders consulted	All stakeholders involved in the Design Forum have been consulted. No additional specialists have been consulted

Programme Products affected by proposed change

D-4.2.8 Communications Network Requirements V0.3 18th May 2018

D-4.1.4 E2E Switching Arrangements Non-Functional Requirements v2.1 30th November 2018

D-4.2.2 CSS Detailed Non-Functional Requirements Specification v2.1 30th November 2018

Justification for Change

These changes have arisen following discussions with existing Providers of Central Data Services and Switching Programme workstreams. They provide necessary refinements to meet the needs of the new Switching Arrangements.

Please submit this completed form to the Ofgem Switching Programme PMO Team (SwitchingPMO@ofgem.gov.uk) with the subject as the Change Request number and title.

Part B – For Ofgem Use Only

Change request No.	CR-E31	Date CR submitted	08/01/2019
Change request status:	Approved	Current CR version:	v1.0
Change Window:	14	Version date:	04/02/2019

Change Advisory Team (CAT) Lead:	Name and organisation: Jenny Boothe – Ofgem
Contact details:	Email address: jenny.boothe@ofgem.gov.uk
PMO Lead:	Name: James Hardy - Ofgem
Contact details:	Email address: james.hardy@ofgem.gov.uk

Initial assessment/Triage	
<i>Please provide a summary of the initial assessment, detailing any changes made by the Change Advisory Team (CAT) which includes Ofgem PMO, Design, Implementation, Alignment, Commercial, Regulatory and Security Workstream Leads and DCC.</i>	
Design & Data Impact and resource input required for IA? The integrity of the design remains intact. No impact	
Implementation Impact (including impacts to industry readiness, procurement timelines and the Programme Plan) and resource input required for IA? The network service providers may need to undertake additional testing to test these requirements	
Alignment Impact and resource input required for IA? N/A	
Commercial/Procurement Impact and resource input required for IA? N/A	
Regulatory Impact and resource input required for IA? N/A	
Security Impact and resource input required for IA? N/A	
Confirm Programme Products impacted by the change request? D-4.2.8 Communications Network Requirements V0.3 18th May 2018 D-4.1.4 E2E Switching Arrangements Non-Functional Requirements v2.1 30th November 2018 D-4.2.2 CSS Detailed Non-Functional Requirements Specification v2.1 30th November 2018	
Major or Minor Change?	Minor

Change Process Route	Standard
Change Window	14
To be submitted to the Design Forum on:	21 January 2019 <Date of Design Forum> 28 January 2019
Approval Authority:	<Programme Manager, Programme Director, SRO, Chair - Design Authority, Security Board> Arik Dondi, DA Chair
Target Change Decision Date:	8 February 2019
Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Impact Assessment	
<p>Implementing this change request will ensure the communication networks support faster reliable and accurate data exchanges between the CSS and other CDSs. In particular, should there is a network outage the new requirements of this CR will ensure that data is retained and available when the network is back on-line.</p> <p>Unless these attributes are not new there is an expectation that the network providers will incur additional cost to meet these new requirements which may be socialised across the entire industry.</p>	
Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Impact Assessment – Industry cost	
No impact The changes defined in this change request clarify existing non-functional requirements or incorporate already approved common CCS/Switching Network requirements with the Switching Network documentation. As such there are no expected Industry changes or costs	
Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Impact Assessment – Programme	
No impact.	
Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Impact Assessment – Resource Effort	
0.5 FTE over 3 working days to update products	
Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Impact Assessment – Programme Design & Architectural Principles

Design Principle	Description	RAG Status & Summary
Impact on Consumers		
1 Reliability for customers	All switches should occur at the time agreed between the customer and their new supplier. The new arrangements should facilitate complete and accurate communication and billing with customers. Any errors in the switching process should be minimised and where they do occur, the issue should be resolved quickly and with the minimum of effort from the customer. The customer should be alerted in a timely manner if any issues arise that will impact on their switching experience.	Green – having a robust communication network will ensure the consumer switch data is secured and managed effectively
2 Speed for customers	Customers should be able to choose when they switch. The arrangements should enable fast switching, consistent with protecting and empowering customers currently and as their expectations evolve.	Green – The non-functional requirements (NFRs) clarify how the switching network should perform and be measured
3 Customer Coverage	Any differences in customer access to a quick, easy and reliable switching process should be minimised and justified against the other Design Principles.	N/A
4 Switching Experience	Customers should be able to have confidence in the switching process. The process should meet or exceed expectations, be simple and intuitive for customers and encourage engagement in the market. Once a customer has chosen a new supplier, the switching process should require the minimum of effort from the customer. The customer should be informed of the progress of the switch in a timely manner.	N/A
Impact on Market Participants		
5 Competition	The new supply point register and switching arrangements should support and promote effective competition between market participants. Where possible, processes should be harmonised between the gas and electricity markets and the success of the switching process should not be dependent on the incumbent supplier or its agents.	N/A
6 Design – simplicity	The new supply point register and arrangements should be as simple as possible.	N/A
7 Design – robustness	The end-to-end solution should be technically robust and integrate efficiently with other related systems. It should be clearly documented, with effective governance. The new arrangements should proactively identify and resolve impediments to meeting consumers' and industry requirements. These arrangements should be secure and protect the privacy of personal data.	Green – The Switching Network NFRs ensure the solution is robust and scalable
8 Design – flexibility	The new arrangements should be capable of efficiently adapting to future requirements and accommodating the needs of new business models.	Green – The Switching Network NFRs ensure the solution is modular, scalable and adaptable
Impact on Delivery, Costs and Risks		
9 Solution cost/benefit	The new arrangements should be designed and implemented so as to maximise the net benefits for customers.	N/A

Green - Requestor to complete

Orange – Ofgem to complete

Blue - Impact Assessment Team to complete

10 Implementation	The plan for delivery should be robust, and provide a high degree of confidence, taking into account risks and issues. It should have clear and appropriate allocation of roles and responsibilities and effective governance.	N/A
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Architectural Principle	Description	RAG Status & Summary
1 Secure by default & design	All risks documented & managed to within the tolerance defined by the organisation or accepted by the Senior Risk Owner	N/A
2 Future Proof Design	Common design approaches will better enable designs to support future developments e.g. A mechanism for achieving non-repudiation	Green – The Switching Network NFRs ensure the solution is modular and scalable to support future developments
3 Standards Adoption	Adopt appropriate standards for products, services or processes. e.g. ISO/IEC 11179 for data definition	N/A
4 One Architecture	One single definitive architecture prevails	N/A
5 Data is an asset	Data is an asset that has value to the enterprise and is managed accordingly	Green – The Switching Network NFRs ensure the solution supports secure and diverse routing to ensure data is safely delivered between the different systems
6 Data is shared & accessible	Users have access to the data necessary to perform their duties; therefore, data is shared across enterprise functions and departments.	N/A
7 Common vocabulary & data definitions	Data is defined consistently throughout the enterprise, the definitions being understandable and available to all users.	N/A
8 Requirements-based change	Only in response to business needs are changes to applications and technology made. E.g. only industry arrangements affecting switching will be impacted.	Green – This change request clarifies the NFRs for the Switching Network to ensure business needs are met
9 Quality Characteristics	Maintain a comprehensive set of quality characteristics by which to gauge the completeness of requirements for Applications and Services.	Green – This change request aligns the Switching Network NFRs with other common CSS/Network requirements, thus ensuring consistency and overall quality of the design requirements

Summary: -

Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Impact Assessment – Data cleansing / migration	
This change only clarifies the non-functional requirements for the Communications Network, therefore does not have any impact on Data Cleansing or Migration	
Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Green - Requestor to complete

Orange – Ofgem to complete

Blue - Impact Assessment Team to complete

Impact Assessment – Programme Plan	
No impact	
Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Impact Assessment – Security	
No impact	
Checked for completeness (Name & Role):	Date:
James Hardy	05/02/2019

Programme Recommendation	
Recommended for approval by Design Authority subject to amendments agreed on in Design Forum on January 28.	
Checked for completeness (Name & Role):	Date:
Arik Dondi	28/01/2019

Change Request Decision	
Approved	
Changed Approved:	Yes
Decision Maker (Name & Role):	Date:
Arik Dondi	28/02/2019

Next Steps		
<i><If the change is approved, insert a summary of next steps here including which products are to be updated as a result of this CR and details of any stakeholder engagement required. Complete the table below detailing agreed timescales for product update, review & approval></i>		
If Change Request is approved:-	Role	Date
Products updates to be completed by:	<i>DCC</i>	
Ofgem review dates:		
Product approval to be completed by:	<i>Ofgem</i>	