

Flexibility Digital Infrastructure

System Use Case exercise

Example

December 2023, Version 2.0

Disclaimer: The System Use Case (SUC) implementations in this Example are not a SUC approach Ofgem is proposing or one which is fully functional. This Example is purely to show the type of architectural and descriptive information which participants could include when writing their own SUC Templates for submission. As this Example is illustrative the information is naturally higher level, participants are welcome to provide slightly more detailed information, but we do not expect heavily detailed descriptions of system sub-functions or individual data fields etc.

Version	Date	Author(s)	Notes
1.0	11 th December 2023	Ofgem	Emailed to participants.
2.0	15 th December 2023	Ofgem	Update after Introduction Meeting. Extended disclaimer, additional information solicited in short description and architectural diagram included, tabular sequence description included, minor clarifications in Actors table.

1. SUC Template for BUC.2

Please use this template (based on [IEC standards](#)) to set out your SUC proposals which deliver the BUC narrative and KPIs, and address the scenario provided above. You may find the [PlantUML website](#) tool useful for making sequence diagrams (tutorial seen [here](#)), but diagrams created in Word/PowerPoint (or equivalent) are entirely acceptable.

Narrative of the System Use Case
Short description
<p><i>Written description of your SUC implementation of the BUC. Describe the SUC operation and what new/existing systems are involved and what system functions are used to deliver the BUC. Describe any aspects of the BUC narrative or KPIs or scenario that your SUC implementation does not meet. Optionally, please also include any overall architectural diagrams.</i></p> <p>The SUC proposed describes how an approved set of platforms, namely 'IMP_register_BUC.2' and 'ESO_register_BUC.2', in tandem with 'CoordinationSystem_BUC.2' and UserID_BUC.4 can act as FDI to deliver the BUC.2 outcomes and scenario for FSP_1, FSP_n, and MO_n.</p> <pre>graph TD subgraph ApprovedPlatforms [Approved platforms] ESO_Register_BUC.2 IMP_Register_BUC.2 end CoordinationSystem_BUC.2 MO_n FSP_n FSP_1 Sources_for_validation[Sources for validation] ESO_Register_BUC.2 --> CoordinationSystem_BUC.2 IMP_Register_BUC.2 --> CoordinationSystem_BUC.2 MO_n --> CoordinationSystem_BUC.2 CoordinationSystem_BUC.2 --> FSP_n CoordinationSystem_BUC.2 --> FSP_1 CoordinationSystem_BUC.2 <--> Trusted information flow (with UserID_BUC.4 seamless integration) Sources_for_validation</pre> <p>The following systems and actors are involved:</p> <ul style="list-style-type: none">• The system 'CoordinationSystem_BUC.2' is a new system which provides a common point of access and facilitates common data exchange between the two platforms and other actors. This system does not store any asset data itself; its function is to provide coordination services and data access across the two platforms.• The two platforms, 'IMP_register_BUC.2' and 'ESO_register_BUC.2', are existing systems owned by IMP and ESO. They are approved for use in BUC.2 and their function is to allow two options for data storage locations.• The actors involved, namely FSP_1, FSP_n, and MO_n are able to interface with 'CoordinationSystem_BUC.2' either by API integration or user interface as needed.• The system 'UserID_BUC.4' seamlessly integrates with 'CoordinationSystem_BUC.2' to deliver identity management outcomes in BUC.4.• The system(s) 'Sources_for_Validation' are able to leverage API integrations with OEM cloud back-ends and FSP/MO databases to provide both technical and contractual parameter validation. <p>For the first steps, FSP_1 must have x/y/z integrations with system 'CoordinationSystem_BUC.2' to achieve new functions a/b/c. This enables FSP_1 to efficiently register their assets, including 'technical and contractual parameter validation' that enables interactions across 'multiple data access points' and 'databases', as per the scenario steps.</p>

After those first steps, the asset data is stored in a decentralised information system of approved platforms. The existing systems 'ESO_register_BUC.2' and 'IMP_register_BUC.2' have been extended to deliver Common Asset Registration, and are approved by x to deliver functionality y/z. This enables 'CoordinationSystem_BUC.2' to achieve subsequent steps of 'Asset record updated by FSPs' and 'Asset record accessed by MOs' by 'searching the unique ID paradigm' across them.

The alternative scenario for 'Asset validation and registration' (where FSP_n attempts to provide data for an existing validated asset) is handled using 'CoordinationSystem_BUC.2'. This system can 'search a unique ID paradigm' across approved platforms and confirm with FSP_n the duplicate registration.

The alternative scenario for 'Asset record updated by FSPs' (where FSP_n simultaneously updates asset data) is handled by the 'CoordinationSystem_BUC.2' functionality y.

This SUC also shows how alternative scenario steps of 'duplicate registrations' (4a), 'simultaneous updates' (7b) and 'system downtime' (8) are handled. Some scenario steps are not addressed, these are 'interactions across multiple potential data access points' (1c), (7a), and 'multiple systems' (7c).

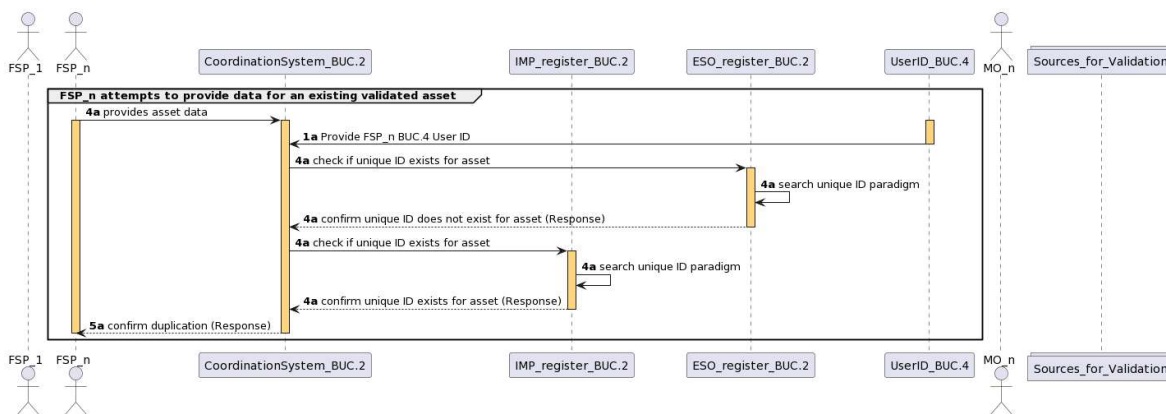
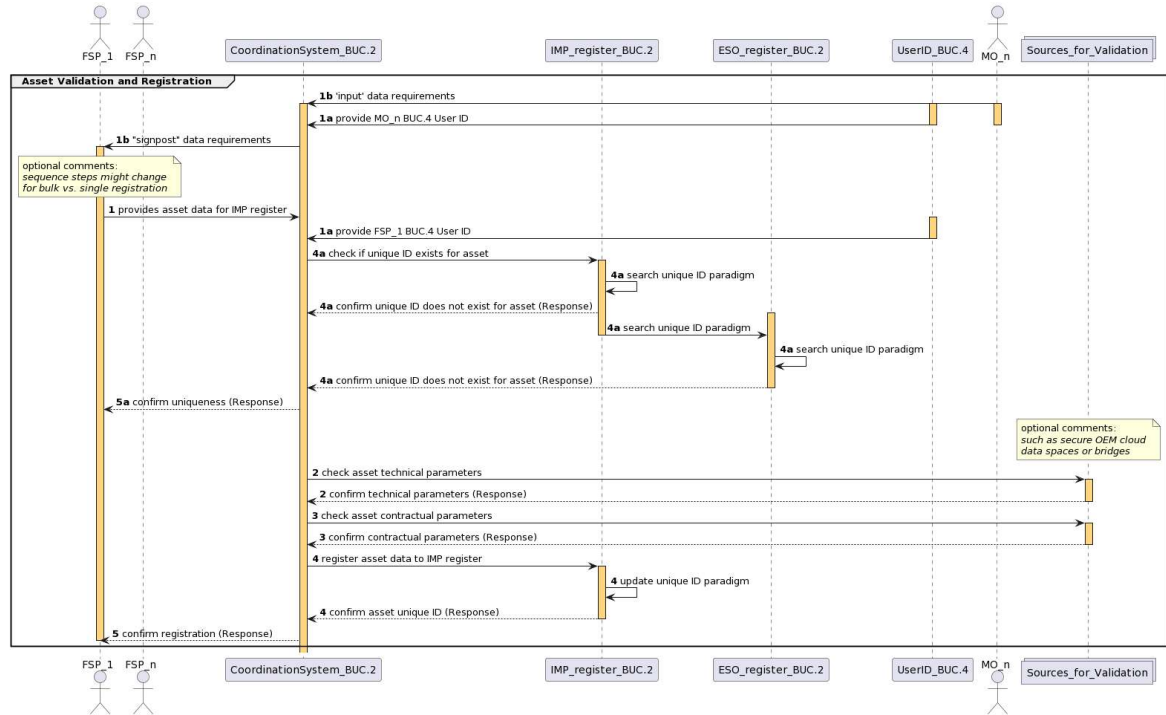
You are welcome to include a brief summary of any socio-technical or governance considerations that are needed to deliver the technical systems in your SUC proposal. This could include governance structures or frameworks, data standards, and data- and entity- assurance rules.

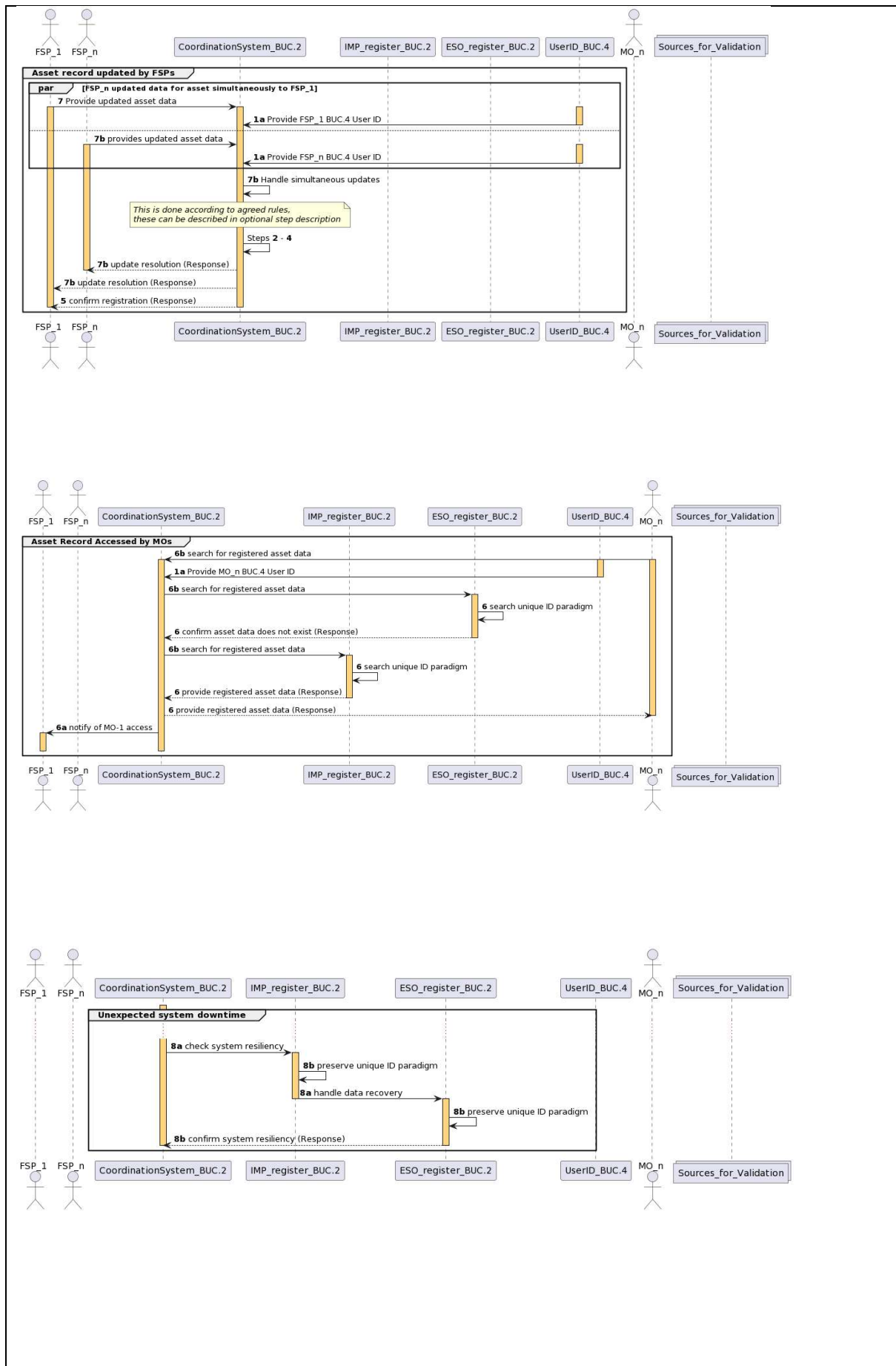
Use Case conditions	
Assumptions/Pre-requisites	
1	Seamless integration utilising the Data Sharing Infrastructure (Trust + Prepare + Share) outcomes defined in BUC.1 and BUC1.1.
2	Relevant data- and entity- assurance agreements are defined as part of BUC.1 and/or BUC.8 and are readily implementable by the system.
3	Information flows utilise a necessary common data standard and wider IT architecture to support the functions, defined in BUC1.1.
4	Seamless integration to utilise common user registration outcomes in BUC.4.
5	Seamless integration to enable common pre-qualification outcomes in BUC.7.
6	Seamless integration to enable common TSO-DSO coordination outcomes in BUC.6.
7	Seamless integration with relevant common compliance tools in BUC.8
8	Asset details submitted to the system are accompanied with a mechanism for validating owner consents.
9	Asset details are validated according to a transparent and well-defined logic.
10	e.g. Approved BUC.2 platforms have BUC.4 system integration directly embedded and do not require a UserID to be sent by BUC.4 system separately.
11	e.g. Simultaneous updates are resolved by a defined set of rules implemented by the CoordinationSystem_BUC.2

Actors		
Actor name	Actor type ("system" or "business")	Actor description
FSP_1	Business	FSP_1 is an aggregator who is bulk registering thousands of domestic and non-domestic <11kV connected assets across DNO license areas.
MO_n	Business	"n" refers to the e.g. ESO who requires data from FSP_1 to efficiently contract with FSP_1's asset base for the e.g. Balancing Mechanism.
FSP_n	Business	"n" refers to a chargepoint operator who is bulk registering a network of existing on-street residential chargepoints across DNO license areas.
CoordinationSystem_BUC.2	System	A new system, operated by a neutral entity, that provides coordination services and data access across the two approved platforms.
IMP_register_BUC.2	System	An extended existing system which is an approved platform that FSPs can chose to store their asset data on. It provides asset data storage for some assets and maintains a unique asset record across platforms.
ESO_register_BUC.2	System	An extended existing system which is an approved platform that FSPs can choose to store their asset data on. It provides asset data storage for some assets and maintains a unique asset record across platforms.
UserID_BUC.4	System	Common User Registration system defined in SUC.4 template. Provides unique IDs to Users for use in other systems.
Sources_for_Validation	System	Systems such as existing FSP/MO databases or new/existing access points i.e. installer applications or secure cloud bridges with OEM APIs. Similar systems needed for contractual validation.

Diagram(s) of the Use Case

Please include sequence diagram(s) working through the scenario steps to show how they are implemented in the SUC proposed.





Scenario(s) – optional tabular version of sequence diagram	
Step no.	Description of process
<i>Please uniquely number your sequence diagram steps. Please include corresponding scenario step numbers in brackets.</i>	
-	Asset Validation and Registration
1 (1)	MO_n uses user interface to define asset data requirements for FSP-1.
2 (1a)	UserID_BUC.4 is shared in a machine-readable way to verify who system or actor is.
3 (1b)	Coordination_system 'signposts' these data requirements to FSP-1 as appropriate.
4 (1)	FSP-1 provides data as required for the market operator they want to access.
5 (1a)	UserID_BUC.4 is shared in a machine-readable way to verify who system or actor is.
6 (4a)	Check underway across FDI unique ID paradigm to see if asset exists.
7 (4a)	Check underway across FDI unique ID paradigm to see if asset exists.
8 (4a)	Check underway across FDI unique ID paradigm to see if asset exists.
9 (4a)	Check underway across FDI unique ID paradigm to see if asset exists.
10 (4a)	Check underway across FDI unique ID paradigm to see if asset exists.
11 (4a)	Check underway across FDI unique ID paradigm to see if asset exists.
12 (5a)	Check completes and result confirmed with FSP-1 through appropriate response.
13 (2)	Check asset technical parameters using sources for validation e.g. cloud API infrastructure and interface and OEM platforms.
14 (2)	Check completes and result confirmed with Coordination_system appropriately.
15 (3)	Check asset contractual parameters using sources for validation e.g. cloud central services platform.
16 (3)	Check completes and result confirmed with Coordination_system appropriately.
17 (4)	Coordination_system registers asset data within the approved information systems that can be accessed by the market operators whom FSP-1 wants to register with.
18 (4)	FDI updates unique ID paradigm to reflect new asset data being stored.
19 (4)	Update completes and result confirmed with Coordination_system appropriately.
20 (5)	Coordination_system confirms result with FSP-1 appropriately.