# DCC User Interface Specification (DUIS) – Release Note

Version 4.0: Release Note 09 April 2020

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#### 1 RELEASE NOTE

This release note accompanies but does not form part of DCC User Interface Specification V4.0 (DUIS). It lists all changes made to DUIS v4.0 required for November 2020 DCC release.

### 1.1 Summary of main changes to DUIS V4.0

The sections of DUIS V4.0 listed in the table below incorporate the principal changes made based on DUIS V3.1.

SECTION	Section Heading	Specific Change Point	
1. Introduction			
	1.1 Document Purpose	No changes made	
	1.2 Document Structure	No changes made	
	1.3 Defined Terms	New terms added for	
		- BEIS directive – SMETS2 - CRP612	
	1.4 Variation of	Changes for - SECMP0062	
	requirements in relation to	- SECMP0081	
	SMETS1 Devices	<ul> <li>BEIS directive – SMETS1- CR1290 - Re-</li> </ul>	
		scaling of Gas Flow rate in SRV to match SMETS2	
		- BEIS directive – SMETS1- CR1045 extending	
		the existing firmware update process to	
2. The Interface		SMFTS1 PPMID devices	
2. The interface	2.1 Connection Mechanisms	No abangas mada	
		No changes made	
	2.2 Establishment of Logical Connection	No changes made	
	2.3 Time	No changes made	
	2.4 Web Services	No changes made	
	2.5 Service Request Processing	No changes made	
	2.6 Messaging Features	No changes made	
	2.7 HTTP Response Codes	Changes for	
		- SECMP0067	
	2.8 Response Codes	No changes made	
	2.9 DCC Alerts	No changes made	
	2.10 Error Handling	Changes for - SECMP0067	
3. Messages sent	over the Interface	- SECNITOUO/	
	3.1 Service Request Matrix	New Service Request added for BEIS directive – SMETS2 - CRP612	
	3.2 Access Control	No changes made	
	3.3 Key Cryptographic Operations	No changes made	
	3.4 Requests	No changes made	
	3.5 Responses	No changes made	
	3.6 Device Alerts and DCC Alerts	Changes for - SECMP0062 - BEIS directive – SMETS2 - CRP612	

SECTION	Section Heading	Specific Change Point
	2.7 Target Posperse Times	BEIS discusses SMFIS to CRHSS expending the existing fromware undate process to SMFIS to PPAHID devices.      Other minor update to clarify DCC system behaviour.  No changes made.
	3.7 Target Response Times	No changes made
	3.8 Service Request Definitions	SECMP0081 - SR1.1.1 - SR6.24.2 - SR8.13 - SR8.14.2  SECMP0093 - SR8.9
		BEIS directive – SMETS2 - CRP612  - SR2.1 - SR3.3 - SR6.7 - SR6.13 - SR6.14.1 - SR6.14.2 - SR6.14.3 - SR6.24.1 - SR7.5 - SR7.6 - SR7.7 - SR7.8 - SR7.9 - SR7.10 - SR7.13 - SR7.14 - SR7.15 - SR7.16 - SR7.15 - SR7.16 - SR8.2 - SR8.4 - SR8.13 - SR12.2
		Defec fix
		- CR1277 install code length
	3.9 DCC Alert Messages	BEIS directive – SMETS2 - CRP612  - N43 - N58 - N16 (SR:MeterIdentity)
	3.10 Data Types Shared Across Service Requests	No changes made
Annex		
	Annex A - DUIS XML Schema	Updated DUIS XML Schema
	PLEASE NOTE: Compatible MMC Schema	MMC V4.0
<u> </u>	MMC Schema	

The same colour scheme is used in the DUIS documentation to show BEIS directive change:

- BEIS directive – SMETS1- CR1290 - Re-scaling of Gas Flow rate in SRV to match SMETS2

- BEIS directive SMETS1- CR1045 extending the existing firmware update process to SMETS1 PPMID devices
- BEIS directive SMETS2 CRP612

### 1.2 Summary of changes as result of BEIS directive

The sections of DUIS V4.0 listed in the table below incorporate the principal changes made.

SECTION	Section Heading	Specific Change Point
1. Introduction		
	1.1 Document Purpose	No changes made
	1.2 Document Structure	No changes made
	1.3 Defined Terms	New terms added for
	1.4 Maniation of	- BEIS directive – SMETS2 - CRP612
	1.4 Variation of requirements in relation to	Changes for BEIS directive - SMBTS1- CR1290 - Re-
	SMETS1 Devices	scaling of Gas Flow rate in SRV to match
	SWILTST Devices	SMETS2 - BEIS directive - SMETS1 - CR1045 extending
		the existing firmware update process to SMETS1 PPMID devices
2. The Interface		
	2.1 Connection Mechanisms	No changes made
	2.2 Establishment of Logical Connection	No changes made
	2.3 Time	No changes made
	2.4 Web Services	No changes made
	2.5 Service Request Processing	No changes made
	2.6 Messaging Features	No changes made
	2.7 HTTP Response Codes	No changes made under BEIS directive
	2.8 Response Codes	No changes made
	2.9 DCC Alerts	No changes made
	2.10 Error Handling	No changes made under BEIS directive
3. Messages sent	over the Interface	
	3.1 Service Request Matrix	New Service Request added for BEIS directive – SMETS2 - CRP612
	3.2 Access Control	No changes made
	3.3 Key Cryptographic Operations	No changes made
	3.4 Requests	No changes made
	3.5 Responses	No changes made
	3.6 Device Alerts and DCC	Changes for
	Alerts	<ul> <li>BEIS directive – SMETS2 - CRP612</li> <li>BEIS directive – SMETS1- CR1045 extending</li> </ul>
		the existing firmware update process to
		SMETS1 PPMID devices
		<ul> <li>Other minor update to clarify DCC system behaviour</li> </ul>
	3.7 Target Response Times	No changes made
		=

SECTION	Section Heading	Specific Change Point
SECTION	3.8 Service Request Definitions	BEIS directive – SMETS2 - CRP612  - SR2.1 - SR3.3 - SR6.7 - SR6.13 - SR6.14.1 - SR6.14.2 - SR6.14.3 - SR6.15.1 - SR6.24.1 - SR7.5 - SR7.6 - SR7.7 - SR7.8 - SR7.9 - SR7.10 - SR7.13 - SR7.14 - SR7.15 - SR7.16 - SR8.2 - SR8.4
	3.9 DCC Alert Messages	- SR12.2  BEIS directive – SMETS2 - CRP612 - N43 - N58 - N16 (SR:MeterIdentity)
	3.10 Data Types Shared Across Service Requests	No changes made
Annex		
	Annex A - DUIS XML Schema	Updated DUIS XML Schema
	PLEASE NOTE: Compatible MMC Schema	MMC V4.0

The same colour scheme is used in the DUIS documentation and the schema to show BEIS directive change:

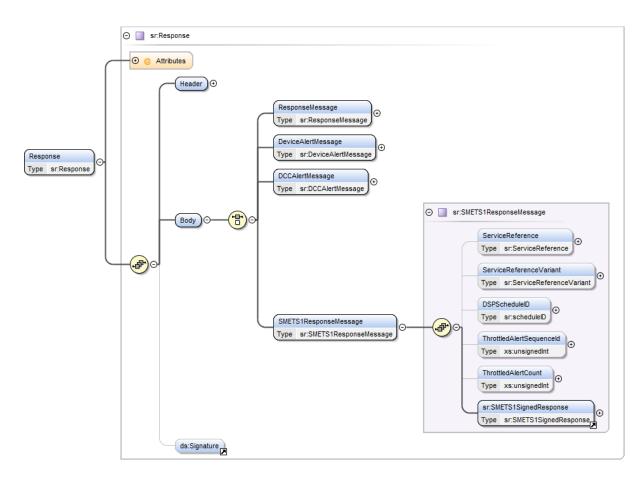
- BEIS directive SMETS1- CR1290 Re-scaling of Gas Flow rate in SRV to match SMETS2
- BEIS directive SMETS1- CR1045 extending the existing firmware update process to SMETS1 PPMID devices
- BEIS directive SMETS2 CRP612

#### 2 SEC MODIFCATION

2.1 SECMP0062 - Northbound Application Traffic Management - Alert Storm Protection part 2

Please note, there was an error in the legal text published in the SECAS website related to table 4.

2.1.1 Amend the Figure 1 illustrated diagram Section 1.4.11.2 'Countersigned SMETS1 Response and Alert Format' as follows:

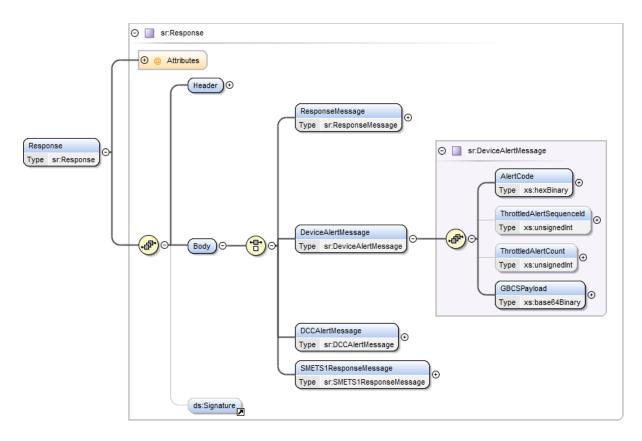


2.1.2 Amend Table 4 in Section 1.4.11.2 'SMETS1ResponseMessage Format' as follows:

Data Item	Description	Туре	Mandatory	Valid Values
ServiceReference	Identifier that signals the particular Service Reference to DCC (and is driven from the User's selection of Request)	sr:ServiceReference (See Error! R eference source not found.)	Yes	As per the Request

ServiceReferenceVariant	Identifier that signals the particular Service Reference Variant to DCC (and is driven from the User's selection of Request)	sr:ServiceReferenceV ariant (See Error! R eference source not found.)	Yes	As per the Request
DSPScheduleID	Schedule ID generated by the DCC Systems Valid Set: >= 0 and <= 100000000000000	sr:scheduleID (Restriction of xs:nonNegativeIntege r)	Present for DCC Scheduled requests	See description
ThrottledAlertSequenceId	An optional data item that identifies that this Alert Code is currently subject to throttling by the DCC Data Systems.  If this attribute is included in the Alert then it indicates the sequence number for this Alert message since Alert throttling began.	xs:unsignedInt	No	As per Table 43
ThrottledAlertCount	An optional data item used to indicate the number of Alerts that have been consolidated by DCC Data Systems since the last Alert was forwarded to the Service User.	xs:unsignedInt	No	As per Table 43
SMETS1SignedResponse	Message created and signed by the S1SP. It contains a SMETS1 Response or a SMETS1 Alert	sr:SMETS1SignedRe sponse (see clause Error! R eference source not found.)	Yes	See description

# 2.1.3 Amend the Figure 15 illustrated diagram Section 3.6.2 'Device Alerts - DeviceAlertMessage Format' as follows:

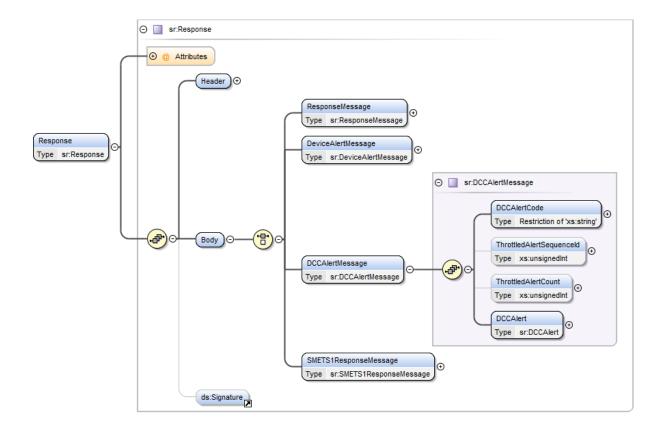


### 2.1.4 Amend Table 38 in Section 3.6.2.2 'Device Alerts Body Format' as follows:

Data Item	Description	Туре	Mandatory	Valid Values
AlertCode	Code indicating the alert or reason for the alert to be generated  GBCS includes '0x' at the start of such codes. This definition uses a hexBinary representation for valid values.	xs:hexBinary	Yes	See GB Companion Specification for base list and apply hexBinary representation of these GBCS defined values
ThrottledAlertSequenceId	An optional data item that identifies that this Alert Code is currently subject to throttling by the DCC Data Systems. If this attribute is included in the Alert then it indicates the sequence number for this Alert message since Alert throttling began.	xs:unsignedInt	No	As per Table 43
ThrottledAlertCount	An optional data item used to indicate the number of Alerts that have been consolidated	xs:unsignedInt	No	As per Table 43

	by DCC Data Systems since the last Alert was forwarded to the Service User.			
GBCS Payload	See GB Companion Specification for Details of the format of the GBCS Alert	xs:base64Binary	Yes	See GB Companion Specification for message construction.

# 2.1.5 Amend the Figure 16 illustrated diagram in Section 3.6.3 'Device Alerts - DCCAlertMessage Format' to the following:



#### 2.1.6 Amend Table 40 in Section 3.6.3.2 'DCC Alerts Body Format' as follows:

Data Item	Description	Туре	Mandatory	Valid Values
DCCAlertCode	Code indicating the alert or reason for the Alert to be generated by DCC	Restriction of xs:string (Enumeration)	Yes	See clause 3.6.3.4
DCCAlert	This is body specific content dependent on the DCCAlertCode being sent. See clause Error! R eference source not found. for body specific format.	sr:DCCAlert See clause 3.9	Yes	See clause 3.9
ThrottledAlertSeqeunceID	An optional data item that identifies that this Alert Code is currently subject to throttling by the DCC Data Systems.  If this attribute is included in the Alert then it indicates the sequence number for this Alert message since Alert throttling began.	xs:unsignedInt	No	As per Table 43
ThrottledAlertCount	An optional data item used to indicate the number of Alerts that have been consolidated by DCC Data Systems since the last Alert was forwarded to the Service User.	xs:unsignedInt	No	As per Table 43

# 2.1.7 Amend Annex A – DUIS XML SCHEMA with the following code entries to incorporate the ThrottledAlertSequenceID and ThrottledAlertCount functions to correspond with Figures 15 and 16 above:

```
DUIS Schema Draft
3.1 update for SECMP
<xs:complexType name="DeviceAlertMessage">
        <xs:sequence>
             <xs:element name="AlertCode" type="xs:hexBinary">
</xs:element>
                                  name="ThrottledAlertSequenceId"
<xs:element</pre>
type="xs:unsignedInt" minOccurs="0" maxOccurs="1"/>
                                       name="ThrottledAlertCount"
             <xs:element
type="xs:unsignedInt" minOccurs="0" maxOccurs="1"/>
             <xs:element</pre>
                                                name="GBCSPayload"
type="xs:base64Binary" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="DCCAlertMessage">
        <xs:sequence>
```

```
<xs:element name="DCCAlertCode">
     <xs:simpleType>
          <xs:restriction base="xs:string">
               <xs:enumeration value="AD1</pre>
               <xs:enumeration value="N1"/>
               <xs:enumeration value="N2"</pre>
               <xs:enumeration value="N3"</pre>
               <xs:enumeration value="N4"</pre>
               <xs:enumeration value="N5"</pre>
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               <xs:enumeration value="N54"/>
               <xs:enumeration value="N55"/>
```

- 2.2 SECMP0067 Service Request Traffic Management (proposal is not YET approved)
- 2.2.1 Section 2.7 HTTP Response Codes, New HTTP response Code 429 added
- Too Many Requests Indicates that Service Request Traffic Management is in operation, the User has sent too many requests and this request is being rejected.
- 2.2.2 Section 2.10 Error Handling, Table 8: General error handling updated to add New error scenario for "Too Many Service Requests"

Too	When the volume of Service Requests into the DCC System exceeds the system capacity, then	
Many	the Service Request Traffic Management system will reject non-Priority Service Requests from	
Service	a User that is exceeding their capacity allocation.	
Requests	Under these circumstances the DCC System shall respond with an HTTP Response Code of 429	
_	- Too Many Requests.	
	The User system shall reduce their request submission rate and re-attempt the failed Service	
	Requests after at least the delay period indicated in the RETRY-AFTER field of the HTTP	
	response.	

#### 2.2.3 No Schema change is required

- 2.3 SECMP0081 Alignment of DUIS and CHISM to reflect current DCC Processing
- 2.3.1 Changes to Service Request 1.1.1 Unit error correction for SMETS2 only

For SMETS2, section 3.8.1.2, table 59 GasThresholdMatrix (sr:GasThresholdMatrix), the units of the data item BlockThreshold corrected.

Data Item	Description / Allowable values	Туре	Mandatory	Default	Unit s
BlockThreshold	Threshold between one block and the next. Up to 3 can be defined to match the corresponding prices.	sr:GasThresholdType minOccurs = 1 maxOccurs = 3 (xs:unsignedLong)	Yes	None	Wh
index (Attribute of BlockThreshold)	Provides an ordering for the BlockThreshold elements. Unique and consecutive numbers starting at 1.	sr:range_1_3 (xs:positiveInteger from 1 to 3)	Yes	None	N/A

For SMETS1, section 1.4.7.1 Update Tariff (Primary Element) SRV 1.1.1, updated to maintain the units of the data item BlockThreshold as kWh.

This clause is a supplement to clause **Error! Reference source not found.**.

In relation to the GasThresholdMatrix element for SMETS1 Service Requests, the units for BlockThreshold data item in table 59 should be kWh instead of Wh.

The requirements of clause 1.4.7.2 shall additionally apply.

Note to Service User: Different unit are used between SMETS1 and SMETS2, this means Service Users back end system must have different process to build the service request.

#### 2.3.2 Changes to Service Request 6.24.2

Adding a new section for Additional DCC System Processing for Device Certificate tracking.

3.8.77.33.8.78.3 Specific Validation for this Request

No specific validation is applied for this Request, see clause 3.2.5 for general validation applied to all Requests.

#### 3.8.78.4 Additional DCC System Processing

Upon receipt of the successful Response from the Device, the DCC shall check the contents of the response against the Device Certificate details held in the Inventory and will automatically update the Inventory and the SMKI Repository if that Response indicates a different set of Device Certificates are in use on the device.

#### 2.3.3 Changes to Service Request 8.13

Table in section 3.8.117.2 Specific Data Items for this Request updated to include addition 2 Service Requests.

Service Request Responses
3.2 - Restrict Access For Change Of Tenancy
6.8 - Update Device Configuration (Billing Calendar)
6.15.1 – Update Security Credentials (KRP)
6.14.1 - Update Device Configuration (Auxiliary Load Control Description)
6.14.2 - Update Device Configuration (Auxiliary Load Control Scheduler)
6.14.3 - Update Device Configuration (Auxiliary Controller Scheduler)
6.15.2 - Update Security Credentials (Device)
6.21 - Request Handover of DCC Controlled Device
6.23 - Update Security Credentials (CoS)
8.7.1 - Join Service (Critical)
8.7.2 - Join Service (Non-Critical)
8.8.1 - Unjoin Service (Critical)
8.8.2 - Unjoin Service (Non-Critical)
8.11 – Update HAN Device Log
8.12.1 - Restore HAN Device Log
8.12.2 - Restore Gas Proxy Function Device Log
11.2 – Read Firmware Version
11.3 - Activate Firmware

### 2.3.4 Changes to Service Request 8.14.2

Table in the section 3.8.118.3 updated as below

<b>Response Code</b>	Response Code Description
E081401	The Device Type of the Device being notified is not CHF
E081402	The install date & time supplied is a future date
W081401	The CHF Device status is not 'InstalledNotCommissioned', which is the only valid status compatible with this Service Request.  Note: Status of the Device for the CHF and the associated GPF will be updated to InstalledNotCommissioned if it is still in the Pending State.

Adding a new section for Additional DCC System Processing for CHF device status is 'Pending' state.

#### 3.8.119.4 Additional DCC System Processing

Where the CHF Device status is 'Pending' and response code W081401 is returned, the DCC shall update the CHF Device status to 'InstalledNotCommissioned'. If the GPF Device status is also 'Pending' the DCC shall update the GPF Device status to 'InstalledNotCommissioned'.

# 2.4 SECMP093 Implementing IRP511 and CRP535 to support GBCS v3.2 devices (proposal is not YET approved)

#### 2.4.1 Changes to Service Request 8.9

#### **Section 3.8.113.1 Service Description**

Service Request Name	ReadDeviceLog		
-			
Service Reference	8.9		
Service Reference Variant	8.9		
Eligible Users	Import Supplier (IS)		
	Gas Supplier (GS)		
	Other User (OU)		
Security Classification	Non Critical		
BusinessTargetID	Electricity Smart Meter (ESME)		
1. Device Type applicable to	Gas Smart Meter (GSME)		
this request	Gas Proxy Function (GPF)		
	Communications Hub Function (CHF)		
	HAN Connected Auxiliary Load Contr		
	PrePayment Interface Device (PPMID)	)	
Can be future dated?	DSP		
On Demand?	Yes		
Capable of being DCC Scheduled?	No		
Command Variants	1 – Send (Non-Critical)		
applicable to this Request	2 – Return for local delivery (Non-Crit	rical)	
(Only one populated)	3 – Send and Return for local delivery	(Non-Critical)	
Common Header Data Items	See clause Error! Reference source r	not found.	
Data Items Specific to this Service Request	See Specific Data Items Below		
Possible responses from this	These are the possible responses applic	able to this Service Request. Please see	
Service Request		ound. for more details on processing p	
	atterns		
	Also see Response Section below for d		
<b>Response Codes possible from</b>	See clause Error! Reference source	<b>not found.</b> for Common Response C	
this Service Request	odes		
GBCS Cross Reference	Communications Hub Function All Other Devices		
GBCS v1.0 MessageCode	0x0004 0x0013		
GBCS v1.0 Use Case	CCS05/CCS04	CS07	

GBCS v2.0 MessageCode	0x010F	0x0013					
GBCS v2.0 Use Case	GBCS v2.0 Use Case CCS06						
GBCS Commands - Versioning	g Details						
DCC System creates the following	ng GBCS Commands or Respo	nse Code	s based on	the fo	llowing	combinations,	
Device Type				СН	F		
GBCS version that pertains to the SMI for the Business Targe Service Request		GBCS v1.0 GBC		CS v2.0	GBCS v3.2		
DEFAULT - No specific XML c	riteria	CCS05	/CCS04	CO	CS06	CCS06	
XML Criteria - XML data item F	ReadSecurityDetails included	E08	<u>0902</u>	E08	<u>80902</u>	<u>CCS07</u>	
Device Type				ESM	1E		
	GBCS version that pertains to the Device Model recorded in the SMI for the Business Target Device ID specified in the			GBCS v1.0		GBCS v2.0	
DEFAULT - No specific XML c	riteria	CS07			CS07		
Device Type GBCS version that pertains to the		GSME					
the SMI for the Business Targe Service Request	t Device ID specified in the	GBCS v1.0		GBCS v2.0			
DEFAULT - No specific XML c	riteria	CS07		CS07			
Device Type		GPF					
GBCS version that pertains to the SMI for the Business Targe		C	DCG 10		CI	200 20	
Service Request				GI	GBCS v2.0		
DEFAULT - No specific XML c	пена		CS07			CS07	
Device Type  GRCS version that partains to the	na Davica Modal recorded in			HCAI	LCS		
GBCS version that pertains to the Device Model recorded in the SMI for the Business Target Device ID specified in the Service Request			GBCS v1.0 GBCS v2		BCS v2.0		
DEFAULT - No specific XML criteria					CS07		
Device Type				PPM	ID		
GBCS version that pertains to the SMI for the Business Targe							
Service Request		Gl	BCS v1.0		GI	BCS v2.0	
DEFAULT - No specific XML criteria			CS07			CS07	

## Section 3.8.113.2 Specific Data Items for this Request

ReadDeviceLog Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to	xs:dateTime	No	None	UTC
	the Service Request where they require				Date-
	the Service Request to be executed at a				Time
	future date and time.				
	The UTC date and time the User				
	requires the command to be executed				
	on the Device				

• Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'				
This parameter is supplied if the Osci	sr: ReadSecurityDet ails	No	None	None

Table 1: ReadDeviceLog (sr:ReadDeviceLog) data items

#### **Update Section 3.8.113.3 Specific Validation for this Request**

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Execution Date Time validation.

Response Code	Response Code Description
E080902	The GBCS version that pertains to the Device Model recorded in the SMI for this Device,
	does not support the chosen features of this Service Request.
E080903	The Device Type is not a CHF however 'ReadSecurityDetails' is specified in the Service
	Request.

#### 3 <u>SMETS1 – BEIS DIRECTIVE - CHANGES</u>

# 3.1 CR1045 - extending the existing firmware update process to SMETS1 PPMID devices (BEIS directive)

#### 3.1.1 SRV11.1 Update Firmware

- W110101 validation: allow SMETS1 PPMID and continuing to reject SMETS2 PPMIDs;
- N57 to the gas supplier for dual fuel SMETS1 Installations.

#### Table 2 updated:

11.1	W110101	Amended condition for SMETS1 Devices	Invalid conditions listed in this Update Firmware warning may relate to a SMETS1 CH or PPMID as well as a Smart Meter.
			An additional condition for listing a SMETS1 CH or PPMID in the InvalidDeviceIDList is where the DCC
			User submitting the Update Firmware Service Request is not the Lead Supplier for the SMETS1 CH.

#### Section 1.4.7.13 updated

SRV 11.1 shall be supported for SMETS1 CHs and PPMIDs as well as SMETS1 Smart Meters.

Following the receipt by DCC of a successfully authenticated Update Firmware Service Request to distribute firmware to a SMETS1 CH or PPMID, if there is a GSME associated with the SMETS1 CHF, on the same home area network, in the Smart Metering Inventory then the DCC shall issue DCC Alert with code N57 to inform the Gas Supplier of the Service Request.

#### Section 3.6.3.4 Table 41, N57 updated

N57	or PPMID	See clauses 0 and Error! R eference source not found.	eference source not found.	Gas Supplier associated with the SMETS1 CHF or PPMID	SMETS 1	
				PPMID		

#### 3.1.2 SRV 11.2 Read Firmware

- E11 validation: allow SMETS1 PPMID and continuing to reject SMETS2 PPMIDs;
- Behaviour regarding DCC Alerts and updating of firmware version information in the inventory will follow the pattern used for ESME:
- The inventory will be updated if a CPL-compliant firmware version is returned in the response that is different to the inventory entry;

#### New Section 1.4.7.16 added for SRV11.2

1.4.7.14 Read Firmware Version SRV 11.2 This clause is a supplement to clause 3.8.124.

SRV 11.2 shall be supported for SMETS1 PPMIDs as well as SMETS1 CHs and Smart Meters.

All except the last points in clause **3.8.124.4** shall also apply where the targets Device is a SMETS1 PPMID.

Table 41 updated for N49,N50,N51

N49	Firmware Version Updated in the Smart Metering Inventory	Device's Firmware Version updated in the Smart Metering Inventory	Upon successful completion of Service Request 11.2 Read Firmware Version where the target Device is ESME, GSME, CHF or SMETS1 PPMID and the Firmware Version returned by the Device is different from that in the SMI and it matches an entry on the CPL with a status of "Current"	IS GS (Only sent if the IS / GS did not submit the Service Request)	All
N50	Firmware Version no longer valid on the CPL	Device's Firmware Version updated in the Smart Metering Inventory, but Device Status not set to 'Suspended'	Upon successful completion of Service Request 11.2 Read Firmware Version where the target Device is ESME, GSME, CHF or SMETS1 PPMID and the Firmware Version returned by the Device is different from that in the SMI and it matches an entry on the CPL with a status of "Removed"  OR  Upon successful completion of Service Request 11.3 Activate Firmware where the Firmware Version returned by the Device is different from that in the SMI and it matches an entry on the CPL with a status of "Removed"  OR  Future Dated Firmware Activation Alert (Alert Code 0x8F66 and Message Code 0x00CA) received by the DCC Systems where the Firmware Version returned by the Device is different from that in the SMI and it matches an entry on the CPL with a status of "Removed"	IS GS	All

N51	Invalid Firmware Version	Device's Firmware Version is unknown (not in the CPL)  Device's Firmware Version not updated in the Smart Metering Inventory	Upon successful completion of Service Request 11.2 Read Firmware Version where the target Device is ESME, GSME, CHF or SMETS1 PPMID and the Firmware Version returned by the Device is different from that in the SMI and it doesn't match an entry on the CPL OR	IS GS	All
			Upon successful completion of Service Request 11.3 Activate Firmware where the Firmware Version returned by the Device is different from that in the SMI and it doesn't match an entry on the CPL		
			OR Future Dated Firmware Activation Alert (Alert Code 0x8F66 and Message Code 0x00CA) received by the DCC Systems where the Firmware Version returned by the Device is different from that in the SMI and it doesn't match an entry on the CPL		

#### 3.1.3 SRV11.3 Activate Firmware

- E11 validation: allow SMETS1 PPMID and continuing to reject SMETS2 PPMIDs;
- Extend behaviour regarding suspended firmware versions and DCC Alerts N29, N50 and N51 to SMETS1 PPMIDs, as indicated in DUIS for SMETS2 devices;
- If the firmware has been successfully updated then DCC Alert N57 will be sent in the same circumstances as for SRV 11.1.

#### Section 1.4.7.14 updated

SRV 11.3 shall be supported for SMETS1 CHFs and PPMIDs as well as SMETS1 Smart Meters.

Where the DCC produces a SMETS1 Response indicating successful activation of SMETS1 CH or PPMID firmware, if there is a GSME associated with the SMETS1 CHF comprising that SMETS1 CHF in the Smart Metering Inventory then the DCC shall issue a DCC Alert with code N57 to inform the Responsible Gas Supplier of the activation.

#### Table 41 updated for N57 updated

	or PPMID	See clauses 0 and Error! R eference source not found	See clauses 0 and Error! R eference source not found.	Gas Supplier associated with the SMETS1 CHF or	SMETS 1	
				PPMID		

#### 3.2 CR1290 - Re-scaling of Gas Flow rate in SRV to match SMETS2

# 3.2.1 Section 1.4.6 Additional or Alternative Validation Conditions for SMETS1 Service Requests, table 2 updated for E060701

6.7	E060701		Check if the target Device is a SMETS1 GSME according to the Smart Metering Inventory, the associated S1SP supports the
		TOT SWILTST DEVICES	XML element named UncontrolledGasFlowRateDecimal

#### 3.2.2 Section 1.4.7.10 Update Device Configuration SRV 6.7 updated

#### 4 <u>DEFECT FIX</u>

# 4.1 CR1277: SMETS 1 SEV 2 DESIGN FIX on DUIS: Install Code Length, 2nd part to put back the validation for SMETS2

#### For the first part of the defect fix

Briefed at May, June and July 2019 Design Release Forum (DRF), A small consequential change made to DUIS v3.1 to address a design fix made to DUIS V3.0 which allow the shorter install code for both SMETS1 and SMETS2 via schema change.

#### Second part of the defect fix

Briefed at Feb and March 2020 DRF, A small consequential change included in DUIS v4.0

- A new validation check is introduced to verify that the length of install code is 16 octets for the SMETS2 Devices.
- If the check fails, the Service Request will be rejected using the error code E081111.

E081111	The Service Request refers to a SMETS2 Device but the InstallCode field is not 32
	characters (representing 16 octets) in length.

#### 4.2 DUIS inconsistency for GCS01a

Briefed at March 2020 DRF,

- During the DUIS review, an inconsistency is discovered for SR1.1.1 for GCS01a between the Schema and the document
- DUIS document:

in Table 59: GasThresholdMatrix, that the type of BlockThreshold (sr:GasThresholdType) is xs:unsignedLong. The maximum value for this type (xs:unsignedLong) is 18,446,744,073,709,551,615.

- DUGIDS document: align with DUIS
- DUIS schema:

for this same type (sr:GasThresholdType), a MA Inclusive value of 281,474,976,710,656.

• GBCS:

According to GBCS, the maximum value for Gas Thresholds is an Unsigned 48-bit Integer (0xFFFFFFFFFFFF = 281,474,976,710,655).

• Fixed the schema and DUIS to align with GBCS

Data Item	Description / Allowable values	Туре	Mandatory	Default	Unit s
BlockThreshold	Threshold between one block and the next. Up to 3 can be defined to match the corresponding prices.	sr:GasThresholdType minOccurs = 1 maxOccurs = 3 (xs:unsignedLong) (maxInclusive = 281474976710655)	Yes	None	Wh
Index (Attribute of BlockThreshold)	Provides an ordering for the BlockThreshold elements. Unique and consecutive numbers starting at 1.	sr:range_1_3 (xs:positiveInteger from 1 to 3)	Yes	None	N/A

 $Table\ 2: GasThresholdMatrix\ (sr:GasThresholdMatrix)\ data\ items$ 

#### 5 <u>BEIS DIRECTIVE – SMETS2</u>

#### 5.1 New ESME variants

A SMETS2+ ESME complies with SMETS2 section 5 or section 9. In other word, an SAPC is a variant of ESME.

- Table 41 updated for N43
- For SR6.13 Read Event Or Security Log, Table 177 updated for LogToRead data item
- For SR8.2 read inventory, Table 227, data Item "ESMEVariant" updated to including F and G

- For SR8.2 read inventory, Table 229 updated to including F and G
- For SR8.4 Update inventory, Table 232, data Item "ESMEVariant" updated to including F and G
- For SR12.2 Device Pre-notification, Table 261, data Item "ESMEVariant" updated to including F and G
- For N16 alert, Table 3: MeterIdentity (sr:MeterIdentity) data items "ESMEVariant" updated to including F and G
- For N58 alert, Table 297a ALCSHCALCSConfiguration change updated to including 2 additional optional data Item "ESMEVariant" and "DeviceGBCSVersion"

#### **5.2** New Service Request

Table 18 updated to add 5 new Service Request

Update Device Configuration (Auxiliary Controller Scheduler)	6.14	6.14.3	Yes	Yes	Device	No	No	IS	No
Set Auxiliary Controller State	7.13	7.13	Yes	Yes	No	No	No	IS	No
Read Auxiliary Controller Configuration Data	7.14	7.14	No	Yes	DSP	No	No	IS ED OU	No
Read Auxiliary Controller Operational Data	7.15	7.15	No	Yes	DSP	No	No	IS ED OU	No
Limit APC Level	7.16	7.16	Yes	Yes	No	No	No	None	No

- New Section 3.8.66, SR6.14.3 Update Device Configuration (Auxiliary Controller Scheduler)added
- New Section 3.8.99, SR7.13 Set Auxiliary Controller State added
- New Section 3.8.100, SR7.14 Read Auxiliary Controller Configuration Data added
- New Section 3.8.101, SR7.15 Read Auxiliary Controller Operational Data added
- New Section 3.8.102, SR7.16 Limit APC Level added

#### **5.3** Updated Service Request

- Section 3.8.64, SR6.14.1 Update Device Configuration (Auxiliary Load Control Description), SwitchDescription length change from 127 to 22
- Section 3.8.67, SR6.15.1 UpdateSecurityCredentials(KRP), supporting new GBCS use case

#### 5.4 Service Request updated due to deprecated Use Case in GBCS4.0

- Section 3.8.65, SR6.14.2 UpdateDeviceConfiguration(AuxiliaryLoadControlScheduler) CS02g for update the certificate in the LoadController trust anchor cell
- Section 3.8.77, SR6.24.1 RetrieveDeviceSecurityCredentials(KRP) CS02a targeting ESME
- Section 3.8.91, SR7.5 ActivateAuxiliaryLoad ECS47
- Section 3.8.92, SR7.6 DeactivateAuxiliaryLoad ECS47
- Section 3.8.93, SR7.7 ReadAuxiliaryLoadSwitchData, ECS61a
- Section 3.8.94, SR7.8 ResetAuxiliaryLoad, ECS47

#### 5.5 Table 41 updated for N58

N58	ALCS/HCAL CS configuration change	ALCS/HCALCS configuration changed on ESME	Upon successful completion of Service Request 6.14.2 Update Device Configuration (Auxilliary Load Control Scheduler)	ED	SMETS 2+
			OR Upon successful completion of Service Request 6.14.1 Update Device Configuration		
			(Auxilliary Load Control Descriptions) OR		
			Upon successful completion of Service Request 6.14.3 Update Device Configuration (Auxiliary Controller Scheduler)		
			OR Future Dated Execution Of Instruction Alert (DLMS COSEM) Alert (Alert Code 0x8F66 and Message Code 0x00CC) corresponding to AuxiliaryLoadControlSwitches Calendar received by the DCC Data Systems		

#### 5.6 Managing the new Load Controller trust anchor cells

- Section 3.8.67 for SR 6.15.1 UpdateSecurityCredentials(KRP),
  - o supporting new use case CS02g for update the certificate in the LoadController trust anchor cell
  - o Table 184, description of the data item "RemotePartyRole" updated to including new role of "LoadController"

- Table 184, description of the data item "RemotePartyFloorSeqNumber" updated so that "LoadController" will has same behaviour as supplier (unlike NetworkOperator)
- o Table 185, description of the data item "SupplierOrNetworkOperatorCertificates" updated so support "Load Controller"
- o Error validation and code "E061509" added
- Section 3.8.77, for SR6.24.1 Retrieve Device Security Credentials (KRP)
  - o Service Description updated for supporting new use case CS02f targeting ESME
  - o Table 207, description of the data item "RemotePartyRole" updated to including new role of "LoadController"
  - o Error validation and code "E062402" and "E062403" added

#### 5.7 Changes (Documentation-only) due to GBCS use case names changes

Following Service Requests had documentation only change. This applies where there is no change to the GBCS command or message code, but the GBCS use case names have changed

- Section 3.8.14, SR3.3 Clear Event Log;
- Section 3.8.63, SR6.13 ReadEventOrSecurityLog
- Section 3.8.95, SR 7.9 Add Auxiliary Load To Boost Button
- Section 3.8.96, SR 7.10 Remove Auxiliary Load From Boost Button
- Table 262, DCCAlert (sr:DCCAlert) data items

#### 5.8 GBCS Cross reference and compability, Moving to GBCS4

- All previous mentioned "GBCS v3.2", needs now state "GBCS v3.2 or later", this change applies to
  - o Section 3.8.59, SR6.7 UpdateDeviceConfiguration(GasFlow)
  - o Section 3.8.63, SR6.13 ReadEventOrSecurityLog
  - Section 3.8.113, SR8.9 ReadDeviceLog
- New functions introduced in GBCS 4.0, e.g. change the wording to either "GBCS version earlier than v4.0" or "GBCS v4.0 or later"
  - Section 3.8.65, SR6.14.2
     UpdateDeviceConfiguration(AuxiliaryLoadControlScheduler)
  - o Section 3.8.7 updated for SR 6.15.1 UpdateSecurityCredentials(KRP),
  - Section 6.24.1 updated for SR6.24.1 RetrieveDeviceSecurityCredentials(KRP)
  - Section 3.8.91 updated for SR7.5 ActivateAuxiliaryLoad, deprecated in GBCS v4.0
  - Section 3.8.92 updated for SR7.6 DeactivateAuxiliaryLoad, deprecated in GBCS v4.0

- $\circ$  Section 3.8.93 updated for SR7.7 ReadAuxiliaryLoadSwitchData, deprecated in GBCS v4.0
- Section 3.8.94 updated for SR7.8 ResetAuxiliaryLoad, deprecated in GBCS v4.0

# 5.9 Clarification and error highlighted during the review of DUIS4.0 change related to CRP612

#### 5.9.1 Adding missing/new terms into section 1.3 Defined Terms

- ALCS
- APC
- Auxiliary Controller Event Log
- CHF Device Log
- CHF Historic Device Log
- Electricity Smart Meter
- ESME
- Load Controller
- Network Operator
- SAPC

#### 5.9.2 Ensure Table 105 and Table 102 are consistent for DaysOfWeekApplicability

Table 102

DaysOfWeekApplicability	The days of the week to which the schedule applies defined as an array of up to 7 DayOfWeekIDs	sr:DaysOfWee kApplicability See Error! R eference source not found.	Yes Minimum of 0 and maximum of 7 Days Of Week Applicability.  If there are no applicable Days, this XML element will be present, but empty, i.e. it will contain 0 DayOfWeekApplic ability elements	None	N/A	
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Table 105

DaysOfWeekApplicability	Array of Day Of Week IDs	sr:DaysOfWee kApplicability	Yes sr:DayOfWeekApp	None	N/A
	This indicates the days on which the schedule is active. Unique and chronologically ordered, may not be consecutive.	See Error! R eference source not found.	licability (minOccurs = 0, maxOccurs = 7)  If there are no applicable Days, this XML element will be present, but empty, i.e. it will contain 0 DayOfWeekApplic ability elements		

## 5.9.3 Table 41 updated for N18/N19/N20/N21 to clarify DCC system behaviour

N18	Firmware Version / Hash Wersion / Ha		Update Firmware request sender	All	
N19	Distribution Device ID identification Communications Hub or Meter		Update Firmware request sender	All	
N20	Firmware image provided is too large	is too large request, because the Firmware Image is too large		Update Firmware request sender	All
N21	Unknown Firmware Version	Unknown Firmware Version	CSP or S1SP unable to process request, because it doesn't recognise the Firmware Version	Update Firmware request sender	All

#### 5.9.4 Clarify the AD1 Power Outage Event

AD1 Power Outage Event Service Provider (CSP) notification of loss of DC power as detected a the Communications Hub in the Consumer Premises for a time equal to or greater than three (3) minutes	(User ID with User Role IS /	SMETS 2+
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#### 6 SCHEMA CHANGES

Embedded HTML shows all the schema change since version 3.1. All BEIS directive changes are marked up in yellow.



#### 7 KNOWN FUTURE DOCUMENTATION CHANGES

#### 7.1 Inconsistent Units between DUIS/MMC/GBCS and DCC system

Briefed at Feb 2020 DRF, and will progress the change via SECMOD



#### 7.2 SMETS 1 CR1291, enable customer to perform DSP scheduled read for SR4.4.3

### 8 APPENDIX - SCOPE OF THE CHANGES

Following items are included in the Spec Uplift for Nov 2020

Source	Item	DUIS Doc	DUIS Schema	MMC Doc	MMC Schema	Other Spec	DCC System Impacted
SECMOD	SECMP0062 -Traffic Management - Alert Storm Protection Part 2	Y	Y	N	N	N	DSP
SECMOD	SECMP0067 -Service Request Traffic Management	Y	N	N	N	N	DSP
SECMOD	SECMP0081 - 'Alignment of DUIS and CHISM to reflect current DCC Processing	Y	N	N	N	Y (S1SR)	Document Only
SECMOD	SECMP0093 -Implementing IRP511 and CRP535 to support GBCS v3.2 devices	Y	Y	Y	Y	N	DSP only P&C
SECMOD	SECMP0098 -Incorporation of multiple Issue Resolution Proposals into the SEC - Batch 3	N	N	N	N	Y (GBCS4, SMETS5, CHTS)	СН
BEIS SMETS2	CRP612 Auxiliary Proportional Controllers (CR1145)	Y	Y	Y	Y	Y (GBCS4, SMETS5, CHTS)	DSP P&C
BEIS SMETS1	CR1045 extending the existing firmware update process to SMETS1 PPMID devices	Y	N	N	N	Y (S1SR)	DSP S1SP DCO
Defect Fix	CR1277 Completion of CR1164 Change to Install Code Length in 8.11	Y	Y	N	N	N	DSP

SMETS Other	CR1290 Re-scaling of Gas Flow rate in SRV to match SMETS2	Y	N	N	N	Y (S1SR)	DSP S1SP DCO
							pco

For customer information only, following items in the Nov 2020 SEC release scope, does not require any Spec Uplift

Source	Item	DUIS Doc	DUIS Schema	MMC Doc	MMC Schema	Other Snec	DCC System Impacted
BEIS SMETS2	XMLSigning Remote Party Role	N	N	N	N	N	N

For customer information only, following items were previously communicated are NOT included in the Spec Uplift for Nov 2020, however are included in the future change section of the release note

Source	Item	DUIS Doc	DUIS Schema	MMC Doc	MMC Schema	Other Spec	DCC System Impacted
SMETS1 Other	CR1291 The ability of SMETS1 devices to be DSP scheduled for SRV4.4.3	Υ	Υ	N	N	Y (S1SR)	DSP S1SP DCO
Document Defect	Inconsistent Units between DUIS/MMC/GBCS and DCC system	Υ	N	Υ	N	Y (S1SR)	DSP S1SP DCO