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DCC User Interface Specification

1 INTRODUCTION

1.1 Document Purpose

Pursuant to Section H3, the DCC User Interface Specification (DUIS) specifies the technical details of the DCC User Interface.

The document sets out mechanisms, formats, protocols, and other technical details necessary for Users to send and receive communications to and from the DCC as set out in Section H3.3 (DCC User Interface).

Variations in the treatment of messaging in relation to SMETS1 Devices are described in clause 1.4. The statements in clauses 2 and 3 apply to all versions of SMETS except according to the variations described in clause 1.4.

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1.3 Defined Terms

Acknowledgement	has the meaning set out in the Section A (Definitions and Interpretation).
Alert	has the meaning set out in GBCS.
Back-off Period	means the period of time the DCC Systems will wait after the Initial Retry Period has expired before attempting re-delivery of a Command to a Device.
Body	means the section of the request or response message which contains the data elements that are distinct to the particular request or response.
Central Products List (or CPL)	has the meaning set out in the Section A (Definitions and Interpretation).
Code of Connection	means one of the SEC Subsidiary Documents pertaining to connection to Services.
Command for Local Delivery	means a Command to be sent to a User pursuant to the Local Command Service.
Command Variant	means the value of a Common Object included in each Service Request and Signed Pre-Command to indicate to the DCC if that message has to be: transformed to an Unsigned GBCS Payload and returned to the User for signing; sent to a Device; returned to User to be locally applied (via a Hand Held Terminal); both sent to the Device and returned to the User to be locally applied (via a Hand Held Terminal); or executed by the DCC.
Common Object	means one of the data items or data groups that are common between distinct examples of: Service Requests, Signed Pre-Commands, Service Responses, DCC Alerts or Device Alerts.
Countersigned SMETS1 Alert	means a communication that complies with the format specified by the diagram in Section 1.4.11.2 and which contains a SMETS1ResponseMessage and within that a DeviceAlertMessage element.
Countersigned SMETS1 Response	means a communication that complies with the format specified by the diagram 1.4.11.2 and which contains a SMETS1ResponseMessage and within that a ResponseMessage element.
Countersigned S1SP Alert	means a DCC Alert containing an S1SP Alert.

CPL	means Central Products List
Critical Service Request	means a Service Request that is identified as being critical in Table 18 : Service Request Matrix of this document.
DCC Access Control Broker	means an internal component of the DCC Systems which processes Commands to be sent to Devices.
DCC Alert	means an alert generated in the DCC Total System (with the exception of any Device Alert generated) which is to be sent to a relevant User(s) depending on the alert, in the format specified in clause 3.6.3.
DCC Scheduled	means a mode of operation in which a Service Request is to be generated and processed by the DCC on behalf of the User at regular intervals for future times as specified in the Service Request.
DCC Transform Private Key	means a Private Key used to sign messages sent to Users by the DCC in accordance with clause 3.3.2 and for which an associated Organisation Certificate has been established by the DCC.
DCC User Interface	has the meaning set out in the Section A (Definitions and Interpretation).
Device Alert	means either a communication in the format set out in clause 3.6.2 containing an Alert as defined by GBCS, generated by a Device, or a SMETS1 Alert, which (in either case) is to be sent to a User.
Device Processing Time	means the time taken by a Device to process a Command and take the appropriate action as defined by GBCS and SMETS.
Device Wake-Up Time	means the pre-configured interval time between connections from a Gas Smart Meter to the Communication Hub.
Dual Band Communications Hub (Dual Band CH)	has the meaning set out in GBCS.
DUIS	means DCC User Interface Specification and has the meaning set out in the SEC.
DUIS XML Schema	means the XML schema which delivers the DUIS message formats and which is embedded in Annex A
Duty Cycle	has the meaning set out in GBCS section 10.6

Error Handling Strategy	means the document produced and maintained by the DCC to provide guidance to Users on the suggested actions that Users may take when they receive a DUIS defined Response Code.
Final Retry Period	means the period of time as defined in clause 2.10.1 (Retry Processing) after which, following its initial failure, the DCC shall stop attempting to retry sending a Command to a Device.
Future Dated Response Pattern	means either Future Dated Response Pattern (DSP) or Future Dated Response Pattern (Device).
Future Dated Response Pattern (Device)	means a mode of operation in relation to a Signed Pre-Command where the DCC immediately sends the Command associated with the received Signed Pre-Command to the specified Device to be executed at a specified date/time in the future by the Device, as a Future-Dated Service.
Future Dated Response Pattern (DSP)	means a mode of operation in relation to a Service Request where the DCC holds the Service Request or Signed Pre-Command and sends the associated command to the specified Device at a specified date/time in the future, as a Future-Dated Service.
GroupID	has the meaning specified in the SMETS1 Transition and Migration Approach Document.
GBCS Format	means the format set out in the Great Britain Companion Specification.
HAN Transfer Time	means the time that the HAN takes to transfer data between a Communication Hub Function and another Device and/or from a Device to a Communication Hub Function.
Hand Held Terminal	means a device that a User may wish to use as part of its management processes that allows the carrying of Commands to Devices installed at a consumer's premises and allows Responses and Alerts to be received from such Devices. This acts as a proxy for the SM WAN.
HTTP Response Code	means a standard response code given by web site servers.
Initial Retry Period	means the period of time as defined in clause 2.10.1 (Retry Processing) that the DCC shall wait prior to retrying the sending of a Command where it fails on the first attempt.
Internet Protocol	means the commonly used communications protocol enabling the delivery of data packets based on the IP addresses in the packet headers, used in establishing internet communications.

KeyInfo	means a data item supplied by a User to indicate which Certificate corresponds to the Private Key used to Digitally Sign a Service Request or Signed Pre-Command.
Known Remote Party (KRP)	has the meaning set out in the GBCS. In the context of a specific Device, a Remote Party whose Security Credentials are stored on that Device in at least one Trust Anchor Cell.
Message Gateway	means the software application within the DCC Systems that processes HTTP messages from User Systems and sends HTTP messages to User Systems.
Message Mapping Catalogue (MMC)	has the meaning set out in the Section A (Definitions and Interpretation).
Meter Scheduled	means a mode of operation where a Service Request is used to set up a recurring schedule held on a Device to trigger an action on a Smart Meter (which may include the transmission of data to the User), as a Scheduled Service.
MMC XML Schema	has the meaning set out in the Message Mapping Catalogue.
Network Address Translation	means the standard methodology of remapping one IP address space into another by modifying network address information in Internet Protocol (IP) headers while they are in transit across a traffic routing device.
Non Critical Service Request	has the meaning set out in the Section A (Definitions and Interpretation).
Page Masks	See definition of Sub GHz Channel Masks in GBCS
Party	has the meaning set out in the Section A (Definitions and Interpretation).
Policy Enforcement Point (PEP)	means a logical entity that enforces policies for admission control and policy decisions in response to a request for access. It is the logical boundary between the DCC Systems and connecting systems, namely User Systems and RDP Systems. The PEP ensures that: (a) the policies in the applicable Code of Connection relevant to the applicable party are being enforced; (b) there is appropriate separation of the DCC Systems from the connecting systems of the applicable party; and (c) all the connections to the User Systems, RDP Systems, or DCC Systems are compliant with the same applicable Code of Connection.

Receive Response Service	means a Web Service provided by each User to receive either Service Responses, or DCC Alerts and Device Alerts from the DCC.
Request	means a collective term used to refer to either a Service Request or a Signed Pre-Command.
Response	has the meaning set out in GBCS
Response Code	means a code returned by the DCC within a Service Response, Device Alert or DCC Alert to indicate the success or failure of a Command or function.
Response Delivery Pattern	determines how Responses are returned to the User. Options are Synchronous or Asynchronous.
S1SP Alert	means a communication that complies with format specified in 3.6.3 and contains an S1SPAlert element populated according to Clause 3.9.153.9.15.2.
S1SP Alert Code	shall have the meaning of Clause 3.9.15.3
Security Classification	determines the rules for how the DCC and its Users process Service Requests. See Critical Service Request and Non Critical Service Request definitions.
Service Audit Trail	means a system used to record information on Service Requests and Service Responses processed by the DCC.
Service Management Event	means an event raised in the DCC Systems for an error, for example where a Device does not respond to a request made to it.
Service Reference	means a reference number relevant to a Service Request.
Service Reference Variant	means a unique reference number which identifies each Service Request, as listed in this document.
Service Request Name	means a unique name which applies to each Service Reference Variant, as listed in [Table 18].
Service Request Processing Document	means the document of that name as set out in the Section A (Definitions and Interpretation).
Service Response	has the meaning set out in the Section A (Definitions and Interpretation).
SMETS1 Alert	means a communication that complies with the format specified in 1.4.11.4 and which contains a DeviceAlertMessage element

SMETS1 Response	means a communication that complies with the format specified in 1.4.11.4 and which contains a ResponseMessage element
SMETS1 Service Request	Means a Service Request where the BusinessTargetID is for a SMETS1 Device and where the Service Reference Variant has a value in section 3.1 which is marked as 'available in relation to SMETS1 Devices'.
SMETS1 Supported Service Request	Means a Service Request where the Service Reference Variant has a value in section 3.1 which is marked as 'available in relation to SMETS1 Devices'.
Sub GHz	has the meaning set out in GBCS
Sub GHz Alert	has the meaning set out in GBCS
Sub GHz Channel	has the meaning set out in GBCS
Sub GHz Channel Change	has the meaning set out in GBCS
Sub GHz Channel Masks	has the meaning set out in GBCS
Sub GHz Channel Scan	has the meaning set out in GBCS
Sub GHz End Device	has the meaning set out in GBCS
Target Response Time	has the meaning set out in the Section A (Definitions and Interpretation).
Transport Layer Security (TLS)	means a protocol that provides for the privacy and integrity of data transferred between communicating applications and their users.
Trust Anchor Cell	has the meaning set out in GBCS
Unknown Remote Party (URP)	has the meaning set out in the GBCS. In the context of a specific Device, a Remote Party whose Security Credentials are not stored on that Device.
Unsigned GBCS Payload	means the GBCS Payload prior to incorporation of the Digital Signatures and/or Message Authentication Codes to form the Command or Pre-Command
Unsupported Value	Shall be the relevant value from clause 1.4.1 for the data type in question.
User	has the meaning set out in the Section A (Definitions and Interpretation).

User Id	has the meaning set out in the Section A (Definitions and Interpretation).
User Role Signing Private Key	means a Private Key established by a User for each User Id and used to sign messages sent by Users acting in the associated User Role(s) to the DCC in accordance with clause 3.3.1 and for which an associated Organisation Certificate has been established by the User.
Wait Period	means the period of time that the DCC Systems will wait from the receipt of a sequenced Request to determine if it is the last in the sequence, to determine if a sequenced Request has been received out of order, or to determine whether a sequenced Request should fail following a failure to receive a Response to its preceding Request.
Web Services	means a communications mechanism which is a particular implementation of the standardised way of integrating Web-based applications using open standards over an Internet Protocol backbone.
XMLDSIG	means the XML schema which defines the digital signature formats (see clause 3.3 Key Cryptographic Operations), and is published at http://www.w3.org/TR/xmldsig-core/.

Other defined terms in this document shall have the meanings in Section A of the Smart Energy Code.

1.4 Variation of requirements in relation to SMETS1 Devices

For communications relating to SMETS1 Devices, the requirements in clauses 2 and 3 shall be varied as set out in this clause 1.4.

The description of Service Request processing in clause 2.5 shall not apply to SMETS1 Devices. The Service Request Processing Document contains Service Request processing requirements for SMETS1 Devices.

Obligations referring to the delivery, scheduling and retry of sending of Commands to a Device, where equivalent behaviour is supported by DCC for SMETS1 Devices, shall apply to the sending of instructions to a SMETS1 Device.

Clause 3.7 regarding Target Response Times shall not apply in relation to SMETS1 Devices.

References to GBCS within this document shall not apply to SMETS1 Devices nor to communications relating to them. The equivalent meaning of such references are set out in the SMETS1 Supporting Requirements document.

The last three paragraphs of clause 2.3 shall not apply in relation to SMETS1 Devices.

1.4.1 Unsupported Values

The largest possible value conforming to the XML type xs:unsignedInt (i.e. 4294967295) shall be used to indicate a numerical value which the SMETS1 Device in question does not support.

The largest possible value conforming to the XML type xs:int (i.e. 2147483647) shall be used to indicate a numerical value which the SMETS1 Device in question does not support.

The value 4294967295 conforming to the XML type xs:integer shall be used to indicate a numerical value which the SMETS1 Device in question does not support.

The value 4294967295 conforming to the XML type xs:positiveInteger shall be used to indicate a numerical value which the SMETS1 Device in question does not support.

The value 4294967295 conforming to the XML type xs:nonNegativeInteger shall be used to indicate a numerical value which the SMETS1 Device in question does not support.

The value 4294967295.9 conforming to the XML type xs:decimal shall be used to indicate a numerical value which the SMETS1 Device in question does not support.

The value 127 conforming to the XML type ra:PriceScale shall be used to indicate a numerical value which the SMETS1 Device in question does not support.

The largest possible value conforming to the XML type xs:short (i.e. 32767) shall be used to indicate a numerical value which the SMETS1 Device in question does not support.

The value “3000-12-31T00:00:00Z” shall be used to indicate a date-time which the SMETS1 Device in question does not support.

1.4.2 SMETS1 Service Requests

The DCC shall process Service Requests in relation to SMETS1 Devices where they are marked as ‘Available in relation to SMETS1 Devices?’ in clause 3.1 Service Request Matrix.

1.4.3 Access Control Checks

The DCC shall apply authorisation checks identified in clause 3.2.4 provided that for SMETS1 Critical Service Requests the checks shall be amended as specified in the Service Request Processing Document.

The DCC shall apply the following data validation checks to SMETS1 Service Requests in addition to the checks identified in clause 3.2.5.

Validation Check	Process	Response Code
Where the Service Request relates to a SMETS1 Device, verify that it is a SMETS1 Supported Service Request	Where the Device Model recorded in the Smart Metering Inventory for the Device referred to in the Service Request is a SMETS1 Device, confirm that the Service Request is a SMETS1 Supported Service Request	E60
Verify that the SMETS1 Service Request's Command Variant is applicable to a SMETS1 Service Request	Check that the Command Variant in the SMETS1 Service Request is applicable to a SMETS1 Service Request according to clause 2.6.1.	E61
Verify that the Service Request has not been processed already where DCC protection against Replay is required	Apply protection against Replay checks where DCC protection against Replay is required, as specified in the Service Request Processing Document.	E63
Verify that the User ID in the Service Request is that which was previously notified to DCC, where a specific User ID is required to be used	Where the Service Request is a SMETS1 Critical Service Request or a 'Top Up Device' SMETS1 Service Request, confirm that the User ID in the BusinessOriginatorID field in the Service Request is the Notified Critical Supplier ID or the Notified Critical Network Operator ID (with their SMETS1 Supporting Requirements meanings and as the context requires).	E64

Table 1 : Additional Validation checks on SMETS1 Service Requests

1.4.4 Future Dating of Service Requests for SMETS1 Devices

Where, as identified in clause 3.1 (Service Request Matrix), a SMETS1 Service Request has a Future Dated Response Pattern of 'Device', the DCC, and not the Device, shall undertake the required processing to implement the future dating, in line with the requirements of the Service Request Processing Document.

1.4.5 Variations to clause 3.8 - general

In relation to clause 3.8:

- Command Variants applicable to SMETS1 Service Requests shall be as specified in clause 2.6.1;
- For SMETS1 Service Requests where Service Request Definitions in clause 3.8 state, "Possible responses from this Service Request" includes:
    - "Service Response from Device – GBCSPayload" or
    - "Service Response (from Device) - DSPScheduledMessage Format"

  then an additional "Possible responses from this Service Request" shall be a Countersigned SMETS1 Response.

1.4.6 Additional or Alternative Validation Conditions for SMETS1 Service Requests

In relation to SMETS1 Service Requests, the DCC shall apply the additional or alternative validation in this clause 1.4.6, additionally or as alternatives to the "Specific Validation for this Request" specified in clause 3.8.

Service Reference Variant	Response Code	Applicable to SMETS1 Devices only or Amended conditions for SMETS1 Devices?	Validation Check
1.1.1	E010102	SMETS1 Devices only	If the target Device is a SMETS1 ESME according to the Smart Metering Inventory, the XML element named HybridTariff must not be included in the ElecPriceElementsPrimary element within PriceElement (see 3.8.1.2). For clarity, SMETS1 ESME are not required to support such tariffs.
1.2.1	E010201	SMETS1 Devices only	If the target Device is a SMETS1 ESME according to the Smart Metering Inventory, the XML element named HybridTariff must not be included in the ElecPriceElementsPrimary element within PriceElement (see 3.8.1.2). For clarity, SMETS1 ESME are not required to support such tariffs.
3.3	E030302	SMETS1 Devices only	Check that if the ESMEEventLogType is ALCS then the target Device is not a SMETS1 Device according to the Smart Metering Inventory. For clarity, SMETS1 ESMEs are not required to support such logs.
5.1	E050110	SMETS1 Devices only	Where DeviceID in the Service Request is a SMETS1 Device according to the Smart Metering Inventory, check that the DSPScheduledServiceReferenceVariant is supported for a SMETS1 Device according to clause 3.1.
6.7	E060701	Amended condition for SMETS1 Devices	If the target Device is a SMETS1 GSME according to the Smart Metering Inventory, the XML element named UncontrolledGasFlowRateDecimal must not be included in the Service Request.For clarity, only the XML element named UncontrolledGasFlowRate may be used with SMETS1 devices.
6.13	E061305	SMETS1 Devices only	Check that if the LogToRead is ALCSEvent or PowerEvent then the target Device is not a SMETS1 Device according to the Smart Metering Inventory. For clarity, SMETS1 ESME are not required to support such logs.
6.15.1	E061508	SMETS1 Devices only	Check that the role of the User submitting the Service Request and RemotePartyRole align. Specifically if the User's role is ES or GS, the RemotePartyRole must be Supplier. If the User's role is GT or ED, the RemotePartyRole must be NetworkOperator.
8.9	E080901	SMETS1 Devices only	Check that if the target Device is a SMETS1 Device according to the Smart Metering Inventory then the target Device's Device Type is CHF according to the Smart Metering Inventory. For clarity, SMETS1 does not require any other Device Logs be supported.

Service Reference Variant	Response Code	Applicable to SMETS1 Devices only or Amended conditions for SMETS1 Devices?	Validation Check
11.1	W110101	Amended condition for SMETS1 Devices	Invalid conditions listed in this Update Firmware warning may relate to a SMETS1 CHF. a SMETS1 PPMID or a Smart Meter. An additional condition for listing a SMETS1 CHF or a SMETS1 PPMID in the InvalidDeviceIDList is where the DCC User submitting the Update Firmware Service Request is not the Responsible Supplier for the SMETS1 ESME which is connected to the same home area network as the SMETS1 CHF / PPMID.

Table 2 : Additional or Alternative Validation Conditions for SMETS1 Devices

1.4.7 Other variations in SMETS1 Service Request processing.

In addition to those set out in clauses 1.4.4, 1.4.5 and 1.4.6, this clause specifies additional variations to apply to the processing of SMETS1 Service Requests.

1.4.7.1 Update Tariff (Primary Element) SRV 1.1.1

This clause is a supplement to clause 3.8.1.

The requirements of clause 1.4.7.2 shall additionally apply.

1.4.7.2 Update Price (Primary Element) SRV 1.2.1

This clause is a supplement to clause 3.8.3.

As part of processing such SMETS1 Service Requests, the DCC shall set the Tariff Type (as defined in SMETS v1.2) on SMETS1 Smart Meters according to whether prices have been supplied in BlockTariff or TOUTariff XML elements (see 3.8.1.2).

In relation to the BlockTariff element for SMETS1 Service Requests, the requirement:

> 'Where a User does not provide a price value the DCC shall populate the associated GBCS Command with a value of zero to ensure that all 80 price values are set in the associated Command. Users are not obligated to populate all 80 price values.'

shall be replaced with:

> 'Where a User does not provide a price value the DCC shall send instructions to the SMETS1 ESME with a value of zero to ensure that all 32 price values are set. A User is not required to populate all 32 price values.'

In relation to the TOUTariff element for SMETS1 Service Requests, the requirement:

> 'Where a User does not provide a price value the DCC shall populate the associated GBCS Command with a value of zero to ensure that all 80 price values are set in the associated Command. Users are not obligated to populate all 80 price values.'

shall be replaced with.

> ‘Where a User does not provide a price value the DCC shall send instructions to the SMETS1 ESME with a value of zero to ensure that all 48 price values are set. Users are not obligated to populate all 48 price values.’

In relation to the BlockTariff and TOUTariff element for SMETS1 Service Requests, the requirement:

> 'Where a User does not provide a price value the DCC shall populate the associated GBCS Command with a value of zero to ensure that all 4 price values are set in the associated Command. Users are not obligated to populate all 4 price values'

shall be replaced with.

> ‘Where a User does not provide a price value the DCC shall send instructions to the SMETS1 GSME with a value of zero to ensure that all 4 price values are set. Users are not obligated to populate all 4 price values.’

1.4.7.3 Update Payment Mode SRV 1.6

This clause is a supplement to clause 3.8.6.

The meaning of the values in the SuspendDebtDisabled and SuspendDebtEmergency elements shall be as defined in the SMETS1 Supporting Requirements and not as defined in clause 3.8.6.

1.4.7.4 Update Prepay Configuration SRV 2.1

This clause is a supplement to clause 3.8.8.

For context, the functional equivalents of the mandatory “MaxMeterBalance” and “MaxCreditThreshold” are not required to be supported on SMETS1 Smart Meters.

Where a SMETS1 Device supports the setting of values equivalent to the “MaxMeterBalance” and “MaxCreditThreshold” values, the DCC shall instruct the Device to set such values. Where the Device does not support the setting of such values, the DCC cannot send such instructions to the Device and therefore shall not do so.

For clarity, the outcome on the Device can be established as detailed in clause 1.4.7.8.

1.4.7.5 Top Up Device SRV 2.2

This clause is a supplement to clause 3.8.9.

The clause 3.8.9 definition of the UTRN data item shall, for SMETS1 Service Requests, not apply.

For SMETS1 Service Requests with a Command Variant value of 1, the UTRN data item shall contain a SMETS1 UTRN.

For SMETS1 Service Requests with a Command Variant value of 2 or 3, the UTRN data item shall contain a 20 digit string (each digit taking a value of 0-9) representing value in pence, using leading zeros as necessary to give a 20 digit length.

Where the Service Request has a Command Variant value of 2 or 3, the DCC shall send a synchronous response detailing whether the Service Request has passed initial validation.

Where the Service Request has a Command Variant value of 2 or 3 and is successfully validated by the DCC, the DCC shall generate a SMETS1 UTRN.

Where the Service Request has a Command Variant value of 1 or 3, the DCC shall then send the SMETS1 UTRN contained within or resulting from the Service Request to the Device.

1.4.7.6 Read Instantaneous Import TOU with Blocks Matrices SRV 4.1.3

This clause is a supplement to clause 3.8.19.

Where the Device is not capable of providing Tariff TOU Block Register Matrix values (with its SMETS2meaning), the DCC shall set each of the values in the "RegisterMatrixTOUValue" in any SMETS1 Response to the relevant Unsupported Value.

1.4.7.7 Read Tariff Primary Element SRV 4.11.1

This clause is a supplement to clause 3.8.33.

In populating a SMETS1 Response, the DCC shall:

- Set CurrencyUnitsLabel to 'GBP' and CurrencyUnitsName to 'Millipence', so indicating that these values do not have to be supported by SMETS1 Devices;
- Set the value of PrimaryActiveTariffPrice and PrimaryActiveTariffPriceScale to the relevant Unsupported Value, so indicating that these values do not have to be supported by SMETS1 Devices;
- Read Tariff Type (as defined in SMETS v1.2) from the target SMETS1 Smart Meter to establish whether it is 'Time-of-use' or 'Time-of-use with Block' (each as defined in SMETS v1.2);
- Where the target Device is a SMETS1 ESME:
  - If Tariff Type is 'Time-of-use' the DCC shall set the values in TariffTOUPriceMatrix to those read from the Device and the values in TariffBlockPriceMatrix to the relevant Unsupported Values, to denote which values are in use and so which Tariff Type;
  - If Tariff Type is 'Time-of-use with Block' the DCC shall set the values in TariffBlockPriceMatrix to those read from the Device and the values in TariffTOUPriceMatrix to the relevant Unsupported Values, to denote which values are in use and so which Tariff Type;
- Where the target Device is a SMETS1 GSME:
  - If Tariff Type is 'Time-of-use' the DCC shall set the values in TOUTariff to those read from the Device and omit the BlockTariff element, to denote which values are in use and so which Tariff Type;

- If Tariff Type is 'Time-of-use with Block' the DCC shall set the values in BlockTariff to those read from the Device and omit the TOUTariff element, to denote which values are in use and so which Tariff Type;

1.4.7.8 Read Prepayment Configuration SRV 4.13

This clause is a supplement to clause 3.8.37.

Where a SMETS1 Device does not support the setting of values equivalent to the "MaxMeterBalance" and "MaxCreditThreshold" values, the DCC shall, in populating a SMETS1 Response, set these values to the relevant Unsupported Value.

The meaning of the values in the SuspendDebtDisabled and SuspendDebtEmergency elements shall be as defined in the SMETS1 Supporting Requirements and not as defined in clause 3.8.37.

1.4.7.9 Read Device Configuration (Gas) SRV 6.2.8

This clause is a supplement to clause 3.8.52.

Where a SMETS1 Device does not support the setting of values equivalent to the "StabilisationPeriod" and "MeasurementPeriod" values, the DCC shall, in populating a SMETS1 Response, set these values to the relevant Unsupported Value.

1.4.7.10 Update Device Configuration SRV 6.7

This clause is a supplement to clause 3.8.59.

The XML attribute UncontrolledGasFlowRateDecimal is not supported for SMETS1 processing. The attribute UncontrolledGasFlowRate must be used when the target of this Service Request is a SMETS1 device.

For context, the functional equivalents of the "StabilisationPeriod" and "MeasurementPeriod" values are not required to be supported on SMETS1 Smart Meters.

Where a SMETS1 Device supports the setting of values equivalent to the "StabilisationPeriod" and "MeasurementPeriod" values, the DCC shall instruct the Device to set such values. Where the Device does not support setting of such values, the DCC cannot send such instructions to the Device and therefore shall not do so.

For clarity, the outcome on the Device can be established as detailed in clause 1.4.7.9.

1.4.7.11 Read Device Log SRV 8.9

This clause is a supplement to clause 3.8.108.

In populating a SMETS1 Response, the DCC shall:

- Set the value of SubGHzLinkQuality to zero, meaning that the Device is not communicating on Sub GHz frequencies.

- Where the Device is not able to support the LastCommunicationsDateTime parameter, set the value of that parameter to the relevant Unsupported Value to indicate that it does not support that parameter.

1.4.7.12 Update HAN Device Log SRV 8.11

Clause 3.8.109.4 shall not apply where the targets Device is a SMETS1 Device. Where the target Device is a SMETS1 Device, the DCC shall undertake the following additional processing:

Upon receipt of a successful SMETS1 Response resulting from the UpdateHANDeviceLog Service Request to Add a Device, the DCC shall, for the specified DeviceID identified within the Service Request, perform the following action.

a) Notify the Responsible Supplier for the specified Device via a DCC Alert N24
b) Where the specified DeviceID is for a Device of type ESME, GSME and PPMID according to the Smart Metering Inventory, update the Smart Metering Inventory by setting the Device status for the DeviceID to 'InstalledNotCommissioned';
c) Where the specified DeviceID is for a Device of type ESME or GSME, record the association between the DeviceID and its MPxN(s) in the Smart Metering Inventory and send DCC Alert N16 to the Electricity Distributor or Gas Transporter (as applicable)

1.4.7.13 Update Firmware SRV 11.1

This clause is a supplement to clause 3.8.118.

SRV 11.1 shall be supported for SMETS1 CHFs and SMETS1 PPMIDs (except where the corresponding entry (entries) for the SMETS1 PPMID in the SMETS1 Eligible Product Combinations is associated with a GroupID of either 'EA' or 'EB') as well as Smart Meters, and the processing in clause 3.8.118.5 shall apply.

Following the receipt by DCC of a successfully authenticated Update Firmware Service Request to distribute firmware to a SMETS1 CHF or SMETS1 PPMID, if there is, according to the Smart Metering Inventory, a GSME on the same home area network as that Device then the DCC shall issue DCC Alert with code 8.1.1 to inform the Gas Supplier of the Service Request.

1.4.7.13A Read Firmware Version SRV 11.2

This clause is a supplement to clause 3.8.119.

SRV 11.2 shall also be supported for SMETS1 PPMID~~.~~ (except where the corresponding entry (entries) for the SMETS1 PPMID in the SMETS1 Elgible Product Combinations is associated with a GroupID of either 'EA' or 'EB').

In section 3.8.119.4, the additional DCC processing that is conditional on the Target Device Type being 'ESME, GSME or CHF' shall also be undertaken where the Target Device Type is a PPMID.

1.4.7.14 Activate Firmware SRV 11.3

This clause is a supplement to clause 3.8.120.

SRV 11.3 shall be supported for SMETS1 CHFs, SMETS1 PPMIDs (except where the corresponding entry (entries) for the SMETS1 PPMID in the SMETS1 Elgible Product Combinations is associated with a GroupID of either 'EA' or 'EB') as well as SMETS1 Smart Meters.

Where the Service Request relates to a SMETS1 CHF or SMETS1 PPMID and the Business Originator ID does not relate to the Responsible Supplier for the SMETS1 ESME on the same home area network then the DCC shall return a Response containing an error code of E4 indicating failure.

Where the DCC produces a SMETS1 Response indicating successful activation of SMETS1 CHF or SMETS1 PPMID firmware, if there is, according to the Smart Metering Inventory, a GSME on the same home area network as that Device then the DCC shall issue a DCC Alert with code N57 to inform the Responsible Gas Supplier of the activation.

1.4.7.15 Read Inventory SRV 8.2

This clause is a supplement to clause 3.8.99.4.

For a SMETS1 Device, the list of valid values for "CSPRegion" shall include 'SMETS1'.

For a SMETS1 Device, the Response shall additionally include the following Data Items:

Data Item	Description / Values	Type	Mandatory	Default	Units
Per Device (complex type sr:Device) found at that Smart Metering System:					
S1SP	Identifier of the relevant SMETS1 Service Provider for the Smart Metering System	xs:string	No	None	N/A

Table 3 : SRV 8.2 Additional SMETS1 Response Data Items

1.4.8 Sensitive Data

E54 shall apply to SMETS1 Service Requests in exactly the same way as for SMETS2+ Devices even though SMETS1 Responses never contain encrypted data.

1.4.9 SMETS1 Service Provider Access Control

For SMETS1 Service Requests the access control steps "Request Authorisation" and "Data Validation" described in clause 3.2 shall be repeated by the DCC (as is explained in the Service Request Processing Document, these checks shall be repeated by the S1SP). If a SMETS1 Service Request fails such subsequent access control steps, the DCC shall send a DCC Alert containing an S1SPAlert to the requesting DCC User (see clause 3.9.15).

Access control for SMETS1 Critical Service Requests shall differ from those in clause 3 and shall be as required by the Service Request Processing Document.

1.4.10 DCC Protection Against Replay

As required by Service Request Processing Document, the DCC shall protect a subset of SMETS1 Service Requests against Replay.

If a SMETS1 Service Request fails initial DCC protection against Replay, the DCC shall inform the User by way of an error code in a synchronous response.

If a SMETS1 Service Request fails SMETS1 Service Provider protection against Replay, the DCC shall inform the User by way of a DCC Alert containing an S1SPAlert.

1.4.11 SMETS1 Responses & SMETS1 Alerts

The DCC shall send SMETS1 Responses and SMETS1 Alerts to the User in the SMETS1ResponseMessage structure in the Body of an XML element of type sr:Response (see clause 1.4.11.1).

For clarity, the SMETS1ResponseMessage element shall not contain encrypted data.

1.4.11.1 Service Responses

The Service Response to a Service Request, where the target Device is a SMETS1 Device, shall contain a Body element of XML type sr:SMETS1ResponseMessage.

Such Service Responses are known as Countersigned SMETS1 Responses and, for SMETS1 Devices only, are potential additional types of Service Response to be added to the list of possible response types in clause 3.5. Countersigned SMETS1 Responses are delivered by the DCC using the asynchronous delivery pattern.

The Service Response types containing GBCS payload described in clauses 3.5.6 and 3.5.8 shall not apply to a SMETS1 Device.

Countersigned SMETS1 Responses shall include an element conforming to the XML type ra:ResponsePayload, which is defined in the Message Mapping Catalogue.

The transformation of a SMETS1 Device's SMETS1 data into the format required by DUIS shall be carried out by the SMETS1 Service Provider for the Device.

1.4.11.2 Countersigned SMETS1 Response and Alert Format

The diagram below illustrates the structure of a Countersigned SMETS1 Response or Countersigned SMETS1 Alert.

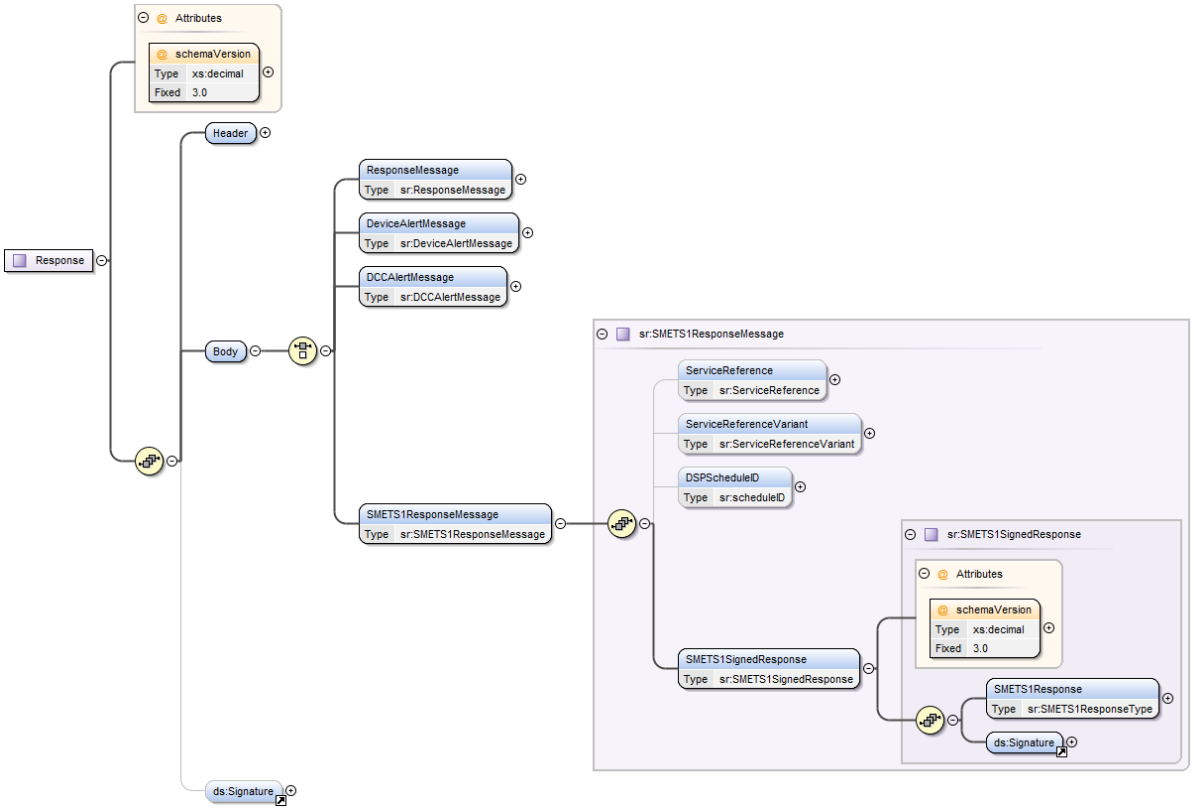

Figure 1 : Overall structure of a Countersigned SMETS1 Response or Alert

The SMETS1 Response Message shall contain the following Common Objects as further defined with the DUIS XML Schema:

Data Item	Description	Type	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 3.10.1.5)	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:ServiceReferenceVariant (See 3.10.1.6)	Yes	As per the Request
DSPScheduleID	Schedule ID generated by the DCC Systems Valid Set: >= 0 and <= 1000000000000	sr:scheduleID (Restriction of xs:nonNegativeInteger)	Present for DCC Scheduled requests	See description
SMETS1SignedResponse	Message created and signed by the S1SP. It contains a SMETS1 Response or a SMETS1 Alert	sr:SMETS1SignedResponse (see clause 1.4.11.3)	Yes	See description

Table 4 : SMETS1ResponseMessage Format

1.4.11.3 SMETS1SignedResponse Format

The following diagram shows the structure of a SMETS1 Response or a SMETS1 Alert.

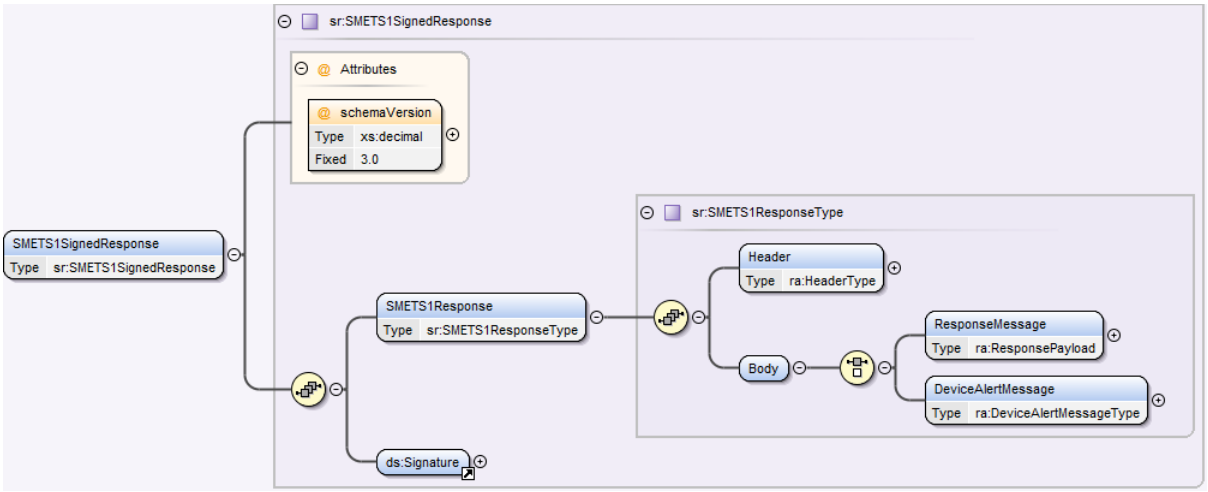

Figure 2 : Overall structure of the SMETS1SignedResponse XML Format

Data Item	Description	Type	Mandatory	Valid Values
SMETS1Response	XML element containing the data within the SMETS1 Response or SMETS1 Alert.	sr:SMETS1ResponseType (see clause 1.4.11.4)	Yes	As per the Request

ds:Signature	The signature shall be calculated by the S1SP using its corresponding private key in line with clause 3.3 where the document is the SMETS1SignedResponse. A full definition is shown in XMLDSIG.	ds:Signature See XMLDSIG XSD	Yes	See XMLDSIG XSD

Table 5 : SMETS1SignedResponse XML format

1.4.11.4 SMETS1 Response Or Device Alert Data

The data within SMETS1 Responses and SMETS1 Alerts are contained in an XML element named SMETS1Response, of type sr:SMETS1ResponseType.

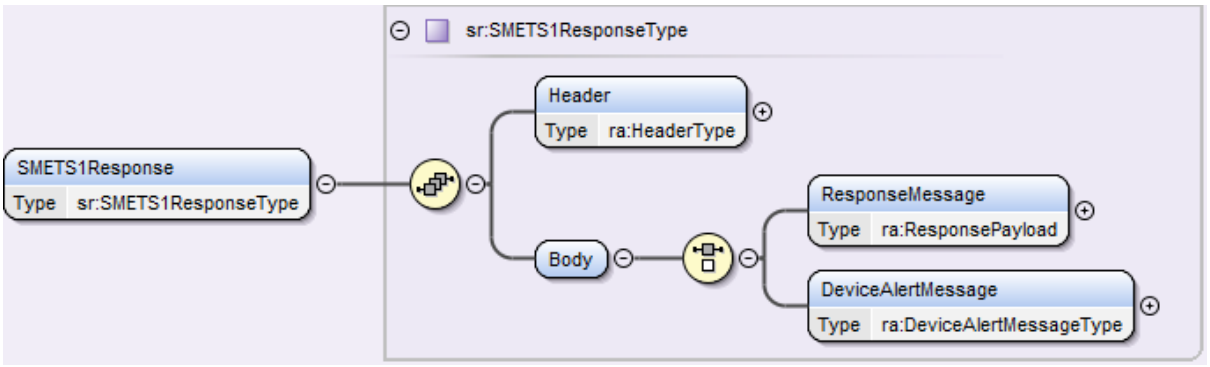

Figure 3 : Overall structure of the SMETS1 Response Format

The SMETS1Response Header shall conform to the ra:HeaderType XML format defined in the Message Mapping Catalogue, and shall contain the elements as required by the SMETS1 Supporting Requirements. The SMETS1Response XML element shall contain the following Common Objects as further defined with the DUIS XML Schema:

Data Item	Description	Type	Mandatory	Valid Values
Header	details including that of the originator and target	ra:HeaderType (see definition in the Message Mapping Catalogue)	Yes	See description
ResponseMessage	contains the SMETS1 Response details. The elements contained within the SMETSData element shall be as specified in clause 5 of the MMC corresponding to the Service Reference Variant value in the Header	ra:ResponsePayload (see definition in the Message Mapping Catalogue)	SMETS1 Response: Yes SMETS1 Alert: N/A	See description
DeviceAlertMessage	contains the SMETS1 Alert details. Where clause 4.2.1 of the MMC specifies that a Message Code is applicable to SMETS1 Alerts, and clause 4.2.2 specifies the alert contains a Payload, the content of the Payload in any such SMETS1 Alert shall be as defined in clause 6 of the MMC	ra:DeviceAlertMessageType (see definition in the Message Mapping Catalogue)	SMETS1 Response: N/A SMETS1 Alert: Yes	See description

Table 6 : SMETS1Response Element Format

1.4.11.5 SMETS1 Alerts

Clause 3.6.2 shall not apply in relation to SMETS1 Devices.

1.4.12 SMETS1 Key Cryptographic Protection

In addition to those mentioned in clause 3.3.3 the DCC shall Digitally Sign communications containing the following XML format messages, using a DCC Access Control Broker Private Key.

- SMETS1 Responses;
- SMETS1 Alerts; and
- S1SP Alerts.

The resultant communications that include the DCC Digital Signature shall be (respectively):

- Countersigned SMETS1 Responses;
- Countersigned SMETS1 Alerts; and
- Countersigned S1SP Alerts.

1.4.13 Recording of SMKI Organisation Certificate Information

Where SMETS1 Service Requests enable Users to provide SMKI Organisation Certificates to associate with a Device, the certificate information shall be stored by the SMETS1 Service Provider.

Therefore, in relation to DCC Alert N42, where the description in clause 3.6.3 refers to placing of security credentials on a Device, for SMETS1 Devices, this shall apply to the recording of certificate information by the SMETS1 Service Provider.

1.4.14 Sequenced Services

The condition in clause 2.6.4 which states that Service Requests for which the "Transform" Command Variant has been specified may not be sequenced shall not apply to SMETS1 Critical Service Requests.

2 THE INTERFACE

Definitions in this clause 2 apply to SMETS1 Devices as well as SMETS2+ Devices except where specified or where varied by statements in clause1.4.

2.1 Connection Mechanisms

Enrolment Services, Communication Services and Local Command Services may only be accessed by Users over the DCC User Interface via a DCC Gateway Connection. Section H15 (DCC Gateway Connection) sets out the principal rights and obligations applying to the provision of DCC Gateway Connections.

Additional information to enable use of a DCC User Gateway Connection to connect to the DCC Systems is set out in the DCC User Interface Code of Connection.

2.2 Establishment of Logical Connection

Logical connections between the Users and the DCC User Interface shall be subject to the establishment of cryptographic protection as detailed in the DCC Key Infrastructure (DCCKI) Document Set.

The DCC shall make the DCC User Interface available on an Internet Protocol version 4 address range.

The DCC shall provide details of the IP addressing and network configuration to each User as part of the process for obtaining a connection to the DCC User Interface as described in the DCC User Interface Code of Connection.

Each User shall use Network Address Translation to remap internal Internet Protocol addresses to the published DCC provided Internet Protocol addresses at the User's firewall prior to accessing the DCC User Interface.

Each User shall use Network Address Translation to remap incoming DCC traffic Internet Protocol addresses from the published Internet Protocol addresses at the User's firewall to the reserved Internet Protocol addresses within their subnet.

Each User shall only access the DCC User Interface via a Transport Layer Security (TLS) session that has been established, between a non-DCC PEP and the DCC's PEP

The DCC and each User shall implement TLS in a standard format:

1. conforming to TLS 1.2 as specified in RFC 5246
   utilising the cipher suite TLS_RSA_WITH_AES_128_GCM_SHA256; and
2. using DCCKI Infrastructure Certificates for mutual client/server authentication.

2.3 Time

The DCC User Interface and DCC Systems shall use UTC (Coordinated Universal Time) for all Requests and Service Responses. All references to time or date and time in this DUIS are references to UTC. This shall be indicated to the DCC by using the trailing Z in the XML Date and Time formats.

For example;

xs:date data types shall be formatted as <Date>2015-12-25Z</Date>

xs:time data types shall be formatted as <Time>09:30:10.00Z</Time>

xs:dateTime data types shall be formatted as
<DateTime>2015-12-25T09:30:10.00Z</DateTime>

All references to time for the DCC User Interface and DCC Systems shall use time with a format precision to 100th of a second.

For the avoidance of doubt all date-times specified within Service Requests by the User shall not be validated unless explicitly stated within the Service Request definitions.

Where time values are included within the "Body" of a Service Request, the values populated by a User for the 100th of a second precision shall be populated in line with GBCS time definitions for the associated GBCS Use Case to the Service Request being sent by a User.

The DCC User Interface shall only process time values within Service Requests representing whole seconds for which the associated GBCS Use Case results in the creation of an ASN.1 Command as defined by GBCS, with 00 to represent whole second values as shown in the example above. The DCC User Interface shall process time values within Service Requests representing 100th of a second precision for which the associated GBCS Use Case results in the creation of a DLMS COSEM Command or a GBZ Command as defined by GBCS, with a value of 00 to 99 inclusive to represent 100th of a second precision.

Where time values are returned within Service Responses, the 100th of a second precision of time values shall be populated where that precision is available otherwise it shall be populated with a value of 00.

2.4 Web Services

Users may submit and DCC shall accept Service Requests and Signed Pre-Commands as XML documents submitted using a Hypertext Transfer Protocol (HTTP) POST command.

The DCC shall make available to Users, three Web Services for use in relation to the processing of Service Requests and Signed Pre-Commands. These are known as:

- Transform Service – for SMETS2+ Devices, a synchronous communication mechanism for transformation of Critical Service Requests into GBCS Format and the returning of Pre-Commands to the User; for SMETS1 Devices, a communication mechanism to process a SMETS1 Critical Service Request. For SMETS1 Devices, the synchronous response is an Acknowledgment whereas for SMETS2 the synchronous response is a Pre-Command;

- Non-Device Service – a synchronous communication mechanism to process Non-Device Service Requests or a request for a Local Command Service (where a Command is returned by the DCC to the User to be locally applied (via a Hand Held Terminal) ; and

- Send Command Service – an asynchronous communication mechanism to which a User must send any Non-Critical Service Request or Signed Pre-Command where the User wishes the DCC only to send the associated Command to the Device specified in the message.

Each Service Request or Signed Pre-Command sent by a User to the DCC shall be sent via one of the three Web Services identified above and in accordance with the Command Variant requested by the sending User within the Service Request or Signed Pre-Command in accordance with the table in clause 2.6.1 under the column “Web Service for Request”. The DCC shall ensure that it sends a synchronous Acknowledgement to the User in the circumstances outlined in 3.5.2.

Each User shall establish and use a Receive Response Service to receive Service Responses, Device Alerts and DCC Alerts from the DCC. The User shall ensure that its Receive Response Service sends a synchronous Acknowledgement to the DCC following the User’s receipt of each Service Response, Device Alert or DCC Alert. The DCC shall re-send via retry where an Acknowledgement is not received from the User, as defined in clause 2.10.1 - Retry Processing. Due to possible retries, the User may receive duplicate Service Responses, Device Alerts and DCC Alerts from the DCC.

URL details of each User’s Receive Response Service and each of DCC’s Web Services shall be specified by the User and the DCC respectively and exchanged as described in the DCC User Interface Code of Connection.

The User shall be responsible for the design and operation of the web server(s) that deliver their Web Services such that they are sufficient to meet their own requirements.

2.5 Service Request Processing

The obligations on DCC and Users in relation to Service Request processing are set out in the Service Request Processing Document, but summarised here for convenience.

Each User shall ensure that any Service Request or a Signed Pre-Command that it sends to DCC is in the format detailed in this document (see clause 3.4 - Requests). The DCC shall construct Service Responses, Device Alerts and DCC Alerts in the format detailed in this document (see clause 3.5 - Responses and 3.6 – Device Alerts and DCC Alerts).

Other than in relation to Non-Device Service Requests, the DCC shall transform each Non-Critical Service Request it receives into GBCS Format, add any requisite Message Authentication Code (MAC) and send it to the relevant Device.

Critical Service Requests shall be transformed to GBCS Format by the DCC and the resultant transformed message returned as a Pre-Command by the DCC to the User for correlation and Digital Signing. A Signed Pre-Command shall be sent by the User to the DCC who shall add any requisite MAC to the signed GBCS Payload extracted from the Signed Pre-Command and send the resultant Command to the relevant Device as set out in Section H4.

Local Command Services can be requested by Users for Service Requests and Signed Pre-Commands to facilitate the return of GBCS format Commands from the DCC for local delivery to Devices.

The DCC shall send Responses, alerts generated in the DCC Systems (or any Alert generated by a Communications Hub Function) and Alerts to the relevant User as Service Responses, DCC Alerts and Device Alerts.

2.6 Messaging Features

There are a number of variations or modes of operation that determine the DCC's treatment of Service Requests as specified by each User, as below and further defined within the table in clause 2.6.1:

- **Transform** - The DCC shall transform Critical Service Requests to a GBCS Format and return them to the relevant User as a Pre-Command to be Digitally Signed by the User.
- **On-Demand** – The DCC shall send Commands to the Device following receipt of Non-Critical Service Requests or Signed Pre-Commands (for Critical Service Requests).
- **Non-Device Requests** - The DCC shall process the Service Request within the DCC Systems only and shall send a Service Response to the User.
- **Future Dated Response Pattern (Device)** - The DCC shall send a Command associated with a Service Request or Signed Pre-Command to the specified Device to be executed at a specified date/time in the future by the Device. The Device returns a Response confirming acceptance (or otherwise) of the future dated Command, which DCC shall send to the User as a Service Response.

- **Future Dated Response Pattern (DSP)** – The DCC shall for certain Service Requests or Signed Pre-Commands, where the associated Command cannot be future dated on the Device, hold the request and send the associated Command to the Device at a specified date/time in the future.
- **Meter Scheduled -** The DCC shall send a Command to a Smart Meter which shall, in accordance with SMETS, hold a recurring schedule to send the requested data in Device Alerts to the User via the DCC Systems.
- **DCC Scheduled** – A User may create a Schedule within the DCC that requires the DCC to send a Command on behalf of that User at regular intervals. In line with the Schedule, the DCC shall send the Command to the relevant Device. The Device returns a Response and the DCC shall send this as a Service Response to the User that created the Schedule.
- **Device Alerts -** Unsolicited messages (Alerts) are generated by Devices and sent to the DCC. The DCC shall send these as Device Alerts to the recipients identified in the Alerts.
- **DCC Alerts -** The DCC Systems and Communications Hub Functions may generate unsolicited messages which are sent to Users as DCC Alerts. Note that the DCC Alerts category includes notifications to Users to inform them of actions taken within the DCC Systems.

2.6.1 Command Variants

A User shall add a Command Variant to each Service Request and Signed Pre-Command sent to the DCC. This Command Variant shall be the means by which the DCC determines how to process a Service Request or Signed Pre-Command by use of the Command Variant as per the following table. Not all Command Variants are valid for all Requests – refer to the Service Request Definitions in clause 3.8.

The table below describes the attributes and application of each Command Variant.

CV Value	Command Variant Description	Input	Output	Web Service for Request	Web Service for Response	Response Delivery Pattern	Critical Request	Return to User	Delivery Over SM WAN	Applicable to SMETS1 Service Requests
1	Non Critical Service Request for Command to be sent to a Device via the SM WAN	Service Request	Command	Send Command Service	Receive Response Service	Asynchronous	No	No	Yes	Yes

CV Value	Command Variant Description	Input	Output	Web Service for Request	Web Service for Response	Response Delivery Pattern	Critical Request	Return to User	Delivery Over SM WAN	Applicable to SMETS1 Service Requests
2	Non Critical Service Request for Command to be returned to the User for local delivery to a Device	Service Request	Command for Local Delivery	Non-Device Service	Completion of Non-Device Service	Synchronous	No	Yes	No	No (but see clause 1.4.7.5)

CV Value	Command Variant Description	Input	Output	Web Service for Request	Web Service for Response	Response Delivery Pattern	Critical Request	Return to User	Delivery Over SM WAN	Applicable to SMETS1 Service Requests
3	Non Critical Service Request for Command to be sent to a Device via the SM WAN as well as a copy to be returned to the User for local delivery	Service Request	Command and Command for Local Delivery	Send Command Service	Receive Response Service	Asynchronous	No	Yes (Command for Local Delivery only)	Yes	No (but see clause 1.4.7.5)
4 (SMETS2+)	Transform Critical Service Request and return Pre-Command to User for Correlation and Digital Signing	Service Request	Pre-Command	Transform Service	Completion of Transform Service	Synchronous	No	Yes	No	No

CV Value	Command Variant Description	Input	Output	Web Service for Request	Web Service for Response	Response Delivery Pattern	Critical Request	Return to User	Delivery Over SM WAN	Applicable to SMETS1 Service Requests
4 (SMETS1)	Send Critical Service Request to the relevant S1SP	Service Request	Countersigned Critical Service Request	Transform Service	Receive Response Service	Asynchronous	No	No	Delivered to the relevant S1SP	Yes
5	Critical Signed Pre- Command indicating Command to be sent to a Device via the SM WAN	Signed Pre-Command	Command	Send Command Service	Receive Response Service	Asynchronous	Yes	No	Yes	No
6	Critical Signed Pre-Command indicating Command to be returned to the User for local delivery to a Device	Signed Pre-Command	Command for Local Delivery	Non-Device Service	Completion of Non-Device Service	Synchronous	Yes	Yes	No	No
7	Critical Service Request for Command to be sent to a Device via the SM WAN as well as a copy to be returned to the User for local delivery.	Signed Pre-Command	Command and Command for Local Delivery	Send Command Service	Receive Response Service	Asynchronous	Yes	Yes (Command for Local Delivery only)	Yes	No
8	Request a Non-Device Service	Service Request	Service Response (from DCC)	Non-Device Service	Completion of Non-Device Service	Synchronous	No	Yes	No	Yes

Table 7 : Command Variants

Please note that Command Variant ‘9’ is generated internally by the DCC Systems for DCC scheduled requests and is only available for the DCC to use. This Command Variant value is not applicable to Service Requests or Signed Pre-Commands sent by Users. The DCC shall generate a Service Response to Users with a Response Code E12 for any Service Requests or Signed Pre-Commands where the Command Variant value is set to ‘9’ by a User and sent to the DCC.

Where a User wishes to use a Command Variant value of 2, 3, 6 or 7, the DCC Systems only support the use of these against Service Requests or Signed Pre-Commands sent on an "On Demand" mode of operation basis (as defined in clause 2.6).

2.6.2 Scheduled Services

The DCC shall facilitate two types of Scheduled Services.

1. **Meter Scheduled.** A User may create a schedule on a specified Device (Electricity and Gas Smart Meters) in order that the Device maintains a schedule for delivery of data from the Billing Data Log as defined in SMETS. The DCC Systems shall receive this data as a series of Alerts and DCC shall send them to the relevant User (as a series of Device Alerts).

2. **DCC Scheduled.** A User may send a Service Request to create a schedule which is maintained and executed to initiate the sending of repeating Commands to a specified Device at regular defined intervals of time. Such schedules are created using the Create Schedule Service Request 5.1 and are stored within the DCC Systems. The DCC shall initiate processing to send the required Command and receive the Response within the appropriate Target Response Time for the Service Request. DCC shall send each Response as a Service Response to the User that set up the schedule. The mechanism used for managing DCC Scheduled Service Requests is described further within DCC guidance documentation.

   On successful creation of a schedule, the DCC shall send a Service Response to the User that includes a unique Schedule Id, which allows a User to identify the schedule that the DCC has created.

   Each User shall ensure that the number of active schedules they have created and which relate to any particular Device does not exceed 99 Schedules. Response Code E050108 is returned to the User if this number is exceeded, as defined in the Service Request definition for Service Request 5.1 - CreateSchedule.

2.6.3 Future Dated Services

DCC shall provide the ability for a User to future date Requests where the Request supports this capability (and as indicated in clause 3.1 - Service Request Matrix), in order that associated Commands are executed on specified Devices at a specified future date and time as per the instructions contained within the Request.

Requests which support the ability to be future dated contain an optional XML attribute for execution date/time defined within the Service Request definition (see clause 3.1). When this XML attribute is included by a User then the Request is treated as future dated by the DCC.

In relation to such Requests, the DCC shall ensure that either:

i) Where the associated Command is capable of being future dated on the relevant Device as defined by GBCS, the DCC shall send the corresponding Command to the Device; this follows the Future Dated Response Pattern (Device). Or

ii) Where the associated Command is not capable of being future dated on the Device as defined by GBCS, or the Service Request is targeted at a SMETS1 Device, the DCC shall provide a similar function within the DCC Systems by storing the Request in the DCC Systems until the future execution date/time as

specified in the Request and then sending the corresponding Command to the Device. This follows the Future Dated Response Pattern (DSP).

2.6.3.1 Future Dated Response Pattern (Device)

The DCC shall action these Service Requests or Signed Pre-Commands immediately and send the associated Command to the Device where it is stored for execution at a later date. Upon receipt, the Device sends a Response to indicate acceptance or execution (where the execution date is in the past) of the future dated Command. When the stored Command is executed at the specified future dated execution date and time an Alert is sent to confirm the Commands execution (which is sent to the relevant User as a Device Alert). Where the future dated Command to the Device includes more than one activation date-time instruction, the Device shall send a separate Alert per activation date-time instruction in the Command (as defined by GBCS) and the DCC Systems shall forward these on to Users as separate Service Response (from Device) – FutureDatedDeviceAlertMessage format Service Responses. For a list of Service Requests or Signed Pre-Commands that can be future dated at the Device see clause 3.1, where "Future Dated Response Pattern" column is set to "Device".

Where a Service Request does not contain instructions for execution at a future date, the Device will simply execute the Command and return a Service Response to confirm execution, in line with the standard On Demand processing pattern.

Where a User wishes to cancel and not replace a future dated Service Request or Signed Pre Command, the User shall send to the DCC another Service Request of the same Service Reference Variant with an execution date time of '3000-12-31T00:00:00Z' within the Request to the same Device.

Where a User wishes to cancel and replace a future dated Service Request or Signed Pre Command, the User shall send to the DCC another Service Request to the same Device of the same Service Reference Variant with a replacement execution date different from '3000-12-31T00:00:00Z'.

2.6.3.2 Future Dated Response Pattern (DSP)

The DCC shall action these Service Requests by storing them within the DCC Systems for a future scheduled delivery of the associated Command. The DCC shall activate scheduling at the requested execution date and time and the associated Command shall be delivered in line with the relevant Target Response Time. Upon receipt by the Device, a Response shall be sent to confirm execution forwarded from DCC to the User as a Service Response. For a list of Service Requests that can be future dated in this way see clause 3.1, where "Future Dated Response Pattern" column is set to "DSP". Only Non Critical Service Requests can be initiated by a User using a Future Dated Response Pattern (DSP).

Where a User wishes to cancel and not replace a future dated Service Request, the User shall send to the DCC another Service Request of the same Service Reference Variant with an execution date time of '3000-12-31T00:00:00Z' within the Request to the same Device.

Where a User wishes to cancel and replace a future dated Service Request, the User shall send to the DCC another Service Request of the same Service Reference Variant with an

execution date different from '3000-12-31T00:00:00Z' within the Request to the same Device.

2.6.4 Sequenced Services

DCC shall provide each User with the ability to sequence a number of Service Requests or Signed Pre-Commands applicable to Devices, as set out in Section H3.13 Sequenced Services. The DCC shall only release the next Command associated with a Service Request or Signed Pre-Command in a sequence once the Command associated with the previous Service Request or Signed Pre-Command in that sequence has executed successfully i.e. only once the DCC receives a Response with a Response Code indicating success.

The DCC shall only provide Sequenced Services for Service Requests and Signed Pre-Commands intended for Devices and not for Non-Device Service Requests.

A User may not use Sequenced Services for the following types of Service Requests or Signed Pre-Commands:

- Service Requests for which the "Transform" Command Variant has been specified (Command Variant 4)
- Non-Device Service Requests
- Service Requests or Signed Pre-Commands for which Command Variant 2, 3, 6 or 7 has been selected (see clause 2.6.1)
- DCC Scheduled Service Requests
- Service Requests or Signed Pre-Commands to gas Devices that return encrypted data within the Service Response (which cannot be sequenced, as the result of the request (success or failure) is contained within the encrypted response and cannot be read by the DCC).

For Future Dated Service Requests:

- Future Dated Response Pattern (DSP) Service Requests can only be the first in the sequence.
- For Future Dated Response Pattern (Device) Service Requests or Signed Pre-Commands, the trigger to release the following Command in the sequence, where applicable, is the receipt by DCC Systems of all Alerts corresponding to the Future Dated (Device) Command and they all indicate successful execution.

A User must request the DCC to Transform all Critical Service Requests into Pre-Commands prior to using any Sequenced Services for the resulting Signed Pre Commands.

When using Sequenced Services, a User shall construct the first Service Request or Signed Pre-Command intended to start a sequence with a "First In Sequence" flag set to true and no "Preceding Request ID" populated within the request.

The DCC Systems shall process all requests in a sequence in the order specified by the User. All Requests in a sequence, except the first one, will have the data item "First in Sequence" flag set to false and the data item "Preceding Request ID" set to the "Request ID" of an earlier Request in the sequence.

The DCC Systems shall identify the last Request in the sequence in one of two ways:

- as the last Request with a “Preceding Request ID” and with its “Request ID” not being the “Preceding Request ID” of another Request following the Wait Period; or
- as the Request that makes the number of Requests in the sequence reach the maximum number of Requests supported in a sequence.

A User shall not link more than one Service Request or Signed Pre-Command to another particular Service Request or particular Signed Pre-Command as identified by “Preceding Request ID" data item.

Each User shall ensure that the maximum number of Service Requests or Signed Pre-Commands linked in a single sequence does not exceed 99.

2.7 HTTP Response Codes

The DCC shall send to the User standard Hypertext Transfer Protocol (HTTP) Response Codes compliant with Hypertext Transfer Protocol - HTTP/1.1 in response to each Service Request or Signed Pre-Command that it receives from that User.

The DCC System shall utilise HTTP as a transport rather than application protocol, therefore all application related data is passed with a status code of 200.

Only the following HTTP Response Codes shall be used by the DCC for each of their Web Services:

200	The message has been accepted by the DCC Systems. An XML response object is returned to the User, this contains a Response Code that indicates whether the request has passed or failed the business rules for the Service Request. Note that it is possible for a request to be syntactically correct, but fail subsequent validation. Successful Service Requests will return a Response Code with the prefix “I” (Information) or “W” (Warning). Failed Service Requests will return a Response Code with the prefix “E” (Error).
300	The recipient requires that the client redirect its request to the alternative URL provided in the location header field.
400	Bad Request – Indicates that the syntax of the request is invalid and the DCC Systems are unable to parse the request.
500	Internal Server Error – Indicates that the DCC Systems are malfunctioning.
503	Service Unavailable – The DCC Systems are currently unavailable (because they are overloaded or down for maintenance).

The User shall send to DCC standard HTTP Response Codes in response to each Service Response, Device Alert and DCC Alert that it receives on its Receive Response Web Service.

Only the following HTTP Response Codes shall be used by the User for each of their Web Services:

200 The User has accepted the message.

300 The recipient requires that the client redirect its request to the alternative URL provided in the location header field.

400 Bad Request – Indicates that the syntax of the request is invalid and the User Systems are unable to parse the request.

500 Internal Server Error – Indicates that a User's Systems are malfunctioning.

503 Service Unavailable – The User's web server is currently unavailable (because they are overloaded or down for maintenance). The DCC System shall wait for a set period of 15 minutes before resubmitting the response.

2.8 Response Codes

DCC shall include a Response Code indicating success or the reason for failure in all Service Responses, Pre-Commands, Device Alerts and DCC Alerts sent to a User as detailed in clause 3.5.10. Only one Response Code will be included in each Service Response, Pre-Command, Device Alert or DCC Alert sent to a User.

2.9 DCC Alerts

DCC shall construct and send DCC Alerts to Users as detailed in clause 3.6.3.

2.10 Error Handling

The DCC shall report format errors and processing errors for Service Requests and Signed Pre-Commands to the originating User as set out this section and the DCC's Error Handling Strategy. General error handling (for all synchronous requests from the User to DCC) shall be implemented by DCC as follows:

Error Scenario	Behaviour
DCC Systems unavailable	The DCC shall notify Users if the DCC Systems are unavailable using a HTTP Response Codes of 503 – Service Unavailable (as defined in clause 2.7). This notification may be before the User notices that this is the case. In the absence of any such notification, where a User is unable to access the DCC Services, the User shall check connectivity of their own systems, check for known issues, and for notifications on the Self Service Interface (SSI) before investigation into DCC Systems is performed. If DCC Systems are persistently unavailable, the User may raise an Incident with the DCC.
Invalid Service Request or access control failure	Under these circumstances, the DCC shall return a Service Response with the appropriate Response Code – See clause 3.5.10.

Table 8 : General error handling

Specific error handling and retry behaviour that Users and the DCC shall follow for each mode of operation of Service Request, Signed Pre-Command and Response are provided below.

2.10.1 Retry Processing

For those Commands that are to be delivered to a Device via the SM WAN, the DCC Systems shall at the appointed time, attempt to deliver the Command to the Device.

Should there be no Response to the Command within expected timescales, the DCC shall attempt to re-deliver the Command at a later time. The re-delivery is controlled by an algorithm with a Back-off Period (as set out in the sections below) and a configurable maximum number of retries before eventually failing. Should the delivery fail after the final attempt, a failure message is returned to the User via a DCC Alert with an appropriate Response Code as defined in clause 3.6.3.4 - DCC Alert Codes.

If the Command is delivered but no Response is received within a configurable timeout period (as set out in the sections below) then the DCC shall attempt to re-deliver the Command at a later time. Again, the re-delivery is controlled by an algorithm with a Back-Off Period and a maximum number of retries (as set out in the sections below), before eventually failing and returning a failure message to the User via a DCC Alert with an appropriate Response Code as defined in clause 3.6.3.4 - DCC Alert Codes.

The retry approach for the different modes of operation where applicable, is described further below. Note that in all cases, the DCC Systems shall re-send the Command with the same RequestID data item.

Note that all retry periods and timeout values are configurable within the solution (as set out in the sections below). Some values are dependent on the mode of operation and configurable Target Response Times as shown in the following table:

Mode of Operation	Initial Retry Period	Back-Off Period	Final Retry Period
On Demand Request	Configurable period by the DCC (held within the DCC systems) based on the following factors: • DCC Target Response Time • HAN Transfer Time • Device Processing Time • Device Wakeup Time	n/a	n/a
Future Dated Response Pattern (Device)	2 hours	2 hours	"Future Dated Response Pattern (Device) Target Response Time" + 60 minutes
Future Dated Response Pattern (DSP)	2 hours	2 hours	"Future Dated Response Pattern (DSP) Target Response Time" + 60 minutes
DCC Scheduled	2 hours	2 hours	"DCC Scheduled Target Response Time" + 60 minutes

Table 9 : Modes of operation

Note that if a Command is sent to a BusinessTargetID that identifies the Gas Smart Meter (rather than the Gas Proxy Function), then the On Demand Initial Retry Period will be extended by 30 minutes to allow time for the Gas Smart Meter to wake up and receive the Command.

2.10.2 Transform and Non-Device Requests

See general error handling described in clause 2.10 for details of error handling for these synchronous requests.

2.10.3 On Demand Request

See general error handling described in clause 2.10 for details of error handling for this synchronous request. In addition the following error scenarios can occur.

Error Scenario	Behaviour
Failure to send Command over SM WAN to the Device	The DCC shall retry at least once within the Initial Retry Period. If the initial retry period expires and the Command has still not been sent then the DCC shall return DCC Alert Code N12 to the relevant User
Failure to receive Response over SM WAN from the Device	The DCC shall retry at least once within the Initial Retry Period. If nothing is received from the Device after further retries and expiry of the initial retry period the request will be deemed to have failed and the DCC shall return DCC Alert Code N13 to the relevant User. If the Response is received after the failure notification, it will be flagged as anomalous and recorded within the DCC Systems Service Audit Trail and event log.

Error Scenario	Behaviour
Unable to deliver Service Response to User	The DCC shall retry at least once within a period of 300 seconds. If the DCC is unable to deliver the Service Response to the User after 300 seconds from the first DCC attempt, then the DCC shall queue the Service Response on the failed queue for re-delivery once the User connection is restored. The DCC shall raise a Service Management Event within the DCC Systems for resolution and periodically monitor the failed queues of Service Responses and release these to Users if and when the User connection is restored. The DCC shall hold failed Service Responses for 2 days for re-delivery. After this period the failure will be recorded within the DCC Systems as a Service Management Event.

Table 10 : Additional error scenarios for 'on demand' requests

2.10.4 Future-Dated (Device)

See general error handling described above for details of error handling for this synchronous request. In addition the following error scenarios can occur.

Error Scenario	Behaviour
Failure to send Command over SM WAN to the Device	The DCC shall retry at least once within the Initial Retry Period. If the Initial Retry Period expires and the Command has still not been sent then the DCC shall queue the Command for subsequent re-delivery after the Back-Off Period see 2.10.1 - Retry Processing. If the Final Retry Period expires and the Command has still not executed successfully, then the DCC shall return DCC Alert N12 to the relevant User.
Failure to receive Command Acknowledgement response over SM WAN from the Device	The DCC shall retry at least once within the Initial Retry Period. If nothing is received from the Device after further retries and expiry of the Initial Retry Period the DCC shall queue the Command for subsequent re-delivery after the Back-Off Period. If the Final Retry Period expires and the Command has still not executed successfully, then the DCC shall return DCC Alert N13 to the relevant User.
No Response received from Device within Target Response Time	For all future dated Commands, acknowledged by the Device, if no Response is received from the specified Device within the Target Response Time after the execution date and time contained within the Command the DCC shall send a DCC Alert N10 with the timeout Response Code to the relevant User. If the Response is received after the timeout, it will be flagged as anomalous and recorded within the DCC Systems Service Audit Trail and event log.
Unable to deliver Service Response to User	The DCC shall retry at least once within a period of 300 seconds. If the DCC is unable to deliver the Service Response to the User after 300 seconds from the first DCC attempt, then the DCC shall queue the Service Response on the failed queue for re-delivery once User connection is restored. The DCC shall raise a Service Management Event within the DCC Systems for resolution and periodically monitor the failed queues of Service Responses and release these to Users if and when the User connection is restored. The DCC shall hold failed Service Responses for 2 days for re-delivery. After this period the failure will be recorded within the DCC Systems as a Service Management Event.

Table 11 : Additional error scenarios for 'future dated' device requests

2.10.5 Future-Dated (DSP)

See general error handling described above for details of error handling for this synchronous request. In addition the following error scenarios can occur.

Error Scenario	Behaviour
Access control failure at future dated execution time	The DCC shall return a DCC Alert N7
Failure to send Request over SM WAN to the Device	The DCC shall retry at least once within the Initial Retry Period. If the Initial Retry Period expires and the Command has still not been sent then the DCC shall queue the Command for subsequent re-delivery after the Back-Off Period see 2.10.1 - Retry Processing. If the Final Retry Period expires and the Command has still not executed successfully, then the DCC shall return a DCC Alert N11 to the relevant User.
Failure to receive Response over SM WAN from the Device	The DCC shall retry at least once within the Initial Retry Period. If nothing is received from the Device after further retries and expiry of the Initial Retry Period the DCC shall queue the Command for subsequent re-delivery after the Back-Off Period. If the final retry period expires and the Command has still not executed successfully, then the DCC shall return a DCC Alert N11 to the relevant User. If the Response is received after the Timeout, it will be flagged as anomalous and recorded within the DCC Systems Service Audit Trail and event log.
Unable to deliver Service Response to User	The DCC shall retry at least once within a period of 300 seconds. If the DCC is unable to deliver the Service Response to the User after 300 seconds from the first DCC attempt, then the DCC shall queue the Service Response on the failed queue for re-delivery once User connection is restored. The DCC shall raise a Service Management Event within the DCC Systems for resolution and periodically monitor the failed queues of Service Responses and release these to Users if and when the User connection is restored. The DCC shall hold failed Service Responses for 2 days for re-delivery. After this period the failure will be recorded within the DCC Systems as a Service Management Event.

Table 12 : Additional error scenarios for ‘future dated’ DSP requests

2.10.6 DCC Scheduled

Error Scenario	Behaviour
Validation or access control failure at Scheduled execution time	The DCC shall return a DCC Alert N7
Failure to send Request over SM WAN to the Device	The DCC shall retry at least once within the Initial Retry Period. If the Initial Retry Period expires and the Command has still not been sent then the DCC shall queue the Command for subsequent re-delivery after the Back-Off Period see 2.10.1 - Retry Processing. If the Final Retry Period expires and the Command has still not executed successfully, then the DCC shall return a DCC Alert N11 to the relevant User.
Failure to receive Response over SM WAN from the Device	The DCC shall retry at least once within the Initial Retry Period. If nothing is received from the Device after further retries and expiry of the Initial Retry Period the DCC shall queue the Command for subsequent re-delivery after the Back-Off Period. If the Final Retry Period expires and the Command has still not executed successfully, then the DCC shall return a DCC Alert N11 to the relevant User. If the Response is received after the Timeout, it will be flagged as anomalous and recorded within the DCC Systems Service Audit Trail and event log.
Unable to deliver Service Response to User	The DCC shall retry at least once within a period of 300 seconds. If the DCC is unable to deliver the Service Response to the User after 300 seconds from the first DCC attempt, then the DCC shall queue the Service Response on the failed queue for re-delivery once User connection is restored. The DCC shall raise a Service Management Event within the DCC Systems for resolution and periodically monitor the failed queues of Service Responses and release these to Users if and when the User connection is restored. The DCC shall hold failed Service Responses for 2 days for re-delivery. After this period the failure will be recorded within the DCC Systems as a Service Management Event.

Table 13 : Additional error scenarios for ‘future dated’ DCC scheduled requests

2.10.7 Meter Scheduled

Error Scenario	Behaviour
User fails to receive Service Response from DCC at scheduled time	This is a User responsibility.
Unable to deliver Service Response to User	The DCC shall retry at least once within a period of 300 seconds. If the DCC is unable to deliver the Service Response to the User after 300 seconds from the first DCC attempt, then the DCC shall queue the Service Response on the failed queue for re-delivery once User connection is restored. The DCC shall raise a Service Management Event within the DCC Systems for resolution and periodically monitor the failed queues of Service Responses and release these to Users if and when the User connection is restored. The DCC shall hold failed Service Responses for 2 days for re-delivery. After this period the failure will be recorded within the DCC Systems as a Service Management Event.

Table 14 : Additional error scenarios for 'future dated' meter scheduled requests

2.10.8 Device Alert

Error Scenario	Behaviour
Unable to deliver Device Alert to User	The DCC shall retry at least once within a period of 300 seconds. If the DCC is unable to deliver the Device Alert to the User after 300 seconds from the first DCC attempt, then the DCC shall queue the Device Alert on the failed queue for re-delivery once User connection is restored. The DCC shall raise a Service Management Event within the DCC Systems for resolution and periodically monitor the failed queues of Device Alerts and release these to Users if and when the User connection is restored. The DCC shall hold failed Device Alerts for 2 days for re-delivery. After this period the failure will be recorded within the DCC Systems as a Service Management Event.

Table 15 : Additional error scenarios for Device Alerts

2.10.9 DCC Alert

Error Scenario	Behaviour
Unable to deliver DCC Alert to User	The DCC shall retry at least once within a period of 300 seconds. If the DCC is unable to deliver the DCC Alert to the User after 300 seconds from the first DCC attempt, then the DCC shall queue the DCC Alert on the failed queue for re-delivery once User connection is restored. The DCC shall raise a Service Management Event within the DCC Systems for resolution and periodically monitor the failed queues of DCC Alerts and release these to Users if and when the User connection is restored. The DCC shall hold failed DCC Alerts for 2 days for re-delivery. After this period the failure will be recorded within the DCC Systems as a Service Management Event.

Table 16 : Additional error scenarios for DCC Alerts

2.10.10 Anomaly Detection

The DCC shall utilise Threshold Anomaly Detection in order to safeguard the DCC and Users from potential threats and / or malicious behaviour. This operates at two levels, DCC wide and User specific.

The User specific detection is as defined within SEC G6 - Anomaly Detection Thresholds: obligations on the DCC and Users. The DCC shall monitor thresholds on the rate of receipt of messages from the User, in order to invoke warnings and quarantine procedures where the thresholds are breached.

The DCC shall inform Users of threshold breaches via an “out of band” process as defined within the Threshold Anomaly Detection Procedures (TADP). The DCC can release quarantined messages for onward delivery, or, if invalid, delete those messages from the DCC Systems as further defined in the TADP.

3 MESSAGES SENT OVER THE INTERFACE

3.1 Service Request Matrix

For each Service Request, this section sets out the following attributes:

- Service Request Name
- Service Reference
- Service Reference Variant
- whether the Service Request is Critical or Non-Critical
- modes of operation which vary how the Service Request or Signed Pre-Command will be executed.
- whether or not the Service Request is a Non-Device Service Request
- the User Roles eligible to submit the Service Request
- whether the Service Request is available as a SMETS1 Service Request

User Role Reference	User Role Description
IS	Import Supplier
ES	Export Supplier
GS	Gas Supplier
RSA	Registered Supplier Agent
ED	Electricity Distributor
GT	Gas Transporter
OU	Other User

Table 17 : User Roles

The following table (the "Service Request Matrix") sets out these attributes (i.e. the ones referred to above) for each Service Request. The description of Eligible User Roles is only a summary, as further qualifications concerning Eligible User Roles are set out in the DCC User Interface Services Schedule.

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Update Import Tariff (Primary Element)	1.1	1.1.1	Yes	Yes	Device	No	No	IS GS	Yes
Update Import Tariff (Secondary Element)	1.1	1.1.2	Yes	Yes	Device	No	No	IS	No
Update Price (Primary Element)	1.2	1.2.1	Yes	Yes	Device	No	No	IS GS	Yes
Update Price (Secondary Element)	1.2	1.2.2	Yes	Yes	Device	No	No	IS	No
Update Meter Balance	1.5	1.5	Yes	Yes	No	No	No	IS GS	Yes
Update Payment Mode	1.6	1.6	Yes	Yes	Device	No	No	IS GS	Yes
Reset Tariff Block Counter Matrix	1.7	1.7	Yes	Yes	No	No	No	IS	No
Update Prepay Configuration	2.1	2.1	Yes	Yes	Device	No	No	IS GS	Yes
Top Up Device	2.2	2.2	No	Yes	No	No	No	IS GS	Yes
Update Debt	2.3	2.3	Yes	Yes	No	No	No	IS GS	Yes
Activate Emergency Credit	2.5	2.5	Yes	Yes	No	No	No	IS GS	Yes
Display Message	3.1	3.1	No	Yes	DSP	No	No	IS GS	No
Restrict Access For Change Of Tenancy	3.2	3.2	No	Yes	DSP	No	No	IS GS	Yes
Clear Event Log	3.3	3.3	No	Yes	No	No	No	IS GS	Yes
Update Supplier Name	3.4	3.4	No	Yes	DSP	No	No	IS GS	No
Disable Privacy PIN	3.5	3.5	No	Yes	No	No	No	IS GS	No
Read Instantaneous Import Registers	4.1	4.1.1	No	Yes	DSP	No	No	IS GS ED GT	Yes

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Read Instantaneous Import TOU Matrices	4.1	4.1.2	No	Yes	DSP	No	No	IS GS ED GT	Yes
Read Instantaneous Import TOU With Blocks Matrices	4.1	4.1.3	No	Yes	DSP	No	No	IS ED	Yes
Read Instantaneous Import Block Counters	4.1	4.1.4	No	Yes	DSP	No	No	GS	Yes
Read Instantaneous Export Registers	4.2	4.2	No	Yes	DSP	No	No	ES ED	Yes
Read Instantaneous Prepay Values	4.3	4.3	No	Yes	DSP	No	No	IS GS	Yes
Retrieve Change Of Mode / Tariff Triggered Billing Data Log	4.4	4.4.2	No	Yes	DSP	No	No	IS GS	Yes
Retrieve Billing Calendar Triggered Billing Data Log	4.4	4.4.3	No	Yes	DSP	No	No	IS GS	Yes
Retrieve Billing Data Log (Payment Based Debt Payments)	4.4	4.4.4	No	Yes	DSP	No	No	GS IS	Yes
Retrieve Billing Data Log (Prepayment Credits)	4.4	4.4.5	No	Yes	DSP	No	No	GS IS	Yes
Retrieve Import Daily Read Log	4.6	4.6.1	No	Yes	DSP	Yes	No	IS GS	Yes
Retrieve Export Daily Read Log	4.6	4.6.2	No	Yes	DSP	Yes	No	ES	No
Read Active Import Profile Data	4.8	4.8.1	No	Yes	DSP	Yes	No	IS GS ED GT OU	Yes
Read Reactive Import Profile Data	4.8	4.8.2	No	Yes	DSP	Yes	No	IS ED OU	Yes

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Read Export Profile Data	4.8	4.8.3	No	Yes	DSP	Yes	No	ES ED OU	Yes
Read Network Data	4.10	4.10	No	Yes	DSP	Yes	No	IS GS ED GT	Yes
Read Tariff (Primary Element)	4.11	4.11.1	No	Yes	No	No	No	IS GS OU	Yes
Read Tariff (Secondary Element)	4.11	4.11.2	No	Yes	No	No	No	IS OU	No
Read Maximum Demand Import Registers	4.12	4.12.1	No	Yes	DSP	Yes	No	IS ED	No
Read Maximum Demand Export Registers	4.12	4.12.2	No	Yes	DSP	Yes	No	ES ED	No
Read Prepayment Configuration	4.13	4.13	No	Yes	DSP	No	No	IS GS	Yes
Read Prepayment Daily Read Log	4.14	4.14	No	Yes	DSP	Yes	No	IS GS	No
Read Load Limit Data	4.15	4.15	No	Yes	DSP	Yes	No	IS ED	Yes
Read Active Power Import	4.16	4.16	No	Yes	No	Yes	No	IS ED	Yes
Retrieve Daily Consumption Log	4.17	4.17	No	Yes	DSP	Yes	No	IS GS ED GT OU	No
Read Meter Balance	4.18	4.18	No	Yes	DSP	No	No	IS GS	Yes
Create Schedule	5.1	5.1	No	No	No	No	Yes	IS ES GS ED GT OU	Yes

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Read Schedule	5.2	5.2	No	No	No	No	Yes	IS ES GS ED GT OU	Yes
Delete Schedule	5.3	5.3	No	No	No	No	Yes	IS ES GS ED GT OU	Yes
Read Device Configuration (Voltage)	6.2	6.2.1	No	Yes	No	No	No	IS RSA ED	Yes
Read Device Configuration (Randomisation)	6.2	6.2.2	No	Yes	No	No	No	IS RSA ED	No
Read Device Configuration (Billing Calendar)	6.2	6.2.3	No	Yes	No	No	No	IS RSA GS	Yes
Read Device Configuration (Identity Exc MPxN)	6.2	6.2.4	No	Yes	No	No	No	IS ES GS RSA ED GT OU	Yes
Read Device Configuration (Instantaneous Power Thresholds)	6.2	6.2.5	No	Yes	No	No	No	IS RSA	Yes
Read Device Configuration (MPxN)	6.2	6.2.7	No	Yes	No	No	No	IS ES GS RSA ED GT OU	No
Read Device Configuration (Gas)	6.2	6.2.8	No	Yes	No	No	No	GS RSA GT	Yes

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Read Device Configuration (Payment Mode)	6.2	6.2.9	No	Yes	No	No	No	IS GS RSA	Yes
Read Device Configuration (Event and Alert Behaviours)	6.2	6.2.10	No	Yes	No	No	No	IS GS ED	No
Update Device Configuration (Load Limiting General Settings)	6.4	6.4.1	Yes	Yes	Device	No	No	IS	Yes
Update Device Configuration (Load Limiting Counter Reset)	6.4	6.4.2	No	Yes	DSP	No	No	IS	Yes
Update Device Configuration (Voltage)	6.5	6.5	No	Yes	DSP	No	No	ED	Yes
Update Device Configuration (Gas Conversion)	6.6	6.6	Yes	Yes	No	No	No	GS	Yes
Update Device Configuration (Gas Flow)	6.7	6.7	Yes	Yes	No	No	No	GS	Yes
Update Device Configuration (Billing Calendar)	6.8	6.8	Yes	Yes	No	No	No	IS GS	Yes
Synchronise Clock	6.11	6.11	Yes	Yes	No	No	No	IS GS	Yes
Update Device Configuration (Instantaneous Power Threshold)	6.12	6.12	No	Yes	DSP	No	No	IS	Yes
Read Event Or Security Log	6.13	6.13	No	Yes	No	No	No	IS GS ED GT RSA	Yes
Update Device Configuration (Auxiliary Load Control Description)	6.14	6.14.1	Yes	Yes	No	No	No	IS	No
Update Device Configuration (Auxiliary Load Control Scheduler)	6.14	6.14.2	Yes	Yes	Device	No	No	IS	No
Update Security Credentials (KRP)	6.15	6.15.1	Yes	Yes	Device	No	No	IS GS ED GT	Yes

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Update Security Credentials (Device)	6.15	6.15.2	Yes	Yes	No	No	No	IS GS	No
Issue Security Credentials	6.17	6.17	Yes	Yes	No	No	No	IS GS	No
Set Maximum Demand Configurable Time Period	6.18	6.18.1	No	Yes	DSP	No	No	ED	No
Reset Maximum Demand Registers	6.18	6.18.2	No	Yes	DSP	No	No	ED	No
Set Device Configuration (Import MPxN)	6.20	6.20.1	No	Yes	DSP	No	No	IS GS	No
Set Device Configuration (Export MPAN)	6.20	6.20.2	No	Yes	DSP	No	No	ES	No
Request Handover Of DCC Controlled Device	6.21	6.21	No	Yes	DSP	No	No	IS GS	Yes
Configure Alert Behaviour	6.22	6.22	No	Yes	No	No	No	IS GS ED	No
Update Security Credentials (CoS)	6.23	6.23	No	Yes	DSP & Device	No	No	IS GS	Yes
Retrieve Device Security Credentials (KRP)	6.24	6.24.1	No	Yes	No	No	No	IS GS ED GT	Yes
Retrieve Device Security Credentials (Device)	6.24	6.24.2	Yes	Yes	No	No	No	IS GS	No
Set Electricity Supply Tamper State	6.25	6.25	Yes	Yes	No	No	No	IS	Yes
Update Device Configuration (daily resetting of Tariff Block Counter Matrix)	6.26	6.26	Yes	Yes	No	No	No	IS	No
Update Device Configuration (RMS Voltage Counter Reset)	6.27	6.27	No	Yes	DSP	No	No	ED	Yes
Set CHF Sub GHz Configuration	6.28	6.28	No	Yes	No	No	No	IS GS	No
Request CHF Sub GHz Channel Scan	6.29	6.29	No	Yes	No	No	No	IS GS	No

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Read CHF Sub GHz Configuration	6.30	6.30	No	Yes	No	No	No	IS GS RSA	No
Read CHF Sub GHz Channel	6.31	6.31	No	Yes	No	No	No	IS GS RSA	No
Read CHF Sub GHz Channel Log	6.32	6.32	No	Yes	No	No	No	IS GS RSA	No
Enable Supply	7.1	7.1	Yes	Yes	No	No	No	IS	Yes
Disable Supply	7.2	7.2	Yes	Yes	No	No	No	IS GS	Yes
Arm Supply	7.3	7.3	Yes	Yes	No	No	No	IS GS	Yes
Read Supply Status	7.4	7.4	No	Yes	No	No	No	IS ES GS RSA ED GT	Yes
Activate Auxiliary Load	7.5	7.5	Yes	Yes	No	No	No	IS	No
Deactivate Auxiliary Load	7.6	7.6	Yes	Yes	No	No	No	IS	No
Read Auxiliary Load Switch Data	7.7	7.7	No	Yes	DSP	No	No	IS OU	No
Reset Auxiliary Load	7.8	7.8	Yes	Yes	No	No	No	IS	No
Add Auxiliary Load To Boost Button	7.9	7.9	No	Yes	DSP	No	No	IS	No
Remove Auxiliary Load From Boost Button	7.10	7.10	No	Yes	DSP	No	No	IS	No
Read Boost Button Details	7.11	7.11	No	Yes	DSP	No	No	IS OU	No
Set Randomised Offset Limit	7.12	7.12	Yes	Yes	No	No	No	IS	No
Commission Device	8.1	8.1.1	Yes	Yes	No	No	No	IS GS	Yes

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Read Inventory (*Current and Future Suppliers may use this Service Request*)	8.2	8.2	No	No	No	No	Yes	IS ES GS RSA ED GT OU	Yes
Decommission Device	8.3	8.3	No	No	No	No	Yes	IS GS	Yes
Update Inventory	8.4	8.4	No	No	No	No	Yes	IS ES GS RSA ED GT OU	Yes
Service Opt Out	8.5	8.5	No	No	DSP	No	No	None	No
Service Opt In	8.6	8.6	No	No	No	No	Yes	None	No
Join Service (Critical)	8.7	8.7.1	Yes	Yes	No	No	No	IS GS	Yes
Join Service (Non-Critical)	8.7	8.7.2	No	Yes	No	No	No	IS GS OU	Yes
Unjoin Service (Critical)	8.8	8.8.1	Yes	Yes	No	No	No	IS GS	Yes
Unjoin Service (Non-Critical)	8.8	8.8.2	No	Yes	No	No	No	IS GS OU	Yes
Read Device Log	8.9	8.9	No	Yes	DSP	No	No	IS GS OU	Yes
Update HAN Device Log	8.11	8.11	No	Yes	DSP	No	No	IS GS OU	Yes
Restore HAN Device Log	8.12	8.12.1	No	Yes	No	No	No	IS GS	No
Restore Gas Proxy Function Device Log	8.12	8.12.2	No	Yes	No	No	No	IS GS	No

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Return Local Command Response	8.13	8.13	No	No	No	No	Yes	IS GS	No
Communications Hub Status Update- Install Success	8.14	8.14.1	No	No	No	No	Yes	IS GS	No
Communications Hub Status Update - Install No SM WAN	8.14	8.14.2	No	No	No	No	Yes	IS GS	No
Communications Hub Status Update. – Fault Return	8.14	8.14.3	No	No	No	No	Yes	IS GS	No
Communications Hub Status Update – No Fault Return	8.14	8.14.4	No	No	No	No	Yes	IS GS	No
Request Customer Identification Number	9.1	9.1	No	Yes	No	No	No	OU	No
Update Firmware	11.1	11.1	No	No	No	No	Yes	IS GS	Yes
Read Firmware Version	11.2	11.2	No	Yes	DSP	No	No	IS ES GS RSA ED GT OU	Yes
Activate Firmware	11.3	11.3	Yes	Yes	Device	No	No	IS GS	Yes
Request WAN Matrix	12.1	12.1	No	No	No	No	Yes	IS ES GS RSA ED GT OU	No

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Available in relation to SMETS1 Devices
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Device Pre-notification	12.2	12.2	No	No	No	No	Yes	IS ES GS RSA ED GT OU	Yes
Record Network Data (GAS)	14.1	14.1	No	Yes	No	Yes	No	GT	No

Table 18 : Service Request Matrix

3.2 Access Control

The DCC shall perform five stages of access control, where each stage may contain several steps, for all Service Requests and Signed Pre-Commands. These are executed in five stages as per the following table:

Stage	Description
Communications Authentication	Has the User established a secure communications channel with the DCC, using a valid Party TLS certificate issued by the DCC Key Infrastructure (DCCKI)?
XSD Validation	Is the Request consistent with the DUIS XML Schema?
Request Authentication	Has the Service Request or Signed Pre-Command been signed with a User Role Signing Private Key issued under the Smart Metering Key Infrastructure (SMKI)?
Request Authorisation	Is the User organisation a valid SEC party with active status? If so, does the User Role specified have access rights to perform the Service Request or Signed Pre-Command for the specified Device?
Data Validation	Is the Service Request or Signed Pre-Command valid and complete?

Table 19 : Access control stages

The DCC shall only further process Service Requests and Signed Pre-Commands where all five stages are passed.

Where a Service Request or Signed Pre-Command fails to satisfy access control at any of the stages above, the DCC shall send a Service Response to the User with an appropriate Response Code or HTTP Response Code.

Each User shall ensure that all Service Requests and Signed Pre-Commands have been validated against the DUIS XSD Schema prior to sending the Request to the DCC

DCC shall apply “Request Authorisation” and “Data Validation” stages for a second time in the following instances:

a) immediately prior to sending a Command associated with a “DCC Scheduled” Service Request and;
b) immediately prior to sending a Command associated with a CoS Update Security Credentials Service Request.

This is to ensure that the Service Request or Signed Pre-Command is still valid at the point of execution.

3.2.1 Communications Authentication

All communications over the User Interface between Users and the DCC shall be via a logical communications connection established in accordance with clause 2.2.

If the DCC is unable to authenticate the session (i.e. the DCC cannot verify the session is with a known / trusted User), then an Access Denied message shall be returned by DCC to

the User. This message shall be in the format of a standard TLS level authentication response as defined by the TLS definition. This is not a Service Response XML format response.

3.2.2 Validation

The DCC shall validate all Service Requests and Signed Pre-Commands sent to the DCC User Interface against the DUIS XML Schema. If validation fails, an HTTP Response Code 400 (only) shall be returned to the User by the DCC. The User shall not receive an XML format Service Response from the DCC.

The DCC shall perform validation checks as detailed below:

Validation Check	Process
Validate the Service Reference Variant	A check that the Service Reference Variant corresponds to a Service Request defined in clause 3.1 - Service Request Matrix
Validate Service Request format	A check that the format of the Service Request conforms to the structure defined by DCC for that Service Reference Variant in clauses 3.4 and 3.8 below.
Validate Service Request syntax	A check that the Service Request structure is syntactically correct with respect to the DUIS XML Schema
Validate Service Request's data items	A check that all the data items in the Service Request conform to the DUIS XML Schema definition (the "XSD")

Table 20 : Validation checks on Service Requests and Signed Pre-Commands

3.2.3 Message Authentication

The DCC shall Check Cryptographic Protection of all Requests through the validation of a Digital Signature contained within the Request. This Digital Signature is that generated using the Private Key associated with the relevant Organisation Certificate for the User submitting the Request.

Requests that fail the Check Cryptographic Protection validation shall not be further processed by the DCC. Where a Request fails to authenticate, DCC shall send a Response Code of E100 in the relevant Service Response or Acknowledgement informing the User of the failure of that Request.

The DCC shall perform authentication checks as detailed below:

Message Authentication Check	Process
Validate the User Certificate	The SMKI Organisation Certificate specified in the KeyInfo in the Service Request or Signed Pre-Command is verified to assess whether the User is an eligible User in relation to that Service Request or associated Signed Pre-Command Check Steps: 1. Check that the User ID in the "Business Originator ID" data item is that of a User that DCC has been notified, in accordance with the DCC User Interface Code of Connection, is permitted to send Requests to DCC over the DCC Gateway Connection over which the Transport Layer Security (TLS) connection has been established. 2. Use the KeyInfo to identify the relevant User's Digital Signing Organisation Certificate and check that it matches the Digital Signing Organisation Certificate which contains the Business Originator ID. 3. Use the User's Organisation Certificate to Check Cryptographic Protection for the Request. Confirm Validity of the Certificate used to Check Cryptographic Protection for the Request. Note this includes checking the Certificate Revocation List to verify that no certificates in the Chain of Trust have expired or been revoked

Table 21 : Validation checks on Service Requests and Signed Pre-Commands

To support overlapping certificates for a period of time during a certificate transition when approaching certificate expiry (or non-emergency certificate revocation) the XML Digital Signature element KeyInfo must be included in the digital signature and it must define the certificate used to sign the request using a single X509IssuerSerial element (in a single X509Data element).

3.2.4 Authorisation

The DCC shall verify that the User has permission to send the Service Request or Pre-Command as per the following steps and where authorisation checks are failed the following Response Code shall be added by the DCC to the Service Response that is sent to the sending User;

Authorisation Check	Process	Response Code
Validate the User Role	The sending organisation (User) as determined from the Business Originator ID and their associated User Role are checked to confirm it is a valid SEC party / User Role combination	E1
Verify that the User Role is allowed to use the Service Request or Signed Pre-Command	This is a User Role based check for the mapping between Service Requests and User Roles (see clause 3.1 - Service Request Matrix) i.e. that the User Role is that of a User within an Eligible User Role for that Request.	E2
Verify the status of the User	This is a status based check to find out if the User is suspended (not allowed to run that Service Request or Signed Pre-Command) at the time when the Service Request or Signed Pre-Command is received	E3

Authorisation Check	Process	Response Code
Verify that the User, in the User Role defined in the Service Request is an Eligible User for the Device	This check is based on the Registration Data associated with the Device via MPxN lookup. Check that the User is an Eligible User in respect for that Device for the period that the Service Request pertains to. The checks for eligibility are as follows : • Confirm (using the Registration Data) that the User ID used to send the Request is that of a User that is an Eligible User for the Request. • Authorisation is performed using the Device specified in the BusinessTargetID except for Non-Device Service Requests, where the BusinessTargetID is specified in the Service Request itself. Note that this check is not applied for Critical Service Requests or Critical Signed Pre-Commands or for a limited number of specific Service Requests as documented in the Service Request Processing Document and stated explicitly within each Service Request definition in clause 3.8. Requests from a User that had ceased to be a registered Party more than 24 months ago will be rejected by the DCC Systems.	E4
Verify that the Service Request or Signed Pre-Command is applicable to the Device status	This is a check to confirm that the target Device has a status within the Smart Metering Inventory that enables the User to send it the particular Service Request or Signed Pre-Command This check is not applicable to Service Requests 8.2 (Read Inventory) and 12.1 (Request WAN Matrix) or to Critical Service Requests or Signed Pre-Commands. With the exception that it is applied for Signed Pre-Commands when the Device Status is 'Recovery'. Devices can only be communicated with in response to a Request if they are in a status of 'Commissioned', 'InstalledNotCommissioned', 'Whitelisted', 'Pending' or 'Recovered' in the Smart Metering Inventory. The DCC shall, where the Device has a Smart Metering Inventory (SMI) Status of 'Suspended' prevent any Non-Critical Service Requests from being processed with the exception of, Service Requests 11.1 (Update Firmware) and 6.23 (Update Security Credentials (CoS)). The DCC shall, where a Device has a Smart Metering Inventory (SMI) Status of 'Recovery' prevent any Service Requests relating to that Device from being processed with the exception of Non-Device Service Requests (subject to their specific validation).Note that where a Device has an SMI Status of 'Recovered' the Device's SMI Status immediately prior to it having the SMI Status of 'Recovery' shall be used in validation.	E5

Authorisation Check	Process	Response Code
Verify that the Service Request or Signed Pre-Command is available for Local Command Services	This is a check to confirm that a Service Request or Signed Pre-Command is available to Users for local delivery to a Device using Local Command Services including additional reference to the requesting User Role and SMI Status combination. A Service Request or Signed Pre-Command is not available to Users for local delivery using Local Command Services where the Service Request or Signed Pre-Command is one of the following; • A Service Reference Variant of 8.1.1 – Commission Device • A Future Dated Service as defined by clause 2.6.3 In addition, a Service Request or Signed Pre-Command can only be delivered locally in the following combinations of requesting User Role and SMI Status of the target Device: • Where the User Role of the sender is either IS, ES or GS, the target Device within the request must have an SMI Status of either "Pending", "Whitelisted", "InstalledNotCommissioned" or "Commissioned". • Where the User Role of the sender is either ED, GT, RSA or OU, the target Device within the request must have an SMI Status of either "InstalledNotCommissioned" or "Commissioned". Note that where a Device has an SMI Status of 'Recovered' the Device's SMI Status immediately prior to it having the SMI Status of 'Recovery' shall be used in validation.	E17
Verify that the Device exists	This is a check to confirm that the target Device within the Service Request or Signed Pre-Command exists Note that this check is only applicable to Service Requests and Signed Pre-Commands that are addressed to a specified Device. For Non-Device Service Requests this Response Code (E19) shall be returned if the BusinessTargetID is not the DCC Access Control Broker ID.	E19

Table 22 : Authorisation checks

If any of these checks fails at the point the Service Request or Signed Pre-Command is received by the DCC Systems or prior to execution for DCC Scheduled Services, the Service Request or Signed Pre-Command is rejected, no further checks are carried out and a Service Response is generated with the appropriate Response Code to inform the User of the issue identified. See clause 3.5.10 for Response Code details.

3.2.5 Data Validation

The DCC shall perform data validation on all Service Requests and Signed Pre-Commands. The table below describes the data validation checks to be applied and where data validation checks are failed the table below describes the Response Code that shall be added by the DCC to the Service Response that is sent to the sending User:

Validation Check	Process	Response Code
Verify the Service Request or Signed Pre-Command is applicable to the Device type and, for Electricity Smart Meter, its SMETS Meter Variant.	Check that the Service Request or Signed Pre-Command content is applicable to the Device type and, for an Electricity Smart Meter, its SMETS Meter Variant. Note that this check is only applicable to Service Requests and Signed Pre-Commands that are addressed to a specified Device. Note that validation is only applied to the XML data within the Service Request or Signed Pre-Command. There is no validation of the format of the GB Companion Specification Payload held within a Signed Pre-Command or Service Request. This check is not applicable to Non-Device Service Requests except for Service Reference Variant 5.1 (Create Schedule) where it is applied to the Service Reference Variant(s) to be included in the schedule.	E11
Verify that the Service Request or Signed Pre-Command's Command Variant is valid.	Check that the Command Variant (see clause 3.1 - Service Request Matrix) is applicable to the Service Request or Signed Pre-Command.	E12
Verify that the Service Request or Signed Pre-Command is valid for the Web Service called.	Check that the Service Request or Signed Pre-Command has been sent to the correct Web Service. See clause 2.4 - Web Services	E13
Verify that the first request in a sequence is valid	Check that if the Service Request or Signed Pre-Command includes the FirstInSequence flag set to true, it doesn't also include a PrecedingRequestID	E40
Verify that the sequenced Service Request or Signed Pre-Command's PrecedingRequestID is not the PrecedingRequestID of another Service Request or Signed Pre-Command previously received and accepted by the DCC	Check that the sequenced Service Request or Signed Pre-Command's PrecedingRequestID is not the PrecedingRequestID in another Service Request or Signed Pre-Command	E41
Verify that the sequence does not contain a circular reference	Check that there are no circular references in the sequence, i.e. a Service Request or Signed Pre-Command's • PrecedingRequestID is not its own RequestID • RequestID is not the PrecedingRequestID of a preceding Service Request or Signed Pre-Command in the sequence. .	E42
Verify that any preceding sequenced Service Requests or Signed Pre-Command's referenced in the Service Request or Signed Pre-Commands being validated have been Response Codes indicating successful completion of the request.	Check the Response Codes associated with any preceding sequenced Service Request or Signed Pre-Command as specified within the request being validated to ensure that the Response Codes indicate successful completion of the request. Note this may involve an intentional delay in waiting for a future dated Command on the Device.	E43

Validation Check	Process	Response Code
Verify that all the Responses from the preceding sequenced Service Requests and Signed Pre-Commands have been received	Check that all of a sequenced Request's preceding Responses in the sequence have been received during their "Wait Period" (see clause 2.6.4 – Sequenced Services)	E44
Is the sequenced Service Request or Signed Pre-Command's Command Variant valid	Check that the Command Variant is applicable to the sequenced Service Request or Signed Pre-Command (see clause 2.6.4 – Sequenced Services).	E45
Verify that a sequenced Service Request or Signed Pre-Command has not been received after the Last in Sequence has been determined	Check that the Service Request or Signed Pre-Command does not sequentially follow a Service Request or Signed Pre-Command that has been determined to be the Last In Sequence (see clause 2.6.4 – Sequenced Services). Note that validation takes into account out of order sequenced Requests rules (see clause 2.6.4 – Sequenced Services and DCC Alert N15 under 3.6.3.4 - DCC Alert Codes) and it will only fail if the "Wait Period" for the preceding Service Request or Signed Pre-Commands has elapsed.	E46
Verify that all of the sequenced Service Request or Signed Pre-Command's preceding Request Responses have been received and executed successfully.	Check that the Service Request or Signed Pre-Command has not been received after the sequence has failed due to a missing Response for an On Demand Command earlier in the sequence.	E47
Verify that the ServiceReference / ServiceReferenceVariant combination is valid	Check that the combination of Service Reference and Service Reference Variant is correct, i.e. it aligns to clause 3.1 – Service Request Matrix.	E48
Verify that the format is correct for the Service Request or Signed Pre-Command.	Check that the Service Request or Signed Pre-Command matches the Request format corresponding to the Service Reference Variant in the message header. Note that validation is only applied to the XML data within the Service Request or Signed Pre-Command. There is no validation of the format of the GB Companion Specification Command held within a Signed Pre-Command This check is in addition to the XML format checks defined in clause 3.2.2. Very few Service Responses are expected with this code as the majority will be identified and reported as per clause 3.2.2.	E49
Verify that a Command for Local Delivery has been returned	Check that a Command for Local Delivery has been returned (the Service Request has not been quarantined)	E50
Verify the Signed Pre-Command GB Companion Specification message code is correct	Check that the message code contained within the Command is consistent with the Signed Pre-Command which corresponds to the Service Reference Variant in the message header. Note that this validation is only applicable to a GBCS Format Command (held within a Signed Pre-Command).	E51
Verify that the Request to cancel a Future Dated (DSP) Service Request is valid	Check that if the Service Request is the cancellation of a Service Request Future Dated (DSP), the corresponding Service Request can be found and the associated Command hasn't yet been submitted to the Device	E52

Validation Check	Process	Response Code
Verify that the sequenced Future Dated (DSP) Request is valid	Check that if the Service Request is Future Dated (DSP) and it is part of a sequence, that it is the first Service Request in the sequence	E53
Verify that the sequenced Gas Service Request is valid	Check that the Response to the sequenced Service Request cannot return encrypted gas data.	E54
Verify that the Request ID is not a duplicate?	Check that the Request ID is not the duplicate of another Request being processed by the DCC Systems	E55
Verify that the Service Request is still supported by the DCC Systems	Check that the requested Service Request is still supported by the DCC Systems. This error shall only occur if a Service Request which exists in an older version of the DUIS schema can no longer be accepted by the DCC Systems on that version of the DCC User Interface. Please note this check is not applicable to this version of DUIS.	E56
Verify that the Request is applicable to the target Device's Device Model according to the Device Model recorded in the Smart Metering Inventory for that Device and the version of GBCS that pertains to the entry for that Device Model in the Central Products List	Check that the Request is applicable to the target Device's Device Model according to the Device Model recorded in the Smart Metering Inventory for that Device and the version of GBCS that pertains to the entry for that Device Model in the Central Products List Note that this check is applicable to Service Requests and Signed Pre-Commands that are addressed to a specified Device. Note that validation is only applied to the XML data within the Service Request or Signed Pre-Command. There is no validation of the format of the GB Companion Specification Payload held within a Signed Pre-Command or Service Request. This check is not applicable to Non-Device Service Requests except for Service Reference Variant 5.1 (Create Schedule) where it is applied to the Service Requests to be included in the schedule	E57

Table 23 : Validation checks on Service Requests and Signed Pre-Commands Key Cryptographic Operations

3.3 Key Cryptographic Operations

The following cryptographic operations protect all DUIS XML format messages that are sent and received by Users across the DCC User Interface and are in addition to those specified within the GB Companion Specification which are used to Digitally Sign Commands.

The DCC and each User shall Digitally Sign all DUIS XML format messages using the following method for each of the DUIS signing activities listed below. All these DUIS signing activities shall be performed using the Elliptic Curve Digital Signature Algorithm (ECDSA) on the P-256 curve, with the corresponding public keys being certified under the auspices of the Smart Meter Key Infrastructure (SMKI).

Each DUIS XML format message shall be signed with a Digital Signature (XMLDSig). There are a number of parameters that are required as part of the algorithm, these parameters define

the transform, canonicalization, signing, and digest algorithms to be used, as well as the XML node which is signed. Note that the Reference URI is defined as "", which indicates that signature applies from the root of the document.

Parameter	Value
Reference URI	“”
Transform Algorithm	http://www.w3.org/2000/09/xmldsig#enveloped-signature
CanonicalizationMethod Algorithm	http://www.w3.org/2001/10/xml-exc-c14n
SignatureMethod Algorithm	http://www.w3.org/2001/04/xmldsig-more#ecdsa-sha256
DigestMethod Algorithm	http://www.w3.org/2001/04/xmlenc#sha256

3.3.1 DUIS XML Service Request Signing

The User shall Digitally Sign every XML format Service Request and Signed Pre-Command sent to the DCC using a User Role Signing Private Key. This must be a separate dedicated Key that shall not be used for communication with Devices (i.e. different to that used to sign the GBCS Payload held within Signed Pre-Commands). A separate User Role Signing Private Key must be used per User Id in use for each User.”

Each User shall notify the DCC of the Organisation Certificate corresponding to each User Role Signing Private Key that they wish to use for Digitally Signing communications to the DCC in accordance with the paragraph above.

3.3.2 Transform Service Response Signature Validation

The DCC shall Digitally Sign all XML format Service Responses containing Pre-Commands sent to Users using a DCC Transform Private Key. This must be a separate dedicated key that shall not be used for communication with Devices.

The DCC shall notify Users of the Organisation Certificate used for Digitally Signing communications to Users in accordance with the above paragraph.

The User shall verify the Digital Signature of Pre-Commands sent by the DCC (this includes Certificate status checking and the Confirm Validity check of the Public Key Certificate of the DCC Transform Service).

3.3.3 DCC Signed Service Responses

The DCC shall Digitally Sign the following XML format Service Responses sent to Users, using a DCC Access Control Broker Private Key. This will be a separate dedicated key that shall not be used for communication with Devices.

- DCC Alert messages originating from the DCC;
- Service Responses to Non-Device Service Requests that return data within the body of the Response;

- Service Responses returning a Command for Local Delivery;
- Service Responses containing Responses to Commands created by a DCC Schedule; and
- Service Responses containing Responses to DCC issued Commands on behalf of an Unknown Remote Party. Also applicable to Service Requests 6.21 (Request Handover Of DCC Controlled Device), 6.23 (Update Security Credentials (CoS)), 6.24.1 (Retrieve Device Security Credentials (KRP)), 8.5 (Service Opt Out), 8.9 (Read Device Log) where the Target Device Type is HCALCS and 8.12.2 (Restore GPF Device Log)

The DCC shall notify Users of the Organisation Certificate used for Digitally Signing communications to Users in accordance with the above paragraph.

The User shall verify the Digital Signature of DCC Signed Service Responses (this includes Certificate status checking and the Confirm Validity check of the Public Key Certificate of the DCC Access Control Broker).

3.4 Requests

This section defines the formats for Service Requests and Signed Pre-Commands and the Common Objects (i.e. header data items, data types) contained within them.

The Request Types described in this section are as follows:

- Device Requests (Critical)
- Device Requests (Non Critical)
- Non-Device Requests
- Signed Pre-Commands

The more detailed data attributes associated with each Service Request are contained within clause - 3.8.

Users shall construct Service Request and Signed Pre-Commands in accordance with the description within this section (general requirements) and 3.8 (request specific requirements).

The DCC shall respond to all Service Requests and Signed Pre-Commands from Users synchronously. All other responses (solicited and unsolicited) are returned asynchronously.

3.4.1 Request Format

A User wishing to send a Service Request or Signed Pre-Command shall construct the Service Request or Signed Pre-Command and send it to the DCC in accordance with the rules in this interface specification.

The Service Request or Signed Pre-Command format is defined in the Request XML element of the DUIS XML Schema.

The diagram below illustrates the structure of a Service Request or Signed Pre-Command.

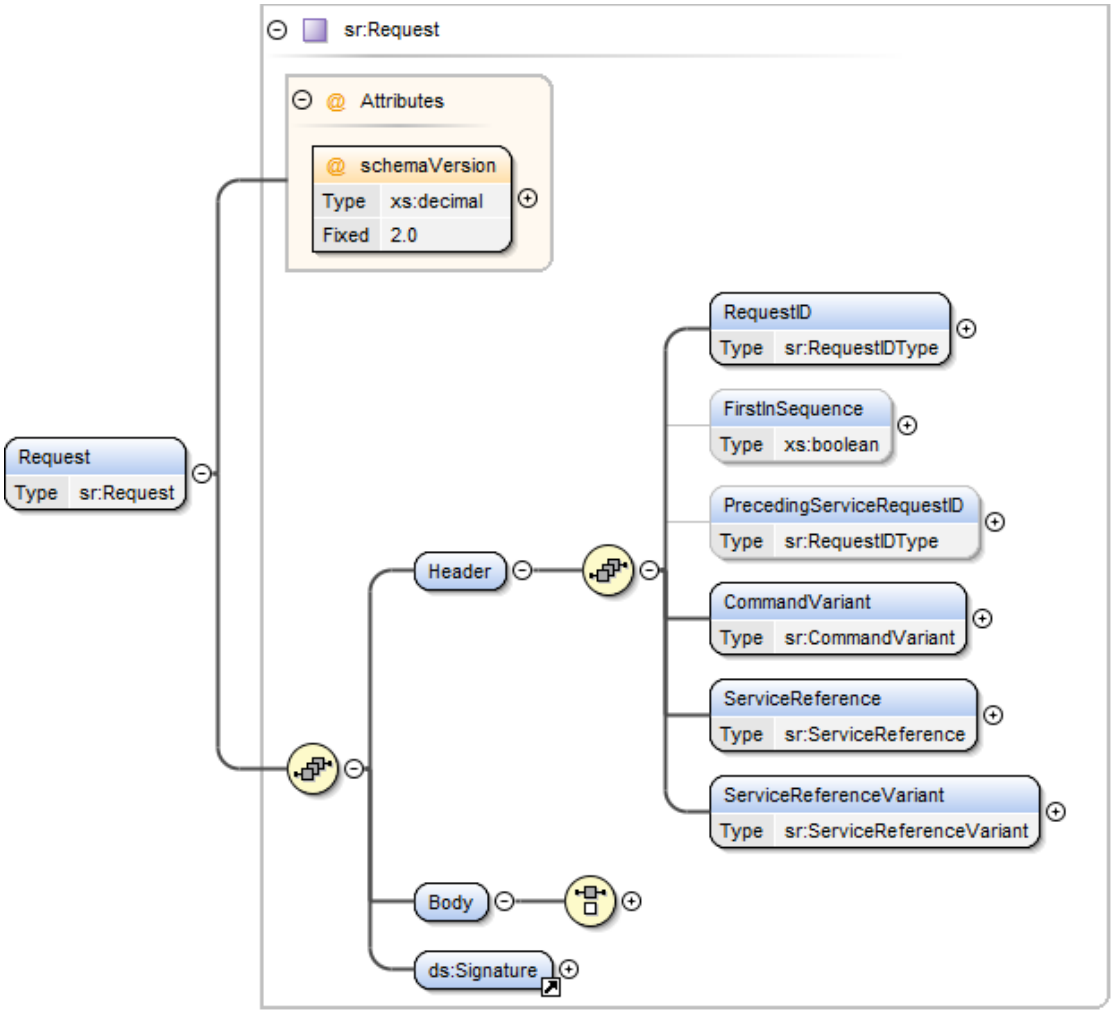

Figure 4 : Overall structure of the Request

A Service Request or Signed Pre-Command is a sequence of the following mandated parts:

- A “Header” - This must contain the Common Objects defined in clause 3.4.1.1 - Header Format
- A “Body” – This must contain a choice of Service Request as defined in clause 3.4.1.2 - Service Request Body Format or Signed-Pre-Command as defined in clause 3.4.4 - Signed Pre-Commands.
- A Digital Signature (defined in clause 3.4.1.4 - Digital Signature) - See in XMLDSIG XSD for details on the signature schema and clause 3.3. It contains the User Digital Signature of the XML format message (i.e. the “Header” and “Body”).

3.4.1.1 Header Format

A User shall construct all Service Requests and Signed Pre-Commands that are sent to the DCC with a header containing the data items corresponding to each of the Common Objects associated with the Service Request or Signed Pre-Command. These data items are not repeated in each Service Request Definition in clause 3.8 .

In addition to the table referenced below, the Common Objects are further defined with the DUIS XML Schema.

The data items contained within the Common Objects for a Service Request or Signed Pre-Command are as detailed below and are shown in the required order :

Data Item	Description	Type	Mandatory	Valid Values
RequestID	Concatenation of BusinessOriginatorID BusinessTargetID and OriginatorCounter separated by ":", where those terms are as defined in GBCS.	sr:RequestIDType See 3.10.1.1	Yes	The BusinessOriginatorID and BusinessTargetID are EUI-64 values (type sr:EUI) The OriginatorCounter is an integer in the range 0 to 18,446,744,073,709,551,615.
FirstInSequence	Flag to indicate that a Request is the first in a sequence. • Yes = true • No = false	xs:boolean	No The User shall add to the first Request in a sequence when using sequencing functionality	Valid set: • true • false
PrecedingServiceRequestID	The unique identifier (RequestID) of a preceding request when this particular request is intended to be executed specifically after the preceding request	sr:RequestIDType See 3.10.1.1	No The User shall add to a Request in a sequence (other the first) when using sequencing functionality	Valid RequestID
CommandVariant	Value to indicate to the DCC Systems if a Request has to be: • transformed to a GBCS Format Command • or sent as a Command via the SM WAN, returned to the User to be locally applied or both • or executed by DCC	sr:CommandVariant See 3.10.1.4	Yes	See 2.6.1

Data Item	Description	Type	Mandatory	Valid Values
ServiceReference	Identifier that signals the particular Request to DCC (and is driven from the User's selection of Request)	sr:ServiceReference See 3.10.1.5	Yes	See 3.8
ServiceReference Variant	Identifier that signals the particular Request Variant to DCC (and is driven from the User's selection of Request)	sr:ServiceReferenceVariant See 3.10.1.6	Yes	See 3.8

Table 24 : Service Request & Signed Pre-Command header Common Objects

The values for each of the data attributes defined above may differ for each Service Request or Signed Pre-Command and are set by reference to the User's wishes and in relation to the specific Service Request or Signed Pre-Command being constructed.

3.4.1.2 Service Request Body Format

The User shall construct the body of each Service Request in accordance with the DUIS XML Schema using the data items applicable to each Service Request as set out in 3.8.

The Service Request Body shall include one of the variants of Service Request as listed in clause 3.1 - Service Request Matrix. This list can be sub-divided as follows:

- "Device" Service Requests. For the full list please see clause 3.1 Service Request Matrix where "Non-Device Request" column is set to "No".
- "Non-Device" Service Requests. For the full list please see clause 3.1 Service Request Matrix where "Non-Device Request" column is set to "Yes".

3.4.1.3 Signed Pre-Command Body Format

The User shall construct the body of a Signed Pre-Command in accordance with the DUIS XML Schema using the data items applicable to a Signed Pre-Command as set out in clause 3.4.5 - Signed Pre-Commands.

3.4.1.4 Digital Signature

The User shall, when constructing a Service Request or Signed Pre-Command, include a Digital Signature in the request as follows:

Data Item	Description	Type	Mandatory	Valid Values
ds:Signature	User's SMKI Organisational Certificate Digital Signature Using Private Key associated with the User Role under which the Service Request is being requested. A full definition is shown in XMLDSIG.	ds:signature See XMLDSIG XSD	Yes	See XMLDSIG XSD

Table 25 : Digital signature

3.4.2 "Device" Service Requests

The User shall, where the BusinessTargetID is a Device ID, construct Requests in accordance with the "Device" format. For Critical Service Requests, this includes the "Transform" Command Variant.

Device Service Requests can be found in clause 3.1 - Service Request Matrix, where the "Non-Device Request" column is set to "No". The User shall refer to the specific Service Request Definition in clause 3.8 for details of the specific data required for the Request. The User shall construct requests in accordance with the Service Request definition.

3.4.3 Non-Device Service Requests

The User shall, where the BusinessTargetID is the DCC ID in the DCC Access Control Broker Digital Signing Certificate, construct requests in accordance with the "Non-Device" format.

Non-Device Service Requests can be found in clause 3.1 - Service Request Matrix, where the "Non-Device Request" column is set to "Yes". The User shall refer to the specific Service Request Definition in clause 3.8 for details of the specific data required for the request. The User shall construct requests in accordance with the Service Request Definition.

3.4.4 Service Requests received from an Unknown Remote Party (URP)

Where a User is an Unknown Remote Party (URP) (as defined by GBCS) to a Device that they wish to send a Service Request to, the DCC shall (via the Transform process) create the associated Command to the Device on behalf of the User, applying a Message Authentication Code using the DCC Access Control Broker security credentials. The RequestID of the Command created by the DCC shall be different to that of the original Service Request received by the DCC.

The BusinessOriginatorID and OriginatorCounter from within the RequestID contained within the DUIS XML format message shall be replaced with those used by the DCC Access Control Broker required to enable communication with the Device and the original values provided by the User are transferred to the otherInformation field within the Command's GroupingHeader as defined by GBCS (added to Supplementary Remote Party ID and Supplementary Remote Party Counter respectively). The BusinessTargetID remains unchanged.

Where the response to a Service Request of this type requires encryption within the Service Response, the User is required to include an additional data item (KAPublicSecurityCredentials) within the body of the Service Request as defined within the Service Request Definitions in clause 3.8. This data item is passed through the DCC transform component of the DCC Systems and the output included in the otherInformation field within the associated Commands GroupingHeader as defined by GBCS (added to Supplementary Remote Party Key Agreement Certificate).

3.4.5 Signed Pre-Commands

The DCC shall transform Critical Service Requests into Pre-Commands and return to the User (See clause 3.5.4 Response to Transform Request – PreCommand Format for details). The User shall Digitally Sign both the GBCS Payload of the Pre-Command and the associated XML message before submission to the DCC as a Signed Pre-Command as described below.

A User shall construct a Signed Pre-Command for all services defined as Critical in clause 3.1 - Service Request Matrix, and send it to the DCC in accordance with the rules in this document.

When constructing a Signed Pre-Command for sending to the DCC, each User shall choose the Command Variant data item value to include within the Signed Pre-Command Common Object. This value shall be set by the User depending on the way that the User requires the DCC to process the Signed Pre-Command.

In line with the definition in clause 3.4.1.1- Header Format, the User has the choice of one of three Command Variant values for any Signed Pre-Command. These values are always ‘5’, ‘6’ or ‘7’ for each Signed Pre Command being sent to the DCC, with the exception of the Service Reference Variant 8.1.1 - Commission Device which is only available with a Command Variant value of ‘5’ .

The User shall include a GB Companion Specification record containing the Service Request in GBCS Format in the body of the request, plus the execution date and time (for future dated requests).

Data Item	Description	Type	Mandatory	Valid Values
GBCSPayload	See GB Companion Specification for Details. The GBCS Payload is itself Digitally Signed by the User. GBCSPayload is a binary object which has been Base64 encoded. The binary object is constructed as per GBCS.	xs:base64Binary	Yes	See GBCS
ExecutionDateTime	For future dated Requests, the UTC date and time the User requires the Command to be executed on the DeviceID Valid set ; • Date-time in the future that is either <= current date + 30 days or the date = ‘3000-12-31T00:00:00Z’	xs:dateTime	future dated requests: Yes Otherwise: N/A	See description

Table 26 : Signed Pre-Command data items

The diagram below illustrates the structure of a Signed Pre-Command.

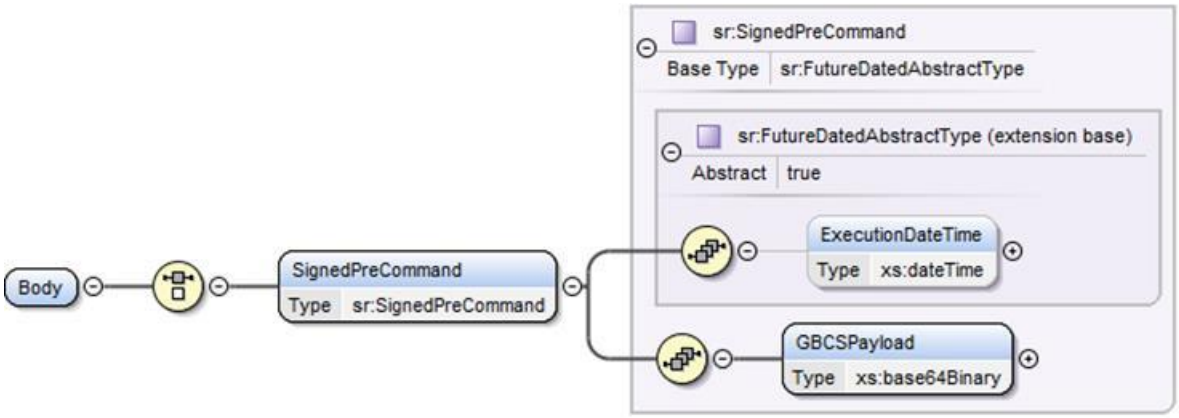

Figure 5 : Overall structure of the Signed Pre-Command

3.5 Responses

This section defines the Service Response formats and the Common Objects (i.e. data types, Service Response common data items).

The DCC shall deliver Responses in accordance with the table below:

Type of Response	Response Delivery Pattern
Acknowledgement to a Request	Synchronous
Response to a Non-Device Service Request	Synchronous
Response to Transform Request – PreCommand Format	Synchronous
Response to a Command for Local Delivery Request – LocalCommand Format	Synchronous / Asynchronous
Service Response (from Device) – GBCSPayload Format	Asynchronous
Service Response (from Device) - CINMessage Format	Asynchronous
Service Response (from Device) - DSPScheduledMessage Format	Asynchronous
Service Response (from Device) - FutureDatedDeviceAlertMessage Format	Asynchronous

Table 27 : Response delivery patterns

The more detailed data attributes associated with each Service Response are contained either later in this section or within the Message Mapping Catalogue.

3.5.1 Service Response format

The DCC shall, for each Service Request or Signed Pre-Command received from Users, construct a corresponding Service Response which will be returned to the User who made the Request. The Service Response format is defined in the Response XML element of the DUIS XML Schema.

The DCC shall return with the Service Response, an XML format message identifying (where applicable) the original Service Request, the Device, the User and the data (XML or GBCS Format) and / or Response Code for the Request.

The DCC Systems shall send a Service Response to the User whose BusinessTargetID is specified in a Response. Where the BusinessTargetID is the DCC Access Control Broker acting on behalf of an unknown remote party the DCC Systems send the Service Response to the User that made the original Request. There is no checking against Registration Data to determine response routing.

The diagram below illustrates the structure of a Service Response.

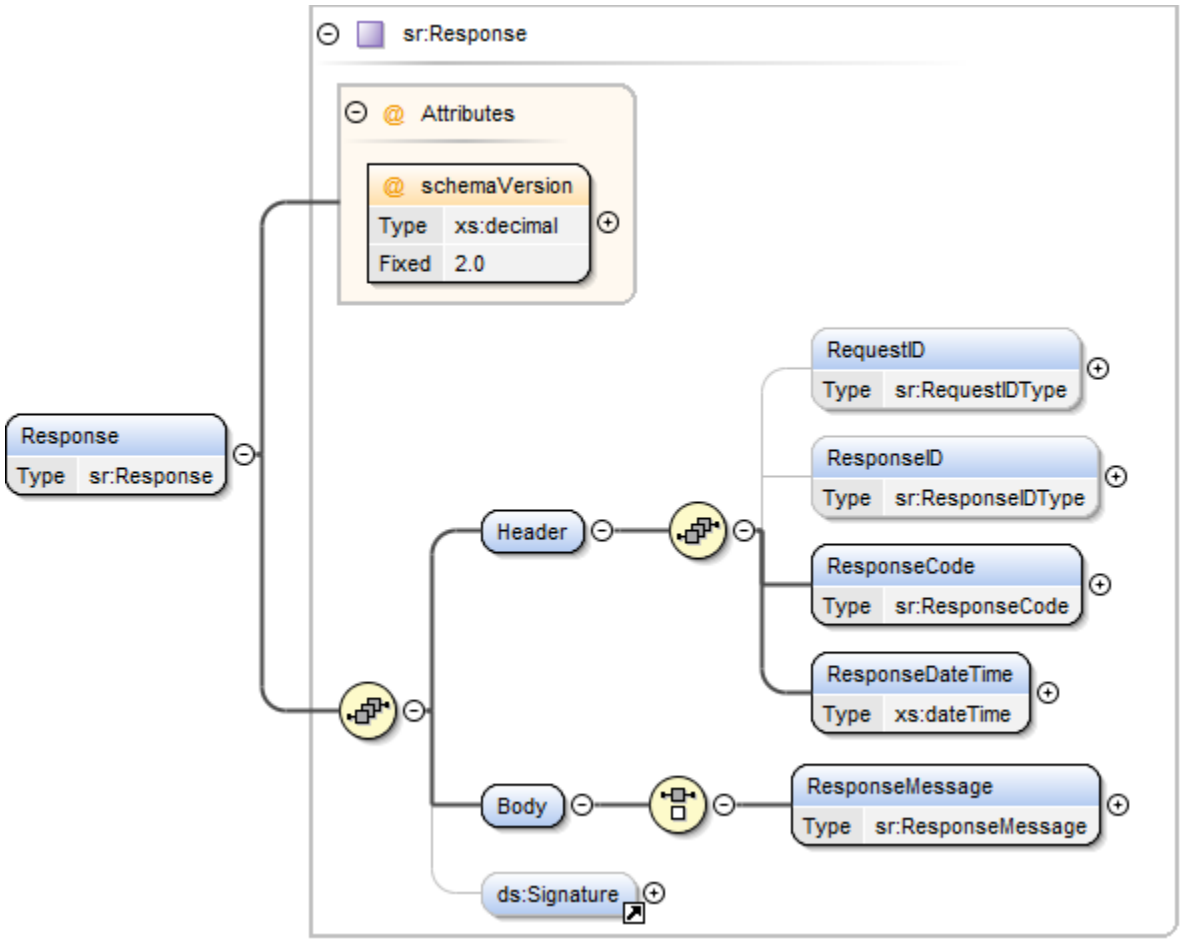

Figure 6 : Overall structure of the Service Response

The DCC shall include the following items within the Service Response:

- A mandatory header – The DCC shall return the Service Response Common Objects as defined in clause 3.5.1.1 - Service Response Header Format
- A mandatory Body –The DCC shall construct the Response Body according to the Service Response message type being returned. The Body section of the XML varies with the type of response as defined in the sections below.
- A Signature (defined in a separate schema) dependant on the particular response being sent. See in XMLDSIG XSD for details on the signature schema and clause 3.3.

3.5.1.1 Service Response Header Format

The DCC shall use a common response header which will indicate the success or failure of the particular Request at a business level. The common response header is also used for unsolicited responses (Device Alerts and DCC Alerts)

The DCC shall construct all responses to Users with a header record containing details of all the Common Objects associated with the Request where associated with a Request.

The header record will contain the following mandatory Common Objects as further defined with the DUIS XML Schema and are supplied in the following order:

Data Item	Description	Type	Mandatory	Valid Values
RequestID	Concatenation of BusinessOriginatorID, BusinessTargetID and OriginatorCounter as defined in GBCS, separated by ":".	sr:RequestIDType See clause 3.10.1.1	solicited response from DCC: Yes solicited Response from Device: Yes unsolicited response (Device or DCC Alert): N/A	See Description
ResponseID	Concatenation of Response BusinessOriginatorID, BusinessTargetID and OriginatorCounter as defined in GBCS, separated by ":"	sr:ResponseIDType See 3.10.1.2	solicited response from DCC: N/A solicited Response from Device: Yes unsolicited response (Device or DCC Alert): Yes	See Description
ResponseCode	Code indicating the success or exceptions generated by the original request. These Response Codes are listed in this document (clause 3.5.10) or at a Service Request level where there is a specific response code for that Request. For Responses, the Response Code will always be success. Any error codes will be included in the GB Companion Specification response from the device.	sr:ResponseCode See 3.10.1.7	Yes	See clause 3.5.10
ResponseDateTime	Date and time extracted from Response, if available, or added to the response by DCC when sending message to the User	xs:dateTime	Yes	date-time

Table 28 : Service Response header Common Objects

3.5.1.2 Service Response Body Format

The DCC shall include Common Objects in the body of the Service Response as follows:

Data Item	Description	Type	Mandatory	Valid Values
ServiceReference	Identifier that signals the particular Request to DCC (and is driven from the User's selection of Request)	sr:ServiceReference See 3.10.1.5	Yes	As per the Request
ServiceReference Variant	Identifier that signals the particular Request Variant to DCC (and is driven from the User's selection of Request)	sr:ServiceReference Variant See 3.10.1.6	Yes	As per the Request

Table 29 : Service Response body Common Objects

For DCC Scheduled responses, the ServiceReference and ServiceReferenceVariant included in the response are those of the ServiceReferenceVariant being invoked by the schedule held within the DCC Systems and are not the ServiceReference and ServiceReferenceVariant originally sent to set up the schedule within the DCC Systems. The following clauses 3.5.2 to 3.5.9 inclusive describe the different variations of Service Response.

3.5.2 Acknowledgement to a Request

The DCC shall construct and send to the relevant User an Acknowledgement to a Request in response to:

- All "Device" Service Requests where the associated Command is requested by the User to be delivered over the SM WAN
- All "Non-Device" Service Requests for which the response doesn't include any specific data items
- All Service Requests that fail access control / validation
- All Signed Pre-Commands where the associated Command is requested by the User to be delivered over the SM WAN

The DCC shall when responding to the above Requests conform to the Acknowledgement to a Request format, using the Response XML element of the DUIS XML Schema.

The DCC shall include only the Common Objects that are included in all synchronous Responses - there is no further payload in an Acknowledgement to a Request.

The diagram below illustrates the structure of an Acknowledgement to a Request.

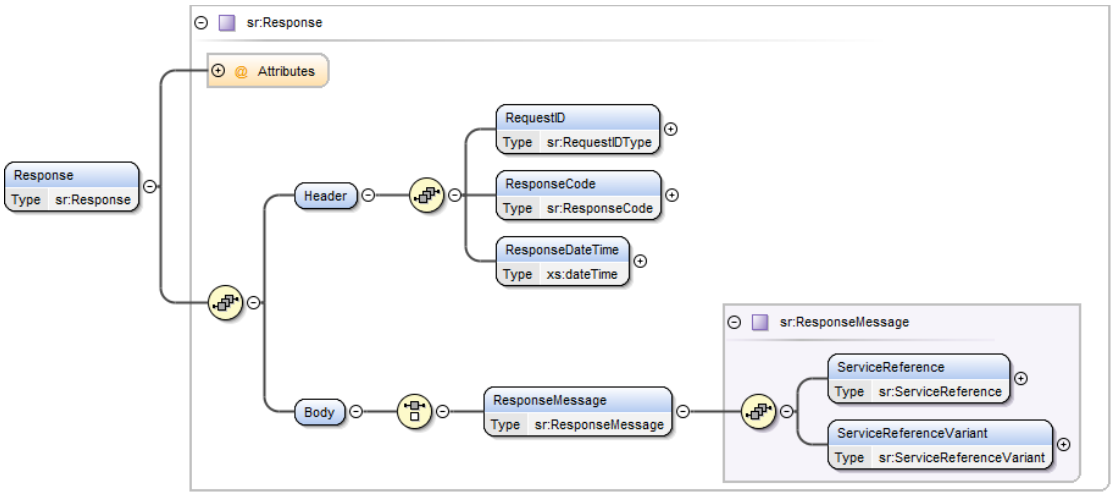

Figure 7 : Overall structure of the Acknowledgement

3.5.3 Response to a Non-Device Service Request

The DCC shall, for Non-Device Service Requests where data items are to be returned (with the exception of Service Request 8.13 Return Local Command Response, covered by clause 3.5.5 Response to a Command for Local Delivery Request – LocalCommand Format), construct a non-device format Service Response (Non-Device Requests for which no data is returned simply return the relevant Response Code in an Acknowledgement to a Request).

The DCC shall when responding to a Non-Device Service Request conform the Response to a Non-Device Service Request format, using the Response XML element of the DUIS XML Schema.

The DCC shall, depending on the Service Request, return the Service Response specific XML, in accordance with the relevant Service Request Definition in clause 3.8.

The diagram below illustrates the structure of a Service Response to a Non-Device Service Request.

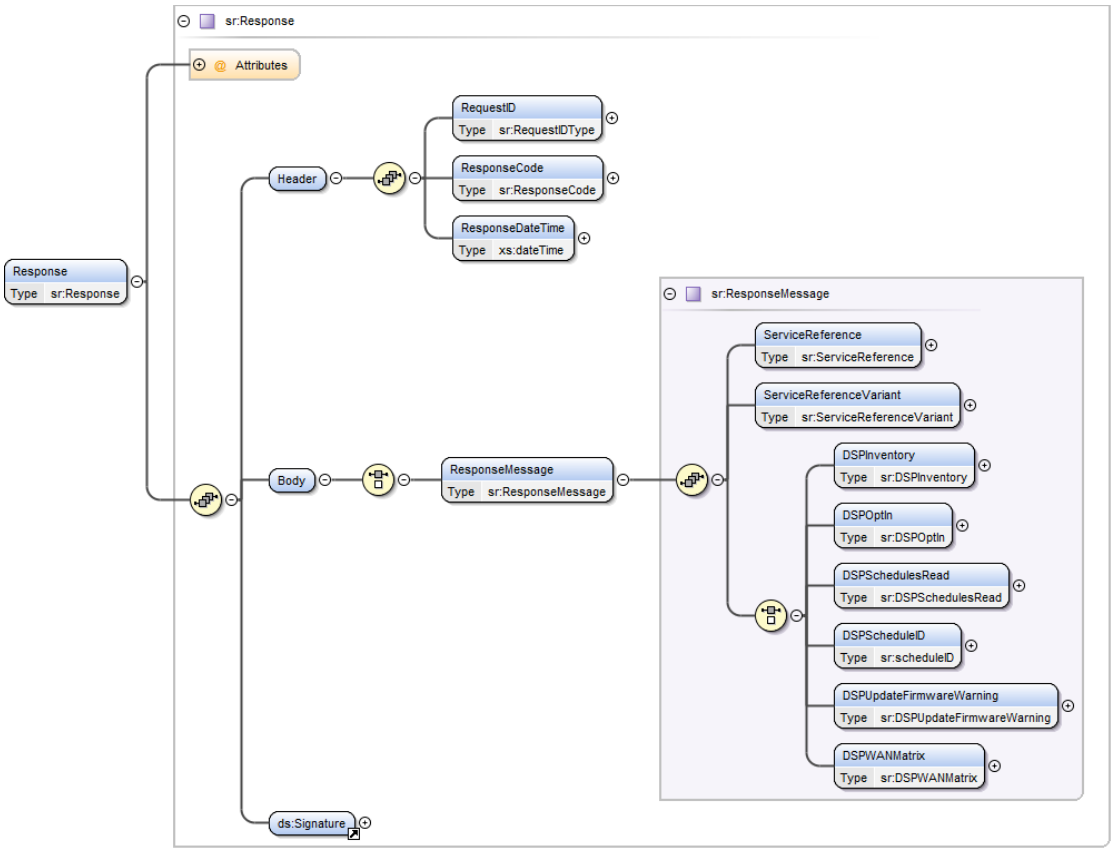

Figure 8 : Overall structure of the Non-Device Service Response

Where the Service Request requires no data to be returned within the body part of the Service Response (defined by the ResponseMessage attribute in figure 5) then an Acknowledgement Message shall be returned to the User (see clause 3.5.2).

3.5.4 Response to Transform Request – PreCommand Format

The DCC shall, where a Transform has been requested via the Transform Web Service, construct and return a Pre-Command to a User for each such Service Request received from a User.

The DCC shall when responding to a Service Request sent to the Transform Web Service, conform the response to transform request format using the Response XML element of the DUIS XML Schema.

The DCC shall return the GBCSPayload within the Pre-Command (see GB Companion Specification for details of how the GBCSPayload is constructed) and the version of the GB Companion Specification Use Case used to create the GBCSPayload. Note that the GBCSPayload within the Pre-Command is a binary object which has been Base64 encoded and the binary object does not include a Message Authentication Code in either the MAC header or ACB-SMD MAC as defined by the GBCS Command structure. The binary object is constructed as per GBCS, and has the following structure;

Grouping Header || Command Payload || 0x00

Note that the 0x00 represents (in the DLMS COSEM ASN.1 schema) a signature of zero length.

The Pre-Command format is defined in the PreCommand XML element of the XSD (see XML Schema).

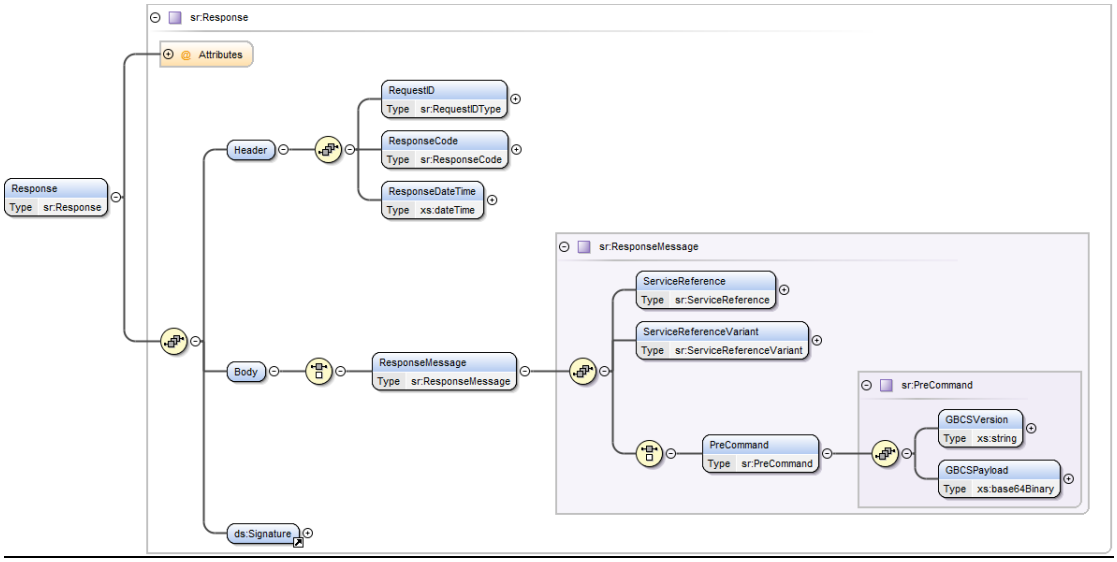

Figure 9 : Overall structure of the Pre-Command response

The body for a Pre-Command shall contain the common body element of Service Reference and Service Reference Variant of the corresponding Service Request as well as the additional response specific data items of the PreCommand XML element.

The DCC shall construct the PreCommand XML element with two mandatory data items, GB Companion Specification version and GBCSPayload. The DCC shall include a GB

Companion Specification version containing the version number associated with the GBCS Payload being returned for use by the Parse and Correlate Software.

Data Item	Description	Type	Mandatory	Valid Values
GBCSVersion	GB Companion Specification version number associated with the GBCS Payload being returned. This is provided to allow the Correlate software to determine which version of GBCS Command it should be checking. The version number format will align with the CPL. Valid values: • 1.0 • 2.0	xs:string	Yes	GB Companion Specification Version Number e.g. "1.0, 2.0"
GBCSPayload	See GB Companion Specification for details GBCSPayload is a binary object which has been Base64 encoded. The binary object is constructed as per GBCS, and has the following structure; Grouping Header || Command Payload || 0x00	xs:base64Binary	Yes	See GBCS

Table 30 : PreCommand data items

3.5.5 Response to a Command for Local Delivery Request – LocalCommand Format

The DCC shall, for Service Requests or Signed Pre-Commands for which Local Command Services have been requested, add a MAC to the associated Pre-Command generated by Transform and return a local command format response to the User for local delivery. The structure of the Service Response is similar to that of the Pre-Command Response above, but the Command for Local Delivery GBCS Payload includes the DCC Access Control Broker's MAC within the MAC header and ACB-SMD MAC parts of the GBCS Payload.

The DCC shall conform to the Command for Local Delivery format using the ResponseMessage XML element of the DUIS XML Schema.

The diagram below illustrates the structure of a Command for Local Delivery response.

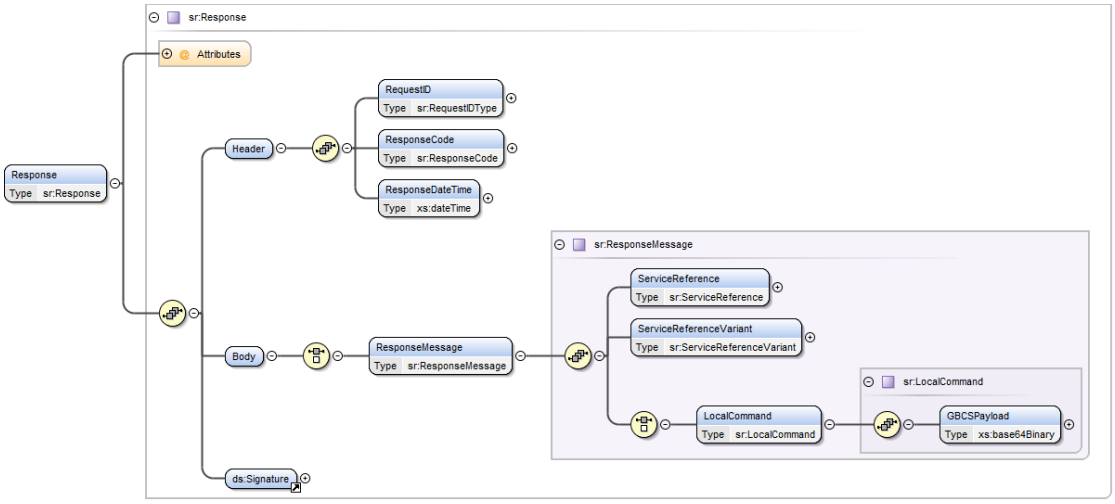

Figure 10 : Overall structure of the Command for Local Delivery Response

Data Item	Description	Type	Mandatory	Valid Values
GBCS Payload	See GB Companion Specification for Details GBCSPayload is a binary object which has been Base64 encoded. The binary object is constructed as per GBCS, and has the following structure; • Where a KRP Signature is required, a Remote Party Command received by a Device shall be the concatenation: MAC Header || Grouping Header || Command Payload || 0x40 || KRP Signature || ACB-SME MACACB-SMD MAC • Where a KRP Signature is not required, a Remote Party Command received by a Device shall be the concatenation: MAC Header || Grouping Header || Command Payload || 0x00 || ACB-SME MACACB-SMD MAC	xs:base64Binary	Yes	See GBCS

Table 31 : Command for Local Delivery data items

3.5.6 Service Response (from Device) – GBCSPayload Format

The DCC shall return Responses from the Device to the User via a Service Response in this format.

The DCC shall when sending a Service Response that contains a response from a Device (other than a response to Service Request 9.1 - Request Customer Identification Number or to a DCC scheduled request) conform to the GBCSPayload format using the Response XML element of the DUIS XML Schema.

The diagram below illustrates the structure of a GBCSPayload format response.

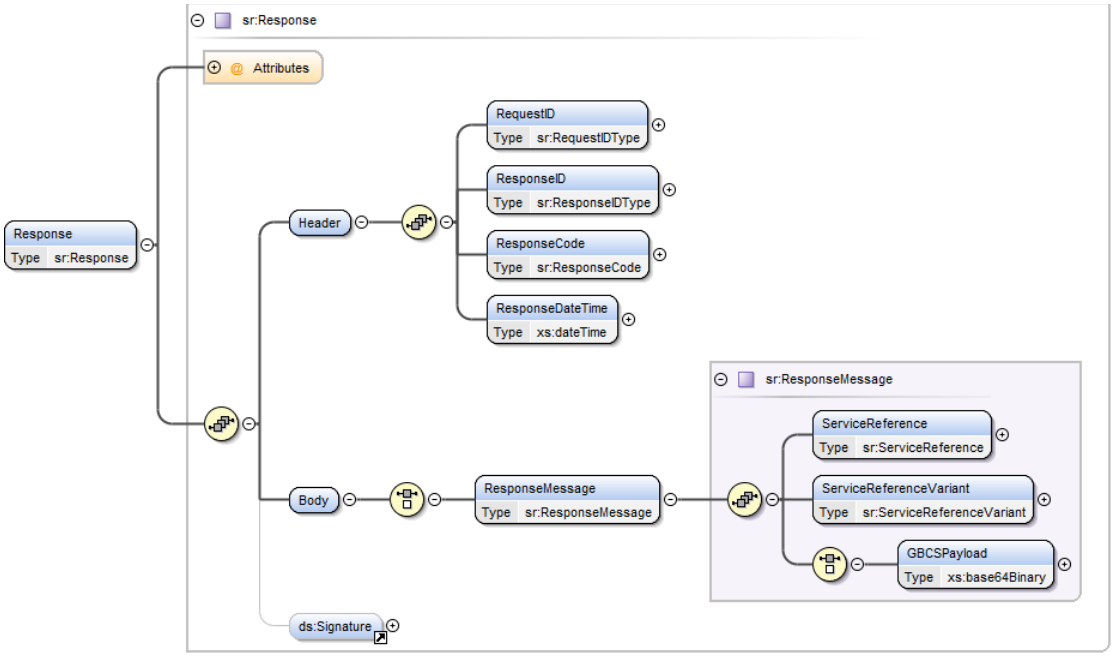

Figure 11 : Overall structure of the Service Response from a Device

Data Item	Description	Type	Mandatory	Valid Values
GBCS Payload	See GB Companion Specification for Details GBCSPayload is a binary object which has been Base64 encoded. The binary object is constructed as per GBCS.	xs:base64Binary	Yes	See GBCS

Table 32 : GBCSPayload data items

3.5.7 Service Response (from Device) - CINMessage Format

The DCC shall, for successful requests by the DCC Access Control Broker to send a CIN to a Device, return the CINMessage format. This message combines the GBCSPayload received from the Device with the Customer Identification Number generated by the DCC.

The DCC shall, when sending a Service Response that contains a response from a Device to a Service Request 9.1 - Request Customer Identification Number, conform to the CINMessage format using the Response XML element of the DUIS XML Schema.

The diagram below illustrates the structure of a CINMessage format response.

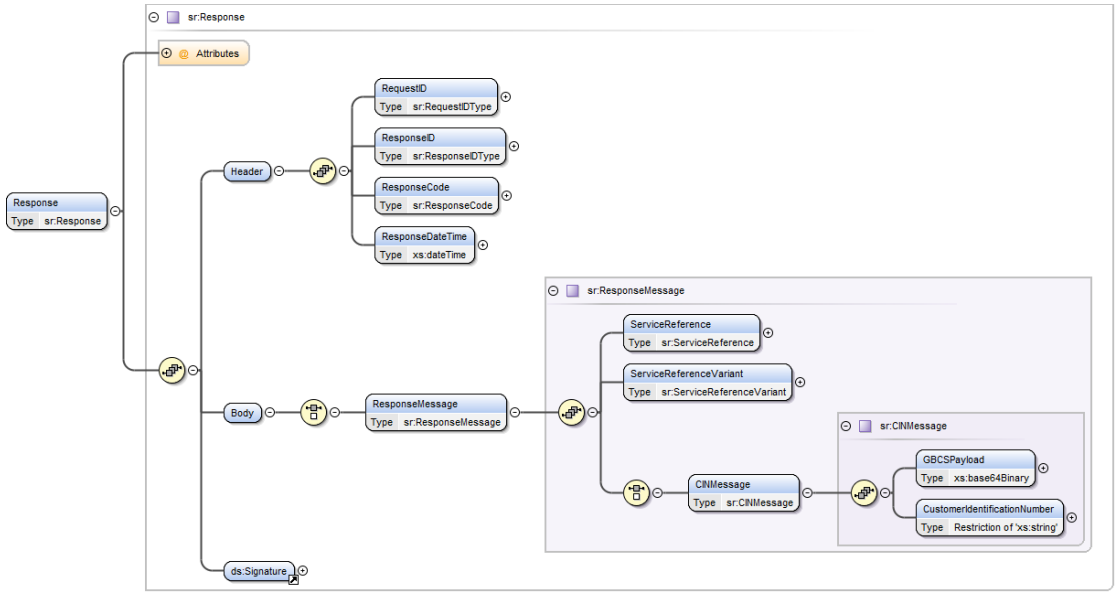

Figure 12 : Overall structure of the Response to Request Customer Identification Number

Data Item	Description	Type	Mandatory	Valid Values
GBCS Payload	See GB Companion Specification for Details GBCSPayload is a binary object which has been Base64 encoded. The binary object is constructed as per GBCS.	xs:base64Binary	Yes	See GBCS
CustomerIdentificationNumber	A number issued to Electricity Smart Meter / Gas Smart Meter for display on the User Interface	Restriction of xs:string (length = 4 pattern = "[0-9]{4}")	Yes	Numbers

Table 33 : CINMessage data items

3.5.8 Service Response (from Device) - DSPScheduledMessage Format

The DCC shall, for responses from the Device for which the DCC Access Control Broker generated the associated Command to the Device from a DSP Schedule ID, return a DSPScheduledMessage format response. This message combines the GBCSPayload received from the Device with the DSP Schedule ID.

The DCC shall when sending a Service Response that contains a response from a Device to a Command which has been DSP Scheduled shall conform to the DSPScheduledMessage format using the Response XML element of the DUIS XML Schema.

The diagram below illustrates the structure of a DSPScheduledMessage format response.

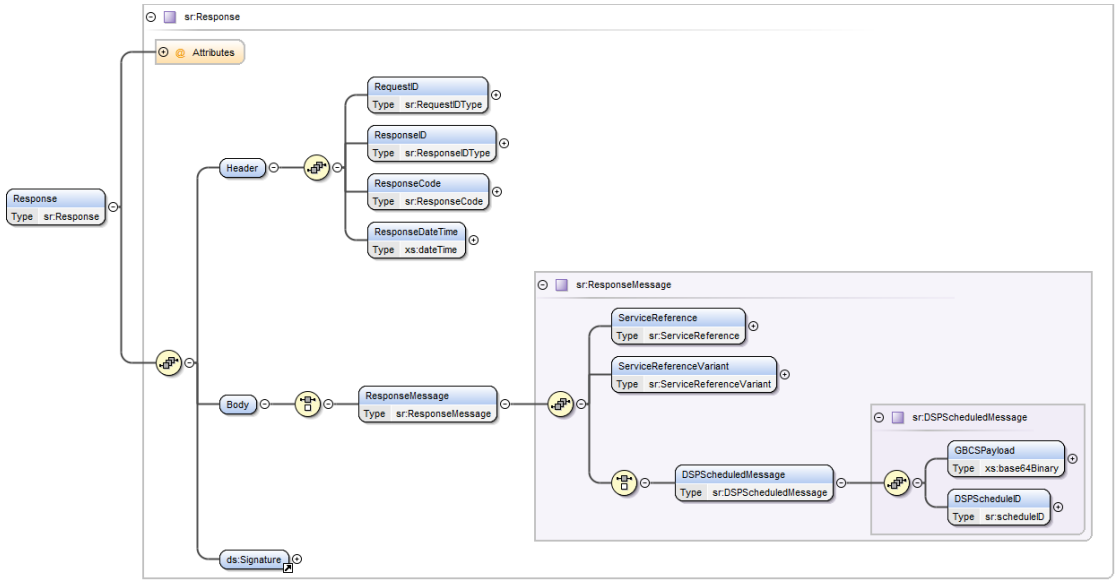

Figure 13 : Overall structure of the Service Response from a scheduled Service Request

Data Item	Description	Type	Mandatory	Valid Values
GBCS Payload	See GB Companion Specification for Details GBCSPayload is a binary object which has been Base64 encoded. The binary object is constructed as per GBCS.	xs:base64Binary	Yes	See GBCS
DSPScheduleID	Schedule ID generated by the DCC Systems Valid Set: >= 0 and <= 1000000000000	sr:scheduleID (Restriction of xs:nonNegativeInteger)	Yes	See description

Table 34 : DSPScheduledMessage data items

3.5.9 Service Response (from Device) - FutureDatedDeviceAlertMessage Format

The DCC shall, when receiving an Alert caused by a Device executing a future dated Command, return a FutureDatedDeviceAlertMessage format response.

The DCC shall also include the "Request ID", Service Reference and Service Reference Variant of the original request (which led to the Device generating the Alert) in the XML response.

The DCC shall add the following data items to the XML response

- The FutureDatedAlertCode of the Device Alert.
- An InstructionNumber to indicate which instruction number the FutureDatedDeviceAlertMessage relates to. This value shall be set to 1 by the DCC for all responses to single instruction Commands
- TotalCommandInstructions number to indicate how many instructions are expected to be received by the DCC Systems relating to the FutureDatedDeviceAlertMessage received. This value shall be set to 1 for all responses to single instruction Commands

For multiple instruction commands, the InstructionNumber provided by the DCC in any given response provides a count of how many Device Alerts have been received so far by the DCC to indicate execution of the Command. The TotalCommandInstructions is always set to the total number of Device Alerts expected for the specific Command being executed (as defined by GBCS). The two attributes thus provide Users with a means to track the Responses and monitor that all expected Device Alerts have been received.

The DCC shall when sending a Service Response that contains a response from a Device (which is a Device Alert indicating execution of a future dated Command) shall conform to the FutureDatedDeviceAlertMessage format using the Response XML element of the DUIS XML Schema

The diagram below illustrates the structure of a FutureDatedDeviceAlertMessage format response.

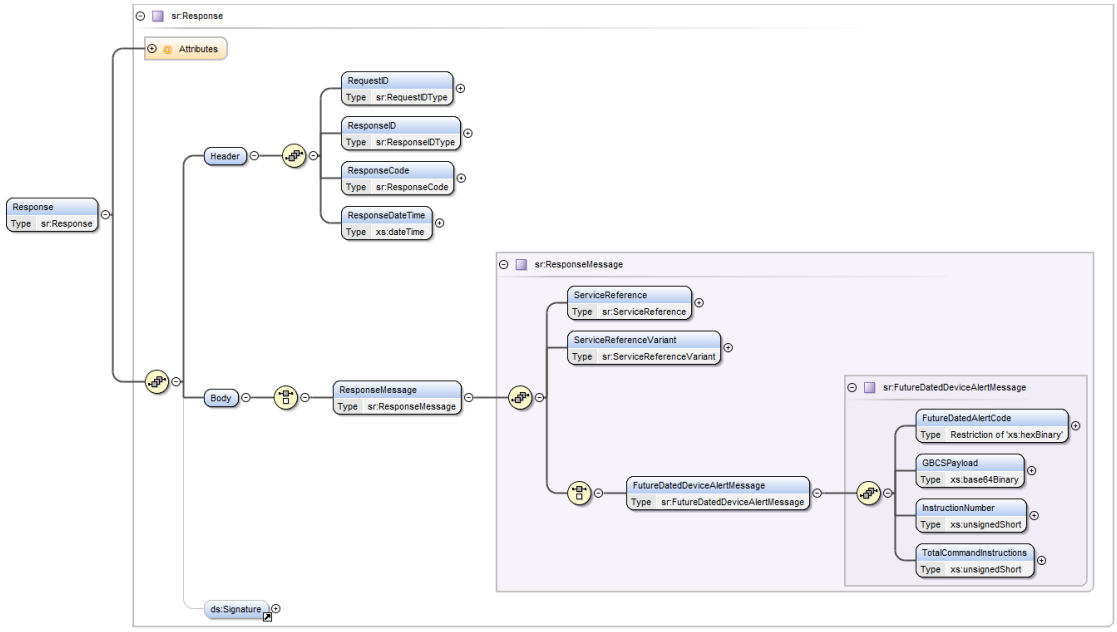

Figure 14 : Overall structure of the Alert Response to Future Dated Request

The following table details the Common Objects in the future dated Device Alert:

Data Item	Description	Type	Mandatory	Valid Values
FutureDatedAlertCode	Code indicating the alert or reason for the alert to be generated	xs:hexBinary	Yes	The FutureDatedAlertCode can only have a value of • 8F66 for success and • 8F67 for failure. See GBCS for Alert Code definitions
GBCS Payload	See GB Companion Specification for Details GBCSPayload is a binary object which has been Base64 encoded. The binary object is constructed as per GBCS.	xs:base64Binary	Yes	See GBCS
InstructionNumber	Indicates the number of Device Alerts received by the DCC (i.e. the number of activation date-time instructions executed) so far in respect of the Command for which the Future Dated Device Alert is a Response.	xs:unsignedShort	Yes	Valid set: • 1 for Commands containing only a single activation date-time • >= 1 and <= TotalCommandInstructions (as defined by GBCS). for Commands containing more than 1 activation date-time

TotalCommandInstructions	Indicates the total number of activation date-time instructions in the Command for which the Future Dated Device Alert is a Response.	xs:unsignedShort	Yes	Valid set: • 1. Single activation date-time Instruction Command • m (GBCS Use Case dependent. See GBCS for the value of m). Multiple activation date-time instruction Command

Table 35 : Common Objects in the future dated Device Alert

3.5.10 Service Response codes generated by DCC

The Response Codes consists of a letter prefix followed by a unique number (defining the specific procedure to be undertaken in response to the Response Code). The Response Code letter is either;

- Information - Prefix ‘I’
- Error - Prefix ‘E’
- Warning - Prefix 'W'

Please see the DCC’s Error Handling Strategy for further details on error handling.

Response Code	Response Code Name	Response code type	Description	Applicable to response types	Error Handling Strategy procedure
I0	Success	Information	Request has had a successful outcome	All except Acknowledgement	N/A
I99	Acknowledgement	Information	Request received for sending to Device has been accepted and has passed access control Or In Response to a successful Non-Device Service Request where there is no specific XML data included in the Service Response	Acknowledgement	N/A
E1	Failed Authorisation – Invalid User / User Role	Error	User / User Role combination is not a valid SEC party / User Role	Acknowledgement and DCC Alerts	V2 Z1
E2	Failed Authorisation – Invalid User Role / Service Reference	Error	User Role not permitted to send Service Reference	Acknowledgement	V4 Z1
E3	Failed Authorisation – Invalid User Status	Error	User Status not permitted to send Service Reference	Acknowledgement and DCC Alerts	V3 Z1

Response Code	Response Code Name	Response code type	Description	Applicable to response types	Error Handling Strategy procedure
E4	Failed Authorisation – Invalid User / User Role for Device	Error	User Role not authorised for Device and required date & time	Acknowledgement and DCC Alerts	V1 Z1
E5	Failed Authorisation – Invalid Device Status	Error	Device SMI Status incompatible with Service Reference	Acknowledgement and DCC Alerts	W6 Z1
E11	Failed Validation – Invalid Service Request / device type combination	Error	Service Reference not compatible with the specified device	Acknowledgement	W7 Z1
E12	Failed Validation – Invalid Request / Command Variant combination	Error	Command Variant not applicable to the Request type	Acknowledgement	W1 Z1
E13	Failed Validation – Invalid Request Type for URL	Error	Request Type not valid for the URL, e.g. a “Non-Device” Service Request sent to the “Transform” URL	Acknowledgement	W2 Z1
E17	Failed Authorisation –Service Request or Signed Pre-Command is not available for Local Command Services	Error	User Role / Device status combination doesn’t permit Request of Command for local delivery	Acknowledgement	W6 Z1
E19	Failed Authorisation – Device doesn’t exist	Error	Device ID invalid	Acknowledgement	W3 Z1
E20	Communications Failure – Unable to Communicate with Device	Error	DCC Systems cannot establish communications with Device	DCC Alerts	X1
E21	Communications Failure – No Response Received from Device	Error	No Response received from Device for an “On Demand” Command or a “Future Dated” Command	DCC Alerts	X1
E30	Time-out – “Future Dated” Command	Error	DCC Systems doesn’t get Response from Device on the expected date for “Future Dated” Command	DCC Alerts	X2 X3
E31	Time-out – “DSP Schedule” /“Future Dated (DSP) Command	Error	DCC Systems cannot establish communications with or get response from Device for “DSP Scheduled” or “Future Dated (DSP) Command	DCC Alerts	X2 X3

Response Code	Response Code Name	Response code type	Description	Applicable to response types	Error Handling Strategy procedure
E40	Failed Sequenced Command – Invalid First Request	Error	DCC Systems fails a sequenced Request because it includes the "First In Sequence" flag set to true and the "Preceding RequestID" is populated	Acknowledgement	Y1 Z1
E41	Failed Sequenced Command – Invalid "Preceding Request ID"	Error	DCC Systems fails a sequenced Request, because its "Preceding Request ID" is also the "Preceding RequestID" of another Request in the same sequence	Acknowledgement	Y1 Z1
E42	Failed Sequenced Command – Circular Reference	Error	DCC Systems fails a sequenced Request, because its "Request ID" is the same as its "Preceding Request ID" or the "Preceding RequestID" of its preceding request or of one of its preceding requests, e.g. request id 1 has request 2 as its preceding request and request 2 has request 1 as its preceding request	Acknowledgement	Y1 Z1
E43	Failed Sequenced Command – Previous Request(s) Failure	Error	DCC Systems fails a sequenced Request, because previous Request (s) in the sequence failed	Acknowledgement and DCC Alerts	Y2 Z1
E44	Failed Sequenced Command – Previous Request(s) not received	Error	DCC Systems fails a sequenced Request, because a Response has not been received for previous Request(s) in the sequence during the "Wait Period"	Acknowledgement and DCC Alerts	Y2 Z1
E45	Failed Sequenced Command – Invalid Command Variant	Error	DCC Systems fails a sequenced Request, because its Command Variant is not applicable to a sequenced Request	Acknowledgement	Y2 Z1
E46	Failed Sequenced Command – Request after Last In Sequence	Error	DCC Systems fails a sequenced Request, because it is dependent on the Last In Sequence	Acknowledgement and DCC Alerts	Y2 Z1
E47	Failed Sequenced Command – Request failed because no response to "On Demand" Command received from device	Error	DCC Systems fails a sequenced Request, because no response received from device to previous Command	Acknowledgement and DCC Alerts	Y2 Z1

Response Code	Response Code Name	Response code type	Description	Applicable to response types	Error Handling Strategy procedure
E48	Failed Validation – Service Request Reference and Variant mismatch	Error	Invalid combination of Service Reference and Service Reference Variant	Acknowledgement	W4 Z1
E49	Failed Validation – Service Request Format and Service Reference Variant mismatch	Error	The Service Request format doesn't match the Service Reference Variant in the message header	Acknowledgement	W5 Z1
E50	Local Command Services Not Returned	Error	The Service Request requesting a Command for Local Delivery has not returned a Command	Acknowledgement	W8
E51	Failed Validation – Signed Pre-Command Message Code and Service Reference Variant mismatch	Error	The GB Companion Specification Message Code in the Signed Pre-Command GBCS Payload doesn't map to the Service Reference Variant in the Signed Pre-Command XML header	Acknowledgement	W5 Z1
E52	Failed Validation – Unable to cancel Future Dated (DSP) Service Request	Error	The Service Request is to cancel a Future Dated (DSP) Service Request of the same type but DCC can't find a Service Request to cancel	Acknowledgement	Y1 Z1
E53	Failed Sequenced Command – Future Dated (DSP) not first in sequence	Error	The sequenced Service Request is Future Dated (DSP) and is not the first Request in the sequence	Acknowledgement	Y2 Z1
E54	Failed Sequenced Command – Gas Service Request returns encrypted data	Error	The sequenced Gas Service Request returns encrypted data	Acknowledgement	Y2 Z1
E55	Failed Validation – Duplicate Request ID	Error	The Request's Request ID is the duplicate of another Request being processed by the DCC Systems	Acknowledgement	W5 Z1

Response Code	Response Code Name	Response code type	Description	Applicable to response types	Error Handling Strategy procedure
E56	Failed Validation – Service Request no longer supported	Error	The requested Service Request is no longer supported by the DCC Systems. This error shall only occur if a Service Request which exists in an older version of the DUIS XML schema can no longer be accepted by the DCC Systems on that version of the DCC User Interface Please note this Response Code is not applicable to this version of DUIS	Acknowledgement and DCC Alerts	W9 Z1
E57	Failed Validation – Invalid Service Request / GBCS version combination	Error	The Service Request is not compatible with the specified target Device's Device Model according to the Device Model recorded in the Smart Metering Inventory for that Device and the version of GBCS that pertains to the entry for that Device Model in the Central Products List	Acknowledgement and DCC Alerts	W10 Z1
E58	Communications Failure – Command not delivered to ESME	Error	The Communications Hub Function was unable to deliver the Command to the ESME The creation of this DCC Alert is in direct response to the receipt by the DCC Systems of an Alert 0x8F84 - Failure to Deliver Remote Party Message to ESME (as defined by GBCS) from the Communications Hub Function	DCC Alerts	X4 Z1

Response Code	Response Code Name	Response code type	Description	Applicable to response types	Error Handling Strategy procedure
E59	Dual Band CHF Sub GHz event	Error	The CHF sends one of the following Alerts to the DCC Access Control Broker to indicate a communications event in the Sub GHz frequency range: Alerts without specific payload: • 0x8F22 - Critical Duty Cycle Action Taken • 0x8F24 - Regulated Duty Cycle Action Taken • 0x8F29 - Three Lost GSME Searches Failed • 0x8F2B - Sub GHz Channel not changed due to Frequency Agility Parameters Alerts with specific payload: • 0x8F20 - Limited Duty Cycle Action Taken • 0x8F2C - Message Discarded Due to Duty Cycle Management • 0x8F2D - No More Sub GHz Device Capacity The DCC Alert includes the Alert Code and, for those that contain specific payload, it also includes the corresponding information	DCC Alerts	X5 Z1
E60	Failed Validation – Invalid Service Request for SMETS1 Devices	Error	The target device is a SMETS1 Device, but the Service Request is not a SMETS1 Service Request	Acknowledgement	TBC
E61	Failed Validation – Invalid Command Variant for SMETS1 Service Request	Error	The Command Variant is not valid for the SMETS1 Service Request	Acknowledgement	TBC

Response Code	Response Code Name	Response code type	Description	Applicable to response types	Error Handling Strategy procedure
E62	SMETS1 Service Provider error or information	Error or information	Error condition or notification from a SMETS1 Service Provider, for example a Service Request failed validation within a SMETS1 Service Provider. Additional information shall be provided in the S1SPAlertCode within the DCC Alert payload	DCC Alerts	TBC
E63	DCC Data Systems anti-Replay Intercept	Error	Protection against Replay mechanisms within the DCC have rejected a SMETS1 Service Request.	Acknowledgement	TBC
E100	Failed Authentication	Error	Request failed Authentication (as per checks in clause 3.2.3 Message Authentication)	Acknowledgement	U1 Z1

Table 36 : DCC Systems Response Codes

3.6 Device Alerts and DCC Alerts

This section defines the Device Alert and DCC Alert Formats.

The DCC shall deliver Device Alerts and DCC Alerts in accordance with the Response Delivery Pattern as defined in the table below

Type of Response / Alert	Response Delivery Pattern
Device Alert	Asynchronous
DCC Alert	Asynchronous

3.6.1 Alert Formats

The DCC shall send alerts from the DCC / Device to the relevant User dependent on the Device / alert. These are, for the majority of alerts, unsolicited and are not sent as responses to any Service Request.

When sending DCC Alerts or Device Alerts to Users, the DCC shall determine the correct recipient of those alerts as follows:

- Device Alerts - The DCC shall send a Device Alert to the BusinessTargetID specified in the Device Alert and, for those with two recipients, also to the Supplementary Remote Party ID as additionally specified in the Device Alert.
- DCC Alerts - The DCC generates the Alert in response to a trigger caused by DCC System processing and sends it to the recipient(s) associated to that DCC Alert (see clause 3.6.3.4 - DCC Alert Codes) via checking against Registration Data to determine the registered recipient(s) or responding to the sender of the Request that triggered the DCC Alert being generated.

3.6.2 Device Alerts - DeviceAlertMessage Format

The DCC shall deliver Device Alerts to Users using the recipient(s) identified within the Device Alert as defined in GB Companion Specification.

The DCC shall deliver Device Alerts using the DeviceAlertMessage format - this message combines the GBCS Payload containing the Alert received from the Device with the Alert Code identified from within the GBCS Payload and transposed as a separate data item into the DeviceAlertMessage.

The Device Alert format is defined in the DeviceAlertMessage XML element of the DUIS XML Schema.

The diagram below illustrates the structure of a Device Alert.

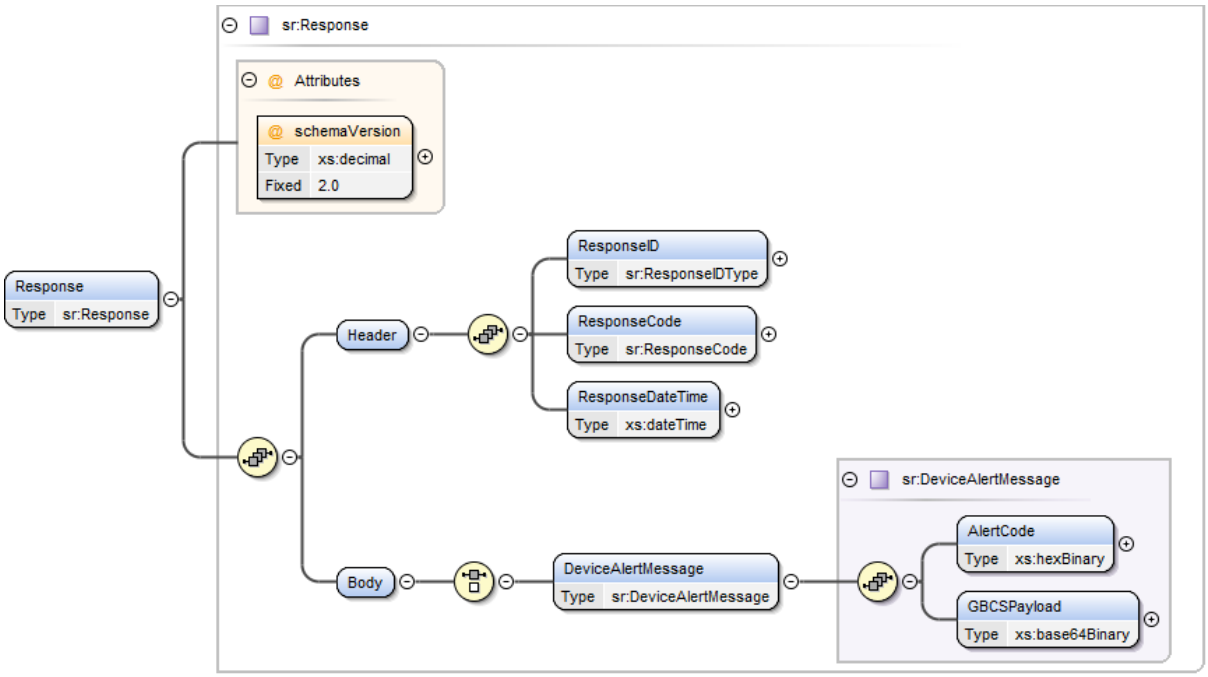

Figure 15 : Overall structure of the Device Alert

3.6.2.1 Device Alert Header Format

The DCC shall include a header record at the beginning of the Device Alert format message, containing details of all the Common Objects associated with the Device Alert.

The header record added to the Device Alert will contain the following Common Objects as further defined with the DUIS XML Schema and shall be applied in the following order:

Data Item	Description	Type	Mandatory	Valid Values
ResponseID	Concatenation of BusinessOriginatorID, BusinessTargetID and OriginatorCounter as defined in GBCS, separated by ":".	sr:ResponseIDType (see clause 3.10.1.2)	Yes	The BusinessOriginatorID and BusinessTargetID are EUI-64 values (type sr:EUI) The OriginatorCounter is a xs:nonNegativeInteger value >= 0 and < 2^{64}
ResponseCode	Code indicating success or otherwise.	sr:ResponseCode (Restriction of xs:string (Enumeration))	Yes	See clause 3.5.10
ResponseDateTime	Date and time extracted from Response, if available, or added to the response by DCC when sending message to the User	xs:dateTime	Yes	Valid Date-Time

Table 37 : Device Alert header

3.6.2.2 Device Alert Body Format

The DCC shall, where a Device raises an Alert, construct a message to the User conforming to the devicealert message format. This message combines the GBCSPayload received from the Device with the Alert Code extracted from the GBCSPayload.

Data Item	Description	Type	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
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.

Table 38 : Device Alert Body

3.6.3 DCC Alerts - DCCAlertMessage Format

The DCC shall construct and deliver DCC Alerts as per this section for generic DCC Alert message format common to all DCC Alerts and clause 3.9 – DCC Alert Messages for Body specific DCC Alert content.

The DCC shall construct DCC Alerts in DCCAlertMessage format - a message is generated by the DCC as a result of a trigger event.

For specific DCC Alert details see clause 3.6.3.4 - DCC Alert Codes

The DCC Alert format is defined in the DCCAlertMessage XML element of the DUIS XML Schema.

The diagram below illustrates the structure of a DCC Alert

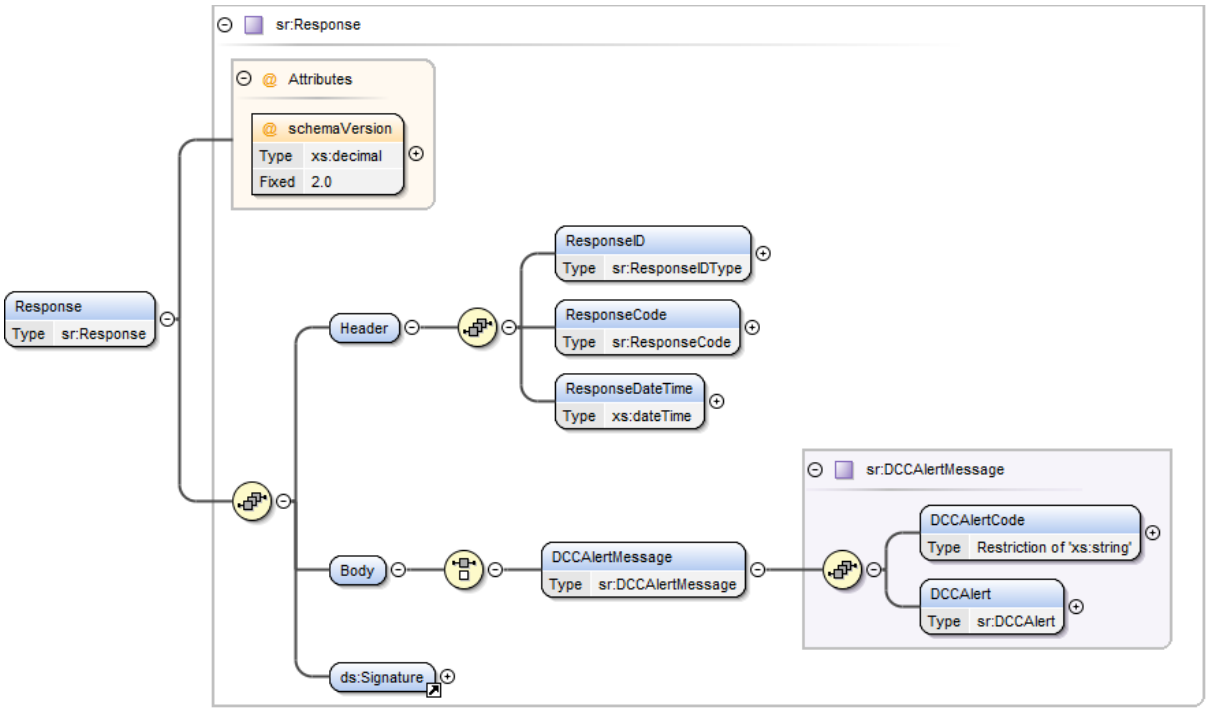

Figure 16 : Overall structure of the DCC Alert

3.6.3.1 DCC Alert Header Format

The DCC shall construct all DCC Alerts generated with a header record containing details of all the Common Objects associated with the DCC Alert.

The header record will contain the following Common Objects as further defined within the DUIS XML Schema and are applied in the following order:

Data Item	Description	Type	Mandatory	Valid Values
ResponseID	Concatenation of BusinessOriginatorID, BusinessTargetID and OriginatorCounter as defined in GBCS, separated by ":".	sr:ResponseIDType (see clause 3.10.1.2)	Yes	The BusinessOriginatorID and BusinessTargetID are EUI-64 values (type sr:EUI)
ResponseCode	Code indicating success (e.g. for DCC Alerts triggered by events such as Change of Tenancy) or exceptions (e.g. for DCC Alerts triggered by a "Future Dated" or "DSP Scheduled" Command time-out) associated to the alert.	sr:ResponseCode (Restriction of xs:string (Enumeration))	Yes	See clause 3.5.10 - Service Response codes generated by DCC
ResponseDateTime	Date and time added to the response by DCC when sending message to the User	xs:dateTime	Yes	Valid Date-Time

Table 39 : DCC Alert header

3.6.3.2 DCC Alert Body Format

The DCC shall, where the DCC Systems raises a DCC Alert, construct a message to the User with the Body element conforming to the DCCAlertMessage format. This message is generated by the DCC Systems as a result of a trigger event.

Data Item	Description	Type	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 3.9 for body specific format.	sr:DCCAlert See clause 3.9	Yes	See clause 3.9

Table 40 : DCC Alert Body

3.6.3.3 DCC Alert Signature

The DCC shall construct all DCC Alerts to include a signature as follows:

Data Item	Description	Type	Mandatory	Valid Values
Signature	DCC Access Control Broker Digital Signature A full definition is shown in XMLDSIG	ds:signature See XMLDSIG XSD	Yes	See XMLDSIG XSD

3.6.3.4 DCC Alert Codes

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
AD1	Power Outage Event	Power Outage Event received from CSP	Communications Service Provider (CSP) notification of loss of mains power as detected at the Communications Hub in the Consumer Premises for a time equal to or greater than three (3) minutes	IS ED (User ID with User Role IS / ED for an Electricity Smart Meter associated with the Communications Hub Function reporting the Power Outage) GS GT (User ID with User Role GS / GT for a Gas Smart Meter associated to the Communications Hub Function reporting the Power Outage)	SMETS 2+
N1	Electricity Smart Meter Decommission or withdrawal	Decommissioning or withdrawal of an Electricity Smart Meter Device	Upon successful completion of Service Request: • Decommission Device (8.3) • or Service Opt Out (8.5) for an Electricity Smart Meter Device	ED and, if applicable, ES	All
N2	Gas Smart Meter Decommission or withdrawal	Decommissioning or withdrawal of Gas Smart Meter Device	Upon successful completion of Service Request: • Decommission Device (8.3) • or Service Opt Out (8.5) for a Gas Smart Meter Device	GT	All

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N3	Cancellation of "Future Dated Response Pattern (DSP)" requests because of Change of Tenancy	Cancellation of "Other User" "Future Dated Response Pattern (DSP)" Commands not yet submitted to the Devices in the Electricity or Gas Smart Metering System	Upon successful completion of Service Request Restrict Access for Change of Tenancy (3.2)	All applicable Future Dated (DSP) request senders	All
N4	Schedule removal because of Change of Tenancy	Removal of "Other User" "DCC Scheduled" schedules for Devices in the Electricity or Gas Smart Metering System	Upon successful completion of Service Request Restrict Access for Change of Tenancy (3.2)	All applicable Schedule "owners"	All
N5	Schedule removal because of Device withdrawal	"DCC Scheduled" schedule removal	Upon successful completion of Service Request Service Opt Out for a Device (8.5) For Gas Smart Meter withdrawals, schedule removal are additionally applicable to Gas Proxy Function	All applicable Schedule "owners"	SMETS 2+
N6	Schedule removal because of Device decommission	"DCC Scheduled" schedule removal	Upon successful completion of Service Request Decommission Device for a Device (8.3)	All applicable Schedule "owners"	All
N7	"DSP Scheduled" / "Future Dated Response Pattern (DSP)" access control failure	"DCC Scheduled" / "Future Dated Response Pattern (DSP)" access control failure (Authorisation, Device status, GBCS compatibility check)	"DCC Scheduled" / "Future Dated Response Pattern (DSP)" Command generation access control failure	Schedule "owner" / "Future Dated Response Pattern (DSP) request sender	All
N8	Device removed from Inventory-Pending Status expired	Removal of Device from Inventory	Device in a status of 'Pending' for > 36 months	Original User that requested addition of the Device to the DCC Inventory	All

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N9	Communications Hub Decommission	Decommission of Communications Hub	Upon successful completion of Service Request Decommission Device for a Communications Hub (8.3)	All Responsible Suppliers for that CH function, other than the IS / GS that instigated the Decommissioning ED GT	All
N10	"Future Dated Response Pattern (Device)" Command time-out	"Future Dated Response Pattern (Device)" Command time-out	"Future Dated Response Pattern (Device)" Command response not received from the device within the Target Response Time from the ExecutionDateTime	"Future Dated Response Pattern (Device)" request sender	SMETS 2+ Device
N11	"DSP Scheduled" / "Future Dated Response Pattern (DSP)" Command time-out	"DCC Scheduled" / "Future Dated Response Pattern (DSP)" Command time-out	"DCC Scheduled" Schedule instance / "Future Dated Response Pattern (DSP)" Command not sent to or response not received from the Device within the Target Response Time from the ExecutionDateTime	Schedule "owner" / "Future Dated Response Pattern (DSP) request sender	All
N12	Failure to deliver Command to Device	Failure to deliver Command to Device	Failure to receive an acknowledgement notification from a CSP or S1SP via the SM WAN for an "On Demand" or "Future Dated" Command	Request sender	All
N13	Failure to receive Response from Device	Failure to receive Response from Device	Failure to receive a response from a Device for an "On Demand" Command or "Future Dated" Command Acknowledgement	Request sender	All
N14	Sequenced Request Failure	Sequenced Request Failure	Previous Command in sequence failed or timed-out	Request sender	All
N15	Sequenced Request received out of order	Sequenced Request received out of order	Preceding Request not received during "Wait Period"	Request sender	All

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N16	Device Identity Confirmation	Device Identity Confirmation by Responsible Supplier – either first setting (as part of Installation and Commissioning process) or update to previous setting	Upon successful receipt of Service Response Code I0 from Service Request Update HAN Device Log (initial setting) (8.11) OR Upon successful processing of a Service Request 8.4 Update Inventory for an update to MPxN .	ED GT	All
N17	Schedule removal because of CoS	Previous Responsible Supplier "DCC Scheduled" schedule removal	Upon successful completion of Service Request Update Security Credentials (CoS) (6.23)	Previous IS Previous GS	All
N18	Firmware Version / Hash mismatch	Firmware Version / Hash mismatch	Firmware Hash calculated by DCC doesn't match Firmware Version	Update Firmware request sender	All
N19	Firmware Distribution Device ID identification failure	Firmware Distribution Device ID identification failure	DCC unable to identify Communications Hub or Meter Device Id a Firmware Image is to be sent to	Update Firmware request sender	All
N20	Firmware image provided is too large	Firmware image provided is too large	DCC unable to process request, because the Firmware Image is too large	Update Firmware request sender	All
N21	Unknown Firmware Version	Unknown Firmware Version	DCC unable to process request, because it doesn't recognise the Firmware Version	Update Firmware request sender	All
N22	Failure to deliver Update Firmware Command to CSP	Failure to deliver Update Firmware Command to CSP	Failure to receive an acknowledgement notification from a CSP or S1SP via the SM WAN for an Update Firmware Command	Update Firmware request sender	All
N23	Failure to receive Update Firmware Command Validation response from CSP	Failure to receive Update Firmware Command Validation response from CSP	Failure to receive Update Firmware Command Validation response from CSP	Update Firmware request sender	All

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N24	Successful Communications Hub Function Whitelist Update	Communications Hub Function Whitelist Update	The DCC has received positive confirmation that the requested addition to the Communications Hub Function's whitelist resulted in establishing communications with the Device	Update HAN Device Log request sender	All
N25	Potentially Unsuccessful Communications Hub Function Whitelist Update	Communications Hub Function Whitelist Update	The DCC has not received positive confirmation that the requested addition to the Communications Hub Function's whitelist resulted in establishing communications with the Device	Update HAN Device Log request sender	All
N26	Update Security Credentials (CoS)– access control failure	Update Security Credentials (CoS)– access control failure	Request has failed CoS Party access control or, for Future Dated Requests, DSP access control at the point the Request is to be sent to the CoS Party	Update Security Credentials (CoS) request sender	All
N27	Device CoS	New Import Supplier for Device	Upon successful completion of Service Request Update Security Credentials (CoS) (6.23)	Previous IS Previous GS	All
N28	Device Suspended	Device Suspended	Suspension of Device	IS GS ED GT	All
N29	Device Restored from Suspension	Device Restored from Suspension	Restoration of Device following Previous Suspension	IS GS ED GT	All
N30	CHF Device Log Restored	CHF Device Log Restored	Upon successful completion of Service Request 8.12.1 Restore HAN Device Log	GS IS All Responsible Suppliers for the CHF, other than the IS / GS that submitted the Request	SMETS 2+

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N31	GPF Device Log Restored	GPF Device Log Restored	Upon successful completion of Service Request 8.12.2 Restore GPF Device Log if the sender is not the GS.	GS IS All Responsible Suppliers for the CHF, other than the IS / GS that submitted the Request	SMETS 2+
N33	Cancellation of Future Dated Response Pattern (DSP) requests because of Device Decommission	Cancellation of all Future Dated Response Pattern (DSP) Services not yet submitted to the Device	Upon successful completion of Service Request 8.3 Decommission Device for a Device	All applicable Future Dated Response Pattern (DSP) Request senders	All
N34	Cancellation of Future Dated Response Pattern (DSP) requests because of CHF Decommission	Cancellation of all Future Dated Response Pattern (DSP) Services not yet submitted to the CHF and its associated GPF	Upon successful completion of Service Request 8.3 Decommission Device for a Device	All applicable Future Dated Response Pattern (DSP) Request senders	All
N35	Cancellation of Future Dated Response Pattern (DSP) requests because of Device Withdrawal	Cancellation of all Future Dated Response Pattern (DSP) Services not yet submitted to the Device	Upon successful completion of Service Request 8.5 Service Opt Out for a Device	All applicable Future Dated Response Pattern (DSP) Request senders	SMETS 2+
N36	Cancellation of Future Dated Response Pattern (DSP) requests because of CHF Withdrawal	Cancellation of all Future Dated Response Pattern (DSP) Services not yet submitted to the CHF and Devices in its Whitelist	Upon successful completion of Service Request 8.4 Update Inventory for a CHF Withdrawal	All applicable Future Dated Response Pattern (DSP) Request senders	SMETS 2+

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N37	Schedule removal because of CHF Withdrawal	"DCC Scheduled" schedule removal for ESME, GSME and GPF in the Whitelist	Upon successful completion of Service Request 8.4 Update Inventory for a CHF Withdrawal	All applicable Schedule "owners"	SMETS 2+
N38	Cancellation of Future Dated Response Pattern (DSP) requests because of CoS	Cancellation of all "Future Dated (DSP)" Services not yet submitted to the Device from the previous Responsible Supplier	Upon successful completion of Service Request 6.23 Update Security Credentials (CoS)	Previous IS Previous GS	All
N39	PPMID Alert	A PPMID Device generates an Alert as defined by GBCS	PPMID Alert received by the DSP Access Control Broker	IS for the Primary Import MPAN in the Smart Metering System GS for the Import MPRN in the Smart Metering System	SMETS 2+
N40	Schedule removal because of Device Suspension	"DSP Scheduled" schedule removal	Suspension of Device	All applicable Schedule "owners"	All
N41	Cancellation of "Future Dated (DSP)" requests because of Device Suspension	Cancellation of all "Future Dated (DSP)" Services not yet submitted to the Device	Suspension of Device	All applicable Future Dated (DSP) Request senders	All
N42	Security Credentials updated on the device	Security Credentials updated on Device by Service Request 6.15.1 or 6.21	Success Response from Update Security Credentials where the Remote Party whose certificate has been placed on the Device is not the sender of the Service Request	The Remote Party whose certificate has been placed on the Device.	All

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N43	PPMID Removal	A PPMID Device has been removed from the HAN via Service Request 8.11	Success Response from Update HAN Device Log (Remove) where the removed Device is a PPMID. DCC Alert is only sent if the PPMID device was joined to both Electricity and Gas Smart Metering Equipment as identified by the Smart Metering Inventory.	All Responsible Suppliers for the CHF, other than the IS / GS that submitted the Service Request	SMETS 2+
N44	Recovery Complete (ACB Credentials)	Recovery is complete and at least one of the KRP Device Security Credentials on the Device has been replaced with those from an ACB Certificate	Recovery is complete and KRP Device Security Credentials on the Device replaced by those from an ACB by the Recovery Process	IS GS	SMETS 2+
N45	Recovery Complete	Recovery is complete and all required Device Security Credentials on the Device have been replaced	Recovery is complete and Device Security Credentials on the Device have been replaced by the Recovery Process	IS GS ED GT	SMETS 2+
N46	Quarantined Request – Anomaly Detection User Threshold Breach	An Anomaly Detection User-specific volume threshold has been exceeded	Request quarantined, because an Anomaly Detection User-specific volume threshold has been exceeded	Service Request / Signed Pre-Command sender	All
N47	Quarantined Request – Anomaly Detection DCC Threshold Breach	An Anomaly Detection DCC system-wide volume threshold has been exceeded	Request quarantined, because an Anomaly Detection DCC system-wide volume threshold has been exceeded	Service Request / Signed Pre-Command sender	All
N48	Quarantined Request – Anomaly Detection Attribute Limits Breach	An Anomaly Detection Attribute Limit has been breached	Request quarantined, because an Anomaly Detection Attribute Limit has been breached	Service Request / Signed Pre-Command sender	SMETS 2+
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 an 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

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
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 an 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

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
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 an 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 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	IS GS	All
N52	GSME Firmware Version Mismatch	GSME's Firmware Version returned by the GPF is different from that in the Smart Metering Inventory	Upon successful completion of Service Request 11.2 Read Firmware Version where the target Device is GPF and the GSME Firmware Version returned by the GPF is different from that in the SMI	GS	All

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N53	Command not delivered to ESME	Receipt by the DCC Access Control Broker of an Alert 0x8F84 - Failure to Deliver Remote Party Message to ESME (as defined by GBCS) from the CHF (Please note that DCC Alert N53 does not replace existing N12 or N13 DCC Alerts from the DCC, which will continue to be produced to confirm the DCC processing of the relevant Service Request. DCC Alert N53 is triggered by the CHF Alert and should be regarded as additional information which may be used by the User to adjust the frequency of requests being sent to the relevant ESME device. It is likely that after receipt of a DCC Alert N53 a User shall receive a subsequent DCC Alert N13 at the end of the Final Retry Period for the Service Request sent if applicable)	Receipt by the DCC Access Control Broker of an Alert from a Communications Hub Function with Alert Code 0x8F84 and Message Code 0x00D5	Request sender	SMETS 2+
N54	Dual Band CH Sub GHz Alert	The DCC Systems receive a Sub GHz Alert	A Sub GHz Alert is received by the DCC Access Control Broker as defined by GBCS section 16.1, being one of: • Alerts without specific payload: o 0x8F21 (Duty Cycle fallen below Normal-Limited Duty Cycle Threshold) o 0x8F22 (Critical Duty Cycle Action Taken) o 0x8F23 (Duty Cycle fallen below Limited-Critical Duty Cycle Threshold)	IS GS	SMETS 2+

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
			○ 0x8F24 (Regulated Duty Cycle Action Taken) ○ 0x8F25 (Duty Cycle fallen below Critical-Regulated Duty Cycle Threshold) ○ 0x8F27 (Sub GHz Channel Scan initiated) ○ 0x8F29 (Three Lost GSME Searches Failed) ○ 0x8F2B (Sub GHz Channel not changed due to Frequency Agility Parameters) • Alerts with specific payload: ○ 0x8F20 (Limited Duty Cycle Action Taken) ○ 0x8F26 (Sub GHz Channel Changed) ○ 0x8F28 (Sub GHz Channel Scan Request Assessment Outcome) ○ 0x8F2A (Sub GHz Configuration Changed) ○ 0x8F2C (Message Discarded Due to Duty Cycle Management) ○ 0x8F2D (No More Sub GHz Device Capacity)		
N55	SMETS1 Service Provider Alert	DCC Alert initiated by a SMETS1 Service Provider	The trigger is indicated in the S1SPAlert code provided in the DCC Alert. The payload is delivered in the S1SPAlert format; see section 3.9.15	Service Request sender	SMETS 1

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N56	SMETS1 Service Provider Provision of prepayment top-up UTRN	DCC Alert containing a prepayment top-up UTRN provided by a SMETS1 Service Provider	The trigger is a User request for a prepayment top-up. The UTRN is delivered in the S1SPAlert format; see section 3.9.15	Service Request sender	SMETS 1
N57	SMETS1 CHF or SMETS1 PPMID Firmware notification	See clauses 1.4.7.13 and 1.4.7.14.	See clauses 1.4.7.13 and 1.4.7.14.	Gas Supplier for the GSME on the same home area network	SMETS 1
N58	ALCS/HCALCS configuration change	ALCS/HCALCS configuration changed on ESME	Upon successful completion of Service Request 6.14.2 Update Device Configuration (Auxilliary Load Control Scheduler) OR Upon successful completion of Service Request 6.14.1 Update Device Configuration (Auxilliary Load Control Descriptions) 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	ED	SMETS 2+
N999	DUIS Version Mismatch	User's DUIS version is incompatible with the DCC Alert or Service Response to be sent	The DCC Alert or Service Response is not compatible with the DUIS version used by the User	Recipient of the incompatible DCC Alert or Service Response	All

Table 41 : DCC Alert Codes

3.6.4 Relationship between DCC Alert Codes and Response Codes

The DCC shall populate one of the following Response Codes in each DCC Alert in accordance with the allowable Response Codes for each DCC Alert Code as detailed below.

Alert Code	Response Code
AD1	I0
N1	I0

Alert Code	Response Code
N2	I0
N3	I0
N4	I0
N5	I0
N6	I0
N7	E1,E2,E3,E4,E5,E19,E56 (Please note this Response Code is not applicable to this version of DUIS), E57,E1007, E060502
N8	I0
N9	I0
N10	E30
N11	E31
N12	E20
N13	E21
N14	E43,E46,E47
N15	E44
N16	I0
N17	I0
N18	I0
N19	I0
N20	I0
N21	I0
N22	E20
N23	E21
N24	I0
N25	I0
N26	E1,E2, E3,E4,E5,E19,E1007,E062304
N27	I0
N28	I0
N29	I0
N30	I0
N31	I0
N33	I0
N34	I0
N35	I0
N36	I0
N37	I0
N38	I0
N39	I0
N40	I0
N41	I0
N42	I0
N43	I0
N44	I0
N45	I0
N46	I0
N47	I0
N48	I0
N49	I0
N50	I0
N51	I0
N52	I0
N53	E58

Alert Code	Response Code
N54	I0 (for Alerts 0x8F21, 08F23, 0x8F25, 0x8F26, 0x8F27, 0x8F28, 0x8F2A), E59 (for Alerts 0x8F20, 08F22 , 0x8F24, 0x8F29, 0x8F2B, 0x8F2C, 0x8F2D)
N55	E62
N56	I0
N57	I0
N58	I0
N999	I0

Table 42 : DCC Alert Codes / Response Codes cross-reference

3.7 Target Response Times

For the purposes of supporting the measurement of Target Response Times (as per Section H3), the concepts of 'receipt' and 'sending' are to be interpreted by Users and the DCC in the following manner. The DCC shall operate the DCC User Interface such that;

- For the Transform and Non-Device Services the DCC Systems shall record the date and time of receipt of the Request from the User at the Message Gateway and the date and time of sending of the Service Response to the User at the Message Gateway.

- For the Send Command Service the DCC Systems shall record at the Message Gateway the date and time of receipt of the Service Request from the User by the Send Command Service and then subsequently record at the Message Gateway the date and time of Sending of the Service Response to the User's Receive Response Service.

- For Device Alerts the DCC Systems shall record the date and time of receipt of the Alert from the Communication Hub and the date and time of sending the Device Alert to the User's Receive Response Service.

- For DCC Alerts the DCC Systems shall record at the Message Gateway the date and time of sending of the DCC Alert to the User's Receive Response Service.

3.8 Service Request Definitions

All undefined capitalised terms are references to data items within the DUIS, CHTS, GBCS or SMETS.

For all Service Request definitions within this section, unless explicitly defined with the Type definitions, no restrictions are applied to the standard XSD attributes and a User may use the full range of values as defined by that XML Type. The following table summarises the minimum and maximum values corresponding to the XML numeric data types that have a range defined in XML and are included in the DUIS or MMC XML Schema.

XML Datatype	Description	Minimum Value		Maximum Value	
xs:short	Signed 16-bit integer	-32,768	-2^{15}	32,767	$2^{15}-1$
xs:int	Signed 32-bit integer	-2,147,483,648	-2^{31}	2,147,483,647	$2^{31}-1$
xs:long	Signed 64-bit integer	−9,223,372,036,854,775,808	-2^{63}	9,223,372,036,854,775,807	$2^{63}-1$
xs:unsignedShort	Unsigned 16-bit integer	0		65,535	$2^{16}-1$
xs:unsignedInt	Unsigned 32-bit integer	0		4,294,967,295	$2^{32}-1$
xs:unsignedLong	Unsigned 64-bit integer	0		18,446,744,073,709,551,615	$2^{64}-1$

Table 43 XML data type ranges

3.8.1 Update Import Tariff (Primary Element)

3.8.1.1 Service Description

Service Request Name	UpdateImportTariff(Primary Element)	
Service Reference	1.1	
Service Reference Variant	1.1.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one to be populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Service Response from Device - FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0019	0x006B
GBCS Use Case	ECS01a	GCS01a

3.8.1.2 Specific Data Items for this Request

UpdateImportTariffPrimaryElement Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ElecTariffElements	Electricity Smart Meter specific tariff elements	sr:ElecTariffElements	Electricity Smart Meter: Yes Gas Smart Meter: N/A	None	N/A
GasTariffElements	Gas Smart Meter specific tariff elements	sr:GasTariffElements	Electricity Smart Meter: N/A Gas Smart Meter: Yes	None	N/A
PriceElements	All the Data Items required to update the price on the Device are defined in Service Request 1.2.1 'Update Price (Primary Element)'	sr:PricePrimary	Yes	None	N/A

Table 44 : UpdateImportTariffPrimaryElement (sr:TariffPrimaryElement) data items

ElecTariffElements Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
CurrencyUnits	The Currency Units currently used by a Smart Meter for display purposes, which shall be GB Pounds or European Central Bank Euros Valid set: • GBP. GB Pounds • ECB. European Central Bank Euros	Restriction of xs:string (Enumeration)	Yes	None	N/A
SwitchingTable	A calendar defining UTC times, days and dates for switching the Primary Element tariff	sr:ElecSwitchingTablePrimary	Yes	None	N/A
SpecialDays	A calendar defining special dates for switching the Primary Element tariff	sr:ElecSpecialDaysPrimary	Yes If there are no Special Days, this XML element will be present, but empty, i.e. it will contain 0 SpecialDay elements	None	N/A
ThresholdMatrix	An 8 (threshold definitions) x 3 (block thresholds) matrix capable of holding thresholds for controlling Block Tariffs.	sr:ElecThresholdMatrix	Yes	None	N/A

Table 45 : ElecTariffElements (sr: ElecTariffElements) data items

SwitchingTable Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DayProfiles	Containing up to 16 DayProfile elements	sr:ElecDayProfiles	Yes	None	N/A
WeekProfiles	Containing up to 4 WeekProfile elements	sr:ElecWeekProfiles	Yes	None	N/A
Seasons	Containing up to 4 Season elements	sr:ElecSeasonsPrimary	Yes	None	N/A

Table 46 : SwitchingTable (sr: ElecSwitchingTablePrimary) data items

DayProfiles Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DayProfile	A profile definition for a single day Can include up to 16 Day Profiles	sr:ElecDayProfilePrimary (minOccurs = 1 maxOccurs = 16)	Yes	None	N/A

Table 47 : DayProfiles (sr: ElecDayProfiles) data items

DayProfile Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DayName	An identifier for that day that has a number of ProfileSchedule elements associated with it. Note that this is referenced from the WeekProfile element. The DayName value must begin at 1 and increment by 1 for each subsequent DayName.	sr:ElecDayName (Restriction of xs:positiveInteger) (minInclusive = 1, maxInclusive = 16))	Yes	None	N/A
ProfileSchedule	Array of Actions and Start Times when a Block or TOU action that is executed at that time. For TOU the action indicates the TOU register that consumption is recorded against. For Block the action indicates which one of the 8 threshold definitions is used. Note that it is not necessary to define which block consumption would be recorded against as the device will calculate this based on consumption. A profile schedule can have either a Block or a TOU action.	sr:ElecProfileSchedule Primary minOccurs = 1 maxOccurs = 48	Yes	None	N/A

Table 48 : DayProfile (sr:ElecDayProfilePrimary) data items

ProfileSchedule Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
StartTime	The time at which the action is to execute	xs:time	Yes	None	N/A

TOUTariffAction	Identifier (n) of the TOU tariff to be applied (see Table 85) Valid set: • Value between 1 and 48	Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 48)	TOU Tariff to be applied: Yes Otherwise: N/A	None	N/A
BlockTariffAction	Identifier (n) of the Action to be executed for a Block tariff Valid set: • Value between 1 and 08	Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 8)	Block Tariff to be applied: Yes Otherwise: N/A	None	N/A

Table 49 : ProfileSchedule (sr: ElecProfileSchedulePrimary) data items

WeekProfiles Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
WeekProfile	A profile definition for a single week Can include up to 4 Week Profiles	sr:ElecWeekProfiles	Yes	None	N/A

Table 50 :WeekProfiles (sr:ElecWeekProfiles) data items

WeekProfile Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
WeekName	An identifier for the week The WeekName value must begin at 1 and increment by 1 for each subsequent WeekName.	sr:ElecWeekName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 4))	Yes	None	N/A
ReferencedDayName	DayName as defined in DayProfiles Definition above	sr:ElecReferencedDayName (minOccurs = 7, maxOccurs = 7)	Yes	None	N/A
Index (Attribute of ReferencedDayName)	Provides an ordering for the ReferencedDayName elements. Monday = 1, incrementing by day through to Sunday = 7 Unique and consecutive	sr:range_1_7 (Restriction of xs :positiveinteger (minInclusive 1, maxInclusive 7))	Yes	None	N/A

Table 51 : WeekProfile (sr:ElecWeekProfile) data items

Seasons Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
Season	A single season definition Can include up to 4 Seasons	sr:ElecSeasonPrimary (minOccurs = 1 maxOccurs = 4)	Yes	None	N/A

Table 52 :Seasons (sr:ElecSeasonsPrimary) data items

Season Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
SeasonName	An identifier for the season.	Restriction of xs:string (maxLength = 8)	Yes	None	N/A
SeasonStartDate	The date from which this season is defined to start The SeasonStartDate data item is set to be active from midnight (00:00) UTC. The DCC shall set this start time alongside the SeasonStartDate specified by the User within the Service Request.	sr:Date (with wildcards)	Yes	None	N/A
ReferencedWeekName	Week name as defined in WeekProfile Definition above	sr:ElecWeekName Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 4))	Yes	None	N/A

Table 53 : Season (sr:ElecSeasonPrimary) data items

SpecialDays Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
SpecialDay	A collection of between 0 and 50 Special Day elements	sr:ElecSpecialDay Primary (minOccurs = 0 maxOccurs = 50)	No	None	N/A

Table 54 : SpecialDays (sr:ElecSpecialDaysPrimary) data items

SpecialDay Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
Date	The date on which the special day applies	sr:Date (with wildcards)	Yes	None	N/A
ReferencedDayName	An identifier for that day	sr:ElecDayName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 16))	Yes	None	N/A

Table 55 : SpecialDay (sr:ElecSpecialDayPrimary) data items

ThresholdMatrix Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
Thresholds	A collection of 8 threshold matrix definitions Note that the attribute index provides an ordering for these elements.	sr: ElecThresholds minOccurs = 8 maxOccurs = 8	Yes	None	N/A
Index (Atrribute of Thresholds)	Provides an ordering for the Thresholds elements. Unique and consecutive numbers starting at 1.	sr:range_1_8 (positiveinteger minInclusive 1 maxInclusive 8)	Yes	None	N/A

Table 56 : ThresholdMatrix (sr: ElecThresholdMatrix) data items

Thresholds Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
BlockThreshold	Up to 3 threshold values defined within this collection, each value defines the threshold between blocks. Note that the attribute index provides an ordering for these elements.	xs:unsignedInt minOccurs = 1 maxOccurs = 3	Yes	None	Wh
Index (Atrribute of BlockThreshold)	Provides an ordering for the BlockThreshold elements. Unique and consecutive numbers starting at 1	sr:range_1_3 (positiveinteger minInclusive 1 maxInclusive 3)	Yes	None	N/A

Table 57 : Thresholds (sr:ElecThresholds) data items

GasTariffElements Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
SwitchingTable	A calendar defining UTC times, days and dates for switching the tariff	sr:GasSwitchingTable	Yes	None	N/A
SpecialDays	A calendar defining special dates for switching the Primary Element tariff	sr:GasSpecialDays	Yes If there are no Special Days, this XML element will be present, but empty, i.e. it will contain 0 SpecialDay elements	None	N/A
ThresholdMatrix	Up to 3 threshold values defined within this collection, each value defines the threshold between blocks	sr:GasThresholdMatrix	Yes	None	N/A

Table 58 : GasTariffElements (sr:GasTariffElements) data items

GasThresholdMatrix Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
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	kWh
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 59 : GasThresholdMatrix (sr:GasThresholdMatrix) data items

GasSwitchingTable Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units

DayProfiles	Array of up to 4 DayProfiles defining a DayName identifiers and a list of 4 actions and start times to switch tariff	sr:GasDayProfiles	Yes	None	N/A
WeekProfiles	Array of up to 2 elements, each including a WeekName and the Day identifiers to be associated with a day of each day (Monday to Sunday)	sr:GasWeekProfiles	Yes	None	N/A
Seasons	Array of 3 elements, each including a Season ID, a Season Start Date and the Week ID associated to that Season ID	sr:GasSeasons	Yes	None	N/A

Table 60 : GasSwitchingTable (sr:GasSwitchingTable) data items

DayProfiles Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DayProfile	A profile definition for a single day Can include up to 4 Day Profiles	sr:GasDayProfile (minOccurs = 1 maxOccurs = 4)	Yes	None	N/A

Table 61 :DayProfiles (sr: GasDayProfiles) data items

DayProfile Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DayName	An identifier for that day that has a number of ProfileSchedule elements associated with it. Note that this is referenced from the WeekProfile element. The DayName value must begin at 1 and increment by 1 for each subsequent DayName.	sr:GasDayName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 4))	Yes	None	N/A
TOUTariffAction	Identifier (n) of the entry in the Gas TOU tariff to be applied (see Table 89) (n between 1 and 4) Valid set: Value between 1 and 4 Note that all TOU rates run from midnight, it is not possible to modify the start time.	Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 4)	TOU Tariff to be applied: Yes Otherwise: N/A	None	N/A
BlockTariff	Indicates that the block tariff is active on this day. Note that Gas devices do not support a mixture of TOU and Block tariffs. When defining a block tariff all week profiles need to point to a day profile that is set with a Profile Schedule of BlockTariff.	sr:NoType	Block Tariff to be applied: Yes Otherwise: N/A	None	N/A

Table 62 : DayProfile (sr:GasDayProfile) data items

WeekProfiles Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
WeekProfile	A profile definition for a single week Can include up to 2 Week Profiles	sr:WeekProfileGas (minOccurs = 1 maxOccurs = 2)	Yes	None	N/A

Table 63 :WeekProfiles (sr:GasWeekProfiles) data items

WeekProfile Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
WeekName	An identifier for the week. The WeekName value must begin at 1 and increment by 1 for each subsequent WeekName.	sr:GasWeekName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 2))	Yes	None	N/A
ReferencedDayName	DayName as defined above in DayProfile Definition Note that the attribute index provides an ordering for these elements.	sr:GasReferencedDayName (minOccurs = 7 maxOccurs = 7) Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 4)	Yes	None	N/A
Index (Attribute of ReferencedDayName)	Provides an ordering for the ReferencedDayName elements. Monday = 1, incrementing by day through to Sunday = 7. Unique and consecutive numbers starting at 1	sr:range_1_7 (positiveInteger minInclusive 1 maxInclusive 7)	Yes	None	N/A

Table 64 : WeekProfile (sr:WeekProfileGas) data items

Seasons Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
Season	A definition for a single season Can include up to 3 Seasons	sr:GasSeason (minOccurs = 1 maxOccurs = 3)	Yes	None	N/A

Table 65 :Seasons (sr:GasSeasons) data items

Season Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
SeasonStartDate	The date from which this season is defined to start	sr:GasDateWithWildcards See Table 319	Yes	None	N/A
ReferencedWeekName	WeekName as defined above in WeekProfile Definition	sr:GasWeekName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 2))	Yes	None	N/A

Table 66 : Seasons (sr:GasSeason) data items

SpecialDays Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
SpecialDay	A collection of between 0 and 20 Special Day elements	sr:GasSpecialDay(minOccurs = 0 maxOccurs = 20)	No	None	N/A

Table 67 : SpecialDays (sr: GasSpecialDays) data items

SpecialDay Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
Date	The date on which the special day applies	sr:GasDateWithWildcards See Table 319	Yes	None	N/A
ReferencedDayName	DayName as defined	sr:GasDayName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 4))	Yes	None	N/A

Table 68 : SpecialDay (sr:GasSpecialDay) data items

3.8.1.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and also ExecutionDateTime validation (clause 3.10.2)

Response Code	Response Code Description
E010101	Too many switching rules defined (exceeds 200)

3.8.2 Update Import Tariff (Secondary Element)

3.8.2.1 Service Description

Service Request Name	UpdateImportTariff(SecondaryElement)	
Service Reference	1.1	
Service Reference Variant	1.1.2	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Service Response from Device - FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x00B7	N/A
GBCS Use Case	ECS01c	N/A

3.8.2.2 Specific Data Items for this Request

UpdateImportTariffSecondaryElement Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
SwitchingTable	A calendar defining UTC times, days and dates for switching the Secondary Element tariff	sr:ElecSwitchingTableSecondary	Yes	None	N/A
SpecialDays	A calendar defining special dates for switching the Secondary Element tariff	sr:ElecSpecialDaysSecondary	Yes If there are no Special Days, this XML element will be present, but empty, i.e. it will contain 0 SpecialDay elements	None	N/A
PriceElements	All the Data Items required to update the price on the Device are defined in Service Request 1.2.2 Update Price (Secondary Element)	sr:PriceSecondary	Yes	None	N/A

Table 69 : UpdateImportTariffSecondaryElement (sr:TariffSecondaryElement) data items

SwitchingTable Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DayProfiles	Containing up to 16 DayProfile elements	sr:ElecDayProfilesSecondary	Yes	None	N/A
WeekProfiles	Containing up to 4 WeekProfile elements	sr:ElecWeekProfiles	Yes	None	N/A
Seasons	Containing up to 4 Season elements	sr:ElecSeasonsSecondary	Yes	None	N/A

Table 70 : ElectricityTariffSwitchingTable (sr:TariffSwitchingTableSecondaryElement) data items

DayProfiles Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DayProfile	A DayProfile definition containing a DayName and ProfileSchedule elements. Can include up to 16 Day Profiles	sr:ElecDayProfileSecondary (minOccurs = 1 maxOccurs = 16)	Yes	None	N/A

Table 71 : DayProfiles (sr:ElecDayProfilesSecondary) data items

DayProfile Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DayName	An identifier for that day that has a number of ProfileSchedule elements associated with it. Note that this is referenced from the WeekProfile element. The DayName value must begin at 1 and increment by 1 for each subsequent DayName.	sr:ElecDayName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 16))	Yes	None	N/A
ProfileSchedule	Array of up to 48 Actions and Start Times when an action to trigger a tariff switch is to be run	sr:ElecProfileScheduleSecondary (minOccurs = 1 maxOccurs = 48)	Yes	None	N/A

Table 72 : DayProfile (sr:ElecDayProfileSecondary) data items

ProfileSchedule Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
StartTime	The time at which the action is to execute	xs:time	Yes	None	N/A
TOUTariffAction	Identifier (n) of the Secondary TOU tariff to be applied (see Table 91)(n between 1 and 4) Valid set: • Value between 1 and 4	Restriction of xs:nonNegativeInteger (minInclusive = 1, maxInclusive = 4)	Yes	None	N/A

Table 73 : ProfileSchedule (sr:ElecProfileScheduleSecondary) data items

WeekProfiles Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
WeekProfile	A collection of WeekName and ReferencedDayName elements. Can include up to 4 Week Profiles	sr:ElecWeekProfile (minOccurs = 1 maxOccurs = 4)	Yes	None	N/A

Table 74 : WeekProfiles (sr:ElecWeekProfiles) data items

WeekProfile Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
WeekName	An identifier for the week. The WeekName value must begin at 1 and increment by 1 for each subsequent WeekName.	sr:ElecWeekName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 4))	Yes	None	N/A
ReferencedDayName	Day as defined Note that the attribute index provides an ordering for these elements.	sr:ElecReferencedDayName (minOccurs = 7, maxOccurs = 7)	Yes	None	N/A
Index (Attribute of ReferencedDayName)	Provides an ordering for the ReferencedDayName elements. Monday = 1, incrementing by day through to Sunday = 7 Unique and consecutive numbers starting at 1	sr:range_1_7 (positiveinteger minInclusive = 1 maxInclusive = 7)	Yes	None	N/A

Table 75 : WeekProfile (sr:ElecWeekProfile) data items

Seasons Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
Season	A single season definition Can include up to 4 Seasons	sr:ElecSeasonSecondary (minOccurs = 1 maxOccurs = 4)	Yes	None	N/A

Table 76 :Seasons (sr: sr:ElecSeasonsSecondary) data items

Season Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
SeasonName	An identifier for the season.	Restriction of xs:string (maxLength = 8)	Yes	None	N/A
SeasonStartDate	The date from which this season is defined to start	sr:Date (with wildcards)	Yes	None	N/A
ReferencedWeek Name	Week name as defined	sr:ElecWeekName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 4))	Yes	None	N/A

Table 77 : Season (sr:ElecSeasonSecondary) data items

SpecialDays Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
SpecialDay	A collection of between 0 and 50 Special Days.	sr:ElecSpecialDaySecondary (minOccurs = 0 maxOccurs = 50)	No	None	N/A

Table 78 : SpecialDays (sr:ElecSpecialDaysSecondary) data items

SpecialDay Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
Date	The date on which the special day applies	sr:Date (with wildcards)	Yes	None	N/A
ReferencedDayName	DayName as defined	sr:ElecDayName (Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 16))	Yes	None	N/A

Table 79 : SpecialDay (sr:ElecSpecialDaySecondary) data items

3.8.2.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and also Execution Date Time validation (clause 3.10.2)

Response Code	Response Code Description
E010101	Too many switching rules defined (exceeds 200)

3.8.3 Update Price (Primary Element)

3.8.3.1 Service Description

Service Request Name	UpdatePrice(Primary Element)	
Service Reference	1.2	
Service Reference Variant	1.2.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated	For Service Request 4 - Transform For Signed Pre-Commands 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Service Response from Device – FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x00A2	0x00A3
GBCS Use Case	ECS01b	GCS01b

3.8.3.2 Specific Data Items for this Request

UpdatePricePrimaryElement Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
PriceElements	All the Data Items required to update prices on the Device	sr:PricePrimary	Yes	None	N/A

Table 80 : UpdatePricePrimaryElement (sr:UpdatePricePrimaryElement) data items

PriceElements Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ElectricityPriceElements	Electricity Smart Meter specific price elements	sr:ElecPriceElementsPrimary see Table 82	Electricity Smart Meter: Yes Gas Smart Meter: N/A	None	N/A
GasPriceElements	Gas Smart Meter specific price elements	sr:GasPriceElements see Table 87	Electricity Smart Meter: N/A Gas Smart Meter: Yes	None	N/A

Table 81 : PriceElements (sr:PricePrimary) data items

ElectricityPriceElements Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
StandingCharge	A charge to be levied in Currency Units per unit time when operating in credit mode and prepayment mode Note that the scale used for Electricity Meters is defined by StandingChargeScale value, Gas meters have a scale value of -5 Values can be in the range of; (-32,768 to 32,767)	sr:PriceType (restriction of xs:short)	Yes	None	Value when multiplied by the scale is GBP/ EUROs This amount is collected daily
StandingChargeScale	A multiplier applied to the StandingCharge value. Note this is the value of n in 10^n (10 to the power n). For example a StandingCharge of 1 and a StandingChargeScale scale of -2 would result in a Standing Charge of £0.01	sr:PriceScale (Restriction of xs:integer minInclusive = -128, maxInclusive=127)	Yes	None	N/A
PriceScale	A multiplier applied to the prices defined in this structure. Note this is the value of n in 10^n (10 to the power n). For example a price of 1 and a Price scale of -2 would result in a price of £0.01	sr:PriceScale (Restriction of xs:integer minInclusive = -128, maxInclusive=127)	Yes	None	N/A
BlockTariff	Up to 8 block price definitions, with 4 prices per block. A block tariff must have 1 to 8 block definitions, each definition can have at most 4 prices. Where a User does not provide a price value the DCC shall populate the associated GBCS Command with a value of zero to ensure that all 80 price values are set in the associated Command. Users are not obligated to populate all 80 price values.	sr: ElecBlockTariff See Table 83	Yes – if Block Tariff	None	N/A

TOUTariff	Up to 48 TOU prices. A TOU tariff must have 1 to 48 TOU rates defined. Where a User does not provide a price value the DCC shall populate the associated GBCS Command with a value of zero to ensure that all 80 price values are set in the associated Command. Users are not obligated to populate all 80 price values.	sr:ElecTOUTariff See Table 85	Yes – if TOU Tariff	None	N/A
HybridTariff	A combination of Block and TOU prices. Where a User does not provide a price value the DCC shall populate the associated GBCS Command with a value of zero to ensure that all 80 price values are set in the associated Command. Users are not obligated to populate all 80 price values.	sr:ElecHybridTariff See Table 86	Yes – if combination of TOU and Block Tariffs	None	N/A

Table 82 : ElectricityPriceElements (sr:ElecPriceElementsPrimary) data items

BlockTariff (sr:ElecBlockTariff) Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
BlockPrices	Set of 8 price structures applicable to each Block Tariff	sr:ElecBlocks (minOccurs = 1, maxOccurs = 8) See Table 84	Yes	None	N/A
Index (Attribute of BlockPrices)	Provides an ordering for the BlockPrices elements. Unique and consecutive numbers starting at 1	sr:range_1_8 (positiveinteger minInclusive 1 maxInclusive 8)	Yes	None	N/A

Table 83 : Block Tariff for Electricity (sr:ElecBlockTariff) data items

BlockPrices (sr:ElecBlocks) Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
BlockPrice	Up to 4 prices for each block. Note that the attribute index provides an ordering for these elements. Values can be in the range of; (-32,768 to 32,767)	sr:ElecBlockPrice (minOccurs = 1, maxOccurs = 4) sr:PriceType xs:short	Yes	None	Value when multiplied by the scale is GBP/EUROs This amount is per kWh when adjusted by the scaling factor
Index (Attribute of BlockPrice)	Provides an ordering for the BlockPrice elements. Unique and consecutive numbers starting at 1	sr:range_1_4 (positiveinteger minInclusive 1 maxInclusive 4)	Yes	None	N/A

Table 84 : Block Price for Electricity (sr:ElecBlocks) data items

TOUTariff (sr:ElecTOUTariff) Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
TOUPrice	Up to 48 prices for each TOU rate. Note that the attribute index provides an ordering for these elements. Values can be in the range of; (-32,768 to 32,767)	sr:ElecPrimaryTOUPrice (minOccurs = 1, maxOccurs = 48) sr:PriceType xs:short	Yes	None	Value when multiplied by the scale is GBP/EUROs This amount is per kWh when adjusted by the scaling factor
Index (Attribute of TOUPrice)	Provides an ordering for the TOUPrice elements. Unique and consecutive numbers starting at 1	sr:range_1_48 (positiveinteger minInclusive 1 maxInclusive 48)	Yes	None	

Table 85 : TOUTariff for Electricity (sr:ElecTOUTariff) data items

HybridTariff (sr:ElecHybridTariff) Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
BlockPrices	Set of 8 price structures applicable to each tariff.	sr:ElecBlocks (minOccurs = 1, maxOccurs = 8) See Table 84	Yes	None	Value when multiplied by the scale is GBP/EUROs This amount is per kWh
TOUPrice	Up to 48 prices for each TOU rate.	sr:ElecPrimaryTOUPrice (minOccurs = 1, maxOccurs = 48) sr:PriceType xs:Short	Yes	None	Value when multiplied by the scale is GBP/EUROs This amount is per kWh

Table 86 : HybridTariff for Electricity (sr:ElecHybridTariff) data items

GasPriceElements Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
CurrencyUnits	The Currency Units currently used by a Smart Meter for display purposes, which shall be GB Pounds or European Central Bank Euros Valid set: • GBP. GB Pounds • ECB. European Central Bank Euros	Restriction of xs:string (Enumeration)	Yes	None	N/A
StandingCharge	A charge to be levied in Currency Units per unit time when operating in credit mode and prepayment mode The value is interpreted as in milli-pence or milli-cents.	xs:unsignedInt	Yes	None	1000th pence /cent per day This amount is collected daily
BlockTariff	Gas Smart Meter: A 4 x 1 matrix containing Prices for Block Pricing, plus the thresholds for the blocks. Where a User does not provide a price value the DCC shall populate the associated GBCS Command with a value of zero to ensure that all 4 price values are set in the associated Command. Users are not obligated to populate all 4 price values	sr:GasBlockPriceMatrix (minOccurs = 1 maxOccurs = 4)	Yes – if block tariff	None	N/A
TOUTariff	Gas Smart Meter: A 1 x 4 matrix containing Prices for Time-of-use Pricing Where a User does not provide a price value the DCC shall populate the associated GBCS Command with a value of zero to ensure that all 4 price values are set in the associated Command. Users are not obligated to populate all 4 price values	sr:GasTOUPriceMatrix	Yes –if TOU Tariff	None	N/A

Table 87 : GasPriceElements (sr:GasPriceElements) data items

BlockTariff Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
BlockPrice	Up to 4 prices for each block. Note that the attribute index provides and ordering for these elements.	sr:GasBlockPrice (minOccurs = 1, maxOccurs = 4) xs:unsignedInt	Yes – if block tariff	None	1000th pence /cent per kWh
Index (Attribute of BlockPrice)	Provides a position within the collection of BlockPrice elements Unique and consecutive numbers starting at 1	sr:range_1_4 (positiveinteger minInclusive 1 maxInclusive 4)	Yes – if block tariff	None	N/A
NumberOfThresholds	The number of thresholds in use on the GSME. .	xs:positiveInteger minInclusive = 1 maxInclusive = 3	Yes if block tariff	None	N/A

Table 88 : BlockTariff for Gas (sr:GasBlockPriceMatrix) data items

TOUTariff Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
TOUPrice	Up to 4 Prices applicable to a TOU rate	sr:GasTOUPrice (minOccurs = 1, maxOccurs = 4) xs:unsignedInt	Yes - if TOU Tariff	None	1000th pence /cent per kWh
Index (Attribute of TOUPrice)	Provides a position within the collection of TOUPrice elements Unique and consecutive numbers starting at 1	sr:range_1_4 (positiveinteger minInclusive 1 maxInclusive 4)	Yes - if TOU Tariff	None	N/A

Table 89 : TOUTariff for Gas (sr:GasTOUPriceMatrix) data items

3.8.3.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.4 Update Price (Secondary Element)

3.8.4.1 Service Description

Service Request Name	UpdatePrice(SecondaryElement)	
Service Reference	1.2	
Service Reference Variant	1.2.2	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter(ESME)	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated	For Service Request 4 - Transform For Signed Pre-Commands 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Service Response from Device – FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.100 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x00C7	N/A
GBCS Use Case	ECS01d	N/A

3.8.4.2 Specific Data Items for this Request

UpdatePriceSecondaryElement Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
PriceElements	All the Data Items required to update prices on the Secondary Element of the Device	sr:PriceSecondary	Yes	None	N/A

Table 90 : UpdatePriceSecondaryElement (sr:UpdatePriceSecondaryElement) data items

PriceElements Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
PriceScale	A multiplier applied to the prices defined in this structure. Note this is the value of n in 10^n (10 to the power n). For example a price of 1 and a Price scale of -2 would result in a price of £0.01	sr:PriceScale (Restriction of xs:integer minInclusive = -128, maxInclusive =127)	Yes	None	N/A
ElectricityPrice Element	Up to 4 prices for each TOU rate.	sr:ElecSecondaryTOUPrice (minOccurs = 1, maxOccurs = 4) sr:PriceType xs:short	Yes	None	Value when multiplied by the scale is GBP/EURO This amount per kWh when adjusted by the scaling factor
Index (Attribute of ElectricityPrice Element)	Provides an ordering for the ElectricityPriceElement elements Unique and consecutive numbers starting at 1	sr:range_1_4 (positiveinteger minInclusive 1 maxInclusive 4)	Yes	None	N/A

Table 91 : PriceElements (sr:PriceSecondary) data items

3.8.4.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.5 Update Meter Balance

3.8.5.1 Service Description

Service Request Name	UpdateMeterBalance	
Service Reference	1.5	
Service Reference Variant	1.5	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.100 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	AdjustMeterBalance - 0x001C ResetMeterBalance - 0x00B3	PrepaymentMode/ AdjustMeterBalance - 0x0086 PrepaymentMode/ ResetMeterBalance - 0x00B4 CreditMode/ AdjustMeterBalance - 0x00C0 CreditMode/ ResetMeterBalance - 0x00C2
GBCS Use Case	AdjustMeterBalance - ECS04a ResetMeterBalance - ECS04b	PrepaymentMode/ AdjustMeterBalance - GCS40a PrepaymentMode/ ResetMeterBalance - GCS40b CreditMode/ AdjustMeterBalance - GCS40c CreditMode/ ResetMeterBalance - GCS40d

3.8.5.2 Specific Data Items for this Request

UpdateMeterBalance Definition

Either the PrepaymentMode element or CreditMode element must be defined in the request.

- For GSME the element used will define which Device balance is adjusted
- For ESME the element included is a single Device balance updated negatively or positively dependent on the sign of the adjustment

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
PrepaymentMode	The Smart Meter is operating in prepayment mode	sr: AdjustOrReset	Yes (if Device in prepayment mode)	None	N/A
CreditMode	The Smart Meter is operating in credit mode	sr:AdjustOrReset	Yes (if Device in credit mode)	None	N/A

Table 92 : UpdateMeterBalance (sr:UpdateMeterBalance) data items

PrepaymentMode/CreditMode Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
AdjustMeterBalance	The amount by which the Meter Balance is to be adjusted (which may be a positive or negative Integer).	xs:int	Yes if adjusting the balance One item must be set: AdjustMeterBalance or ResetMeterBalance	None	1000th pence /cent
ResetMeterBalance	Reset the Meter Balance to zero	sr:ResetMeterBalance This type has no definition	Yes if resetting the balance One item must be set: AdjustMeterBalance or ResetMeterBalance	None	N/A

Table 93 : PrepaymentMode/CreditMode (sr:AdjustOrReset) data items

3.8.5.3 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.

3.8.6 Update Payment Mode

3.8.6.1 Service Description

Service Request Name	UpdatePaymentMode	
Service Reference	1.6	
Service Reference Variant	1.6	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Service Response from Device - FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	PaymentMode Credit - 0x001A PaymentMode Prepayment - 0x001B	PaymentMode Credit - 0x006C PaymentMode Prepayment - 0x006D
GBCS Use Case	PaymentMode Credit - ECS02 PaymentMode Prepayment - ECS03	PaymentMode Credit - GCS02 PaymentMode Prepayment - GCS03

3.8.6.2 Specific Data Items for this Request

UpdatePaymentMode Definition

Either Credit or Prepayment must be defined in the request.

- To set a Device into credit mode then the Credit data item must be included in the Service Request.
- To set a Device into prepayment mode then the Prepayment data item must be included in the Service Request.

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
Credit	Set the mode of the Device into credit mode	sr:NoType	Yes for switching Device to credit mode	None	N/A
Prepayment	Set the mode of the Device into prepayment mode	See below	Yes for switching Device to prepayment mode	None	N/A

Table 94 : UpdatePaymentMode (sr: UpdatePaymentMode) data items

Prepayment Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units

SuspendDebtDisabled	A setting controlling whether debt should be collected when the Meter is operating in prepayment mode and Supply is Disabled. See SMETS for details. • true: If the supply is disabled due to lack of credit as per GBCS definition, then the Meter shall not collect the Time Debts however the Standing Charge is still collected from the Meter Balance • false: If the supply is disabled due to lack of credit as per GBCS definition, then the Meter shall collect the Time Debts and the Standing Charge from the Meter Balance	xs:boolean	Yes	None	N/A
SuspendDebtEmergency	A setting controlling whether debt should be collected when the Meter is operating in prepayment mode and Emergency Credit has been activated. See SMETS for details. • true: If Emergency Credit is in use as per GBCS definition, then the Meter shall not collect the Standing Charge or Time Debts from the Emergency Credit Balance and will instead increment the Accumulated Debt Register • false: If Emergency Credit is in use as per GBCS definition, then the Meter shall collect the Standing Charge and Time Debts from the Emergency Credit Balance	xs:boolean	Yes	None	N/A
DisablementThreshold	The threshold in Currency Units for controlling when to Disable the Supply.	xs:int	Yes	None	1000th pence /cent

Table 95 : Prepayment data items

3.8.6.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.7 Reset Tariff Block Counter Matrix

3.8.7.1 Service Description

Service Request Name	ResetTariffBlockCounterMatrix	
Service Reference	1.7	
Service Reference Variant	1.7	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x001D	N/A
GBCS Use Case	ECS05	N/A

3.8.7.2 Specific Data Items for this Request

The ResetTariffBlockCounterMatrix XML element defines this Service Request and does not contain any other specific data items.

3.8.7.3 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.

3.8.8 Update Prepay Configuration

3.8.8.1 Service Description

Service Request Name	UpdatePrepayConfiguration	
Service Reference	2.1	
Service Reference Variant	2.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Service Response (from Device) - FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS v1.0 MessageCode	0x001F	0x006F
GBCS v1.0 Use Case	ECS08	GCS05
GBCS v2.0 MessageCode	0x00DE	0x006F
GBCS v2.0 Use Case	ECS08a	GCS05

GBCS Commands - Versioning Details
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,

Device Type	ESME	
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 v2.0
DEFAULT - No specific XML criteria (the Service Request / GBCS Use Case mapping is not dependent on the XML content)	ECS08	ECS08a
Device Type	GSME	
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 v2.0
DEFAULT - No specific XML criteria (the Service Request / GBCS Use Case mapping is not dependent on the XML content)	GCS05	GCS05

3.8.8.2 Specific Data Items for this Request

UpdatePrepayConfiguration Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
UpdatePrepayConfig Electricity	Electricity Smart Meter Prepay configuration elements	sr: UpdatePrepayConfig Elec see Table 97	Device Type = Electricity Smart Meter Yes Otherwise, N/A	None	N/A
UpdatePrepayConfig Gas	Gas Smart Meter Prepay configuration elements	sr: UpdatePrepayConfig Gas see Table 98	Device Type = Gas Smart Meter Yes Otherwise, N/A	None	N/A

Table 96 : UpdatePrepayConfiguration (sr: UpdatePrepayConfiguration) data items

UpdatePrepayConfigElectricity Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DebtRecoveryRateCap	The maximum amount in Currency Units per unit time (week) that can be recovered through Payment-based Debt Recovery when the Meter is operating in prepayment mode.	xs: unsignedShort	Yes	None	GBP / ECB / week
EmergencyCreditLimit	The amount of Emergency Credit in Currency Units to be made available to a Consumer when Emergency Credit is activated by the Consumer.	xs:int	Yes	None	1000th pence / cent
EmergencyCreditThreshold	The threshold in Currency Units below which Emergency Credit may be activated by the Consumer, if so configured, when the Meter is operating in prepayment mode.	xs:int	Yes	None	1000th pence / cent
LowCreditThreshold	The threshold in Currency Units below which a low credit Alert is signalled.	xs:int	Yes	None	1000th pence / cent
ElectricityNonDisablement Calendar	A calendar defining UTC times, days and dates that specify periods during which the Supply will not be Disabled when the meter is operating in prepayment mode, in on and off dates/times.	sr:ElectricityNon DisablementCalen dar	Yes	None	N/A
MaxMeterBalance	The Meter Balance threshold in Currency Units above which an Add Credit Command is rejected.	xs:int	Yes	None	1000th pence / cent
MaxCreditThreshold	The maximum credit which can be applied by any Add Credit Command	xs:int	Yes	None	1000th pence / cent

Table 97 : UpdatePrepayConfigElectricity (sr: UpdatePrepayConfigElec) data items

UpdatePrepayConfigGas Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DebtRecoveryRateCap	The maximum amount in Currency Units per unit time (week) that can be recovered	xs:int	Yes	None	1000th pence /

	through Payment-based Debt Recovery when the Meter is operating in prepayment mode.				cent / week
EmergencyCreditLimit	The amount of Emergency Credit in Currency Units to be made available to a Consumer when Emergency Credit is activated by the Consumer.	xs:unsignedInt	Yes	None	1000th pence / cent
EmergencyCreditThreshold	The threshold in Currency Units below which Emergency Credit may be activated by the Consumer, if so configured, when the Meter is operating in prepayment mode.	xs:unsignedInt	Yes	None	1000th pence / cent
LowCreditThreshold	The threshold in Currency Units below which a low credit Alert is signalled.	xs:unsignedInt	Yes	None	1000th pence / cent
GasNonDisablementCalendar	A calendar defining UTC times, days and dates that specify periods during which the Supply will not be Disabled when the meter is operating in prepayment mode, in on and off dates/times. Calendar defining the time periods when Non-Disablement applies or doesn't apply. The calendar includes the definition of: • Day Identifiers. Array of up to 5 elements, each including a Day ID and up to 3 times of day to run a script to start or end a disablement period • Weeks. Array of up to 2 elements, each including a Week ID and the Day ID associated to each day of that Week ID • Seasons. Array of up to 3 elements, each including a Season Start Date and the Week ID associated to that Season • Special Days. Array of up to 20 Special Day elements, defined as a date and Referenced Day Name. Special Days (e.g. public holidays) are used to apply different switching rules to those defined in the corresponding season.	sr:GasNonDisablementCalendar	Yes	None	N/A
MaxMeterBalance	The Meter Balance threshold in Currency Units above which an Add Credit Command is rejected.	xs:unsignedInt	Yes	None	1000th pence / cent

MaxCreditThreshold	The maximum credit which can be applied by any Add Credit Command	xs:unsignedInt	Yes	None	1000th pence / cent

Table 98 : UpdatePrepayConfigGas(sr: UpdatePrepayConfigGas) data items

ElectricityNonDisablementCalendar Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ElectricitySpecialDays	A collection of between 0 and 20 Special Days within the mandatory group item	sr:ElecSpecialDaysPrepayment See Table 100	Yes If there are no Special Days, this XML element will be present, but empty, i.e. it will contain 0 SpecialDay elements	None	N/A
ElectricityNonDisablementSchedule	List of up to 22 schedules defining the time periods when Non-Disablement applies or doesn't apply	sr:ElectricityNonDisablementSchedule (minOccurs = 1, maxOccurs = 22) See Table 102	Yes	None	N/A

Table 99 : ElectricityNonDisablementCalendar (sr:ElectricityNonDisablementCalendar) data items

ElectricitySpecialDays Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SpecialDay	Between 0 and 20 SpecialDay items Note that the attribute Index provides an ordering for these elements	sr:ElecSpecialDayPrepayment (minOccurs = 0, maxOccurs = 20)	No	None	N/A
Index (attribute of SpecialDay)	Provides a position within the collection of SpecialDay elements Unique and consecutive numbers starting at 1	sr:range_1_20 (xs:positiveinteger minInclusive 1 maxInclusive 20)	No (Required if SpecialDay has been defined)	None	N/A

Table 100 : Electricity Special Days (sr:ElecSpecialDaysPrepayment) data items

SpecialDay Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
Date	The date on which the special day applies.	sr:Date (with wildcards)	Yes	None	N/A

Table 101 : Special Day (sr:ElecSpecialDayPrepayment) data items

ElectricityNonDisablementSchedule Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
NonDisablementScript	Identifier to establish whether to begin (Start) or end (Stop) the non disablement period. Valid set: • START • STOP	Restriction of xs: string (Enumeration)	Yes	None	N/A
SpecialDaysApplicability	Special Days to which the schedule applies	sr:SpecialDays Applicability See Table 103	Yes If there are no Special Days, this XML element will be present, but empty, i.e. it will contain 0 SpecialDayApplicability elements	None	N/A
DaysOfWeekApplicability	The days of the week to which the schedule applies defined as an array of up to 7 DayOfWeekIDs	sr:DaysOfWeekApplicability See Table 105	Yes Minimum of 0 and maximum of 7 Days Of Week Applicability. If there are no Days Of Week Applicability, this XML element will be present, but empty, i.e. it will contain 0 DayOfWeekApplicability elements	None	N/A
ScheduleDatesAndTime	The switch time and date range (without wildcards) when the script is to be run	sr:ScheduleDatesAndTimeWithoutWildcards See 3.10.1.20	Yes	None	N/A

Table 102 : ElectricityNonDisablementSchedule (sr:ElectricityNonDisablementSchedule) data items

SpecialDaysApplicability Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SpecialDayApplicability	An array of between 0 and 20 SpecialDayID elements	sr:SpecialDayApplicability (minOccurs = 0, maxOccurs = 20)	No	None	N/A

Table 103 : SpecialDaysApplicability (sr:SpecialDaysApplicability) data items

SpecialDayApplicability Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SpecialDayID	Identifier of the Special Day, which correspond to the indices in SpecialDay Valid set: • Value between 1 and 20	Restriction of xs:positiveInteger (minInclusive = 1 maxInclusive = 20)	Yes	None	N/A

Table 104 : SpecialDayApplicability (sr:SpecialDayApplicability) data items

DaysOfWeekApplicability Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DayOfWeekApplicability	Array of Day Of Week IDs This indicates the days on which the schedule is active. Unique and chronologically ordered, may not be consecutive.	sr:DayOfWeekApplicability (minOccurs = 1, maxOccurs = 7)	Yes	None	N/A

Table 105 : DaysOfWeekApplicability (sr:DaysOfWeekApplicability) data items

DayOfWeekApplicability Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DayOfWeekID	The day of the week to which the schedule applies Valid set: • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday • Sunday	xs:string (Enumeration)	Yes	None	N/A

Table 106 : DayOfWeekApplicability (sr:DayOfWeekApplicability) data items

GasNonDisablementCalendar Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DayProfiles	Array of up to 5 Day Profiles defining a Day ID and a list of 3 actions (script IDs) and start times during that day when an action (script ID) to either start or end a Non-Disablement period The actions (script IDs) applicable to this Service Request are: • START • STOP	sr:GasNonDisablementDayProfiles	Yes	None	N/A
WeekProfiles	Array of up to 2 elements within the group item, each including a Week ID and the Referemced Day Name associated to each day (Monday to Sunday) of that Week Name	sr:GasWeekProfilesNonDisablement	Yes	None	N/A
SeasonProfiles	Array of up to 3 elements, each including a Season Start Date and the Week ID associated to that Season.	sr:GasSeasonsNonDisablement	Yes	None	N/A
SpecialDays	Between 0 and 20 days when special Non- Disablement rules (rather than those defined in the Seasons) apply.	sr:GasSpecialDaysNonDisablement	Yes If there are no Special Days, this XML element will be present, but empty, i.e. it will contain 0 SpecialDay elements	None	N/A

Table 107 : GasNonDisablementCalendar (sr:GasNonDisablementCalendar) data items

GasNonDisablementDayProfiles Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
GasNonDisablementDayProfile	Array of up to 5 Gas Non Disablement day Profile	sr:GasNonDisablementDayProfile (minOccurs = 1, maxOccurs = 5)	Yes	None	N/A

Table 108 : DayProfiles (sr:GasNonDisablementDayProfiles) data items

GasNonDisablementDayProfile Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
TimeStartAction	List of Actions (script) to be taken and at what start times	sr:GasNonDisablementTimeStartAction (minOccurs = 1, maxOccurs = 3)	Yes	None	N/A
GasDayName	Identifier of the day to which the Time Start Action list applies	sr:GasDayNameNonDisablement Restriction of xs:positiveInteger (minInclusive =1, maxInclusive = 5)	Yes	None	N/A

Table 109 : GasNonDisablementDayProfile (sr:GasNonDisablementDayProfile) data items

GasNonDisablementTimeStartAction Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
StartTime	Time when a specific Action is to be taken The first one for each Day Profile has to be set to 00:00:00	xs:time	Yes	None	N/A
NonDisablementAction	Identifier of the Script to be run to apply or not apply Non-Disablement Valid set: • START • STOP	Restriction of xs:string (Enumeration)	Yes	None	N/A

Table 110 : TimeStartAction (sr:GasNonDisablementTimeStartAction) data items

WeekProfiles Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
WeekProfile	Array of 2 Week Profile elements	sr:WeekProfileGasNonDisablement (minOccurs = 1, maxOccurs = 2)	Yes	None	N/A

Table 111 : WeekProfiles (sr:GasWeekProfilesNonDisablement) data items

WeekProfile Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
WeekName	An identifier for the week.	sr:GasWeekName Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 2)	Yes	None	N/A

ReferencedDay Name	Day Identifier as defined above	sr:GasReferencedDayNameNonDisablement (minOccurs = 7 maxOccurs = 7) See Table 117	Yes 7 elements, one for each day of the week (1: Monday, 7: Sunday)	None	N/A

Table 112 : WeekProfile (sr:WeekProfileGasNonDisablement) data items

SeasonProfiles Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
Season	Array of 3 Season elements	sr:GasSeasonNonDisablement (minOccurs = 1, maxOccurs = 3)	Yes	None	N/A

Table 113 : SeasonProfiles (sr:GasSeasonsNonDisablement) data items

GasSeason Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SeasonStartDate	The date from which this season is defined to start	sr:GasDateWithWildcards See Table 319	Yes	None	N/A
ReferencedWeekName	WeekName as defined above in WeekProfileGas Definition	sr:GasWeekNameNonDisablement Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive =2)	Yes	None	N/A

Table 114 : Season (sr:GasSeasonNonDisablement) data items

SpecialDays Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SpecialDay	Array of between 0 and 20 Gas SpecialDay elements	sr:GasSpecialDay NonDisablement minOccurs = 0 maxOccurs = 20	No	None	N/A

Table 115 : SpecialDays (sr:GasSpecialDaysNonDisablement) data items

SpecialDay Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
Date	The date on which the special day applies	sr:GasDateWithWildcards See Table 319	Yes	None	N/A

ReferencedDayName	GasDayNameas defined in GasNonDisablementDayProfile Definition above	sr:GasDayNameNonDisablement	Yes	None	N/A

Table 116 : SpecialDay (sr:GasSpecialDayNonDisablement) data items

ReferencedDayName Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ReferencedDayName	Day Identifier Note that the attribute index provides an ordering for these elements.	sr:GasDayNameNonDisablement (xs:positiveInteger minInclusive = 1, maxInclusive = 5)	Yes	None	N/A
Index	Provides an ordering for the ReferencedDayName elements Unique (may not be consecutive)	sr:range_1_7 (positiveinteger minInclusive 1 maxInclusive 7)	Yes	None	N/A

Table 117 : ReferencedDayName (sr:GasReferencedDayNameNonDisablement) data items

3.8.8.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.9 Top Up Device

3.8.9.1 Service Description

Service Request Name	TopUpDevice	
Service Reference	2.2	
Service Reference Variant	2.2	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0007	0x0097
GBCS Use Case	CS01a	CS01b

3.8.9.2 Specific Data Items for this Request

TopUpDevice Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
UTRN	The Unique Transaction Reference Number which conveys the vend amount securely to the Meter to allow it to increment the meter balance on ameter used in prepayment mode. The UTRN must protect against replay, whether entered locally or sent electronically.	Restriction of xs:string (minLength = 20, maxLength = 20, pattern = "[0-9]{20}"))	Yes	None	N/A

Table 118 : TopUpDevice (sr: TopUpDevice) data items

3.8.9.3 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.

3.8.10 Update Debt

3.8.10.1 Service Description

Service Request Name	UpdateDebt	
Service Reference	2.3	
Service Reference Variant	2.3	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x001E	0x006E
GBCS Use Case	ECS07	GCS04

3.8.10.2 Specific Data Items for this Request

UpdateDebt Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
TimeDebtRegister1	The (positive or negative) integer adjustment to apply to the first time-based debt register.	xs:int	Yes	None	1000th pence / cent
TimeDebtRegister2	The (positive or negative) integer adjustment to apply to the second time-based debt register.	xs:int	Yes	None	1000th pence / cent
PaymentDebtRegister	The (positive or negative) integer adjustment to apply to the PaymentDebtRegister.	xs:int	Yes	None	1000th pence / cent
DebtRecoveryPerPayment	The percentage of a payment to be recovered against debt when the Meter is operating Payment-based Debt Recovery in prepayment mode. Valid set: >= 0 and <= 10000 (100.00%)	Restriction of xs:unsignedShort (minInclusive = 0, maxInclusive = 10000)	Yes	None	Hundredth of a percentage point
ElecDebtRecovery1	Debt recovery parameters for SMETS Time Debt Register 1 on an Electricty Smart Meter	sr:ElecDebtRecovery	Yes - If Electricty Smart Meter	None	N/A
ElecDebtRecovery2	Debt recovery parameters for SMETS Time Debt Register 2 on an Electricty Smart Meter	sr:ElecDebtRecovery	Yes - If Electricty Smart Meter	None	N/A
GasDebtRecovery1	Debt recovery parameters for SMETS Time Debt Register 1 on an Gas Smart Meter	sr:GasDebtRecovery	Yes - If Gas Smart Meter	None	N/A
GasDebtRecovery2	Debt recovery parameters for SMETS Time Debt Register 2 on an Gas Smart Meter	sr:GasDebtRecovery	Yes - If Gas Smart Meter	None	N/A

Table 119 : UpdateDebt (sr:UpdateDebt) data items

ElecDebtRecovery1 / ElecDebtRecovery2 Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DebtRecoveryRate	Debt recovery rate in Currency Units per unit time for the first time-based debt recovery register when the Meter is using Time-based Debt Recovery in prepayment mode. The period over which this debt is recovered is set in the DebtRecoveryRatePeriod field.	xs:short	Yes	None	Major currency units GBP / EURO
DebtRecoveryRatePriceScale	A multiplier applied to the DebtRecoveryRate value. Note this is the value of n in 10^n (10 to the power n). For example a DebtRecoveryRate of 1 and a DebtRecoveryRatePriceScale of -2 would result in a DebtRecoveryRate of £0.01	sr:PriceScale	Yes	None	N/A
DebtRecoveryRatePeriod	The period over which the debt is recovered. For an Electricity meter this can be; • HOURLY • DAILY	Restriction of xs:string (Enumeration)	Yes	None	N/A

Table 120 : ElecDebtRecovery1/ElecDebtRecovery2(sr:ElecDebtRecovery) data items

GasDebtRecovery1 / GasDebtRecovery2 Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DebtRecoveryRate	Debt recovery rate in Currency Units per unit time for the first time-based debt recovery register when the Meter is using Time-based Debt Recovery in prepayment mode. The period over which this debt is recovered is set in the following field.	xs:int	Yes	None	1000th pence / cent

DebtRecoveryRatePeriod	The period over which the debt is recovered. For a Gas meter this period can only be; • HOURLY • DAILY Note that the DUIS XML Schema allows for more values but only the values listed are recognised by the GSME	Restriction of xs:string (Enumeration)	Yes	None	N/A

Table 121 : GasDebtRecovery1/GasDebtRecovery2(sr:GasDebtRecovery) data items

3.8.10.3 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.

3.8.11 Activate Emergency Credit

3.8.11.1 Service Description

Service Request Name	ActivateEmergencyCredit	
Service Reference	2.5	
Service Reference Variant	2.5	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0020	0x0070
GBCS Use Case	ECS09	GCS06

3.8.11.2 Specific Data Items for this Request

The ActivateEmergencyCredit XML element defines this Service Request and does not contain any other specific data items.

3.8.11.3 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.

3.8.12 Display Message

3.8.12.1 Service Description

Service Request Name	DisplayMessage	
Service Reference	3.1	
Service Reference Variant	3.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0021	0x0071
GBCS Use Case	ECS10	GCS07

3.8.12.2 Specific Data Items for this Request

DisplayMessage Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the command to be executed on the Device ID • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time
SupplierMessage	Text content of message to be displayed to customer SupplierMessage is restricted by the XML Schema to only include displayable characters Valid set: • All printable characters, i.e. characters with ASCII values of 32 (space) to 126 (tilde) inclusive	Restriction of xs:string (minLength = 1, maxLength = 116, pattern = "[-~]+")	Yes	None	N/A

Table 122 : DisplayMessage (sr:DisplayMessage) data items

3.8.12.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.13 Restrict Access for Change of Tenancy

3.8.13.1 Service Description

Service Request Name	RestrictAccessForChangeOfTenancy	
Service Reference	3.2	
Service Reference Variant	3.2	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0022	0x0072
GBCS Use Case	ECS12	GCS09

3.8.13.2 Specific Data Items for this Request

RestrictAccessForChangeOfTenancy Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the command to be executed on the Device ID • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time
RestrictionDateTime	The UTC date and time the User requires the restriction to be applied from (so no personal data held in the device for a period prior to this date and time will be available over the HAN / via a User Interface) • Valid date-time	xs:dateTime (Wildcards not permitted)	Yes	None	UTC Date-Time

Table 123 : RestrictAccessForChangeOfTenancy (sr:RestrictAccessForChangeOfTenancy) data items

3.8.13.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.13.4 Additional DCC System Processing

Upon successful execution of a RestrictAccessForChangeOfTenancy Service Request, the DCC shall, for the specified DeviceID (for a Gas Proxy Function, Schedules on the associated Gas Smart Meter will also be deleted) identified within the Service Request, perform the following actions.

a) Delete all active DCC Schedules created by Other Users that are held within the DCC Systems and send a DCC Alert to the Schedule owner to inform them of their deletion.

b) Delete all Future Dated (DSP) requests created by Other Users with future dated execution dates that have not been sent to the Device and send a DCC Alert to the orginal sender of the request

3.8.14 Clear Event Log

3.8.14.1 Service Description

Service Request Name	ClearEventLog		
Service Reference	3.3		
Service Reference Variant	3.3		
Eligible Users	Import Supplier (IS) Gas Supplier (GS)		
Security Classification	Non Critical		
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)		
Can be future dated?	No		
On Demand?	Yes		
Capable of being DCC Scheduled?	No		
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)		
Common Header Data Items	See clause 3.4.1.1		
Data Items Specific to this Service Request	See Specific Data Items Below		
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request		
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes		
GBCS Cross Reference	Electricity	Electricity (ALCS)	Gas
GBCS MessageCode	0x0024	0x00C1	0x0015
GBCS Use Case	ECS15a	ECS15c	CS11

3.8.14.2 Specific Data Items for this Request

ClearEventLog Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ESMEEventLogType	It specifies which of the two Event Logs included in an Electricity Smart Meter is to be cleared. Valid set: • ESME • ALCS	Restriction of xs:string (Enumeration)	Device Type = ESME: Yes Otherwise: N/A	None	N/A

Table 124 : ClearEventLog (sr:ClearEventLog) data items

3.8.14.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

Response Code	Response Code Description
E030301	The combination of Device Type and Event Log Type is incorrect

3.8.15 Update Supplier Name

3.8.15.1 Service Description

Service Request Name	UpdateSupplierName	
Service Reference	3.4	
Service Reference Variant	3.4	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0025	0x0088
GBCS Use Case	ECS16	GCS44

3.8.15.2 Specific Data Items for this Request

UpdateSupplierName Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the command to be executed on the Device ID Valid set: • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time
SupplierName	Defined format Supplier name SupplierName is restricted by the XML Schema to only include displayable characters Valid set: • All printable characters, i.e. characters with ASCII values of 32 (space) to 126 (tilde) inclusive	Restriction of xs:string (maxLength = 15 pattern = "[-~]+")	Yes	None	N/A
SupplierTelephoneNumber	Defined format Supplier Telephone Number SupplierTelephoneNumber is restricted by the XML Schema to only include numbers and spaces	Restriction of xs:string (maxLength = 18 pattern = "[0-9]+")	Yes	None	N/A

Table 125 : UpdateSupplierName (sr:UpdateSupplierName) data items

3.8.15.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.16 Disable Privacy PIN

3.8.16.1 Service Description

Service Request Name	DisablePrivacyPIN	
Service Reference	3.5	
Service Reference Variant	3.5	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0023	0x0073
GBCS Use Case	ECS14	GCS11

3.8.16.2 Specific Data Items for this Request

The DisablePrivacyPIN XML element defines this Service Request and does not contain any other specific data items.

3.8.16.3 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.

3.8.17 Read Instantaneous Import Registers

3.8.17.1 Service Description

Service Request Name	ReadInstantaneousImportRegisters	
Service Reference	4.1	
Service Reference Variant	4.1.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0027	0x0074
GBCS Use Case	ECS17b	GCS13a

3.8.17.2 Specific Data Items for this Request

ReadInstantaneousImportRegisters Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	N/A	UTC Date-Time

Table 126 : ReadInstantaneousImportRegisters (sr:ReadInstantaneousImportRegisters) data items

3.8.17.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and also Execution Date Time validation (clause 3.10.2)

Response Code	Response Code Description
E040101	The Gas Transporter can only read Instantaneous Import Registers from the GPF and not the Gas Smart Meter

3.8.18 Read Instantaneous Import TOU Matrices

3.8.18.1 Service Description

Service Request Name	ReadInstantaneousImportTOUMatrices	
Service Reference	4.1	
Service Reference Variant	4.1.2	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0029	0x00B6
GBCS Use Case	ECS17d	GCS13c

3.8.18.2 Specific Data Items for this Request

ReadInstantaneousImportTOUMatrices Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	N/A	UTC Date-Time

Table 127 : ReadInstantaneousImportTOUMatrices (sr:FutureDatedAbstractType) data items

3.8.18.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and also Execution Date Time validation (clause 3.10.2)

Response Code	Response Code Description
E040101	The Gas Network Operator can only read Instantaneous Import Registers from the GPF and not the Gas Smart Meter

3.8.19 Read Instantaneous Import TOU With Blocks Matrices

3.8.19.1 Service Description

Service Request Name	ReadInstantaneousImportTOUWithBlocksMatrices	
Service Reference	4.1	
Service Reference Variant	4.1.3	
Eligible Users	Import Supplier (IS) Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x002A	N/A
GBCS Use Case	ECS17e	N/A

3.8.19.2 Specific Data Items for this Request

ReadInstantaneousImportTOUWithBlocksMatrices Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	N/A	UTC Date-Time

Table 128 : ReadInstantaneousImportTOUWithBlocksMatrices (sr:FutureDatedAbstractType) data items

3.8.19.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.20 Read Instantaneous Import Block Counters

3.8.20.1 Service Description

Service Request Name	ReadInstantaneousImportBlockCounters	
Service Reference	4.1	
Service Reference Variant	4.1.4	
Eligible Users	Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	0x00B8
GBCS Use Case	N/A	GCS13b

3.8.20.2 Specific Data Items for this Request

ReadInstantaneousImportBlockCounters Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	N/A	UTC Date-Time

Table 129 : ReadInstantaneousImportBlockCounters (sr:FutureDatedAbstractType) data items

3.8.20.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.21 Read Instantaneous Export Registers

3.8.21.1 Service Description

Service Request Name	ReadInstantaneousExportRegisters	
Service Reference	4.2	
Service Reference Variant	4.2	
Eligible Users	Export Supplier (ES) Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0026	N/A
GBCS Use Case	ECS17a	N/A

3.8.21.2 Specific Data Items for this Request

ReadInstantaneousExportRegisters Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	N/A	UTC Date-Time

Table 130 : ReadInstantaneousExportRegisters (sr:FutureDatedAbstractType) data items

3.8.21.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.22 Read Instantaneous Prepay Values

3.8.22.1 Service Description

Service Request Name	ReadInstantaneousPrepayValues	
Service Reference	4.3	
Service Reference Variant	4.3	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x002D	0x0075
GBCS Use Case	ECS19	GCS14

3.8.22.2 Specific Data Items for this Request

ReadInstantaneousPrepayValues Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	N/A	UTC Date-Time

Table 131 : ReadInstantaneousPrepayValues (sr:FutureDatedAbstractType) data items

3.8.22.3 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 and also Execution Date Time validation (clause 3.10.2).

3.8.23 Retrieve Change Of Mode / Tariff Triggered Billing Data Log

3.8.23.1 Service Description

Service Request Name	RetrieveCoMOrTariffTriggeredBillingDataLog	
Service Reference	4.4	
Service Reference Variant	4.4.2	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x002F	0x00C3
GBCS Use Case	ECS20b	GCS15b

3.8.23.2 Specific Data Items for this Request

RetrieveCoMOrTariffTriggeredBillingDataLog (sr:ReadLogfutureDatableAndURPCredentials) Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Old Responsible Supplier) with respect to the BusinessTargetID specified within the Service Request.	sr:Certificate (xs:base64Binary)	Responsible Supplier: N/A Old Responsible Supplier: Yes Mandatory for User Roles IS/GS that do not have their credentials on the Device when sending the Service Request e.g. Old Suppliers	None	N/A

Table 132 : RetrieveCoMOrTariffTriggeredBillingDataLog (sr:ReadLogfutureDatableAndURPCredentials) data items

3.8.23.3 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 and clause 3.10.2 for ExecutionDateTime, Read Log Period, Key Agreement Public Security Credentials and Device Applicability validation.

3.8.24 Retrieve Billing Calendar Triggered Billing Data Log

3.8.24.1 Service Description

Service Request Name	RetrieveBillingCalendarTriggeredBillingDataLog	
Service Reference	4.4	
Service Reference Variant	4.4.3	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0030	0x0076
GBCS Use Case	ECS20c	GCS15c

3.8.24.2 Specific Data Items for this Request

RetrieveBillingCalendarTriggeredBillingDataLog Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Old Responsible Supplier) with respect to the BusinessTargetID specified within the Service Request.	sr:Certificate (xs:base64Binary)	Responsible Supplier: N/A Old Responsible Supplier: Yes Mandatory for User Roles IS/GS that do not have their credentials on the Device when sending the Service Request e.g. Old Suppliers	None	N/A

Table 133 : RetrieveBillingCalendarTriggeredBillingDataLog (sr:ReadLogfutureDatableAndURPCredentials) data items

3.8.24.3 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 and clause 3.10.2 for Execution Date Time, Read Log Period, Key Agreement Public Security Credentials and Device Applicability validation.

3.8.25 Retrieve Billing Data Log (Payment Based Debt Payments)

3.8.25.1 Service Description

Service Request Name	RetrieveBillingDataLog(PaymentBasedDebtPayments)	
Service Reference	4.4	
Service Reference Variant	4.4.4	
Eligible Users	Gas Supplier (GS) Import Supplier (IS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x002E	0x00C4
GBCS Use Case	ECS20a	GCS15d

3.8.25.2 Specific Data Items for this Request

RetrieveBillingDataLogDebtPayments Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 134 : RetrieveBillingDataLogDebtPayments (sr:ReadLogFutureDatable) data items

3.8.25.3 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 and clause 3.10.2 for Execution Date Time and Read Log Period validation.

3.8.26 Retrieve Billing Data Log (Prepayment Credits)

3.8.26.1 Service Description

Service Request Name	RetrieveBillingDataLog(PrepaymentCredits)	
Service Reference	4.4	
Service Reference Variant	4.4.5	
Eligible Users	Gas Supplier (GS) Import Supplier (IS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x00C9	0x00C5
GBCS Use Case	ECS20d	GCS15e

3.8.26.2 Specific Data Items for this Request

RetrieveBillingDataLogPrepaymentCredits Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 135 : RetrieveBillingDataLogPrepaymentCredits (sr:ReadLogFutureDatable) data items

3.8.26.3 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 and clause 3.10.2 for Execution Date Time and Read Log Period validation.

3.8.27 Retrieve Import Daily Read Log

3.8.27.1 Service Description

Service Request Name	RetrieveImportDailyReadLog	
Service Reference	4.6	
Service Reference Variant	4.6.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Where a change of supplier occurs on any day, both the new supplier and the old supplier will be eligible to retrieve the daily read log for that day.	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0033	0x0077
GBCS Use Case	ECS21a	GCS16a

3.8.27.2 Specific Data Items for this Request

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the RetrieveImportDailyReadLog XML element defines this Service Request.

RetrieveImportDailyReadLog (On Demand) Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Old Responsible Supplier) with respect to the BusinessTargetID specified within the Service Request.	sr:Certificate (xs:base64Binary)	Responsible Supplier: N/A Old Responsible Supplier: Yes Mandatory for User Roles IS/GS that do not have their credentials on the Device when sending the Service Request e.g. Old Suppliers	None	N/A

Table 136 : RetrieveImportDailyReadLog (sr:ReadLogFutureDatableAndURPCredentials) data items

For execution of this Service Request as DCC Scheduled Service, The DSPRetrieveImportDailyReadLog XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

DSPRetrieveImportDailyReadLog (Create Schedule) Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPRetrieveImportDailyReadLog	The Start and End Date Offsets from the scheduled execution date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (See clause 3.10.1.15)	Yes	None	N/A

Table 137 : DSPRetrieveImportDailyReadLog (sr:ReadLogPeriodOffset) data items

3.8.27.3 Specific Validation for this Request

Specific validation is applied for this Request as below and see clause 3.2.5 for general validation applied to all Requests.

For On Demand Services, see clause 3.10.2 for Execution Date Time, Key Agreement Public Security Credentials, Device Applicability and Read Log Period validation.

For DCC Scheduled Services, see clause 3.10.2 for Read Log Period Offset and Device Applicability validation.

3.8.28 Retrieve Export Daily Read Log

3.8.28.1 Service Description

Service Request Name	RetrieveExportDailyReadLog	
Service Reference	4.6	
Service Reference Variant	4.6.2	
Eligible Users	Export Supplier (ES) Where a change of supplier occurs on any day, both the new supplier and the old supplier will be eligible to retrieve the daily read log for that day.	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0035	N/A
GBCS Use Case	ECS21c	N/A

3.8.28.2 Specific Data Items for this Request

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the RetrieveExportDailyReadLog XML element defines this Service Request.

RetrieveExportDailyReadLog (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the command to be executed on the Device ID Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 138 : RetrieveExportDailyReadLog (sr:ReadLogFutureDatable) data items

For execution of this Service Request as DCC Scheduled Service, The DSPRetrieveExportDailyReadLog XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

DSPRetrieveExportDailyReadLog (Create Schedule)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPRetrieveExportDailyReadLog	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (See clause 3.10.1.15)	Yes	None	N/A

Table 139 : DSPRetrieveExportDailyReadLog (sr:ReadLogPeriodOfffset) data items

3.8.28.3 Specific Validation for this Request

Specific validation is applied for this Request as below and see clause 3.2.5 for general validation applied to all Requests.

For On Demand Services, see clause 3.10.2 for Execution Date Time and Read Log Period validation.

For DCC Scheduled Services, see clause 3.10.2 for Read Log Period Offset validation.

3.8.29 Read Active Import Profile Data

3.8.29.1 Service Description

Service Request Name	ReadActiveImportProfileData	
Service Reference	4.8	
Service Reference Variant	4.8.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0037	0x0078
GBCS Use Case	ECS22b	GCS17

3.8.29.2 Specific Data Items for this Request

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The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the ReadActiveImportProfileData XML element defines this Service Request.

ReadActiveImportProfileData (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the Service Request is from an Unknown Remote Party (i.e. Other User or previous Responsible Supplier) with respect to the BusinessTargetID specified within the Service Request.	xs:base64Binary	User Role IS, GS, ED,GT: N/A User Role OU: Yes Also Mandatory for User Roles: • IS and GS that do not have their credentials on the Device when sending the Service Request e.g. Old Suppliers	None	N/A

Table 140 : ReadActiveImportProfileData (sr:ReadLogFutureDatableAndURPCredentials) data items

For execution of this Service Request as DCC Scheduled Service, The DSPReadActiveImportProfileData XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

DSPReadActiveImportProfileData (Create Schedule)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPReadActiveImportProfileData	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (See clause 3.10.1.15)	Yes	None	N/A

Table 141 : DSPReadActiveImportProfileData (sr:ReadLogPeriodOffset) data items

3.8.29.3 Specific Validation for this Request

Specific validation is applied for this Request as below and see clause 3.2.5 for general validation applied to all Requests.

For On Demand Services, see clause 3.10.1 for Execution Date Time, Read Log Period, KAPublicSecurityCredentials and Device Applicability validation.

For DCC Scheduled Services, see clause 3.10.1 for Read Log Period Offset and Device Applicability validation.

3.8.30 Read Reactive Import Profile Data

3.8.30.1 Service Description

Service Request Name	ReadReactiveImportProfileData	
Service Reference	4.8	
Service Reference Variant	4.8.2	
Eligible Users	Import Supplier (IS) Electricity Distributor (ED) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0038	N/A
GBCS Use Case	ECS22c	N/A

3.8.30.2 Specific Data Items for this Request

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the ReadReactiveImportProfileDat XML element defines this Service Request.

ReadReactiveImportProfileData (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 142 : ReadReactiveImportProfileData (sr:ReadLogFutureDatable) data items

For execution of this Service Request as DCC Scheduled Service, The DSPReadReactiveImportProfileData XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

DSPReadReactiveImportProfileData (Create Schedule)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPReadReactiveImportProfileData	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (See clause 3.10.1.15)	Yes	None	N/A

Table 143 : DSPReadReactiveImportProfileData (sr:ReadLogPeriodOffset) data items

3.8.30.3 Specific Validation for this Request

Specific validation is applied for this Request as below and see clause 3.2.5 for general validation applied to all Requests.

For On Demand Services, see clause 3.10.1 for Execution Date Time and Read Log Period validation.

For DCC Scheduled Services, see clause 3.10.1 for Read Log Period Offset validation

3.8.31 Read Export Profile Data

3.8.31.1 Service Description

Service Request Name	ReadExportProfileData	
Service Reference	4.8	
Service Reference Variant	4.8.3	
Eligible Users	Export Supplier (ES) Electricity Distributor (ED) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0036	N/A
GBCS Use Case	ECS22a	N/A

3.8.31.2 Specific Data Items for this Request

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the ReadExportProfileData XML element defines this Service Request.

ReadExportProfileData (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 144 : ReadExportProfileData (sr:ReadLogFutureDatable) data items

For execution of this Service Request as DCC Scheduled Service, The DSPReadExportProfileData XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

DSPReadExportProfileData (Create Schedule)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPReadExportProfile Data	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriod Offset (See clause 3.10.1.15)	Yes	None	N/A

Table 145 : DSPReadExportProfileData (sr: ReadLogPeriodOffset) data items

3.8.31.3 Specific Validation for this Request

Specific validation is applied for this Request as below and see clause 3.2.5 for general validation applied to all Requests.
For On Demand Services, see clause 3.10.1 for Execution Date Time and Read Log Period validation.

For DCC Scheduled Services, see clause 3.10.1 for Read Log Period Offset validation

3.8.32 Read Network Data

3.8.32.1 Service Description

Service Request Name	ReadNetworkData		
Service Reference	4.10		
Service Reference Variant	4.10		
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT)		
Security Classification	Non Critical		
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)		
Can be future dated?	DSP		
On Demand?	Yes		
Capable of being DCC Scheduled?	Yes		
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)		
Common Header Data Items	See clause 3.4.1.1		
Data Items Specific to this Service Request	See Specific Data Items Below		
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request		
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes		
GBCS Cross Reference	Electricity (single phase)	Electricity (three phase)	Gas
GBCS MessageCode	0x0039	0x00BC	0x0079
GBCS Use Case	ECS23	ECS23b	GCS18

3.8.32.2 Specific Data Items for this Request

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the ReadNetworkData XML element defines this Service Request.

ReadNetworkData (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required Note that for Service Requests targeted at Gas Smart Meters, this date range must surround the 4 hour period.	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Gas Transporter) with respect to the BusinessTargetID specified within the Service Request.	xs:base64Binary	User Role IS, GS, ED: N/A User Role GT: Yes	None	N/A

Table 146 : ReadNetworkData (sr:ReadLogFutureDatableAndURPCredentials) data items

For execution of this Service Request as DCC Scheduled Service, The DSPReadNetworkData XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

DSPReadNetworkData (Create Schedule)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPReadNetworkData	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (See clause 3.10.1.15)	Yes	None	N/A

Table 147 : DSPReadNetworkData (sr:ReadLogPeriodOffset) data items

3.8.32.3 Specific Validation for this Request

Specific validation is applied for this Request as below and see clause 3.2.5 for general validation applied to all Requests.

For On Demand Services, see clause 3.10.1 for Execution Date Time, KAPublicSecurityCredentials and Read Log Period validation.

For DCC Scheduled Services, see clause 3.10.1 for Read Log Period Offset validation

3.8.33 Read Tariff (Primary Element)

3.8.33.1 Service Description

Service Request Name	ReadTariff(PrimaryElement)	
Service Reference	4.11	
Service Reference Variant	4.11.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x003A	0x009F
GBCS Use Case	ECS24	GCS21f

3.8.33.2 Specific Data Items for this Request

The ReadTariffPrimaryElement XML element (sr:ReadDataOnDemand) defines this Service Request and does not contain any other specific data items.

3.8.33.3 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.

3.8.34 Read Tariff (Secondary Element)

3.8.34.1 Service Description

Service Request Name	ReadTariff(SecondaryElement)	
Service Reference	4.11	
Service Reference Variant	4.11.2	
Eligible Users	Import Supplier (IS) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x00BD	N/A
GBCS Use Case	ECS24b	N/A

3.8.34.2 Specific Data Items for this Request

The ReadTariffSecondaryElement XML element (sr:ReadDataOnDemand) defines this Service Request and does not contain any other specific data items.

3.8.34.3 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.

3.8.35 Read Maximum Demand Import Registers

3.8.35.1 Service Description

Service Request Name	ReadMaximumDemandImportRegisters	
Service Reference	4.12	
Service Reference Variant	4.12.1	
Eligible Users	Import Supplier (IS) Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x002C	N/A
GBCS Use Case	ECS18b	N/A

3.8.35.2 Specific Data Items for this Request

The data items applicable depend on whether the Request is On Demand or DCC Scheduled.

For execution of this Service Request as an On Demand Service, the ReadMaximumDemandImportRegisters XML element defines this Service Request.

ReadMaximumDemandImportRegisters (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time

Table 148 : ReadMaximumDemandImportRegisters (sr:ReadDataFutureDated) data items

For execution of this Service Request as DCC Scheduled Service, the DSPReadMaximumDemandImportRegisters XML element defines this Service Request and does not contain any other specific data items. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

3.8.35.3 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.

For On Demand Services, see clause 3.10.1 for Execution DateTime Validation.

3.8.36 Read Maximum Demand Export Registers

3.8.36.1 Service Description

Service Request Name	ReadMaximumDemandExportRegisters	
Service Reference	4.12	
Service Reference Variant	4.12.2	
Eligible Users	Export Supplier (ES) Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x002B	N/A
GBCS Use Case	ECS18a	N/A

3.8.36.2 Specific Data Items for this Request

The data items applicable depend on whether the Request is On Demand or DCC Scheduled.

For execution of this Service Request as an On Demand Service, the ReadMaximumDemandExportRegisters XML element defines this Service Request.

ReadMaximumDemandExortRegisters (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time

Table 149 : ReadMaximumDemandExortRegisters (sr:ReadDataFutureDated) data items

For execution of this Service Request as DCC Scheduled Service, The DSPReadMaximumDemandExportRegisters XML element defines this Service Request and does not contain any other specific data items. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

3.8.36.3 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.

For On Demand Services, see clause 3.10.1 for Execution DateTime Validation.

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3.8.37 Read Prepayment Configuration

3.8.37.1 Service Description

Service Request Name	ReadPrepaymentConfiguration	
Service Reference	4.13	
Service Reference Variant	4.13	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x003B	0x00B5
GBCS Use Case	ECS26a	GCS21b

3.8.37.2 Specific Data Items for this Request

ReadPrepaymentConfiguration Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time

Table 150 : ReadPrepaymentConfiguration (sr:ReadDataOnDemandOrFutureDated) data items

3.8.37.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.38 Read Prepayment Daily Read Log

3.8.38.1 Service Description

Service Request Name	ReadPrepaymentDailyReadLog	
Service Reference	4.14	
Service Reference Variant	4.14	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Where a change of supplier occurs on any day, both the new supplier and the old supplier will be eligible to retrieve the daily read log for that day.	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0034	0x0096
GBCS Use Case	ECS21b	GCS16b

3.8.38.2 Specific Data Items for this Request

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the ReadPrepaymentDailyReadLog XML element defines this Service Request.

ReadPrepaymentDailyReadLog (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Old Responsible Supplier) with respect to the BusinessTargetID specified within the Service Request.	sr:Certificate (xs:base64Binary)	Responsible Supplier: N/A User Roles IS and GS that do not have their credentials on the Device when sending the Service Request e.g. Old Suppliers ; Yes	None	N/A

Table 151 : ReadPrepaymentDailyReadLog (sr:ReadLogFutureDatableAndURPCredentials) data items

For execution of this Service Request as DCC Scheduled Service, The DSPReadPrepaymentDailyReadLog XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

DSPReadPrepaymentDailyReadLog (Create Schedule)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPReadPrepaymentDailyReadLog	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (See clause 3.10.1.15)	Yes	None	N/A

Table 152 : DSPReadPrepaymentDailyReadLog (sr: ReadLogPeriodOffset) data items

3.8.38.3 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.

For On Demand Services, see clause 3.10.1 for Execution Date Time, Read Log Period, KAPublicSecurityCredentials and Device Applicability validation.

For DCC Scheduled Services, see clause 3.10.1 for Read Log Period Offset and Device Applicability validation.

3.8.39 Read Load Limit Data

3.8.39.1 Service Description

Service Request Name	ReadLoadLimitData	
Service Reference	4.15	
Service Reference Variant	4.15	
Eligible Users	Import Supplier (IS) Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0042	N/A
GBCS Use Case	ECS27	N/A

3.8.39.2 Specific Data Items for this Request

.

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the ReadLoadLimitData XML element defines this Service Request.

ReadLoadLimitData (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time

Table 153 : ReadLoadLimitData (sr:ReadDataFutureDated) data items

For execution of this Service Request as DCC Scheduled Service, the DSPReadLoadLimitData XML element defines this Service Request and does not contain any other specific data items. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

3.8.39.3 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.

For On Demand Services, see clause 3.10.1 for Execution DateTime validation

3.8.40 Read Active Power Import

3.8.40.1 Service Description

Service Request Name	ReadActivePowerImport	
Service Reference	4.16	
Service Reference Variant	4.16	
Eligible Users	Import Supplier (IS) Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0028	N/A
GBCS Use Case	ECS17c	N/A

3.8.40.2 Specific Data Items for this Request

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the ReadActivePowerImport XML element (sr:ReadDataOnDemand) defines this Service Request and does not contain any other specific data items.

For execution of this Service Request as DCC Scheduled Service, the DSPReadActivePowerImport XML element defines this Service Request and does not contain any other specific data items. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

3.8.40.3 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.

3.8.41 Retrieve Daily Consumption Log

3.8.41.1 Service Description

Service Request Name	RetrieveDailyConsumptionLog	
Service Reference	4.17	
Service Reference Variant	4.17	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0060	0x00A0
GBCS Use Case	ECS66	GCS61

3.8.41.2 Specific Data Items for this Request

The data items applicable depend on whether the Service Request is executed on an On Demand or DCC Scheduled basis.

For execution of this Service Request as an On Demand Service, the RetrieveDailyConsumptionLog XML element defines this Service Request.

RetrieveDailyConsumptionLog (On Demand)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and End Date-Times for which the data is required. The daily log entry is created and dated at midnight and therefore the Start and End Date-Times must encompass at least one midnight time.	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Other User) with respect to the BusinessTargetID specified within the Service Request.	sr:Certificate (xs:base64Binary)	User Role ED, GT: N/A User Role OU: Yes User Roles IS/GS that do not have their credentials on the Device when sending the Service Request e.g. Old Suppliers Yes	None	N/A

Table 154 : RetrieveDailyConsumptionLog (sr:ReadLogFutureDatableAndURPCredentials) data items

For execution of this Service Request as DCC Scheduled Service, The DSPRetrieveDailyConsumptionLog XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule).

DSPRetrieveDailyConsumptionLog (Create Schedule)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPRetrieveDailyConsumptionLog	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (See clause 3.10.1.15)	Yes	None	N/A

Table 155 : DSPRetrieveDailyConsumptionLog (sr:ReadLogPeriodOffset) data items

3.8.41.3 Specific Validation for this Request

Specific validation is applied for this Request as below and see clause 3.2.5 for general validation applied to all Requests.

For On Demand Services, see clause 3.10.1 for Execution Date Time, Read Log Period and KAPublicSecurityCredentials validation.

For DCC Scheduled Services, see clause 3.10.1 for Read Log Period Offset validation

Response Code	Response Code Description
E041701	The ReadLogPeriod (or ReadLogPeriodOffset) specified within the Service Request does not span at least 1 midnight

3.8.42 Read Meter Balance

3.8.42.1 Service Description

Service Request Name	ReadMeterBalance	
Service Reference	4.18	
Service Reference Variant	4.18	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0069	0x008D
GBCS Use Case	ECS82	GCS60

3.8.42.2 Specific Data Items for this Request

ReadMeterBalance Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time

Table 156 : ReadMeterBalance (sr:ReadDataOnDemandOrFutureDated) data items

3.8.42.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.43 Create Schedule

3.8.43.1 Service Description

Service Request Name	CreateSchedule	
Service Reference	5.1	
Service Reference Variant	5.1	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	8 - DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to a Non-Device Service Request Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.43.2 Specific Data Items for this Request

CreateSchedule Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ScheduleFrequency	The frequency of which the required service reference is executed Valid set • Daily • Weekly (The specified Service Request will be scheduled once a week, on the Schedule Start Date day of the week.) • Monthly (The specified Service Request will be scheduled once a month, on the Schedule Start Date day of the month, where possible. For those months where the Schedule Start Date day of the month doesn't exist, the Service Request will be scheduled on the last day of that month.) • Quarterly (The specified Service Request will be scheduled once every three months, with Scheduled Start Date as for Monthly.) • Half-Yearly (The specified Service Request will be scheduled once every six months, with Scheduled Start Date as for Monthly.) • Yearly (The specified Service Request will be scheduled once every 12 months, with Scheduled Start Date as for Monthly.)	sr:ScheduleFrequency (Restriction of xs:string (Enumeration))	Yes	None	N/A
ScheduleStartDate	The UTC date that the scheduled repeating request is required to commence from • Valid date in the future	xs:date	Yes	None	UTC Date
ScheduleEndDate	The UTC date that the scheduled repeating request is required to cease, or if not present then the repeating schedule shall remain in force until deleted by the User or by the DCC Systems, e.g. because of Device Decommission • Valid date in the future >= ScheduleStartDate	xs:date	User Role IS, GS, ES, ED, GT: No User Role OU: Yes	None	UTC Date
ScheduleExecution StartTime	The UTC start time after which a scheduled Command (invoked by the schedule) may be run • Valid Time	xs:time	No	00:01:00	UTC Time

KAPublicSecurityCredential	The Key Agreement Public Security Credentials, associated with the User submitting the Request that will be relied upon for Sensitive data Responses. Only applicable to those Scheduled Service Requests that can be submitted by User Roles for which the Device doesn't hold Security Credentials.	sr:Certificate (xs:base64Binary)	User Role IS, ES, ED: N/A User Role GT (where Response includes sensitive data and Device Type = Gas Smart Meter): Yes User Role OU (where Response includes sensitive data): Yes	None	N/A
DSPScheduledServiceReference	Reference of the Service Request to be Scheduled. Valid Set: see clause 3.1 , where DCC Scheduled column in table is set to "Yes"	sr:DSPScheduledServiceReference (Restriction of xs:string (Enumeration))	Yes	None	N/A
DSPScheduledServiceReferenceVariant	Reference Variant of the Service Request to be Scheduled. Valid Set: see clause 3.1 , where DCC Scheduled column in table is set to "Yes"	sr:DSPScheduledServiceReferenceVariant (Restriction of xs:string (Enumeration))	Yes	None	N/A
DeviceID	This is the Device ID to which the DCC Schedule is targeted.	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Choice of Service Request XML Element to be Scheduled	Name and Request Data Items corresponding to DSPScheduledServiceReferenceVariant to be Scheduled, choice of:		Yes	None	N/A
	DSPRetrieveImportDailyReadLog DSPRetrieveExportDailyReadLog DSPReadActiveImportProfileData DSPReadReactiveImportProfileData DSPReadExportProfileData DSPReadNetworkData DSPReadPrepaymentDailyReadLog DSPRetrieveDailyConsumptionLog	sr:ReadLogPeriodOffset			
	DSPReadMaximumDemandImportRegisters DSPReadMaximumDemandExportRegisters DSPReadLoadLimitData DSPReadActivePowerImport	sr:DSPReadData			
	DSPRecordNetworkDataGAS	sr:RecordNetworkDataGAS			

Table 157 : CreateSchedule (sr:DSPSchedule) data items

Each User shall set up separate Schedule IDs for each separate Request that they require to be scheduled by the DCC.

3.8.43.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests (applicable to the Create Schedule and to the Scheduled Service Request) and clause 3.10.2 for Create Schedule Device ID existence validation.

Response Code	Response Code Description
E050101	The Schedule Start Date is not a future date
E050102	The Schedule End Date is mandatory for User Role “OU”
E050103	The Schedule End Date is earlier than the Schedule Start Date
E050105	The Service Request format does not match the Service Reference Variant in the DCC Schedule. The combination of DSPScheduledServiceReference and DSPScheduledServiceReferenceVariant is not valid
E050107	One of: • User’s Role is Unknown Remote Party to the Device and the DCC Scheduled Service Response contains Sensitive data and Request does not include the User’s Key Agreement Public Security Credentials Or • User’s Role is Known Remote Party to the Device and / or the DCC Scheduled Service Response doesn’t contain Sensitive data and Request includes the User’s Key Agreement Public Security Credentials
E050108	Unable to create Schedule, because the User already owns 99 active DSP Schedules for the Device

E050109	The DSP Service Request format doesn't match the DSP Service Reference Variant in the Create Schedule message

3.8.43.4 Specific Data Items in the Response

The DCC shall return the following data items which are specific to this Service Request where a DCC Schedule is successfully created within the DCC Systems:

DSPScheduleID Definition

Data Item	**Description / Valid Set**	**Type**	**Mandatory**	**Default**	**Units**
DSPScheduleID	Schedule ID generated by the DCC Systems Valid Set: > 0	sr:scheduleID	Yes	None	N/A

Table 158 : DSPScheduleID definition

3.8.44 Read Schedule

3.8.44.1 Service Description

Service Request Name	ReadSchedule	
Service Reference	5.2	
Service Reference Variant	5.2	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	8 - DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to a Non-Device Service Request Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.44.2 Specific Data Items for this Request

ReadSchedule Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DSPScheduleID	Schedule ID generated by the DCC Systems when the schedule was created Valid Set: > 0	sr:scheduleID	No Either DSPScheduleID or DeviceID must be present	None	N/A
DeviceID	This is the Device ID for which schedules are to be read	sr:EUI (See clause 3.10.1.3)	No Either DSPScheduleID or DeviceID must be present	None	N/A

Table 159 : ReadSchedule (sr:ReadSchedule) data items

Service Request includes a choice so one of these two data items is mandatory

3.8.44.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

Response Code	Response Code Description
E050201	The DSPScheduleID does not exist or it is not owned by the User submitting the Service Request
E050202	The Device ID does not exist.
W050201	The User submitting the Service Request does not have any schedules created against the specified Device.

3.8.44.4 Specific Data Items in the Response

This Service Response is defined in the XSD ResponseMessage DSPSchedulesRead XML element, which can included between 1 and 99 DSP Schedules set up by the requesting User and for each DCC Schedule it contains the DSP Schedule ID and the DCC Schedule details.

DSPSchedulesRead Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DSPSchedules	Details of all the Schedules read	sr:DSPSchedules maxOccurs = 99	Yes	None	N/A

Table 160 : DSPSchedulesRead (sr:DSPSchedulesRead) data items

DSPSchedules Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DSPScheduleID	Schedule ID generated by the DCC Systems when the schedule was created Valid Set: > 0	sr:scheduleID	Yes	None	N/A
DSPScheduleDetails	Schedule details provided when the schedule was created	sr:DSPSchedule see 3.8.43.2	Yes	None	N/A

Table 161 : ReadSchedules (sr:ReadSchedules) data items

3.8.45 Delete Schedule

3.8.45.1 Service Description

Service Request Name	DeleteSchedule	
Service Reference	5.3	
Service Reference Variant	5.3	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	8 - DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this Request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.45.2 Specific Data Items for this Request

DeleteSchedule Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DSPScheduleID	Schedule ID generated by the DCC System when the schedule was created Valid Set: > 0	sr:scheduleID	No Either DSPScheduleID or DeviceId must be present	None	N/A
DeviceID	This is the Device ID for which all schedules associated with the Request sender (User ID) are to be deleted	sr:EUI (See clause 3.10.1.3)	No Either DSPScheduleID or DeviceId must be present	None	N/A

Table 162 : DeleteSchedule (sr:DeleteSchedule) data items

Service Request includes a choice so one of these two data items is mandatory

3.8.45.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

Response Code	Response Code Description
E050301	The DSPScheduleID does not exist or it is not owned by the User submitting the Service Request
E050302	The Device ID does not exist.
W050301	The User does not have any schedules created against the specified Device.

3.8.45.4 Specific Data Items in the response

No additional specific data items returned in the Service Response on top of the data items defined in clause 3.5 Responses.

3.8.46 Read Device Configuration (Voltage)

3.8.46.1 Service Description

Service Request Name	ReadDeviceConfiguration(Voltage)		
Service Reference	6.2		
Service Reference Variant	6.2.1		
Eligible Users	Import Supplier (IS) Electricity Distributor (ED) Registered Supplier Agent (RSA)		
Security Classification	Non Critical		
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)		
Can be future dated?	No		
On Demand?	Yes		
Capable of being DCC Scheduled?	No		
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)		
Common Header Data Items	See clause 3.4.1.1		
Data Items Specific to this Service Request	See Specific Data Items Below		
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request		
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes		
GBCS Cross Reference	Electricity (single phase)	Electricity (three phase)	Gas
GBCS MessageCode	0x003C	0x00C6	N/A
GBCS Use Case	ECS26b	ECS26k	N/A

3.8.46.2 Specific Data Items for this Request

The ReadDeviceConfigurationVoltage (sr:ReadDataOnDemand) XML element defines this Service Request and does not contain any other specific data items.

3.8.46.3 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

3.8.47 Read Device Configuration (Randomisation)

3.8.47.1 Service Description

Service Request Name	ReadDeviceConfiguration(Randomisation)	
Service Reference	6.2	
Service Reference Variant	6.2.2	
Eligible Users	Import Supplier (IS) Electricity Distributor (ED) Registered Supplier Agent (RSA)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x003D	N/A
GBCS Use Case	ECS26c	N/A

3.8.47.2 Specific Data Items for this Request

The ReadDeviceConfigurationRandomisation (sr:ReadDataOnDemand) XML element defines this Service Request and does not contain any other specific data items.

3.8.47.3 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.

3.8.48 Read Device Configuration (Billing Calendar)

3.8.48.1 Service Description

Service Request Name	ReadDeviceConfiguration(BillingCalendar)	
Service Reference	6.2	
Service Reference Variant	6.2.3	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Registered Supplier Agent (RSA)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS v1.0 MessageCode	0x003E	0x009D
GBCS v1.0 Use Case	ECS26d	GCS21d
GBCS v2.0 MessageCode	0x00D9	0x00DA
GBCS v2.0 Use Case	ECS26l	GCS21k

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	ESME	
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 v2.0
DEFAULT - No specific XML criteria	ECS26d	ECS26l
Device Type	GSME	

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 v2.0
DEFAULT - No specific XML criteria	GCS21d	GCS21k
Device Type	GPF	
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 v2.0
DEFAULT - No specific XML criteria	GCS21d	GCS21k

3.8.48.2 Specific Data Items for this Request

The ReadDeviceConfigurationBillingCalendar (sr:ReadDataOnDemand) XML element defines this Service Request and does not contain any other specific data items.

3.8.48.3 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.

3.8.49 Read Device Configuration (Identity Exc MPxN)

3.8.49.1 Service Description

Service Request Name	ReadDeviceConfiguration(IdentityExcMPxN)	
Service Reference	6.2	
Service Reference Variant	6.2.4	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Electricity Distributor (ED)	Gas Transporter (GT) Registered Supplier Agent (RSA) Other User (OU)
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Communications Hub Function (CHF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	

Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes		
GBCS Cross Reference	Electricity	Gas	Communications Hub Function
GBCS v1.0 MessageCode	0x003F	0x009E	0x0092
GBCS v1.0 Use Case	ECS26e	GCS21e	ECS26i
GBCS v2.0 MessageCode	0x00F9	0x00FB	0x00FA
GBCS v2.0 Use Case	ECS26m	GCS21m	ECS26n

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	ESME	
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 v2.0
DEFAULT - No specific XML criteria	ECS26e	ECS26m
Device Type	GSME	
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 v2.0
DEFAULT - No specific XML criteria	GCS21e	GCS21m
Device Type	GPF	
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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	Response Code - E57
Device Type	CHF	
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 v2.0
DEFAULT - No specific XML criteria	ECS26i	ECS26n

3.8.49.2 Specific Data Items for this Request

The ReadDeviceConfigurationIdentityExcMPxN (sr:ReadDataOnDemand) XML element defines this Service Request and does not contain any other specific data items.

3.8.49.3 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.

3.8.50 Read Device Configuration (Instantaneous Power Thresholds)

3.8.50.1 Service Description

Service Request Name	ReadDeviceConfiguration(InstantaneousPowerThresholds)	
Service Reference	6.2	
Service Reference Variant	6.2.5	
Eligible Users	Import Supplier (IS) Registered Supplier Agent (RSA)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0040	N/A
GBCS Use Case	ECS26f	N/A

3.8.50.2 Specific Data Items for this Request

The ReadDeviceConfigurationInstantaneousPowerThresholds (sr:ReadDataOnDemand) XML element defines this Service Request and does not contain any other specific data items.

3.8.50.3 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.

3.8.51 Read Device Configuration (MPxN)

3.8.51.1 Service Description

Service Request Name	ReadDeviceConfiguration(MPxN)	
Service Reference	6.2	
Service Reference Variant	6.2.7	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Electricity Distributor (ED)	Gas Transporter (GT) Registered Supplier Agent (RSA) Other User (OU)
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x004E	0x0089
GBCS Use Case	ECS40	GCS46

3.8.51.2 Specific Data Items for this Request

The ReadDeviceConfigurationMPxN XML element (sr:ReadDataOnDemand) defines this Service Request and does not contain any other specific data items.

3.8.51.3 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.

3.8.52 Read Device Configuration (Gas)

3.8.52.1 Service Description

Service Request Name	ReadDeviceConfiguration(Gas)	
Service Reference	6.2	
Service Reference Variant	6.2.8	
Eligible Users	Gas Supplier (GS) Gas Transporter (GT) Registered Supplier Agent (RSA)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	0x007B
GBCS Use Case	N/A	GCS21a

3.8.52.2 Specific Data Items for this Request

The ReadDeviceConfigurationGas XML element (sr:ReadDataOnDemand) defines this Service Request and does not contain any other specific data items.

3.8.52.3 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.

3.8.53 Read Device Configuration (Payment Mode)

3.8.53.1 Service Description

Service Request Name	ReadDeviceConfiguration(PaymentMode)	
Service Reference	6.2	
Service Reference Variant	6.2.9	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Registered Supplier Agent (RSA)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x00BE	0x00BF
GBCS Use Case	ECS26j	GCS21j

3.8.53.2 Specific Data Items for this Request

The ReadDeviceConfigurationPaymentMode XML element (sr:ReadDataOnDemand) defines this Service Request and does not contain any other specific data items.

3.8.53.3 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.

3.8.54 Read Device Configuration (Event and Alert Behaviours)

3.8.54.1 Service Description

Service Request Name	ReadDeviceConfiguration(EventAndAlertBehaviours)	
Service Reference	6.2	
Service Reference Variant	6.2.10	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS v1.0	N/A – feature not supported by Device	N/A – feature not supported by Device
GBCS v2.0 MessageCode	IS – 0x00EE ED – 0x00EF	GS - 0x00F1
GBCS v2.0 Use Case	IS – ECS25r1 ED – ECS25r2	GS - GCS20r

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	ESME	
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 v2.0
DEFAULT - No specific XML criteria (User Role IS)	Response Code - E57	ECS25r1

DEFAULT - No specific XML criteria (User Role ED)	Response Code - E57	ECS25r2
Device Type	GSME	
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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	GCS20r

3.8.54.2 Specific Data Items for this Request

The ReadDeviceConfigurationEventAndAlertBehaviours XML element (sr:ReadDataOnDemand) defines this Service Request and does not contain any other specific data items.

3.8.54.3 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.

3.8.55 Update Device Configuration (Load Limiting General Settings)

3.8.55.1 Service Description

Service Request Name	UpdateDeviceConfiguration(LoadLimitingGeneralSettings)	
Service Reference	6.4	
Service Reference Variant	6.4.1	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Service Response from Device - FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0043	N/A
GBCS Use Case	ECS28a	N/A

3.8.55.2 Specific Data Items for this Request

UpdateDeviceConfigurationLoadLimitingGeneralSettings Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the Command to be executed on the Device Valid set: • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time
LoadLimitPeriod	The length of time which the Active Power Import needs to continuously exceed the Load Limit Power Threshold before a load limiting event is deemed to have occurred	xs:unsignedInt	Yes	None	Seconds
LoadLimitPowerThreshold	The Active Power threshold above which the measurement of a Load Limit Period is commenced	xs:unsignedInt	Yes	None	W
LoadLimitRestorationPeriod	The length of time after the Supply has been Armed following a Load Limiting Event before the Supply is Enabled by the Electricity Smart Meter	xs:unsignedInt	Yes	None	Seconds
LoadLimitSupplyState	A setting to control the state of the Supply in the case of a load limiting occurring, being: • Disable • Unchanged	Restriction of xs:string (Enumeration)	Yes	None	N/A

Table 163 : UpdateDeviceConfigurationLoadLimitingGeneralSettings (sr:UpdateDeviceConfigurationLoadLimitingGeneralSettings) data items

3.8.55.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.56 Update Device Configuration (Load Limiting Counter Reset)

3.8.56.1 Service Description

Service Request Name	UpdateDeviceConfiguration(LoadLimitingCounterReset)	
Service Reference	6.4	
Service Reference Variant	6.4.2	
Eligible Users	Import Supplier (IS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0044	N/A
GBCS Use Case	ECS28b	N/A

3.8.56.2 Specific Data Items for this Request

UpdateDeviceConfigurationLoadLimitingCounterReset Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the Command to be executed on the Device. Valid set: • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time

Table 164 : UpdateDeviceConfigurationLoadLimitingCounterReset (sr:UpdateDeviceConfigurationLoadLimitingCounterReset) data items

3.8.56.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.57 Update Device Configuration (Voltage)

3.8.57.1 Service Description

Service Request Name	UpdateDeviceConfiguration(Voltage)				
Service Reference	6.5				
Service Reference Variant	6.5				
Eligible Users	Electricity Distributor (ED)				
Security Classification	Non Critical				
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)				
Can be future dated?	DSP				
On Demand?	Yes				
Capable of being DCC Scheduled?	No				
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)				
Common Header Data Items	See clause 3.4.1.1				
Data Items Specific to this Service Request	See Specific Data Items Below				
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request				
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes				
GBCS Cross Reference	Electricity (single phase)		Electricity (three phase)		Gas
GBCS v1.0 MessageCode	0x0045		0x00AE		N/A
GBCS v1.0 Use Case	ECS29a		ECS29b		N/A
GBCS v2.0 MessageCode	0x0045	0x00D1	0x00AE	0x00D2	N/A
GBCS v2.0 Use Case	ECS29a	ECS29c	ECS29b	ECS29d	N/A

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	ESME (Single Phase)	
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 v2.0
DEFAULT - No specific XML criteria	n/a	n/a
XML Criteria - XML data item RMSVoltageCountersNotReset included	Response Code - E060502	ECS29c

XML Criteria - XML data item RMSVoltageCountersNotReset not included	ECS29a	ECS29a
Device Type	ESME (Poly Phase)	
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 v2.0
DEFAULT - No specific XML criteria	n/a	n/a
XML Criteria - XML data item RMSVoltageCountersNotReset included	Response Code - E060502	ECS29d
XML Criteria - XML data item RMSVoltageCountersNotReset not included	ECS29b	ECS29b

3.8.57.2 Specific Data Items for this Request

UpdateDeviceConfigurationVoltage Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
RMSVoltageSettings	The non-average RMS Voltage settings applicable to a Single Phase (Single or Twin Element) Electricity Smart Meter or to a Polyphase Electricity Smart Meter phase.	sr:RMSVoltageSettings	Yes	None	N/A
SinglePhaseVoltageSettings	The average voltage settings applicable to a Single Phase (Single or Twin Element) Electricity Smart Meter.	sr:AverageRMSVoltageSettings	Single / Twin Element Electricity Smart Meter: Yes Polyphase Electricity Smart Meter: N/A	None	N/A
PolyPhaseVoltageSettings	The average voltage settings applicable to a PolyPhase Electricity Smart Meter.	sr:PolyPhaseVoltageSettings (minOccurs = "3", maxOccurs = "3")	Single / Twin Element Electricity Smart Meter: N/A Polyphase Electricity Smart Meter: Yes	None	N/A

RMSVoltageCountersNotReset	Flag to indicate that the RMS Voltage Counters are not to be reset. RMSVoltageCountersNotReset is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List. Its inclusion is used by the DCC Systems to map the Service Request to GBCS Use Cases ECS29c (single phase) / ECS29d (poly phase) and its absence to ECS29a (single phase) / ECS29b (poly phase)	sr:NoType	No	None	N/A

Table 165 : UpdateDeviceConfigurationVoltage (sr:UpdateDeviceConfigurationVoltage) data items

Each Service Request must contain one of SinglePhaseVoltageSettings or PolyPhaseVoltageSettings.

PolyPhaseVoltageSettings Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
Phase	The number (n: 1, 2, 3) of the phase to which the Phase voltage Settings apply	Restriction of xs:positiveInteger minInclusive = 1. maxInclusive =3)	Yes	None	N/A
PhaseVoltageSettings	The average voltage settings applicable to each of the phases.	sr:AverageRMSVoltageSettings	Yes	None	N/A

Table 166 : PolyPhaseVoltageSettings (sr:PolyPhaseVoltageSettings) data items

AverageRMSVoltageSettings Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
AverageRMSOverVoltageThreshold	The average RMS voltage above which an over voltage condition is reported	xs:unsignedInt	Yes	None	10th Volt
AverageRMSUnderVoltageThreshold	The average RMS voltage below which an over voltage condition is reported	xs:unsignedInt	Yes	None	10th Volt
AverageRMSVoltageMeasurementPeriod	The length of time in seconds over which the RMS voltage is averaged	xs:unsignedInt	Yes	None	Seconds

Table 167 : AverageRMSVoltageSettings (sr:AverageRMSVoltageSettings) data items

RMSVoltageSettings Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
RMSExtremeOverVoltageMeasurementPeriod	The duration in seconds used to measure an extreme over voltage condition	xs:unsignedInt	Yes	None	Seconds
RMSExtremeOverVoltageThreshold	The RMS voltage above which an extreme over voltage condition is reported.	xs: unsignedInt	Yes	None	10th Volt
RMSExtremeUnderVoltageMeasurementPeriod	The duration in seconds used to measure an extreme under voltage condition	xs:unsignedInt	Yes	None	Seconds
RMSExtremeUnderVoltageThreshold	The RMS voltage below which an extreme over voltage condition is reported. The threshold shall be configurable within the specified operating range of Electricity Smart Meter	xs:unsignedInt	Yes	None	10th Volt
RMSVoltageSagMeasurementPeriod	The duration in seconds used to measure a voltage sag condition	xs:unsignedInt	Yes	None	Seconds
RMSVoltageSwellMeasurementPeriod	The duration in seconds used to measure a voltage swell condition	xs:unsignedInt	Yes	None	Seconds
RMSVoltageSagThreshold	The RMS voltage below which a sag condition is reported. The threshold shall be configurable within the specified operating range of Electricity Smart Meter	xs:unsignedInt	Yes	None	10th Volt
RMSVoltageSwellThreshold	The RMS voltage above which a swell condition is reported. The threshold shall be configurable within the specified operating range of Electricity Smart Meter	xs:unsignedInt	Yes	None	10th Volt

Table 168 : RMSVoltageSettings (sr:RMSVoltageSettings) data items

3.8.57.3 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
E060501	The Voltage Settings aren't applicable to the Electricity Smart Meter variant as defined in the Smart Metering Inventory
E060502	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

3.8.58 Update Device Configuration (Gas Conversion)

3.8.58.1 Service Description

Service Request Name	UpdateDeviceConfiguration(GasConversion)	
Service Reference	6.6	
Service Reference Variant	6.6	
Eligible Users	Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commads 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	0x007C
GBCS Use Case	N/A	GCS23

3.8.58.2 Specific Data Items for this Request

UpdateDeviceConfigurationGasConversion Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
CalorificValue	The value used in the conversion of gas volume to Wh usage, based on the energy stored in one cubic metre of gas released when burnt at a standard temperature and pressure. The value can have a maximum of 1 digit to the right of the decimal, e.g. 12.3	xs:decimal (fractionDigits = 1, minInclusive = 0, maxInclusive = 429496729.5)	Yes	None	MJ/m^3
ConversionFactor	The value used in the conversion of gas volume to Wh usage, based on the temperature, pressure and compressibility of the gas. The value can have a maximum of 5 digits to the right of the decimal, e.g. 1.23456	xs:decimal (fractionDigits = 5, minInclusive = 0, maxInclusive = 42949.67295)	Yes	None	N/A

Table 169 : UpdateDeviceConfigurationGasConversion (sr:UpdateDeviceConfigurationGasConversion) data items

3.8.58.3 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.

3.8.59 Update Device Configuration (Gas Flow)

3.8.59.1 Service Description

Service Request Name	UpdateDeviceConfiguration(GasFlow)	
Service Reference	6.7	
Service Reference Variant	6.7	
Eligible Users	Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS v1.0 and v2.0 MessageCode	N/A	0x007D
GBCS v1.0 and v2.0 Use Case	N/A	GCS24
GBCS v3.2 MessageCode	N/A	0x00FC
GBCS v3.2 Use Case	N/A	GCS24a
GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		

Device Type	GSME	
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 or v2.0	GBCS v3.2
XML Criteria - XML data item UncontrolledGasFlowRate populated	GCS24	E060701
XML Criteria - XML data item UncontrolledGasFlowRateDecimal populated	E060701	GCS24a

3.8.59.2 Specific Data Items for this Request

UpdateDeviceConfigurationGasFlow Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
UncontrolledGasFlowRate	The flow rate in units of volume per unit time used in the detection of uncontrolled flow of gas on Enablement of Supply UncontrolledGasFlowRate is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 1.0 or 2.0 according to the entry for that Device Model in the Central Products List	xs:unsignedShort	Where the GBCS Version is Version 1.0 or 2.0: Yes Otherwise: N/A	None	m^3/hour
UncontrolledGasFlowRateDecimal	The flow rate in units of volume per unit time used in the detection of uncontrolled flow of gas on Enablement of Supply UncontrolledGasFlowRateDecimal is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 3.2 according to the entry for that Device Model in the Central Products List	Restriction of xs:decimal (minInclusive = 0, maxInclusive = 6.5535, fractionDigits =4)	Where the GBCS Version is Version 3.2: Yes Otherwise: N/A	None	m^3/hour
SupplyDepletionState	A setting to control the state of the Supply in the case of loss of power to the Gas Smart Meter Valid set: • Unchanged • Locked	Restriction of xs:string (Enumeration)	Yes	None	N/A
SupplyTamperState	A setting to control the state of the Supply in the case of a Tamper Event being detected Valid set: • Unchanged • Locked	Restriction of xs:string (Enumeration)	Yes	None	N/A
StabilisationPeriod	Value indicating the time given to allow the flow to stabilize. It is defined in units of tenths of a second	Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 255)	Yes	None	10^{th} second
MeasurementPeriod	Value indicating the period over which the flow is measured and compared against the Uncontrolled Flow Threshold value. It is defined in units of 1 second	Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 65535)	Yes	None	Seconds

Table 170 : UpdateDeviceConfigurationGasFlow (sr:UpdateDeviceConfigurationGasFlow) data items

3.8.59.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

Response Code	Response Code Description
E060701	The GBCS version that pertains to the Device Model recorded in the SMI for this Device doesn't support the requested value format for Uncontrolled Gas Flow Rate .

3.8.60 Update Device Configuration (Billing Calendar)

3.8.60.1 Service Description

Service Request Name	UpdateDeviceConfiguration(BillingCalendar)	
Service Reference	6.8	
Service Reference Variant	6.8	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS v1.0 MessageCode	0x0046	0x007E
GBCS v1.0 Use Case	ECS30	GCS25
GBCS v2.0 MessageCode	0x00D7	0x00D8
GBCS v2.0 Use Case	ECS30a	GCS25a

GBCS Commands - Versioning Details	
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,	
Device Type	ESME

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 v2.0
DEFAULT - No specific XML criteria	n/a	ECS30a
XML Criteria - XML data item Daily, Weekly or Monthly populated	ECS30	n/a
XML Criteria - XML data item Quarterly, SixMonthly or Yearly populated	Response Code - E060803	n/a
Device Type	GSME	
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 v2.0
DEFAULT - No specific XML criteria	n/a	GCS25a
XML Criteria - "Periodicity" data item set to Daily, Weekly or Monthly value	GCS25	n/a
XML Criteria - "Periodicity" data item set to Quarterly, SixMonthly or Yearly value	Response Code - E060803	n/a

3.8.60.2 Specific Data Items for this Request

UpdateDeviceConfigurationBillingCalendar Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ElectricityBillingCalendar	Indicates that the Billing Calendar to be configured is that of an Electricity Smart Meter	sr:ElectricityBillingCalendar	Target Device Type = ESME: Yes Otherwise: N/A	None	N/A
GasBillingCalendar	Indicates that the Billing Calendar to be configured is that of an Gas Smart Meter	sr:GasBillingCalendar	Target Device Type = GSME Yes Otherwise: N/A	None	N/A

Table 171 : UpdateDeviceConfigurationBillingCalendar (sr:BillingCalendar) data items

Each Request must contain one of either ElectricityBillingCalendar or GasBillingCalendar

ElectricityBillingCalendar Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
BillingTime	The time from which the billing period starts	xs:time	Yes	None	N/A
Daily	Indicates that the billing data is to be captured on a daily basis and it is a fixed value	sr:NoType	Daily: Yes Otherwise: N/A	Daily	N/A
Weekly	Indicates that the billing data is to be captured on a weekly basis, the numeric value defines the day of the week Valid set: •1 (Monday) to 7 (Sunday)	sr:BillingCalendarDayOfWeek (xs:postiveInteger (between 1 and 7))	Weekly: Yes Otherwise: N/A	None	N/A

Monthly	Indicates that the billing data is to be captured on a monthly basis, the numeric value defines the day of the month Valid set: •1 to 28	sr:BillingCalendarDayOfMonth (xs:postiveInteger (between 1 and 28))	Monthly: Yes Otherwise: N/A	None	N/A
Quarterly	Indicates that the billing data is to be captured on a quarterly basis, i.e. every 3 months, and defines the day of the month and the start month of the billing period. Valid set for Start Month is 1 (January) to 12 (December). See Table 174. For example, if the start month is 1, the billing calendar schedule will be 1 (January), 4 (April), 7 (July) and 10 (October). If the start month is 7, the billing calendar schedule will be 7 (July), 10 (October), 1 (January) and 4 (April), Quarterly is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List	sr:BillingCalendarQSMY	Quarterly: Yes Otherwise: N/A	None	N/A

SixMonthly	Indicates that the billing data is to be captured on a six monthly basis and defines the day of the month and the start month of the billing period. Valid set for Start Month is 1 (January) to 12 (December). See Table 174. For example, if the start month is 1, the billing calendar schedule will be 1 (January) and 7 (July). If the start month is 7, the billing calendar schedule will be 7 (July) and 1 (January), SixMonthly is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List	sr:BillingCalendarQSMY	SixMonthly: Yes Otherwise: N/A	None	N/A
Yearly	Indicates that the billing data is to be captured on a yearly basis and defines the day of the month and the start month of the billing period. For example, if the start month is 7, the billing calendar schedule will be 7 (July) of every year, Valid set for Start Month is 1 (January) to 12 (December). See Table 174. Yearly is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List	sr:BillingCalendarQSMY	Yearly: Yes Otherwise: N/A	None	N/A

Table 172 : ElectricityBillingCalendar (sr:ElectricityBillingCalendar) data items

GasBillingCalendar Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
BillingPeriodStart	The date and time from which the billing period starts Valid set: •Valid date-time except if day of the month is 29, 30 or 31 which are not valid (can only use values 1-28).	xs:dateTime	Yes	None	UTC Date-Time
Periodicity	Indicates that the billing data is to be captured on a reoccurring basis, from the BillingPeriodStart date time. Valid set: •Daily •Weekly •Monthly •Quarterly (only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List) •SixMonthly (only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List) •Yearly (only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List)	Restriction of xs:string (Enumeration)	Yes	Daily	N/A

Table 173 : GasBillingCalendar (sr: GasBillingCalendar) data items

BillingCalendarQSMY Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DayOfMonth	It defines the day of the month Valid set: •1 to 28	sr:BillingCalendarDayOfMonth (xs:postiveInteger (between 1 and 28))	Yes	None	N/A
BillingPeriodStartMonth	Indicates that the billing period starting month for billing calendar periodicities of quarterly, six monthly or yearly Valid set: •1 to 12	sr:BillingPeriodStartMonth (xs:positiveInteger between 1 and 12)	Yes	None	N/A

Table 174 : ElectricityBillingCalendar (sr: BillingCalendarQSMY) data items

3.8.60.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

Response Code	Response Code Description
E060801	The Service Request is not valid for the Device Type where the Billing Calendar is to be configured. • Electricity Smart Meter. The Service Request includes the ElectricityBillingCalendar data item • Gas Smart Meter. The Service Request includes the GasBillingCalendar data item
E060802	The Service Request Gas Billing Period Start Date day of the month is 29, 30 or 31 which is not valid
E060803	The GBCS version that pertains to the Device Model recorded in the SMI for this Device doesn't support the requested Billing Calendar periodicity

3.8.61 Synchronise Clock

3.8.61.1 Service Description

Service Request Name	SynchroniseClock	
Service Reference	6.11	
Service Reference Variant	6.11	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0062	0x007F
GBCS Use Case	ECS70	GCS28

3.8.61.2 Specific Data Items for this Request

SynchroniseClock Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
CurrentDateTime	e Supplier's current date-time, that define the "validity interval start" Valid set: • Valid date-time	xs:dateTime	Yes	None	UTC Date-Time
TolerancePeriod	e maximum number of seconds that, added to the CurrentDateTime, define the "validity interval end" Valid set: • >= 0 and <= 86400 (Note that for the GSME this may need to be at least 1800)	sr:tolerancePeriod (Restriction of xs:int minInclusive = 0, maxInclusive = 86400)	Yes	None	Seconds

Table 175 : SynchroniseClock (sr:SynchroniseClock) data items

3.8.61.3 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.

3.8.61.4 Additional DCC System Processing

For Gas a Command response indicates successful execution of the Command.

3.8.62 Update Device Configuration (Instantaneous Power Threshold)

3.8.62.1 Service Description

Service Request Name	UpdateDeviceConfiguration(InstantaneousPowerThreshold)	
Service Reference	6.12	
Service Reference Variant	6.12	
Eligible Users	Import Supplier (IS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0047	N/A
GBCS Use Case	ECS34	N/A

3.8.62.2 Specific Data Items for this Request

UpdateDeviceConfigurationInstantaneousPowerThreshold Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
LowMediumPower Threshold	A value in W defining the threshold between an indicative low and medium Active Power Import level	xs: unsignedInt	Yes	None	W
MediumHighPower Threshold	A value in W defining the threshold between an indicative medium and high Active Power Import level	xs: unsignedIntr	Yes	None	W

Table 176 : UpdateDeviceConfigurationInstantaneousPowerThreshold (sr:UpdateDeviceConfigurationInstantaneousPowerThreshold) data items

3.8.62.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.63 Read Event Or Security Log

3.8.63.1 Service Description

Service Request Name	ReadEventOrSecurityLog	
Service Reference	6.13	
Service Reference Variant	6.13	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT) Registered Supplier Agent (RSA)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) Communications Hub Function (CHF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS v1.0 or v2.0 MessageCode	0x0048 (Device event log) 0x0049 (Device security log) 0x0093 (CHF event log) 0x0094 (CHF security log) 0x00B9 (ESME power event log) 0x00BA (ESME HAN ALCS event log)	0x0014 (Device event log) 0x00A1 (Device security log)
GBCS v1.0 or v2.0 Use Case	ECS35a (Device event log) ECS35b (Device security log) ECS35c (CHF event log) ECS35d (CHF security log) ECS35e (ESME power event log) ECS35f (ESME HAN ALCS event log)	CS10a (Device event log) CS10b (Device security log)

GBCS v3.2 MessageCode	0x0048 (Device event log) 0x0049 (Device security log) 0x0093 (CHF event log) 0x0094 (CHF security log) 0x00B9 (ESME power event log) 0x00FD (ESME HAN ALCS event log)	0x0014 (Device event log) 0x00A1 (Device security log)
GBCS v3.2 Use Case	ECS35a (Device event log) ECS35b (Device security log) ECS35c (CHF event log) ECS35d (CHF security log) ECS35e (ESME power event log) ECS35g (ESME HAN ALCS event log)	CS10a (Device event log) CS10b (Device security log)

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	ESME	
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 or v2.0	GBCS v3.2
XML Criteria - XML data item LogToRead is ALCSEvent and User Role is IS	ECS35f	ECS35f
XML Criteria - XML data item LogToRead is ALCSEvent and User Role is ED	E061304	ECS35g

3.8.63.2 Specific Data Items for this Request

ReadEventOrSecurityLog Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ReadLogPeriod	The Start and / or End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A
LogToRead	An enumerated value indicating the Log to be read. Valid values: • Event. To read a Device's Event Log • ALCSEvent. Only applicable to Electricity Smart Meter Equipment • PowerEvent. Only applicable to Electricity Smart Meter Equipment • Security. To read a Device's Security Log • GSMEEvent. Only applicable to GSME Event Log read on the GPF • GSMESecurity. Only applicable to GSME Security Log read on the GPF	Restriction of xs:string (Enumeration)	Yes	None	N/A

Table 177 : ReadEventOrSecurityLog (sr:ReadEventOrSecurityLog) data items

3.8.63.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Read Log Period validation.

Response Code	Response Code Description
E061301	Log To Read / Device Type mismatch. The Log to Read is not applicable to the Device Type
E061304	Invalid User Role. The ALCS Event Log is not available to the requesting User Role. The IS User Role is eligible to read this log regardless of the GBCS version that pertains to the Device Model recorded in the SMI for this Device. The ED User Role is eligible to read this log only where the GBCS version that pertains to the Device Model recorded in the SMI for this Device is GBCS v3.2. All other User Roles are not eligible to read this log.

3.8.64 Update Device Configuration (Auxiliary Load Control Description)

3.8.64.1 Service Description

Service Request Name	UpdateDeviceConfiguration(AuxiliaryLoadControlDescription)	
Service Reference	6.14	
Service Reference Variant	6.14.1	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0053	N/A
GBCS Use Case	ECS46a	N/A

3.8.64.2 Specific Data Items for this Request

UpdateDeviceConfigurationALCDescriptions Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ALCSHCALCSDescription	The IDs (indices) and descriptions of the ALC/HCALC Switches The Index is the Switch Identifier.	sr:ALCSHCALCSDescription maxOccurs = 5	Yes	None	N/A

Table 178 : UpdateDeviceConfigurationALCDescriptions (sr:UpdateDeviceConfigurationALCDescriptions) data items

ALCSHCALCSDescription Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SwitchDescription	The description of the ALC or HCALC Switch Valid set: • All printable characters, i.e. characters with ASCII values of 32 (space) to 126 (tilde) inclusive	Restriction of xs:string (maxLength = 127, pattern = "[-~]+")	Yes	None	N/A
Index (attribute of ALCSHCALCSDescription)	The ID of the ALCS/HCALCS Numerically ordered, not necessarily consecutive.	sr:range_1_5 (xs:positiveInteger minInclusive 1 maxInclusive 5)	Yes	None	N/A

Table 179 : ALCSHCALCSDescription (sr:ALCSHCALCSDescription) data items

3.8.64.3 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.

3.8.64.4 Additional DCC System Processing

When the DCC receives a Response indicating Success from an UpdateDeviceConfiguration (AuxiliaryLoadControlDescription) command, the DCC shall send a DCC Alert N58 to the Registered Network Operator for that Device.

3.8.65 Update Device Configuration (Auxiliary Load Control Scheduler)

3.8.65.1 Service Description

Service Request Name	UpdateDeviceConfiguration(AuxiliaryLoadControlScheduler)	
Service Reference	6.14	
Service Reference Variant	6.14.2	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Service Response from Device – FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0054	N/A
GBCS Use Case	ECS46c	N/A

3.8.65.2 Specific Data Items for this Request

UpdateDeviceConfigurationALCScheduler Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ALCSHCALCSConnectionSchedule	Structure that defines the schedule when individual switches are to be open or closed.	sr:ALCSHCALCSConnectionSchedule (minOccurs = 1 maxOccurs = 48)	Yes	None	N/A
ALCSHCALCSSpecialDays	A calendar defining special days for the activation or deactivation of ALC / HCALC Switches	sr:ALCSHCALCSSpecialDays	Yes If there are no ALCS HCALCS Special Days, this XML element will be present, but empty, i.e. it will contain 0 ALCS HCALCS Special Day elements.	None	N/A
SwitchTypeAndId	The Switch Type (ALCS or HC ALCS) and, for HCALCS, the Device ID The index is the Switch Identifier Numerically ordered, not necessarily consecutive.	sr:SwitchTypeAndId (minOccurs = 0 maxOccurs = 5)	No	None	N/A

Table 180 : UpdateDeviceConfigurationALCScheduler (sr:UpdateDeviceConfigurationALCScheduler) data items

ALCSHCALCSConnectionSchedule Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ActivateDeactivateSwitch	Identifier of the Switch to be Activated or Deactivated. The index is the Switch Identifier Valid set: • ActivateSwitch. To close the Switch identified by the index • DeactivateSwitch. To open the Switch identified by the index	sr:ActivateDeactivateSwitch (choice of: ActivateSwitch sr:NoType DeactivateSwitch sr:NoType)	Yes	None	N/A
SpecialDaysApplicability	Identifier, via the Index, of those Special Days to which the Schedule applies	N/A minOccurs = 0 maxOccurs = 20	No	None	N/A
Index (attribute of SpecialDaysApplicability)	The value of the index provides an identifier for each SpecialDaysApplicability Unique (may not be consecutive)	sr:range_1_20 (xs:positiveInteger minInclusive 1 maxInclusive 20)	No (attribute)	None	N/A
DaysOfWeekApplicability	The days of the week to which the schedule applies defined as an array of up to 7 DayOfWeekIDs.	sr:DaysOfWeekApplicability See Table 105	No	None	N/A
ALCSScheduleDatesAndTime	The switch time and date range (with wildcards) when the script is to be run.	sr:ScheduleDatesAndTime See 3.10.1.19	Yes	None	N/A

Table 181 : ALCSHCALCSConnectionSchedule (sr:ALCSHCALCSConnectionSchedule) data items

ALCSHCALCSSpecialDays Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ALCSHCALCSSpecialDay	Special Day Dates to which the Schedule applies The index provides the Special Days ordering	sr:Date (with wildcards) (minOccurs = 0 maxOccurs = 20)	No	None	N/A
Index (attribute of ALCSHCALCSSpecialDay)	The value of the index provides an identifier for each ALCSHCALCSSpecialDay Unique and consecutive starting at 1	sr:range_1_20 (xs:positiveInteger minInclusive 1 maxInclusive 20)	No (attribute)	None	N/A

Table 182 : ALCSHCALCSSpecialDays (sr:ALCSHCALCSSpecialDays) data items

SwitchTypeAndId Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ALCS	Identifies Switch Type as ALCS	sr:NoType	ALCS: Yes Otherwise: N/A	None	N/A
HCALCS	Identifies Switch Type as HCALCS and it defines its Device ID	sr:EUI	HCALCS: Yes Otherwise: N/A	None	N/A
Index (attribute of SwitchTypeAndId)	The value of the index provides an identifier for each SwitchTypeAndId Numerically order, not necessarily consecutive.	sr:range_1_5 (xs:positiveInteger minInclusive 1 maxInclusive 5)	Yes	None	N/A

Table 183 : SwitchTypeAndId (sr:SwitchTypeAndId) data items

3.8.65.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.65.4 Additional DCC System Processing

When the DCC receives a Response indicating Success from an UpdateDeviceConfiguration (AuxiliaryLoadControlScheduler) command, the DCC shall send a DCC Alert N58 to the Registered Network Operator for that Device.

3.8.66 Update Security Credentials (KRP)

3.8.66.1 Service Description

Service Request Name	UpdateSecurityCredentials(KRP)	
Service Reference	6.15	
Service Reference Variant	6.15.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) HCALCS	
Can be future dated?	Device This Service Request can only be Future Dated if the Remote Party Role is 'Supplier' and where Supplier credentials are being replaced.	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format • Service Response from Device - FutureDatedDeviceAlertMessage Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode (for each CredentialsReplacementMode)	supplierBySupplier - 0x0102 networkOperatorByNetworkOperator - 0x0103	
GBCS Use Case	CS02b	CS02b

3.8.66.2 Specific Data Items for this Request

UpdateSecurityCredentialsKRP Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
RemotePartyRole	Remote Party Role for which the Certificates are being updated Valid Set in this context from the enumeration is; • Supplier • NetworkOperator	sr:RemotePartyRole Restriction base xs:token (Enumeration)	Yes	None	N/A
RemotePartyFloorSeqNumber	Mandatory if the Command is to effect a change of control. Originator Counter (floor value) for the new Remote Party. Used only where the Remote Party Role for which the Certificates are being updated is Supplier and the Digital Signature Certificate is being changed. This value will be used to prevent replay of Update Security Credentials Commands, and other Commands, for the new controlling Remote Party.	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 9223372036854775807)	No	0	N/A
RemotePartyPrepaymentTopUpFloorSeqNumber	Only applicable when the Command changes Supplier Certificates and Counters on a Meter and the Counter for its Prepayment Top Ups is different to that used for other Commands. This value will be used to prevent replay of Prepayment Top Up Commands	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 9223372036854775807	Remote Party Role = Supplierand Device Type = ESME or GSME: No Otherwise: N/A	None	N/A
ReplacementCertificates	This structure provides a list of the replacements. Each replacement contains a replacement Certificate, its Key Usage and Cell Usage.	sr:ReplacementCertificatesKRP	Yes	None	N/A

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
CertificationPathCertificates	This structure provides the Certificates needed to Confirm Validity of the new end entity Certificate against the Root OCA Certificate held on the Device. The number of these may be fewer than the number of replacement Certificates (e.g. a Supplier may replace all of its Certificates but may only need to supply one Issuing OCA Certificate to link them all back to root.	sr:Certificate (xs:base64Binary minOccurs = "1", maxOccurs = "3")	Yes	None	N/A
ApplyTimeBasedCPVChecks	Specify whether the time based Confirm Validity checkshould be applied	xs:Boolean	Yes	None	N/A

Table 184 : UpdateSecurityCredentialsKRP (sr:UpdateSecurityCredentialsKRP) data items

ReplacementCertificates Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SupplierOrNetworkOperatorCertificates	Certificates to be included in Requests to update Supplier or Network Operator Credentials.	sr:SupplierOrNetworkOperatorCertificatesKRP	Yes	None	N/A

Table 185 : ReplacementCertificates (sr:ReplacementCertificatesKRP) data items

SupplierOrNetworkOperatorCertificates Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DigitalSigningCertificate	The new Digital Signing Certificate to be placed in the Remote Party Role Key Usage digitalSignature (Cell Usage Management) on the Device.	sr:Certificate (xs:base64Binary)	No	None	N/A
KeyAgreementCertificate	The new Key Agreement Certificate to be placed in the Remote Party Role Key Usage keyAgreement (Cell Usage Management) on the Device	sr:Certificate (xs:base64Binary)	HCALCS: N/A Otherwise: No	None	N/A
KeyAgreementTopUpCretificate	The new Key Agreement Certificate to be placed in te Supplier Remote Party Role Key Usage keyAgreement (Cell Usage prePaymentTopUp) on the Device for those Suppliers that use different Originator Counters for Prepayment Top Up.	sr:Certificate (xs:base64Binary)	Remote Party Role = Supplier, and Device Type = ESME or GSME: No Otherwise: N/A	None	N/A

Table 186 : SupplierOrNetworkOperatorCertificates (sr:SupplierOrNetworkOperatorCertificatesKRP) data items

<Table removed>

Table 187 : Not used

3.8.66.3 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 and Public Security Credentials validation.

Response Code	Response Code Description
E061501	The combination of User Role,Remote Party Role and Device Type is incorrect
E061504	The Remote Party New Prepayment Top Up Floor Seq Number data item is not applicable to the Request
E061505	The Certificate Type is not applicable to the Device Type
E061506	Future Dating / Remote Party Role mismatch - The Remote Party Role is not Supplier
E061507	The Certificate Type is not applicable to the Remote Party Role

3.8.66.4Additional DCC System Processing

When the DCC receives a Response indicating Success from an Update Security Credentials command for all certificates and where the Remote Party whose certificate has been placed on the Device is not the sender of the Service Request, the DCC shall send a DCC Alert N42 to each of the relevant User(s) whose certificate has been placed on the Device.

Where the SMI Status of the associated Device is ‘Recovered’ and when all the Security Credentails from Access Control Broker Organisation Certificates that have been placed in the Supplier and Network Operator Trust Anchor Cells as part of the recovery process have been replaced with those from Organisation Certificates of the relevant Supplier and/or Network Operator, the DCC shall update the Device Status to the SMI Status it held immediately prior to the recovery process (SMI Status prior to the ‘Recovery’ SMI Status).

For each certificate specified in a Response or Alert from the Device as being successfully updated by the Update Security Credentials command, the DCC Systems shall update the Smart Metering Inventory with the new certificate identifier as a record of the certificate held in the relevant Trust Anchor Cell on that Device.

3.8.67 Update Security Credentials (Device)

3.8.67.1 Service Description

Service Request Name	UpdateSecurityCredentials(Device)	
Service Reference	6.15	
Service Reference Variant	6.15.2	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x000B	0x000B
GBCS Use Case	CS02d	CS02d

3.8.67.2 Specific Data Items for this Request

UpdateSecurityCredentialsDevice Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DeviceCertificate	The Device Digital Signing or Key Agreement Public Security Credentials to replace the existing one.	sr:Certificate (xs:base64Binary)	Yes	None	N/A

Table 188 : UpdateSecurityCredentialsDevice (sr:UpdateSecurityCredentialsDevice) data items

3.8.67.3 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 and clause 3.10.2 for Public Security Credentials validation.

3.8.67.4Additional DCC System Processing

When the DCC receives a Response indicating Success from an Update Security Credentials (Device) the DCC Systems are updated to record which Device Certificates are currently in use by the Device.

3.8.68 Issue Security Credentials

3.8.68.1 Service Description

Service Request Name	IssueSecurityCredentials	
Service Reference	6.17	
Service Reference Variant	6.17	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x000A	0x000A
GBCS Use Case	CS02c	CS02c

3.8.68.2 Specific Data Items for this Request

IssueSecurityCredentials Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
CredentialType	Type of credential to be issued Valid Set: • Digital Signature • Key Agreement	sr:CredentialType (Restriction of xs:string (Enumeration))	Yes	None	N/A

Table 189 : IssueSecurityCredentials (sr:IssueSecurityCredentials) data items

3.8.68.3 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.

3.8.69 Set Maximum Demand Configurable Time Period

3.8.69.1 Service Description

Service Request Name	SetMaximumDemandConfigurableTimePeriod	
Service Reference	6.18	
Service Reference Variant	6.18.1	
Eligible Users	Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x004A	N/A
GBCS Use Case Reference	ECS37	N/A

3.8.69.2 Specific Data Items for this Request

SetMaximumDemandConfigurableTimePeriod Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
MaximumDemandTimePeriodSchedule	The date-time period (maximum of 24 hours) when the Maximum Demand is to be recorded on a daily basis.	sr: MaximumDemandTimePeriodSchedule	Yes	None	N/A

Table 190 : SetMaximumDemandConfigurableTimePeriod (sr:SetMaximumDemandConfigurableTimePeriod) data items

MaximumDemandTimePeriodSchedule Specific Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
StartTime	The Start time from which the Maximum Demand period begins.	xs:time	Yes	None	N/A
EndTime	The End Time at which the Maximum Demand period ends.	xs:time	Yes	None	N/A

Table 191 : MaximumDemandTimePeriodSchedule (sr:MaximumDemandTimePeriodSchedule) data items

3.8.69.3 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
E061801	Invalid Start Time - The Start Time is not valid. Start Time minutes must be either 00 or 30.
E061802	Invalid End Time - The End Time is not valid. End Time minutes must be either 00 or 30.

3.8.70 Reset Maximum Demand Registers

3.8.70.1 Service Description

Service Request Name	ResetMaximumDemandRegisters	
Service Reference	6.18	
Service Reference Variant	6.18.2	
Eligible Users	Electricity Distributor (ED)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x005A	N/A
GBCS Use Case	ECS57	N/A

3.8.70.2 Specific Data Items for this Request

ResetMaximumDemandRegisters Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	The UTC date and time the User requires the command to be executed on the Device ID Valid set: • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time
MaxDemandActivePowerImportValue	Included if the Maximum Demand Active Power Import Value is to be reset	sr:Reset	Reset MaxDemandActivePowerImportValue: Yes[1] Otherwise: N/A	None	N/A
MaxDemandActivePowerExportValue	Included if the Maximum Demand Active Power Export Value is to be reset	sr:Reset	Reset MaxDemandActivePowerExportValue: Yes[1] Otherwise: N/A	None	N/A
MaxDemandConfigTimeActivePowerImportValue	Included if the Maximum Demand (Configuration Time) Active Power Import Value is to be reset	sr:Reset	Reset MaxDemandConfigTimeActivePowerImportValue: Yes[1] Otherwise: N/A	None	N/A

Table 192 : ResetMaximumDemandRegisters (sr:ResetMaximumDemandRegisters) data items

[1]Service Request includes a choice so at least one of these three data items is mandatory

3.8.70.3 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
E061803	Invalid Request - The Request doesn't include any Maximum Demand Register to reset

3.8.71 Set Device Configuration (Import MPxN)

3.8.71.1 Service Description

Service Request Name	SetDeviceConfiguration(ImportMPxN)	
Service Reference	6.20	
Service Reference Variant	6.20.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x004C	0x0087
GBCS Use Case	ECS39a	GCS41

3.8.71.2 Specific Data Items for this Request

SetDeviceConfigurationImportMPxN Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ImportMPANs	For Electricity Smart Meters, the Primary Element Import MPAN and, for Twin Element Meters, also the Secondary Element Import MPAN	sr:ImportMPANs	Electricity Smart Meter: Yes Otherwise: N/A	None	None
ImportMPRN	For Gas Smart Meters, the reference number identifying a gas metering point	sr:MPRN Restriction of xs:string (minLength = 1, maxLength = 10)	Gas Smart Meter: Yes Otherwise: N/A	None	None

Table 193 : SetDeviceConfigurationImportMPxN (sr:SetDeviceConfigurationImportMPxN) data items

ImportMPANs Specific Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ImportMPAN	The reference number identifying an import electricity metering point	sr:MPAN Restriction of xs:string (minLength = 13 maxLength = 13)	Yes	None	N/A
SecondaryImport MPAN	The reference number identifying the secondary import electricity metering point	sr:MPAN Restriction of xs:string (minLength = 13, maxLength = 13)	Electricity Smart Meter (non Twin Element) N/A Electricity Smart Meter (Twin Element) No	None	N/A

Table 194 : ImportMPANs (sr:ImportMPANs) data items

3.8.71.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.72 Set Device Configuration (Export MPAN)

3.8.72.1 Service Description

Service Request Name	SetDeviceConfiguration(ExportMPAN)	
Service Reference	6.20	
Service Reference Variant	6.20.2	
Eligible Users	Export Supplier (ES)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x004D	N/A
GBCS Use Case	ECS39b	N/A

3.8.72.2 Specific Data Items for this Request

SetDeviceConfigurationExportMPAN Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ExportMPAN	The reference number identifying an export electricity metering point	sr:MPAN Restriction of xs:string (minLength = 13, maxLength = 13)	Yes	None	N/A

Table 195 : SetDeviceConfigurationExportMPAN (sr:SetDeviceConfigurationExportMPAN) data items

3.8.72.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.73 Request Handover of DCC Controlled Device

3.8.73.1 Service Description

Service Request Name	RequestHandoverOfDCCControlledDevice	
Service Reference	6.21	
Service Reference Variant	6.21	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) Han Controlled Auxiliary Control Switches (HCALCS)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode **(for each CredentialsReplacementMode)**	supplierBySupplier 0x0102 networkOperatorByNetworkOperator 0x0103	
GBCS Use Case	CS02b	

3.8.73.2 Specific Data Items for this Request

RequestHandoverOfDCCControlledDevice Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
RemotePartyRole	Remote Party Role for which the Credentials are being updated Valid Set in this context from the enumeration is; • Supplier • NetworkOperator	sr:RemotePartyRole Restriction base xs:token (Enumeration)	Yes	None	N/A
RemotePartyFloorSeqNumber	Originator Counter (floor value) for the new Remote Party. This value will be used to prevent replay of Update Security Credentials Commands, and other Commands, for the new controlling Remote Party. Used only where the Remote Party Role for which the Certificates are being updated is Supplier.	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 9223372036854775807	No	None	N/A
RemotePartyPrepaymentTopUpFloorSeqNumber	Only applicable when the Command changes Supplier Credentials and Counters on a Meter and the Counter for its Prepayment Top Ups is different to that used for other Commands. This value will be used to prevent replay of Prepayment Top Up Commands	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 9223372036854775807	Remote Party Role = Supplier and Device Type = ESME or GSME: No Otherwise: N/A	None	N/A
ReplacementCertificates	This structure provides a list of the replacements. Each replacement contains a replacement Certificate, its Key Usage and Cell Usage.	sr:ReplacementCertificatesDCCHandover	Yes	None	N/A
CertificationPathCertificates	This structure provides the Certificates needed to Confirm Validity of the new end entity	sr:Certificate xs:base64Binary	Yes	None	N/A

	Certificate against the root public key held on the Device. The number of these may be less than the number of replacement certificates (e.g. a Supplier may replace all of its certificates but may only need to supply one Certification Authority Certificate to link them all back to root.	minOccurs = "1", maxOccurs = "3"))			
ApplyTimeBasedCPV Checks	Specify whether the time based Confirm Validity checkshould be applied	xs:boolean	Yes	None	N/A

Table 196 : RequestHandoverOfDCCControlledDevice (sr:RequestHandoverOfDCCControlledDevice) data items

ReplacementCertificates Specific Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DigitalSigningCertificate	The new Digital Signing Certificate to be placed in the Remote Party Role Key Usage digitalSignature (Cell Usage management) on the Device.	sr:Certificate (xs:base64Binary)	Yes	None	N/A
KeyAgreementCertificate	The new Key Agreement Certificate to be placed in the Remote Party Role Key Usage keyAgreement (Cell Usage management) on the Device.	sr:Certificate (xs:base64Binary)	HCALCS: N/A Otherwise: Yes	None	N/A
KeyAgreementTopUpCertificate	The new Key Agreement Certificate to be placed in the Supplier Remote Party Role Key Usage keyAgreement (Cell Usage prePaymentTopUp) on the Device for those Suppliers that use different Originator Counters for Prepayment Top Up.	sr:Certificate (xs:base64Binary)	Remote Party Role = Supplier and Device Type = ESME or GSME: Yes Otherwise: N/A	None	N/A

Table 197 : ReplacementCertificates (sr:ReplacementCertificatesDCCHandover) data items

3.8.73.3 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 and Public Security Credentials validation.

Response Code	Response Code Description
E062101	The Remote Party New Prepayment Top Up Floor Seq Number data item is not applicable to the Request

E062102	The Certificate type is not applicable to the Device Type
E062103	The combination of User Role and Remote Party Role is invalid for the Device Type
E062105	The Certificate Type is not applicable to the Device Type & Remote Party Role combination or not all applicable Certificate Types are included in the Request.

3.8.73.4 Additional DCC System Processing

When the DCC receives a Response indicating Success from an Update Security Credentials command for all certificates and where the Remote Party whose certificate has been placed on the Device is not the sender of the Service Request, the DCC shall send a DCC Alert N42 to each of the relevant User(s) whose certificate has been placed on the Device.

Where the SMI Status of the associated Device is 'Recovered' and when all the Security Credentials from Access Control Broker Organisation Certificates that have been placed in the Supplier and Network Operator Trust Anchor Cells as part of the recovery process have been replaced with those from Organisation Certificates of the relevant Supplier and/or Network Operator, the DCC shall update the Device Status to the SMI Status it held immediately prior to the recovery process (SMI Status prior to the 'Recovery' SMI Status).

For each certificate specified in a Response or Alert from the Device as being successfully updated by the Update Security Credentials command, the DCC Systems shall update the Smart Metering Inventory with the new certificate identifier as a record of the certificate held in the relevant Trust Anchor Cell on that Device.

3.8.74 Configure Alert Behaviour

3.8.74.1 Service Description

Service Request Name	ConfigureAlertBehaviour				
Service Reference	6.22				
Service Reference Variant	6.22				
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED)				
Security Classification	Non Critical				
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)				
Can be future dated?	No				
On Demand?	Yes				
Capable of being DCC Scheduled?	No				
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)				
Common Header Data Items	See clause 3.4.1.1				
Data Items Specific to this Service Request	See Specific Data Items Below				
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request				
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes				
GBCS Cross Reference	Electricity				Gas
	WAN Alerts	HAN Alerts	Audible Alarms	Event Logging	
GBCS v1.0 MessageCode	Supplier - 0x00AC Network Operator - 0x00B0	N/A	N/A	N/A	Supplier - 0x00AD
GBCS v1.0 Use Case	Supplier - ECS25a Network Operator - ECS25b	N/A	N/A	N/A	Supplier - GCS20

GBCS v2.0 MessageCode	Supplier - 0x00AC Network Operator - 0x00B0	Supplier – 0x00EA	Supplier – 0x00EB	Supplier – 0x00EC Network Operator – 0x00ED	Supplier - 0x00AD
GBCS v2.0 Use Case	Supplier - ECS25a Network Operator - ECS25b	Supplier - ECS25a1	Supplier - ECS25a2	Supplier - ECS25a3 Network Operator - ECS25b3	Supplier - GCS20

GBCS Commands - Versioning Details

DCC System creates the following GBCS Commands or Response Codes based on the following combinations,

Device Type	ESME	
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 v2.0
DEFAULT - No specific XML criteria	n/a	n/a
XML Criteria - XML data item ElectricitySupplierAlerts populated only with Alerts included in GBCS v1.0	ECS25a	ECS25a
XML Criteria - XML data item ElectricitySupplierAlerts populated with at least one Alert not included in GBCS v1.0	Response Code - E062203	ECS25a
XML Criteria - XML data item ElectricitySupplierHANAlertSettings populated	Response Code - E062203	ECS25a1
XML Criteria - XML data item ElectricitySupplierAlarmSettings populated	Response Code - E062203	ECS25a2
XML Criteria - XML data item ElectricitySupplierLoggingSettings populated	Response Code - E062203	ECS25a3
XML Criteria - XML data item ElectricityNetworkOperatorAlerts populated	ECS25b	ECS25b
XML Criteria - XML data item ElectricityNetworkOperatorLoggingSettings populated	Response Code - E062203	ECS25b3

Device Type	GSME	
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 v2.0
DEFAULT - No specific XML criteria	n/a	n/a
XML Criteria - XML data item GasSupplierAlerts populated	GCS20	Response Code - E062203
XML Criteria - XML data item GasSupplierAlertEventSettings populated	Response Code - E062203	GCS20

3.8.74.2 Specific Data Items for this Request

ConfigureAlertBehaviour Definition (choice of eight elements, so one of them is mandatory as per XML Schema validation)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ElectricitySupplierAlerts	The configuration settings for WAN Alerts which the IS can configure on the ESME	sr:ElectricitySupplierAlerts See Table 199	IS and ESME where the GBCS Version is Version 1.0: Yes	None	N/A

			IS and ESME where the GBCS Version is Version 2.0: Optional Otherwise: N/A		
ElectricitySupplierHANAlertSettings	The configuration settings for HAN Alerts which the IS can configure on the ESME. ElectricitySupplierHANAlertSettings is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List	sr:ElectricitySupplierAlerts See Table 199	IS and ESME where the where the GBCS Version is Version 2.0: Optional Otherwise: N/A	None	N/A
ElectricitySupplierAlarmSettings	The configuration settings for audible Alarms (associated to WAN Alerts, HAN Alerts and / or events recorded in the Event Log) which the IS can configure on the ESME. ElectricitySupplierAlarmSettings is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List	sr:ElectricitySupplierAlerts See Table 199	IS and ESME where the GBCS Version is Version 2.0: Optional Otherwise: N/A	None	N/A
ElectricitySupplierLoggingSettings	The configuration settings for logging Events in the Event Logs, which the IS can configure on the ESME. ElectricitySupplierLoggingSettings is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry	sr:ElectricitySupplierAlerts See Table 199	IS and ESME where the where the GBCS Version is Version 2.0: Optional Otherwise: N/A	None	N/A

	for that Device Model in the Central Products List				
ElectricityNetworkOperatorAlerts	The configuration settings for WAN Alerts which the ED can configure on the ESME.	sr:ElectricityNetworkOperatorAlerts See Table 200	ED and ESME where the GBCS Version is Version 1.0: Yes ED and ESME where the GBCS Version is Version 2.0: Optional Otherwise: N/A	None	N/A
ElectricityNetworkOperatorLoggingSettings	The configuration settings for logging Events in the Power Event Log, which the ED can configure on the ESME. ElectricityNetworkOperatorLoggingSettings is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List	sr:ElectricityNetworkOperatorAlerts See Table 200	ED and ESME where the GBCS Version is Version 2.0: Optional Otherwise: N/A	None	N/A
GasSupplierAlerts	The configuration settings for WAN Alerts which the GS can configure on the GSME. GasSupplierAlerts is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 1.0 according to the entry for that Device Model in the Central Products List	sr:SupplierGSME See Table 201	GS and GSME where the GBCS Version is Version 1.0: Yes Otherwise: N/A	None	N/A
GasSupplierAlertEventSettings	The configuration settings for WAN Alerts, HAN Alerts, logging of Events in the Event Log and / or audible Alarms (associated to WAN Alerts, HAN Alerts and / or events recorded in the Event Log) which the GS can configure on the GSME.	sr: SupplierGSMEAlertsEvents See Table 202	GS and GSME where the GBCS Version is Version 2.0: Yes Otherwise: N/A	None	N/A

	GasSupplierAlertEventSettings is only supported on Devices with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List				

Table 198 : ConfigureAlertBehaviour (sr:ConfigureAlertBehaviour) data items

ElectricitySupplierAlerts Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SupplierESMECommon	A set of Event / Alert Codes (as defined by GBCS) for which WAN Alert, HAN Alert, audible Alarm or logging of Events to the Event Log behaviours that are applicable to both Single and Poly Phase meters are to be configured.	sr:SupplierESMECommon See Table 204	No (If included, at least 1 Alert Code must be configured)	None	N/A
SupplierESMEPolyPhase	A set of Event / Alert Codes (as defined by GBCS) for which WAN Alert, HAN Alert, audible Alarm or logging of Events to the Event Log behaviours that are only applicable to Poly Phase meters are to be configured.	sr:SupplierESMEPolyPhase See Table 204	No (If included, at least 1 Alert Code must be configured)	None	N/A

Table 199 : ElectricitySupplierAlerts (sr:ElectricitySupplierAlerts) data items

ElectricityNetworkOperatorAlerts Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
NetworkOperatorESMECommon	A set of Event / Alert Codes (as defined by GBCS) for which WAN Alert or logging of Events to the Power Event Log behaviours that are applicable to both Single and Poly Phase meters are to be configured.	sr:NetworkOperatorESMECommon See Table 204	No (If included, at least 1 Alert Code must be configured)	None	N/A
NetworkOperatorESMESinglePhase	A set of Event / Alert Codes (as defined by GBCS) for which WAN Alert or logging of Events to the Power Event Log	sr:NetworkOperatorESMESinglePhase See Table 204	No (If included, at least 1 Alert Code must be configured)	None	N/A

	behaviours that are only applicable to Single Phase meters are to be configured.				
NetworkOperatorESMEPolyPhase	A set of Event / Alert Codes (as defined by GBCS) for which WAN Alert or logging of Events to the Power Event Log behaviours that are only applicable to Poly Phase meters are to be configured.	sr:NetworkOperatorESMEPolyPhase See Table 204	No (If included, at least 1 Alert Code must be configured)	None	N/A

Table 200 : ElectricityNetworkOperatorAlerts (sr:ElectricityNetworkOperatorAlerts) data items

GasSupplierAlerts Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
GasSupplierAlerts	A set of Event / Alert Codes (as defined by GBCS) for which WAN Alert behaviours that are applicable to a Gas Smart Meter are to be configured.	sr:SupplierGSME See Table 204	No (If included, at least 1 Alert Code must be configured)	None	N/A

Table 201 : GasSupplierAlerts (sr:SupplierGSME) data items

GasSupplierAlertEventSettings Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
GasSupplierAlertEventSettings	A set of Event / Alert Codes(as defined by GBCS) with configurable WAN Alert, HAN Alert, Alarm and / or Event Logging that are applicable to a Gas Smart Meter are to be configured.	sr:WANHANEventLogAlarm See Table 203	No (If included, at least 1 Alert Code must be configured)	None	N/A

Table 202 : GasSupplierAlertEventSettings (sr:SupplierGSMEAlertsEvents) data items

WANHANEventLogAlarm Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
XML Tag name is the GBCS Alert Code without the leading zero. e.g. x81AA (for Alert 0x81AA)	Applicable to each Event / Alert Code with configurable WAN Alert, HAN Alert, Event Log and Alarm on the GSME. For each of these alerts, e.g. 0x81AA, the WAN Alert, HAN Alert, the Event Log and the Alarm have to be configured at the same time, but their setting (enable / disable) can be different	See Table 204	No	None	N/A

Table 203 : WANHANEventLogAlarm (sr:WANHANEventLogAlarm) data items

Alert Type Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
AlertCode XML Tag name is the GBCS Alert Code without the leading zero. e.g. x81AD	Each of the following elements contain a sequence of GBCS Alert Codes; • SupplierESMECommon • SupplierESMEPolyPhase • NetworkOperatorESMECommon • NetworkOperatorESMESinglePhase • NetworkOperatorESMEPolyPhase • GasSupplierAlerts • GasSupplierAlertEventSettings See clause 16.2 of GBCS for the definition of these codes. Each Device Alert may be enabled (turned on) or disabled (turned off), if a Device Alert is not reconfigured as part of this Service Request then its configuration state is unchanged. Valid set; • Enable • Disable	sr:EnableDisableAlert (Restriction of xs:string (Enumeration))	No	None	N/A

Table 204 : Alert Type (sr:EnableDisableAlert) data items

3.8.74.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

Response Code	Response Code Description
E062201	The Service Request is invalid. The combination of User Role and Alert Code Configuration contents is incorrect OR at least one Alert configuration is not present.

E062202	The combination of Electricity Smart Meter Variant and Service Request contents is invalid
E062203	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

3.8.75 Update Security Credentials (CoS)

3.8.75.1 Service Description

Service Request Name	UpdateSecurityCredentials(CoS)	
Service Reference	6.23	
Service Reference Variant	6.23	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) Han Controlled Auxiliary Control Switches (HCALCS)	
Can be future dated?	DSP and Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical) Command Variants 2 and 3 are only available to Users via On Demand Services	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response from Device - FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode **(for each CredentialsReplacementMode)**	supplierByTransCoS 0x0107	
GBCS Use Case	CS02b	

3.8.75.2 Specific Data Items for this Request

UpdateSecurityCredentialsCoS Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the Command to be executed on the Device, i.e. the date when the Supplier Credentials are to be replaced. • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time
SupplierFloorSeqNumber	New Supplier Originator Counter (floor value) This value will be used to prevent replay of Update Security Credentials Commands, and other Commands, for the new controlling Remote Party.	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 9223372036854775807)	Yes	None	N/A
SupplierPrepaymentTopUpFloorSeqNumber	Only applicable when the Command changes Supplier Credentials and Counters on a Meter and the Counter for its Prepayment Top Ups is different to that used for other Commands This value will be used to prevent replay of Prepayment Top Up Commands.	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 9223372036854775807)	ESME or GSME: No Otherwise: N/A	None	N/A
SupplierReplacementCertificates	This structure provides a list of the replacement Certificates	sr:ReplacementCertificatesCoS	Yes	None	N/A
CertificationPathCertificates	This structure provides the Certificates needed to Confirm Validity of the new end entity Certificate against the root public key held on the Device. The number of these may be less than the number of replacement certificates	sr:Certificate(xs:base64Binary minOccurs = "1", maxOccurs = "3")	Yes	None	N/A
ApplyTimeBasedCPVChecks	Specify whether the time based Confirm Validity checkshould be applied	xs:boolean	Yes	None	N/A
ImportMPxN	The reference number identifying the primary import electricity or gas metering point associated to the premises to which the Change of Supplier Applies.	sr: ImportMPxN Restriction of xs:string (minLength = 1, maxLength = 13)	Yes	None	N/A

Table 205 : UpdateSecurityCredentialsCoS (sr:UpdateSecurityCredentialsCoS) data items

SupplierReplacementCertificates Specific Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DigitalSigningCertificate	The new Supplier digital signing credentials to be placed in the Supplier Remote Party Role Key Usage digitalSignature (Cell Usage management) on the Device.	sr:Certificate (xs:base64Binary)	Yes	None	N/A
KeyAgreementCertificate	The new Supplier key agreement credentials to be placed in the Supplier Remote Party Role Key Usage keyAgreement (Cell Usage management) on the Device.	sr:Certificate (xs:base64Binary)	HCALCS: N/A Otherwise: Yes	None	N/A
KeyAgreementTopUpCertificate	The new Supplier key agreement credentials to be placed in the Supplier Remote Party Key Role Usage keyAgreement (Cell Usage prePaymentTopUp) on the Device, for those Suppliers that use different Originator Counters for Prepayment Top Up.	sr:Certificate (xs:base64Binary)	ESME or GSME: Yes Otherwise: N/A	None	N/A

Table 206 : SupplierReplacementCertificates (sr:ReplacementCertificatesCoS) data items

3.8.75.3 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 and Public Security Credentials validation.

For this Service Request and as an exception, the Authorisation Check associated to E5 allows the Device's SMI Status to be 'Suspended'.

Response Code	Response Code Description
E062301	Invalid MPxN - The MPxN included in the Request does not match the Primary Import MPxN associated to the Device in the Smart Metering Inventory
E062302	Invalid Supplier Prepayment Top Up Floor Seq Number - The Supplier Prepayment Top Up Floor Seq Number data item is not applicable to the Device Type
E062303	Device Type / Certificate Type mismatch - The Certificate Type is not applicable to the Device Type or not all Certificate Type applicable to the Device Type have been included in the Request
E062304	User / Certificate mismatch - At least one of the Certificates included in the Request Body does not correspond to the User submitting the Request

3.8.75.4 Additional DCC System Processing

Where *UpdateSecurityCredentials(CoS)* Service Request fails access control by the CoS Party, the DCC Systems shall generate DCC Alert N26 and send this DCC Alert to the original Service Request Sender. The Service Request shall not be processed any further by the DCC Systems.

Upon successful execution of an *UpdateSecurityCredentials(CoS)* Service Request, the DCC shall, for the specified DeviceID identified within the Service Request, perform the following actions.

a) Generate DCC Alert N27 to notify the old Import Supplier or Gas Supplier of the successful change of Security Credentials to support the CoS event.
b) Delete all active DCC Schedules on that Device owned by the old Import Supplier or Gas Supplier. For each deleted DCC Schedule a DCC Alert N17 will be sent to the old Import Supplier.
c) Cancel all Future Dated Response Pattern (DSP) requests and all stored SMETS1 Future Dated Critical Service Requests for the specified Device submitted by the old Import Supplier or Gas Supplier not yet sent to the Device. For each cancelled Future Dated Response Pattern (DSP) Service Request a DCC Alert N38 will be sent to the old Import Supplier or Gas Supplier.
d) The DCC Systems will stop monitoring all Future Dated Response Pattern (Device) Commands for that Device submitted by the old Import Supplier or Gas Supplier for which no response has been received from the Device. This activity shall not trigger the sending of any DCC Alerts to the old Import Supplier or Gas Supplier.

For each certificate specified in a Response or Alert from the Device as being successfully updated by the Update Security Credentials command, the DCC Systems shall update the Smart Metering Inventory with the new certificate identifier as a record of the certificate held in the relevant Trust Anchor Cell on that Device.

3.8.76 Retrieve Device Security Credentials (KRP)

3.8.76.1 Service Description

Service Request Name	RetrieveDeviceSecurityCredentials(KRP)	
Service Reference	6.24	
Service Reference Variant	6.24.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) Han Controlled Auxiliary Control Switches (HCALCS)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0008	0x0008
GBCS Use Case	CS02a	CS02a

3.8.76.2 Specific Data Items for this Request

RetrieveDeviceSecurityCredentialsKRP Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
RemotePartyRole	Remote Party Role for which the Public Security Credentials are required Valid Set: • ACB • NetworkOperator • Recovery • Root • Supplier • TransCoS	sr:RemotePartyRole minOccurs = 1 maxOccurs = 6 Restriction base xs:token (Enumeration)	Yes	None	N/A

Table 207 : RetrieveDeviceSecurityCredentialsKRP (sr:RetrieveDeviceSecurityCredentialsKRP) data items

3.8.76.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

Response Code	Response Code Description
E062401	The User Role is not a Known Remote Party (KRP) of the Device

3.8.77 Retrieve Device Security Credentials (Device)

3.8.77.1 Service Description

Service Request Name	RetrieveDeviceSecurityCredentials(Device)	
Service Reference	6.24	
Service Reference Variant	6.24.2	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x000C	0x000C
GBCS Use Case	CS02e	CS02e

3.8.77.2 Specific Data Items for this Request

RetrieveDeviceSecurityCredentialsDevice Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
CredentialType	Type of credential to be retrieved Valid Set: • Digital Signature • Key Agreement	sr:CredentialType (Restriction of xs:string (Enumeration))	Yes	None	N/A

Table 208 : RetrieveDeviceSecurityCredentialsDevice (sr:RetrieveDeviceSecurityCredentialsDevice) data items

3.8.77.3 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 Set Electricity Supply Tamper State

3.8.78.1 Service Description

Service Request Name	SetElectricitySupplyTamperState	
Service Reference	6.25	
Service Reference Variant	6.25	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0068	N/A
GBCS Use Case	ECS81	N/A

3.8.78.2 Specific Data Items for this Request

SetElectricitySupplyTamperState Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
SupplyTamperState	Status to set the Supply in case of a tamper event. Valid set: • Locked • Unchanged	Restriction of xs:string (Enumeration)	Yes	None	N/A

Table 209 : SetElectricitySupplyTamperState (sr:SetElectricitySupplyTamperState) data items

3.8.78.3 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.

3.8.79 Update Device Configuration (daily resetting of Tariff Block Counter Matrix)

3.8.79.1 Service Description

Service Request Name	UpdateDeviceConfiguration(daily resetting of Tariff Block Counter Matrix)	
Service Reference	6.26	
Service Reference Variant	6.26	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request - (Only one populated)	For Service Request 4 - Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS v1.0	N/A – feature not supported by Device	N/A
GBCS v2.0 MessageCode	0x00DB	N/A
GBCS v2.0 Use Case	ECS48	N/A

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	ESME	
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 v2.0

DEFAULT - No specific XML criteria	Response Code - E57	ECS48

3.8.79.2 Specific Data Items for this Request

UpdateDeviceConfigurationDailyResettingOfTariffBlockCounterMatrix Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
DailyTariffBlockCounterMatrixReset	Specifies whether daily resetting of the ESME Tariff Block Counter Matrix is on or off. Valid Set: • true. o daily resetting of the ESME Tariff Block Counter Matrix is to be set to ON • false. o daily resetting of the ESME Tariff Block Counter Matrix is to be set to OFF	xs:boolean	Yes	None	N/A

Table 210 : UpdateDeviceConfigurationDailyResettingOfTariffBlockCounterMatrix (sr: UpdateDeviceConfigurationDailyResettingOfTariffBlockCounterMatrix) data items

3.8.79.3 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.

3.8.80 Update Device Configuration (RMS Voltage Counter Reset)

3.8.80.1 Service Description

Service Request Name	UpdateDeviceConfiguration(RMSVoltageCounterReset)		
Service Reference	6.27		
Service Reference Variant	6.27		
Eligible Users	Electricity Distributor (ED)		
Security Classification	Non Critical		
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)		
Can be future dated?	DSP		
On Demand?	Yes		
Capable of being DCC Scheduled?	No		
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)		
Common Header Data Items	See clause 3.4.1.1		
Data Items Specific to this Service Request	See Specific Data Items Below		
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request		
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes		
GBCS Cross Reference	Electricity (Single Phase)	Electricity (Poly Phase)	Gas
GBCS v1.0	N/A – feature not supported by Device	N/A – feature not supported by Device	N/A
GBCS v2.0 MessageCode	0x00D3	0x00D4	N/A
GBCS v2.0 Use Case	ECS29e	ECS29f	N/A

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	ESME (Single Phase)	
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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	ECS29e
Device Type	ESME (Poly Phase)	
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 v2.0

DEFAULT - No specific XML criteria	Response Code - E57	ECS29f

3.8.80.2 Specific Data Items for this Request

UpdateDeviceConfigurationRMSVoltageCounterReset Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the Command to be executed on the Device Valid Set • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time

Table 211 : UpdateDeviceConfigurationRMSVoltageCounterReset (sr: UpdateDeviceConfigurationRMSVoltageCR) data items

3.8.80.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.81 Set CHF Sub GHz Configuration

3.8.81.1 Service Description

Service Request Name	SetCHFSubGHzConfiguration
Service Reference	6.28
Service Reference Variant	6.28
Eligible Users	Import Supplier (IS) Gas Supplier (GS)
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Communications Hub Function (CHF) – Dual Band Only
Can be future dated?	No
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes
GBCS Cross Reference	*Communications Hub Function (Dual Band only)*
GBCS v1.0	N/A – feature not supported by Device
GBCS v2.0 MessageCode	0x010D
GBCS v2.0 Use Case	DBCH04

GBCS Commands - Versioning Details

DCC System creates the following GBCS Commands or Response Codes based on the following combinations,

Device Type	CHF (Dual Band or Unknown)	
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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	DBCH04

Device Type	CHF (Single Band)	
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 v2.0

DEFAULT - No specific XML criteria	Response Code - E57	Response Code - E1011

3.8.81.2 Specific Data Items for this Request

SetCHFSubGHzConfiguration Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
LowerBandSubGHz Channels0To26	Sets the configuration of the Sub GHz Channel Masks for the data item "Page 28 Mask" as defined by GBCS (each page equates to a set of channels that could be used in a specific frequency range) Sets list of channels 0 to 26 in the Lower Band Sub GHz (863 to 876 MHz) frequency range. See Response Code E062801 • By including a Channel number within the SR this shall mean 'channel can be used by the Communications Hub' • By NOT including a Channel number within the SR this shall mean 'channel cannot be used by the CH' At least 2 Channels must be set within this data item. See Response Code E062802	sr:Channels0To26 (Sequence of Channel0 sr:NoType to Channel26 sr:NoType, all optional, but a minimum of 2 Channels must be set)	LowerBand SubGHzCha nnels0To26	None	N/A
LowerBandSubGHz Channels27To34	Sets the configuration of the Sub GHz Channel Masks for the data item "Page 29 Mask" as defined by GBCS (each page equates to a set of channels that could be used in a specific frequency range) Sets list of channels 27 to 34 in the Lower Band Sub GHz (863 to 876 MHz) frequency range. See Response Code E062801 • By including a Channel number within the SR this shall mean 'channel can be used by the Communications Hub' • By NOT including a Channel number within the SR this shall mean 'channel cannot be used by the CH' At least 2 Channels must be set within this data item. See Response Code E062802	sr:Channels27To34 (Sequence of Channel27 sr:NoType to Channel34 sr:NoType, all optional, but a minimum of 2 Channels must be set)	Yes	None	N/A

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
LowerBandSubGHz Channels35To61	Sets the configuration of the Sub GHz Channel Masks for the data item "Page 30 Mask" as defined by GBCS (each page equates to a set of channels that could be used in a specific frequency range) Sets list of channels 35 to 61 in the Lower Band Sub GHz (863 to 876 MHz) frequency range. See Response Code E062801 • By including a Channel number within the SR this shall mean 'channel can be used by the Communications Hub' • By NOT including a Channel number within the SR this shall mean 'channel cannot be used by the CH'. At least 2 Channels must be set within this data item. See Response Code E062802	sr:Channels35To61 (Sequence of Channel35 sr:NoType to Channel61 sr:NoType, all optional, but a minimum of 2 Channels must be set)	Yes	None	N/A
UpperBandSubGHzChannels0To26	Sets the configuration of the Sub GHz Channel Masks for the data item "Page 31 Mask" as defined by GBCS (each page equates to a set of channels that could be used in a specific frequency range) List of channels 0 to 26 in the Upper Band Sub GHz (915 to 921 MHz) frequency range. See Response Code E062801 • By including a Channel number within the SR this shall mean 'channel can be used by the Communications Hub' • By NOT including a Channel number within the SR this shall mean 'channel cannot be used by the CH'. If the CH is used in the Central or South Regions this data item should be empty but this is not validated by the DCC.	sr:Channels0To26 (Sequence of Channel0 sr:NoType to Channel26 sr:NoType, all optional)	Yes	None	N/A
NormalLimitedDuty CycleThreshold	As defined in GBCS section 10.6.2.3. Valid Set: • Percentage value between 0.5 and 2.0 %	Restriction of xs:decimal (fractionDigits = 1, minInclusive = 0.5, maxInclusive = 2.0)	Yes	None	%

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
LimitedCriticalDutyCycleThreshold	As defined in GBCS section 10.6.2.3. Valid Set: • Percentage value between 1.5 and 2.5 % and greater than NormalLimitedDutyCycleThreshold	Restriction of xs:decimal (fractionDigits = 1, minExclusive = 1.5, maxExclusive = 2.5)	Yes	None	%
MaximumSubGHzChannelChangesPerWeek	The CHF shall not undertake more than this number of Channel Changes per week except where the one or more additional channel changes results from 'DBCH05 Request CHF Sub GHz Channel Scan' Command(s). See clause 3.8.82 Valid Set: • Value between 1 and 7	Restriction of xs:unsignedShort (minInclusive = 1, maxInclusive = 7)	Yes	None	N/A
GSMECurfew	The numbers of hours without GSME communications before the CHF determines the GSME to be a 'Lost GSME' When the CHF identifies that there is a 'Lost GSME', it shall take actions as defined in GBCS section 10.6.2.6. Valid Set: • Value > 1	Restriction of xs:unsignedShort (minExclusive = 1)	Yes	None	Hours
ChannelQuieterThreshold	Shall be the minimum number of decibels by which an alternative channel needs to be quieter, in the conditions defined in GBCS section 10.6.2.8. Valid Set: • Value between 1 and 255	Restriction of xs:unsignedShort (minInclusive = 1, maxInclusive = 255)	Yes	None	dB
ChannelNoisierThreshold	Shall be the maximum number of decibels by which an alternative channel may be noisier, in the conditions defined in GBCS section 10.6.2.8. Valid Set: • Value between 0 and 20	Restriction of xs:unsignedShort (minInclusive = 0, maxInclusive = 20)	Yes	None	dB
NonGSMEPoorCommsPercentageThreshold	The number of 30 minute periods over which assessment of non GSME Device poor communications reports is made by the CH. See GBCS section 10.6.2.6 for details. Valid Set: • Value between 1.00 and 100.00%	Restriction of xs:decimal (fractionDigits = 2, minInclusive = 1.00, maxInclusive = 100.00)	Yes	None	%

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
NonGSMEPoorCommsMeasurementPeriods	The number of 30 minute periods over which assessment of non GSME Device poor communications reports is made by the CH Valid Set: • Value between 50 and 150	Restriction of xs:unsignedShort (minInclusive = 50, maxInclusive = 150)	Yes	None	N/A
LocalCHNoiseMeasurementPeriod	The number of trailing minutes over which the CHF shall assess its own percentage of retried messages. Valid Set: • Value > 60	Restriction of xs:unsignedShort (minExclusive = 60)	Yes	None	Minutes
LocalCHFailurePercentage	As defined in GBCS section 10.6.2.6. Valid Set: • Value between 1.00 and 100.00%	Restriction of xs:decimal (fractionDigits = 2, minInclusive = 1.00, maxInclusive = 100.00)	Yes	None	%
LocalCHRetryPercentage	As defined in GBCS section 10.6.2.6. Valid Set: • Value between 1.00 and 100.00%	Restriction of xs:decimal (fractionDigits = 2, minInclusive = 1.00, maxInclusive = 100.00)	Yes	None	%

Table 212 : SetCHFSubGHzConfiguration (sr: SubGHzConfiguration) data items

3.8.81.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Dual Band CHF validation.

Response Code	Response Code Description
E062801	At least one of the Sub GHz channels in the Service Request is not included in the Sub GHz Available Channels
E062802	The Service Request does not contain the required minimum number of Sub GHz channels in one or more of the Page Masks, as defined in GBCS section 10.6.2.3
E062803	The LimitedCriticalDutyCycleThreshold is not > NormalLimitedDutyCycleThreshold

3.8.82 Request CHF Sub GHz Channel Scan

3.8.82.1 Service Description

Service Request Name	RequestCHFSubGHzChannelScan
Service Reference	6.29
Service Reference Variant	6.29
Eligible Users	Import Supplier (IS) Gas Supplier (GS)
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Communications Hub Function (CHF) – Dual Band Only
Can be future dated?	No
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes
GBCS Cross Reference	*Communications Hub Function (Dual Band only)*
GBCS v1.0	N/A – feature not supported by Device
GBCS v2.0 MessageCode	0x010E
GBCS v2.0 Use Case	DBCH05

GBCS Commands - Versioning Details

DCC System creates the following GBCS Commands or Response Codes based on the following combinations,

Device Type	CHF (Dual Band or Unknown)	
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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	DBCH05

Device Type	CHF (Single Band)	
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 v2.0

DEFAULT - No specific XML criteria	Response Code - E57	Response Code - E1011

3.8.82.2 Specific Data Items for this Request

The RequestCHFSubGHzChannelScan XML element (sr: RequestCHFSubGHzChannelScan) defines this Service Request and does not contain any other specific data items.

3.8.82.3 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 and clause 3.10.2 for Dual Band CHF validation.

3.8.83 Read CHF Sub GHz Configuration

3.8.83.1 Service Description

Service Request Name	ReadCHFSubGHzConfiguration
Service Reference	6.30
Service Reference Variant	6.30
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Registered Supplier Agent (RSA)
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Communications Hub Function (CHF) – Dual Band Only
Can be future dated?	No
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes
GBCS Cross Reference	*Communications Hub Function (Dual Band only)*
GBCS v1.0	N/A – feature not supported by Device
GBCS v2.0 MessageCode	0x010C
GBCS v2.0 Use Case	DBCH03

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	CHF (Dual Band or Unknown)	
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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	DBCH03
Device Type	CHF (Single Band)	

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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	Response Code - E1011

3.8.83.2 Specific Data Items for this Request

The ReadCHFSubGHzConfiguration XML element (sr: ReadCHFSubGHzConfiguration) defines this Service Request and does not contain any other specific data items.

3.8.83.3 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 and clause 3.10.2 for Dual Band CHF validation.

3.8.84 Read CHF Sub GHz Channel

3.8.84.1 Service Description

Service Request Name	ReadCHFSubGHzChannel
Service Reference	6.31
Service Reference Variant	6.31
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Registered Supplier Agent (RSA)
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Communications Hub Function (CHF) – Dual Band Only
Can be future dated?	No
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes
GBCS Cross Reference	*Communications Hub Function (Dual Band only)*
GBCS v1.0	N/A – feature not supported by Device
GBCS v2.0 MessageCode	0x010A
GBCS v2.0 Use Case	DBCH01

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	CHF (Dual Band or Unknown)	
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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	DBCH01
Device Type	CHF (Single Band)	

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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	Response Code - E1011

3.8.84.2 Specific Data Items for this Request

The ReadCHFSubGHzChannel XML element (sr: ReadCHFSubGHzChannel) defines this Service Request and does not contain any other specific data items.

3.8.84.3 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 and clause 3.10.2 for Dual Band CHF validation.

3.8.85 Read CHF Sub GHz Channel Log

3.8.85.1 Service Description

Service Request Name	ReadCHFSubGHzChannelLog
Service Reference	6.32
Service Reference Variant	6.32
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Registered Supplier Agent (RSA)
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Communications Hub Function (CHF) – Dual Band Only
Can be future dated?	No
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes
GBCS Cross Reference	*Communications Hub Function (Dual Band only)*
GBCS v1.0	N/A – feature not supported by Device
GBCS v2.0 MessageCode	0x010B
GBCS v2.0 Use Case	DBCH02

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	CHF (Dual Band or Unknown)	
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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	DBCH02
Device Type	CHF (Single Band)	

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 v2.0
DEFAULT - No specific XML criteria	Response Code - E57	Response Code - E1011

3.8.85.2 Specific Data Items for this Request

ReadCHFSubGHzChannelLog Definition

Data Item	Description / Valid Set	Type	Mandatory	Default	Units
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 213 : ReadCHFSubGHzChannelLog (sr: ReadCHFSubGHzChannelLog) data items

3.8.85.3 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 and clause 3.10.2 for Dual Band CHF and Read Log Period validation.

3.8.86 Enable Supply

3.8.86.1 Service Description

Service Request Name	EnableSupply	
Service Reference	7.1	
Service Reference Variant	7.1	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x004F	N/A
GBCS Use Case	ECS42	N/A

3.8.86.2 Specific Data Items for this Request

The EnableSupply XML element defines this Service Request and does not contain any other specific data items.

3.8.86.3 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.

3.8.87 Disable Supply

3.8.87.1 Service Description

Service Request Name	DisableSupply	
Service Reference	7.2	
Service Reference Variant	7.2	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0050	0x0081
GBCS Use Case	ECS43	GCS32

3.8.87.2 Specific Data Items for this Request

The DisableSupply XML element defines this Service Request and does not contain any other specific data items.

3.8.87.3 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.

3.8.88 Arm Supply

3.8.88.1 Service Description

Service Request Name	ArmSupply	
Service Reference	7.3	
Service Reference Variant	7.3	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0051	0x0085
GBCS Use Case	ECS44	GCS39

3.8.88.2 Specific Data Items for this Request

The ArmSupply XML element defines this Service Request and does not contain any other specific data items.

3.8.88.3 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.

3.8.89 Read Supply Status

3.8.89.1 Service Description

Service Request Name	ReadSupplyStatus	
Service Reference	7.4	
Service Reference Variant	7.4	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Registered Supplier Agent (RSA) Electricity Distributor (ED) Gas Transporter (GT)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0052	0x0082
GBCS Use Case	ECS45	GCS33

3.8.89.2 Specific Data Items for this Request

The ReadSupplyStatus XML element defines this Service Request and does not contain any other specific data items.

3.8.89.3 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.

3.8.90 Activate Auxiliary Load

3.8.90.1 Service Description

Service Request Name	ActivateAuxiliaryLoad	
Service Reference	7.5	
Service Reference Variant	7.5	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity (ALCS and HCALCS)	
GBCS MessageCode	0x0055	
GBCS Use Case	ECS47	

3.8.90.2 Specific Data Items for this Request

ActivateAuxiliaryLoad Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ActivateALCSHCALCS	The switch (ALCS and/or HCALCS) to be closed (activated) and the activation duration The index is the Switch Identifier	sr:ActivateDeactivateALCSHCALCS	Yes	None	N/A
Index (attribute of ActivateALCSHCALCS)	The identifier associated with the ALCS/HCALCS	sr:range_1_5 (Restriction of xs:positiveInteger minInclusive 1 maxInclusive 5)	Yes	None	N/A

Table 214 : ActivateAuxiliaryLoad (sr:ActivateAuxiliaryLoad) data items

ActivateDeactivateALCSHCALCS Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
Duration	The time period during which the switch is to remain closed (activated)	xs:unsignedShort	Yes	None	Minutes

Table 215 : ActivateDeactivateALCSHCALCS (sr: ActivateDeactivateALCSHCALCS) data items

3.8.90.3 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.

3.8.91 Deactivate Auxiliary Load

3.8.91.1 Service Description

Service Request Name	DeactivateAuxiliaryLoad	
Service Reference	7.6	
Service Reference Variant	7.6	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity (ALCS or HCALCS)	
GBCS MessageCode	0x0055	
GBCS Use Case	ECS47	

3.8.91.2 Specific Data Items for this Request

DeactivateAuxiliaryLoad Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeactivateALCSHCALCS	The switch (ALCS and/or HCALCS) to be opened (deactivated) and the deactivation duration The index is the Switch Identifier	sr:ActivateDeactiveALCSHCALCS	Yes	None	N/A
Index (attribute of DeactivateALCSHCALCS)	The identifier associated with the ALCS/HCALCS	sr:range_1_5 (Restriction of xs:positiveInteger minInclusive 1 maxInclusive 5)	Yes	None	N/A

Table 216 : DeactivateAuxiliaryLoad (sr:DeactivateAuxiliaryLoad) data items

ActivateDeactivateALCSHCALCS Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
Duration	The time period during which the switch is to remain open (deactivated)	xs:unsignedShort	Yes	None	Minutes

Table 217 : ActivateDeactivateALCSHCALCS (sr: ActivateDeactivateALCSHCALCS) data items

3.8.91.3 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.

3.8.92 Read Auxiliary Load Switch Data

3.8.92.1 Service Description

Service Request Name	ReadAuxiliaryLoadSwitchData	
Service Reference	7.7	
Service Reference Variant	7.7	
Eligible Users	Import Supplier (IS) Electricity Distributor (ED) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity (ALCS and HCALCS)	
GBCS MessageCode	0x00BB	
GBCS Use Case	ECS61a	

3.8.92.2 Specific Data Items for this Request

ReadALCSData Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the Command to be executed on the Device Valid Set • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time

Table 218 : ReadALCSData (sr:ReadALCSData) data items

3.8.92.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.93 Reset Auxiliary Load

3.8.93.1 Service Description

Service Request Name	ResetAuxiliaryLoad	
Service Reference	7.8	
Service Reference Variant	7.8	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity (ALCS or HCALCS)	
GBCS MessageCode	0x0055	
GBCS Use Case	ECS47	

3.8.93.2 Specific Data Items for this Request

ResetAuxiliaryLoad Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ResetALCSHCALCS	Switch (ALCS or HCALCS) to be reset The index is the Switch Identifier	sr:ResetALCSHCALCS	Yes	None	N/A
Index (attribute of ResetALCSHCALCS)	The identifier associated with the ALCS/HCALCS reset	sr:range_1_5 (Restriction of xs:positiveInteger minInclusive 1 maxInclusive 5)	Yes	None	N/A

Table 219 : ResetAuxiliaryLoad (sr:ResetAuxiliaryLoad) data items

3.8.93.3 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.

3.8.94 Add Auxiliary Load to Boost Button

3.8.94.1 Service Description

Service Request Name	AddAuxiliaryLoadToBoostButton	
Service Reference	7.9	
Service Reference Variant	7.9	
Eligible Users	Import Supplier (IS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x005F	N/A
GBCS Use Case	ECS62	N/A

3.8.94.2 Specific Data Items for this Request

AddAuxiliaryLoadToBoostButton Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
AddToBoostButton	Identifies the Auxiliary Load Control Switches to be controlled by the boost button. The index is the Switch Identifier Valid set: • true. Switch to be controlled by the boost button • false. Switch not to be controlled by the boost button	xs:boolean minOccurs = 5 maxOccurs = 5	Yes	None	N/A
Index (attribute of AddToBoostButton)	The identifier associated with the ALCS/HCALCS that is to be controlled OR not controlled by the boost button. Numerically ordered, not necessarily consecutive	sr:range_1_5 (xs:positiveinteger minInclusive 1 maxInclusive 5)	Yes	None	N/A

Table 220 : AddAuxiliaryLoadToBoostButton (sr:AddAuxiliaryLoadToBoostButton) data items

3.8.94.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.95 Remove Auxiliary Load from Boost Button

3.8.95.1 Service Description

Service Request Name	RemoveAuxiliaryLoadFromBoostButton	
Service Reference	7.10	
Service Reference Variant	7.10	
Eligible Users	Import Supplier (IS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x005F	N/A
GBCS Use Case	ECS62	N/A

3.8.95.2 Specific Data Items for this Request

RemoveAuxiliaryLoadFromBoostButton Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
RemoveFromBoostButton	Identifies the Auxiliary Load Control Switches no longer to be controlled by the boost button. The index is the Switch Identifier Valid set: • true. Switch not to be controlled by the boost button • false. Switch to be controlled by the boost button	xs:boolean minOccurs = 5 maxOccurs = 5	Yes	None	N/A
Index (attribute of RemoveFromBoostButton)	The identifier associated with the ALCS/HCALCS that is no longer to be controlled OR not controlled by the boost button. Numerically ordered, not necessarily consecutive	sr:range_1_5 (xs:positiveinteger minInclusive 1 maxInclusive 5)	Yes	None	N/A

Table 221 : RemoveAuxiliaryLoadFromBoostButton (sr:RemoveAuxiliaryLoadFromBoostButton) data items

3.8.95.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.96 Read Boost Button Details

3.8.96.1 Service Description

Service Request Name	ReadBoostButtonDetails	
Service Reference	7.11	
Service Reference Variant	7.11	
Eligible Users	Import Supplier (IS) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x005E	N/A
GBCS Use Case	ECS61c	N/A

3.8.96.2 Specific Data Items for this Request

ReadBoostButtonDetails Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The Start and/or End Date-Times for which the Boost Button Event Log data is required	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 222 : ReadBoostButtonDetails (sr:ReadLogFutureDatable) data items

3.8.96.3 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 and clause 3.10.2 for ReadLogPeriod and Execution Date Time validation.

3.8.97 Set Randomised Offset Limit

3.8.97.1 Service Description

Service Request Name	SetRandomisedOffsetLimit	
Service Reference	7.12	
Service Reference Variant	7.12	
Eligible Users	Import Supplier (IS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request - LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x004B	N/A
GBCS Use Case	ECS38	N/A

3.8.97.2 Specific Data Items for this Request

SetRandomisedOffsetLimit Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
RandomisedOffsetLimit	A value in seconds in the range 0 to 1799	Restriction of xs:nonNegativeInteger (minInclusive = 0, maxInclusive = 1799)	Yes	None	Seconds

Table 223 : SetRandomisedOffsetLimit (sr:SetRandomisedOffsetLimit) data items

3.8.97.3 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.

3.8.98 Commission Device

3.8.98.1 Service Description

Service Request Name	CommissionDevice	
Service Reference	8.1	
Service Reference Variant	8.1.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands 5 – Send (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0062	0x007F
GBCS Use Case	ECS70	GCS28

3.8.98.2 Specific Data Items for this Request

CommissionDeviceSynchroniseClock Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
CurrentDateTime	The Supplier's current date-time, that define the "validity interval start"	xs:dateTime	Yes	None	URC Date-Time
TolerancePeriod	The maximum number of seconds that, added to the CurrentDateTime, define the "validity interval end" >= 0 and <= 86400 (Note that for the Gas Smart Meter this may need to be at least 1800)	sr:tolerancePeriod (Restriction of xs:int minInclusive = 0, maxInclusive = 86400)	Yes	None	Seconds

Table 224 : CommissionDeviceSynchroniseClock (sr:SynchroniseClock) data items

3.8.98.3 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.

3.8.98.4 Additional DCC System Processing

Upon receipt of the successful Response from the Device, the DCC shall update the Smart Metering Inventory and set the Device's SMI Status of the Electricity Smart Meter or Gas Smart Meter DeviceId specified in the Signed PreCommand to 'Commissioned'.

3.8.99 Read Inventory

3.8.99.1 Service Description

Service Request Name	ReadInventory	
Service Reference	8.2	
Service Reference Variant	8.2	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Registered Supplier Agent (RSA) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to a Non-Device Service Request Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.99.2 Specific Data Items for this Request

ReadInventory Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
UPRN	Unique Property Reference Number	sr:UPRN (Restriction of xs:positiveInteger (totalDigits = 12))	No	None	N/A
DeviceID	Device ID of a device in the premises	sr:EUI (See clause 3.10.1.3)	No	None	N/A
MPxN	MPAN or MPRN associated to a Device in the premises	sr:ImportMPxN (Restriction of xs:string (minLength =1 maxLength = 13))	No	None	N/A
PropertyFilter	PostCode and Address identifier that uniquely identify an address	sr:PropertyFilter	No	None	N/A

Table 225 : ReadInventory (sr:ReadInventory) data items

PropertyFilter Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
PostCode	Post Code of Metering Point This search criteria is case insensitive	sr:PostCode (Restriction of xs:string (minLength = 6 maxLength = 8))	Yes	None	N/A
AddressIdentifier	Address Identifier (house number or house name), that combined with the Post Code, allows the identification of the premises This search criteria is case insensitive	sr:AddressIdentifier (Restriction of xs:string (maxLength = 30))	Yes	None	N/A

Table 226 : PropertyFilter (sr:PropertyFilter) data items

3.8.99.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Device Existence validation.

For this Request, the general Authorisation Checks as defined below shall not be carried out.

- a Response Code of E4 as defined in clause 3.2.4 “Verify that the User, in the User Role defined in the Service Request is a Eligible User for the Device” or
- a Response Code of E5 as defined in clause 3.2.4 “Verify that the Service Request or Signed Pre-Command is applicable to the Device status”

Response Code	Response Code Description
E080201	The Request does not uniquely identify a Premises
E080202	The Premises do not contain any Devices

3.8.99.4 Specific Data Items in the Response

This Service Response is defined in the XSD ResponseMessage DSPInventory XML element, which contains the DSP Inventory details applicable to a single premises or Device.

The DCC shall return the following data items which are specific to this Service Response:

Data Item	Description / Values	Type	Mandatory	Default	Units
Device	Minimum 1 and maximum 17 Devices	sr:Device maxOccurs = 17	Yes	None	N/A
Per Device (complex type sr:Device) found at that Smart Metering System:					
DeviceID	Device ID of a Device in the Smart Metering System	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DeviceType	The Type of device Valid set: • ESME • GSME • GPF • CHF • HCALCS • PPMID • IHD • CAD	sr:DeviceType (Restriction of xs:string (Enumeration))	Yes	None	N/A
DeviceStatus	An indicator giving the status of the device Valid set: • Pending • Whitelisted • InstalledNotCommissioned • Commissioned • Decommissioned • Withdrawn • Suspended • Recovery • Recovered Device Status is not applicable to Type 2 Devices, i.e. IHD and CAD	sr:DeviceStatus (Restriction of xs:string (Enumeration))	Device Type = Type 2(IHD, CAD): N/A Otherwise: Yes	None	N/A

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceManufacturer	The name of the Device's Manufacturer With the exception of IHD and CAD: • The Device Manufacturer is the <device_model_manufacturer_identifier> from the CPL and presented in the format XXXX where each X is one of the characters 0 to 9 or A to F • This data item matches the value on the CPL For IHD and CAD this data item is free text	sr:DeviceManufacturer (Restriction of xs:string (maxLength = 30))	Yes	None	N/A
DeviceModel	The specific model of the device, as used by the manufacturer. With the exception of IHD and CAD: • The Device Model is the concatenation of <device_model .model_identifier>< device_model .hardware_version.version>< device_model .hardware_version.revision > from the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F Where: • the first 4 characters are the model identifier • the next 2 characters are the hardware version.version • the final 2 characters are the hardware version.revision • This data item matches the value on the CPL For IHD and CAD this data item is free text	sr:DeviceModel (Restricyion of xs:string (maxLength = 30))	Yes	None	N/A

Data Item	Description / Values	Type	Mandatory	Default	Units
SMETSCHTSVersion	The version of SMETS or CHTS that the device complies with. This should align with the SMETS_CHTS version version_number value contained on the CPL.	sr:SMETSCHYSVersion (Restriction of xs:string (minLength = 1, maxLength = 20))	Device Type = CAD: N/A Otherwise: Yes	None	N/A
DeviceFirmwareVersion	The operational version of Firmware of the Device The Firmware version as held in the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F. This data item matches the value on the CPLA The binary value shall be four octets in length and shall correspond to the File Version field in the ZSE OTA Header structure.	Restriction of xs:string (minLength = 1, maxLength = 8)	Device includes Firmware: Yes Otherwise: N/A	None	N/A
DeviceFirmwareVersionStatus	The status of the Firmware Version Valid set: • Active • Cancelled • Expired • Withdrawn The status displayed in DeviceFirmwareVersionStatus maps to the status on the Central Products List as per the Data Item values to CPL values Mapping table below:	sr:FirmwareVersionStatus (Restriction of xs:string (Enumeration))	Device includes Firmware: Yes Otherwise: N/A	None	N/A
CPLStatus	The CPL Assurance Certificate Status Valid set: • Active • Cancelled • Expired • Withdrawn The status displayed in CPL Staus maps to the status on the Central Products List as per the Data Item values to CPL values Mapping table below:	sr:CPLStatus (Restriction of xs:string (Enumeration))	Device includes Firmware: Yes Otherwise: N/A	None	N/A

Data Item	Description / Values	Type	Mandatory	Default	Units
DateCommissioned	Where applicable, the date when the Device was commissioned	xs:date	Device Type = IHD,CAD: N/A Device has been commissioned: Yes Otherwise: No	None	UTC Date
ImportMPxN	The reference number identifying an import electricity or a gas metering point	sr:ImportMPxN Restriction of xs:string (minLength = 1, maxLength = 13)	Device Type = ESME, GSME: No Otherwise: N/A	None	N/A
SecondaryImportMPAN	The reference number identifying a Twin Element Import electricity secondary metering point	sr:MPAN Restriction of xs:string (minLength = 13, maxLength = 13)	Device Type = ESME and ESME Variant = B: No Otherwise: N/A	None	N/A
ExportMPAN	The reference number identifying an export electricity metering point	sr:MPAN Restriction of xs:string (minLength = 13, maxLength = 13)	Device Type = ESME and includes Export capability: No Otherwise: N/A	None	N/A

Data Item	Description / Values	Type	Mandatory	Default	Units
ESMEVariant	The Electricity Smart Meter Variant Valid set: • A. Single Element • B. Twin Element • C. Polyphase • AD. Single Element with ALCS • BD. Twin Element with ALCS • CD. Polyphase with ALCS • ADE. Single Element with ALCS and Boost Function • BDE. Twin Element with ALCS and Boost Function • CDE. Polyphase with ALCS and Boost Function See Table 229 for mapping.	sr:ESMEVariant Restriction of xs:string (Enumeration)	Device Type = ESME: Yes Otherwise: N/A	None	N/A
UPRN	Unique Property Reference Number	sr:URPN (Restriction of xs:positiveInteger (totalDigits = 12))	No	None	N/A
PropertyFilter	Post Code and Address Identifier that uniquely identifies an address	sr:PropertyFilter	No	None	N/A
CSPRegion	The CSP Region the Smart Meter System is associated with Valid set: • North • Central • South • Unknown	sr:CSPRegion (Restriction of xs:string (Enumeration))	No	None	N/A
DeviceGBCSVersion	The operational version of GBCS as recorded in the SMI for the Device. The version number format will align with the CPL. For example 1.0 or 2.0	xs:string	Device includes Firmware: Yes Otherwise: N/A	None	N/A

Data Item	Description / Values	Type	Mandatory	Default	Units
HANVariant	The Device's HAN Variant. Valid Set: • Single Band (2.4GHz only) • Dual Band (868MHz and 2.4GHz) • Unknown HAN Variant (The CPL CHF Device Manufacturer and Device Model define its HAN Variant and the DCC Systems hold this relationship. When a CH is pre-notified to the DCC, its CHF HAN Variant is set based on its Device Manufacturer and Device Model)	xs:string	DeviceType = CHF: Yes Otherwise: N/A	None	N/A

Table 227 : Device (sr:Device) data items

Data Item values to CPL values mapping.

Status value on the Central Products List (CPL)	DeviceFirmwareVersionStatus value	CPLStatus value
Current	Active	Active
Removed	Cancelled	Cancelled
No value defined	Expired (not currently used)	Expired (not currently used)
No value defined	Withdrawn (not currently used)	Withdrawn (not currently used)

Table 228 : Data Item values to CPL values Mapping

DUIS device type values to CPL values mapping.

Central Products List (CPL) device type	DUIS device type	DUIS ESME variant
Single Element Electricity Metering Equipment	ESME	A, AD or ADE
Twin Element Electricity Metering Equipment	ESME	B, BD or BDE
Polyphase Element Electricity Metering Equipment	ESME	C, CD or CDE
Gas Smart Meter	GSME	N/A
Prepayment Interface Device	PPMID	N/A
HAN Connected Auxiliary Load Control Switch	HCALCS	N/A

Table 229 : Device type to CPL values mapping

3.8.100 Decommission Device

3.8.100.1 Service Description

Service Request Name	DecommissionDevice	
Service Reference	8.3	
Service Reference Variant	8.3	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.100.2 Specific Data Items for this Request

DecommissionDevice Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceID	Device ID of the device to be decommissioned	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 230 : DecommissionDevice (sr:DecommissionDevice) data items

3.8.100.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Device Existence validation.

Response Code	Response Code Description
E080301	The Device Status is invalid[1]
E080302	The Device Type is invalid[2]

[1]Invalid Device Statuses are 'Decommissioned', 'Pending' or 'Withdrawn'

[2] Check that the Device Type is not GPF or a Type 2 Device (IHD or CAD)

Note that for this Service Request and as an exception, the Authorisation Check associated to E5 allows the Device Status to be 'Recovery'.

3.8.100.4 Specific Data Items in the Response

This Service Response is defined by the Acknowledgement Service Response Type as documented in clause 3.5.2 Acknowledgement to a Request.

3.8.100.5 Additional DCC System Processing

Upon successful execution of a *DecommissionDevice* Service Request, the DCC shall, for the specified DeviceID identified within the Service Request, perform the following actions.

a) Where the existing Device status is not one of 'Decommissioned', 'Pending' or 'Withdrawn', update the Smart Metering Inventory and set the Device's SMI Status of the DeviceId to 'Decommissioned'. Note that this allows for an update where the SMI Status is 'Recovery'

b) Where the relevant Device specified within the Service Request is a Gas Smart Meter or an Electricity Smart Meter, disassociate the Device from any MPAN or MPRN with which it is associated in the Smart Metering Inventory

c) Where the relevant Device specified within the Service Request is a Communication Hub Function, set the Device's SMI Status of the associated Gas Proxy Function to 'Decommissioned'

d) Generate DCC Alerts N1, N2 or N9 to notifiy specified Users of the Device decomissioning as per DCC Alert definitions clause 3.6.3.4

e) Where the Device Type is a Device Type other than Communication Hub Function, delete all DCC Schedules held for the Device and send a DCC Alert N6 to the DCC Schedule owners.

f) Where the Device Type is a Communication Hub Function, delete all DCC Schedules held for the associated Gas Proxy Function and send a DCC Alert N6 to the DCC Schedule owner.

g) For all Device Types other than Communication Hub Function, delete all Future Dated (DSP) requests with future dated execution dates that have not been sent to the Device and send a DCC Alert (N33) to the orginal sender of the request.

h) For all Device Types of Communication Hub Function also delete all Future Dated (DSP) requests for the associated Gas Proxy Function with future dated execution dates that have not been sent to the Device and send a DCC Alert (N34) to the orginal sender of the request

3.8.101 Update Inventory

3.8.101.1 Service Description

Service Request Name	UpdateInventory	
Service Reference	8.4	
Service Reference Variant	8.4	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Registered Supplier Agent (RSA) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU) Where a Device has a status of 'Pending' only the User who added the Device to the Smart Metering Inventory may either update the details of that Device; or delete that Device from the Smart Metering Inventory. For Devices with SMI Statuses other than 'Pending', only the Responsible Supplier may amend the SMI Status of that Device.	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.101.2 Specific Data Items for this Request

UpdateInventory Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceID	Device ID of the Device to be updated (status or details) or deleted.	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
UpdateDeviceStatusExceptCH	An indicator giving the status to be recorded for the Device (Not applicable to CHF, GPF or Type 2 Devices) Valid set • Pending • InstalledNotCommissioned	sr:UpdateDeviceStatusExceptCH Restriction of xs:string (Enumeration)	One and only one of these items must be set	None	N/A
UpdateDeviceStatusCH	An indicator giving the SMI Status to be recorded for the CHF and its associated GPF Valid set • Commissioned • InstalledNotCommissioned • Withdrawn	sr:UpdateDeviceStatusCH Restriction of xs:string (Enumeration)		None	N/A
UpdateDeviceDetails	Details to be updated, for a Device in a status of 'Pending'	sr:UpdateDeviceDetails		None	N/A
DeleteDevice	Device, in a status of 'Pending', is to be deleted	sr:DeleteDevice		None	N/A
UpdateMPxN	The MPxN to be associated with the device within the Smart Metering Inventory to be updated	sr:UpdateMPxN		None	N/A

Table 231 : UpdateInventory (sr:UpdateInventory) data items

UpdateDeviceDetails Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceManufacturer	The name of the Device's manufacturer With the exception of IHD and CAD: • The Device Manufacturer is the <device_model_manufacturer_identifier> from the CPL and presented in the format XXXX where each X is one of the characters 0 to 9 or A to F • This data item should match the value on the CPL For IHD and CAD this data item is free text	sr:DeviceManufacturer (Restriction of xs:string (maxLength = 30))	At least one data item must be set	None	N/A

DeviceModel	The model of the D With the exception of IHD and CAD: • The Device Model is the concatenation of <device_model .model_identifier>< device_model .hardware_version.version>< device_model .hardware_version.revision> from the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F Where: • the first 4 characters are the model identifier • the next 2 characters are the hardware version.version • the final 2 characters are the hardware version.revision • This data item matches the value on the CPL For IHD and CAD this data item is free text evice	sr:DeviceModel (Restriction of xs:string (maxLength = 30))	At least one data item must be set	None	N/A
SMETSCHTS Version	The version of SMETS or CHTS that the Device complies with. This should align with the SMETS_CHTS version version_number value contained on the CPL.	sr:SMETSCHTSVersion (Restriction of xs:string (minLength = 1, maxLength = 20))	At least one data item must be set	None	N/A
FirmwareVersion	The operational version of Firmware of the Device The Firmware version as held in the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F. This data item should match the value on the CPL The value shall be four octets in length	sr:FirmwareVersion Restriction of xs:string (minLength = 1, maxLength = 8)	At least one data item must be set	None	N/A

ESMEVariant	Electricity Smart Metering Equipment Variant Valid set: • A. Single Element • B. Twin Element • C. Polyphase • AD. Single Element with ALCS • BD. Twin Element with ALCS • CD. Polyphase with ALCS • ADE. Single Element with ALCS and Boost Function • BDE. Twin Element with ALCS and Boost Function • CDE. Polyphase with ALCS and Boost Function See Table 229 for mapping.	sr:ESMEVariant Restriction of xs:string (Enumeration)	At least one data item must be set	None	N/A

Table 232 : UpdateDeviceDetails (sr:UpdateDeviceDetails) data items

UpdateMPxN Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ImportMPxN	The primary MPAN or MPRN for the device	sr:ImportMPxN (restriction on xs:String, minimum length = 1, maximum length = 13)	No The UpdateMPxN element is a choice so it must contain only one of these 3 elements	None	N/A
SecondaryImportMPAN	The Secondary MPAN for the device - only applicable to twin element meters	sr:MPAN (restriction on xs:String, minimum length = 13, maximum length = 13)		None	N/A
ExportMPAN	The Export MPAN for the device	sr:MPAN (restriction on xs:String, minimum length = 13, maximum length = 13)		None	N/A

Table 233 : UpdateMPxN (sr:UpdateMPxN) data items

3.8.101.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Device Existence validation.

Response Code	Response Code Description
E080405	The Device Status is not applicable to the Device Type
E080406	The Device Status transition is not valid
E080407	The Device ID does not exist in the Smart Metering Inventory or its status is not 'Pending'
E080408	The Request does not include any details to be updated
E080409	The Device Type / Manufacturer / Model / Firmware Version data resulting from the changes specified by the User does not match the DCC list of equipment that has been approved for use
E080410	The User is not authorised to execute the Service Request to update the detail specified
E080411	Request to update Device Status not applicable to the Device Type

E080412	The Device Status transition is not valid
E080413	The requested MPxN update isn't suitable for the specified Device.
E080414	The Device Status does not allow the MPxN to be updated. The Device Status must be one of "Whitelisted", "Installed Not Commissioned" or "Commissioned" if the MPxN update is to succeed.
E080415	The User is not the Registered Supplier Party for the new MPxN specified within the UpdateMPxN part of the Service Request.

3.8.101.4 Additional DCC System Processing

When a User sends an Update Inventory Service Request to the DCC in respect of a Communications Hub, the DeviceId specified within the Service Request shall be that of the Communications Hub Function and not the Gas Proxy Function.

Note that where a Device has an SMI Status of 'Recovered' the Device's SMI Status immediately prior to it having the SMI Status of 'Recovery' shall be used in validation.

This Service Request can be used by Users to perform the following four functions;

1. Update Device details within the Smart Metering Inventory provided via Pre-Notification

    a. This functionality of the Service Request is available to all the Eligible User Roles associated with this Service Request.

    b. Only the User who originally added the Device to the Smart Metering Inventory may update these device details whilst the Devie has a status of 'Pending'.

    c. For Devices that have SMI Status values, only Devices in a status of 'Pending' can be updated.

    d. Type 2 (IHD and CAD) Devices can be updated at any time.

    e. Update most of the Device details that were initially provided to the DCC via Service Request 12.2 – Device Pre-notification (see clause 3.8.122)

    f. It isn't possible to update a Device ID (including the GPF Device ID associated to a CHF). If it has been entered in error it has to be deleted via this Service Request and re-added via Service Request 12.2 – Device Pre-notification (see clause 3.8.122).

    g. It isn't possible to update a Device Type. If it has been entered in error it has to be deleted via this Service Request and re-added via Service Request 12.2 – Device Pre-notification (see clause 3.8.122).

    h. Any updates to the details shared between a CHF and a GPF will be applied to both. The Device ID in the Service Request has to be that of the CHF.

2. Delete Device details from the Smart Metering Inventory provided via Pre-Notification which have not been installed.

    a. This functionality of the Service Request is available to all the Eligible User Roles associated with this Service Request.

    b. Only the User who originally added the Device to the Smart Metering Inventory may delete these device details.

    c. For Devices that have SMI Status values, only Devices in a status of 'Pending' can be deleted.

    d. Type 2 (IHD and CAD) Devices can be deleted at any time.

    e. Deleting a CHF will also delete its associated GPF.

3. Update SMI Status within the Smart Metering Inventory

    a. This functionality of the Service Request is ONLY available to the Eligible User Roles of Import Supplier and Gas Supplier who are the Responsible Supplier to the Device being updated.

    b. Different options exist for which device SMI Status values can be updated by Users depending on Device type. Functionality allows,

        i. Update the Device status for all Device Types, other than the CHF and the GPF and where the old and new status apply to the Device Type

            1. From 'Pending' to 'InstalledNotCommissioned'

            2. From 'Whitelisted' to 'Pending'

    c. Update the Device SMI Status for a CHF (and its associated GPF)

        i. To support the Install & Leave process and / or Install & Commission after Decommissioning or Withdrawal:

            1. From 'Pending' to 'InstalledNotCommissioned' (GPF from 'Pending' to 'InstalledNotCommissioned')

            2. From 'InstalledNotCommissioned' to 'Commissioned' (GPF no status transition)

            3. From 'Pending' to 'Commissioned' (GPF from 'Pending' to 'InstalledNotCommissioned')

        ii. From 'Commissioned' to 'Withdrawn' (GPF from 'Commissioned' to 'Withdrawn' or from 'Installed Not Commissioned' to 'Withdrawn'). This is the equivalent of Service Request 8.5 – Service Opt Out (see clause 3.8.102) for other Device Types. On successful completion of the Service Request, the DCC Systems will:

1. automatically delete all active DSP Schedules on all Devices in the CHF Whitelist. For each deleted DSP Schedule a DCC Alert N37 will be sent to the User that owned it.

2. automatically cancel all Future Dated (DSP) requests not yet sent to the Device for that CHF and all the Devices in its Whitelist. For each cancelled request a DCC Alert N36 will be sent to the sender of the Future Dated request.

4) Update MPxN associated with the Device (or add a new association) within the Smart Metering Inventory

   a. This functionality of the Service Request shall ONLY be available to either:
      a. the Registered Supplier Party for the MPxN of the type specified in UpdateMPxN, as recorded in the Smart Metering Inventory against the DeviceID; or
      b. where no such MPxN is recorded in the Smart Metering Inventory against the DeviceID, any Supplier Party
   b. The new MPxN must be consistent with the type of Device, for example if the Secondary MPAN is updated then the device must be a twin element ESME.
   c. ONLY a single MPxN association change be changed per Service Request call
   d. If the MPxN is successfully updated in the Smart Metering Inventory, then a DCC Alert N16 is sent to the Meter's Network Operator.

3.8.101.5 Additional Information

Where a User wishes to decommission a Device and re-use the Device at another premise then the User must not use the Update Inventory Service Request to perform this activity. Instead, a Service Request 8.3 Decommission Device (see clause 3.8.100) should be used to update the Device's SMI Status to 'Decommissioned' followed by a subsequent Service Request 12.2 Device Pre-notification (see clause 3.8.122) to update the Device's SMI Status to 'Pending'. The Device can then be commissioned as per normal process.

3.8.102 Service Opt Out

3.8.102.1 Service Description

Service Request Name	ServiceOptOut	
Service Reference	8.5	
Service Reference Variant	8.5	
Eligible Users	None	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Han Controlled Auxiliary Load Control Switch (HCALCS) PrePayment Interface Device (PPMID)	
Can be future dated?	DSP	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode **(for each CredentialsReplacementMode)**	accessControlBrokerByACB 0x0104	
GBCS Use Case	CS02b	CS02b

3.8.102.2 Specific Data Items for this Request

ServiceOptOut Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the command to be executed on the Device ID, i.e. the date from which the Device is to be opted out from DCC services • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	Yes	None`	UTC Date-Time
ABCFloorSeqNumber	Originator Counter (floor value) for the new ACB Remote Party. The value will be used to prevent replay of Update Security Credentials Commands, and other Commands, for the new controlling Remote Party Valid set: • Value > 0 and <= Originator Counter of the first Command to the Device from the New ACB	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 922337203685477 5807)	Yes	None	N/A
ReplacementCertificates	This structure provides a list of the replacements. Each replacement contains a replacement Certificate	sr:ReplacementCertificatesACB	Yes	None	N/A

CertificationPathCertificates	This structure provides the Certificates needed to Confirm Validity of the new end entity Certificate against the root public key held on the Device. The number of these may be less than the number of replacement certificates (e.g. a Supplier may replace all of its certificates but may only need to supply one Certification Authority Certificate to link them all back to root.)	sr:CertificatePathCertificates (sr:Certificate xs:base64Binary minOccurs = "1", maxOccurs = "3")	Yes	None	N/A
ApplyTimeBasedCPVChecks	Device to apply (true) or not apply (false) time based checks as part of Confirm Validity check. It should only be set to false in exceptional circumstances (e.g. credentials on the Device have expired without replacement for unforeseen reasons)	xs:boolean	Yes	None	N/A

Table 234 : ServiceOptOut (sr:ServiceOptOut) data items

ReplacementCertificates Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DigitalSigningCertificate	The Digital Signing credentials to be placed by the DCC in the DCC 'Access Control Broker' Remote Party Role, Key Usage digitalSignature on the Device so that communications via the DCC are no longer possible.	sr:Certificate (xs:base64Binary)	Device Type = PPMID: Yes Otherwise: N/A	None	N/A
KeyAgreementCertificate	The key agreement credentials to be placed by the DCCin the DCC 'Access Control Broker' Remote Party Role, Key Usage KeyAgreement on the Device so that communications via the DCC are no longer possible	sr:Certificate (xs:base64Binary)	Yes	None	N/A

Table 235 : ReplacementCertificates (sr:ReplacementCertificatesACB) data items

3.8.102.3 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 and Public Security Credentials validation.

Response Code	Response Code Description
E080501	The Device is associated to a Domestic MPxN
E080502	The Device Status is "Withdrawn" (this particular check and Response Code is not expected to be reached in this DUIS version, as the generic Authorisation Check associated to Response Code E5 will fail prior to this check being carried out)
E080503	The Certificate Type is not applicable to the Device Type

3.8.102.4 Additional DCC System Processing

Upon successful execution of a ServiceOptOut Service Request, the DCC shall, for the specified DeviceID identified within the Service Request, perform the following actions.

a) Update the Smart Metering Inventory and set the SMI Status of the Device identified by DeviceId contained in the header to 'Withdrawn'
b) For Device Types Electricity Smart Meter and Gas Smart Meter, Generate DCC Alerts N1, N2 to notifiy specified Users of the Device decomissioning as per DCC Alert definitions clause 3.6.3.4 DCC Alert Codes
c) For Device Types Electricity Smart Meter and Gas Smart Meter, update the Registration Systems to set the Service Status of the MPxN(s) associated to that Meter to "Opted Out
d) Delete all active DCC Schedules held within the DCC Systems and send a DCC Alert to the DCC Schedule owner.
e) Delete all Future Dated (DSP) requests with future dated execution dates that have not been sent to the Device and send a DCC Alert to the orginal sender of the request

For each certificate specified in a Response or Alert from the Device as being successfully updated by the Update Security Credentials command, the DCC Systems shall update the Smart Metering Inventory with the new certificate identifier as a record of the certificate held in the relevant Trust Anchor Cell on that Device.

3.8.102.5 Service Request Post Conditions

When opting out of DCC Services, the User shall send to the DCC a Service Request 8.4 – Update Inventory to notify the DCC that the Communications Hub Function and its associated Gas Proxy Function are to be Opted Out of DCC services and request the DCC to set the SMI Status of these specified Devices to 'Withdrawn'.

3.8.103 Service Opt In

3.8.103.1 Service Description

Service Request Name	ServiceOptIn	
Service Reference	8.6	
Service Reference Variant	8.6	
Eligible Users	None	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to a Non-Device Service Request Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.103.2 Specific Data Items for this Request

ServiceOptIn Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceID	A unique ID for the device	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DeviceType	The type of device. Valid set in this context from the enumeration set is; • ESME • GSME • HCALCS • PPMID • CHF • GPF	sr:DeviceType (Restriction of xs:string (Enumeration))	Yes	None	N/A
MPxNs	MPxNs to be associated to the Device once Opted In	sr:MeterMPxNs	Yes	None	N/A
OptInDate	UTC Date from which the device is planned to enter into DCC services • Valid set:Valid date in the future	xs:date	Yes	None	UTC Date

Table 236 : ServiceOptIn (sr:ServiceOptIn) data items

MPxNs Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ImportMPxN	The reference number identifying an Import electricity or a gas metering point.	sr:ImportMPxN (Restriction of xs:string (minLength = 1, maxLength = 13))	Yes	None	N/A
SecondaryImportMPAN	The reference number identifying a Twin Element Import electricity secondary metering point.	sr:MPAN (Restriction of xs:string (minLength = 13, maxLength = 13))	Twin Element ESME: No Otherwise: N/A	None	N/A
ExportMPAN	The reference number identifying an Export electricity metering point.	sr:MPAN (Restriction of xs:string (minLength = 13, maxLength = 13))	Export ESME: No Otherwise: N/A	None	N/A

Table 237 : MPxNs (sr:MeterMPxNs OptIn) data items

3.8.103.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Device Existence validation.

Response Code	Response Code Description
E080601	The Opt In Date is not a date in the future
E080602	The Device Type is not correct
E080604	The Device Status is not "Pending"
E080606	The Device Type is invalid
E080607	The User is not the registered organisation of any of the MPxNs in the Service Request

3.8.103.4 Specific Data Items in the Response

This Service Response is defined in the XSD DSPOptIn XML element, which contains the DSP Broker Security Credentials to be placed in the DCC Access Control Broker Remote Party Role on the Device so that communications via the DCC are possible.

The DCC shall return the following data items which are specific to this Service Response : DSPOptin Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceID	A unique ID for the Device	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DSPSecurityCredentialsDigitalSigning	The Digital Signing credentials to be placed by the Supplier (or Supplier's SMSO) in the 'ACB' Remote Party Role, Key Usage digitalSignature on the Device so that communications via the DCC are possible	sr:Certificate (xs:base64Binary)	DeviceType = PPMID,CHF: Yes Otherwise: N/A	None	N/A
DSPSecurityCredentialsKeyAgreement	The key agreement credentials to be placed by the Supplier (or Supplier's SMSO) in the 'ACB' Remote Party Role Key Usage keyAgreement on the Device so that communications via the DCC are possible	sr:Certificate (xs:base64Binary)	Yes	None	N/A

Table 238 : DSPOptin (sr:DSPOptin) data items

3.8.104 Join Service (Critical)

3.8.104.1 Service Description

Service Request Name	JoinService(Critical)		
Service Reference	8.7		
Service Reference Variant	8.7.1		
Eligible Users	Import Supplier (IS) Gas Supplier (GS)		
Security Classification	Critical		
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) HAN Connected Auxiliary Load Control Switch (HCALCS)		
Can be future dated?	No		
On Demand?	Yes		
Capable of being DCC Scheduled?	No		
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)		
Common Header Data Items	See clause 3.4.1.1		
Data Items Specific to this Service Request	See Specific Data Items Below		
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload Format • Response to a Command for Local Delivery Request – LocalCommand Format		
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes		
GBCS Cross Reference	ESME join to HCALCS or PPMID	HCALCS join to ESME	GSME join to PPMID
GBCS MessageCode	0x000D	0x00AB	0x00AF
GBCS Use Case	CS03A1	CS03A2	CS03C

3.8.104.2 Specific Data Items for this Request

JoinServiceCritical Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
OtherDeviceID	Device ID of the Device to be joined to (paired with) the BusinessTargetID Device	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 239 : JoinServiceCritical (sr:JoinOrUnjoinDevice) data items

3.8.104.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for 'Other Device' Existence validation.

Response Code	Response Code Description
E080702	The 'Other Device' Type is not valid for this Join Service

3.8.104.4 Additional DCC System Processing

Where a GSME is to be joined to a PPMID then the DCC shall add the Key Agreement Certificate (currently in use by the PPMID specified within the Service Request) to the Pre-Command to be sent back to the User. The Key Agreement Certificate shall be retrieved by the DCC from the Public Key Repository where the "In Use" flag is set.

Upon successful execution of a JoinService(Critical) Service Request to join a HCALC or a PPMID Device, and where the associated Communication Hub Function and the associated Electricity Smart Meter or Gas Smart Meter SMI Status are 'Commissioned', the DCC shall update the Smart Metering Inventory and set the SMI Status of the HCALC or PPMID to 'Commissioned'.

3.8.105 Join Service (Non-Critical)

3.8.105.1 Service Description

Service Request Name	JoinService(Non-Critical)				
Service Reference	8.7				
Service Reference Variant	8.7.2				
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Other User (OU) (Type 2 CAD Only) 1) The only Devices that Other Users may join are Type 2 Devices that are not IHDs 2) Where a Gas Proxy Function is to be joined to a Gas Smart Meter, any Gas Supplier or Import Supplier who is a Responsible Supplier for any Device which is associated with the same Communications Hub Function as the Gas Proxy Function may request this Join Service Request.				
Security Classification	Non Critical				
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) PrePayment Interface Device (PPMID)				
Can be future dated?	No				
On Demand?	Yes				
Capable of being DCC Scheduled?	No				
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)				
Common Header Data Items	See clause 3.4.1.1				
Data Items Specific to this Service Request	See Specific Data Items Below				
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload Format • Response to a Command for Local Delivery – LocalCommand Format Also see Response Section below for details specific to this request				
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes				
GBCS Cross Reference	ESME join to Type 2 device	GSME join to GPF	PPMID join to ESME	PPMID join to GSME	GPF join to PPMID or Type 2 device
GBCS MessageCode	0x000E	0x000E	0x00AB	0x00AF	0x000E
GBCS Use Case	CS03B	CS03B	CS03A2	CS03C	CS03B

3.8.105.2 Specific Data Items for this Request

JoinServiceNonCritical Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
OtherDeviceID	Device ID of the Device to be joined to (paired with) the BusinessTargetID Device.	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 240 : JoinServiceNonCritical (sr:JoinOrUnjoinDevice) data items

3.8.105.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for 'Other Device' Existence validation.

Response Code	Response Code Description
E080721	The 'Other Device' Type is not valid for this Join Service
E080722	The User Role is not authorised to Join this Device Type
E080723	The User is not authorised to Join these Gas Smart Meter / Gas Proxy Function

3.8.105.4 Additional DCC System Processing

Where a PPMID is to be joined to a GSME then the DCC shall add the Key Agreement Certificate (currently in use by the GSME specified within the Service Request) to the Command. The Key Agreement Certificate shall be retrieved by the DCC from the Public Key Repository where the "In Use" flag is set.

Upon successful execution of a JoinService(Non-Critical) Service Request for a Gas Proxy Function (GPF) Device, and where the associated Communication Hub Function and the associated Gas Smart Meter SMI Status are 'Commissioned', the DCC shall update the Smart Metering Inventory and set the SMI Status of Gas Proxy Function (GPF) to 'Commissioned'.

3.8.106 Unjoin Service (Critical)

3.8.106.1 Service Description

Service Request Name	UnjoinService(Critical)	
Service Reference	8.8	
Service Reference Variant	8.8.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) HAN Connected Auxiliary Load Control Switch (HCALCS)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 – Send (Critical) 6 – Return for local delivery (Critical) 7 – Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to Transform Request - PreCommand Format • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity • ESME Unjoin from PPMID • HCALCS Unjoin from ESME	Gas • GSME Unjoin from PPMID
GBCS MessageCode	0x000F	0x000F
GBCS Use Case	CS04AC	CS04AC

3.8.106.2 Specific Data Items for this Request

UnjoinServiceCritical Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
OtherDeviceID	Device ID of the Device for which the details have to be removed from the BusinessTargetID Device Log	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 241 : UnjoinServiceCritical (sr:JoinOrUnjoinDevice) data items

3.8.106.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for 'Other Device' Existence validation.

Response Code	Response Code Description
E080801	According to the DCC Systems Smart Metering Inventory the 'Other Device' is not joined to the BusinessTargetID Device

3.8.107 Unjoin Service (Non-Critical)

3.8.107.1 Service Description

Service Request Name	UnjoinService(Non-Critical)				
Service Reference	8.8				
Service Reference Variant	8.8.2				
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Other User (OU) (Type 2 CAD Only) 1) The only Devices that Other Users may unjoin are Type 2 Devices that are not IHDs 2) Where a Gas Meter and Gas Proxy Device are to be unjoined, only a Supplier who is a Responsible Supplier for that site may request this Unjoin Service Request				
Security Classification	Non Critical				
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) PrePayment Interface Device (PPMID)				
Can be future dated?	No				
On Demand?	Yes				
Capable of being DCC Scheduled?	No				
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)				
Common Header Data Items	See clause 3.4.1.1				
Data Items Specific to this Service Request	See Specific Data Items Below				
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request				
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes				
GBCS Cross Reference	ESME Unjoin from Type 2 Device	GSME Unjoin from GPF	PPMID Unjoin from ESME	PPMID Unjoin from GSME	GPF Unjoin from PPMID or Type 2 Device
GBCS MessageCode	0x0010	0x0010	0x000F	0x000F	0x0010
GBCS Use Case	CS04B	CS04B	CS04AC	CS04AC	CS04B

3.8.107.2 Specific Data Items for this Request

UnjoinServiceNonCritical Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
OtherDeviceID	Device ID of the Device for which the details have to be removed from the BusinessTargetID Device Log	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 242 : UnjoinServiceNonCritical (sr:JoinOrUnjoinDevice) data items

3.8.107.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for 'Other Device' Existence validation.

Response Code	Response Code Description
E080801	According to the DCC Systems Smart Metering Inventory the 'Other Device' is not joined to the BusinessTargetID Device
E080821	The User Role is not authorised to Unjoin tis Device Type
E080822	The User is not authorised to Unjoin these Gas Smart Meter / Gas Proxy Function

3.8.108 Read Device Log

3.8.108.1 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 - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) Communications Hub Function (CHF) HAN Connected Auxiliary Load Control Switch (HCALCS) PrePayment Interface Device (PPMID)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
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	CCS06	CS07

GBCS Commands - Versioning Details		
DCC System creates the following GBCS Commands or Response Codes based on the following combinations,		
Device Type	CHF	
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 v2.0
DEFAULT - No specific XML criteria	CCS05/CCS04	CCS06

Device Type	ESME	
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 v2.0
DEFAULT - No specific XML criteria	CS07	CS07
Device Type	GSME	
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 v2.0
DEFAULT - No specific XML criteria	CS07	CS07
Device Type	GPF	
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 v2.0
DEFAULT - No specific XML criteria	CS07	CS07
Device Type	HCALCS	
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 v2.0
DEFAULT - No specific XML criteria	CS07	CS07
Device Type	PPMID	
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 v2.0
DEFAULT - No specific XML criteria	CS07	CS07

3.8.108.2 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 the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time

Table 243 : ReadDeviceLog (sr:ReadDeviceLog) data items

3.8.108.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.108.4 Additional DCC System Processing

For CHF with a Device Model recorded in the Smart Metering Inventory that pertains to GBCS version 2.0 according to the entry for that Device Model in the Central Products List,

the Service Request Response will also contain details of Sub GHz signal strength, for dual band CHF using the Sub GHz frequency band interface.

If the Service Request Business Originator User Role is IS and the Target Device Type is HCALCS, even though the User is a KRP to the Device, the Command will be submitted to the Device by the DCC Access Control Broker using the URP interaction type. This is because HCALCS hold Supplier Digital Signature, but not Key Agreement Credentials.

3.8.109 Update HAN Device Log

3.8.109.1 Service Description

Service Request Name	UpdateHANDeviceLog
Service Reference	8.11
Service Reference Variant	8.11
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Other User (OU) (Type 2 CAD Only) Other Users may only add (or remove) Type 2 Devices that are not IHDs to (from) a HAN Device Log.
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Communications Hub Function (CHF)
Can be future dated?	DSP
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes
GBCS Cross Reference	Communications Hub Function
GBCS MessageCode	Request Type Add - 0x0001 Request Type Remove - 0x0002
GBCS Use Case	Request Type Add - CCS01 Request Type Remove - CCS02

3.8.109.2 Specific Data Items for this Request

UpdateHANDeviceLog Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a 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'	xs:dateTime	No	None	UTC Date-Time
DeviceID	Device ID of a Device to be added to or removed from the Communications Hub Function Whitelist or removed from it. A User must send one Service Request per Device to add or remove from the Communications Hub Function (CHF) Device Log.	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
RequestType	Indicates whether the request is to add or remove the Device form the Communications Hub Function Whitelist. Valid set: • Add • Remove	Restriction of xs:string (Enumeration)	Yes	None	N/A
AddDeviceToCHF Whitelist	List of data items required to add the Device to the Communications Hub Function Whitelist.	sr:AddDeviceToCHF Whitelist	Device to be added to Whitelist: Yes Device to be removed from Whitelist: N/A	None	N/A

Table 244 : UpdateHANDeviceLog (sr:UpdateHANDeviceLog) data items

AddDeviceToCHFWhitelist Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
JoinTimePeriod	Defines the time period in seconds during which the Communications Hub Function will permit the device being added to join the HAN and communicate with the Communications Hub Function.	Restriction of xs:positiveInteger (minInclusive = 1 maxInclusive = 3600)	Yes	None	Seconds
InstallCode	Installation Credentials. Minimum length 6 (octets) to Maximum Length 16 (octets) equating to from 12 to 32 characters	Restriction of xs:hexBinary (minLength = 6, maxLength = 16)	Yes	None	N/A
ImportMPxN	The reference number identifying an electricity or a gas metering point.	sr:ImportMPxN (Restriction of xs:string (minLength = 1, maxLength = 13))	ESME, HCALCS and GSME: Yes Otherwise: N/A	None	N/A
SecondaryImportMPAN	The reference number identifying a Twin Element Import electricity secondary metering point.	sr:MPAN (Restriction of xs:string (minLength = 13, maxLength = 13))	No	None	N/A
ExportMPAN	The reference number identifying an Export electricity metering point.	sr:MPAN (Restriction of xs:string (minLength = 13, maxLength = 13))	No	None	N/A

Table 245 : AddDeviceToCHFWhitelist (sr:AddDeviceToCHFWhitelist) data items

3.8.109.3 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.

For this Request, the general Authorisation Checks as defined below shall not be carried out where an IHD is being added to the Device Log by a User and the command is requested for Local Delivery only.

- a Response Code of E4 as defined in clause 3.2.4 “Verify that the User, in the User Role defined in the Service Request is a Eligible User for the Device”

Response Code	Response Code Description
E081101	The Device ID of a Device to be added to the CHF Whitelist is already associated with another CHF Whitelist
E081102	The Device ID of a Device to be removed is not included in the CHF Whitelist
E081104	The Device Type of the Device to be added to the Whitelist is invalid, e.g. if it is a Communications Hub Function or Gas Proxy Function

E081105	The status of the Device being added to the Whitelist is not 'Pending' or 'Whitelisted'
E081106	If the Request Type is: • 'Add'. It doesn't include the Add Device CHF Whitelist element • 'Remove'. It does include the Add Device CHF Whitelist element
E081107	The Device ID of the Device to be added to or removed from the Whitelist does not exist
E081108	The User Role is not authorised to add this Device Type to the HAN Device Log or remove it form it
E081109	The User is not the registered organisation for all of the MPxNs in the Service Request (This check supersedes the general Authorisation Check associated to Response Code E4 only for Request Type 'Add' (please note the check associated to Response Code E4 is applicable to Request Type 'Remove'))
E081110	The Service Request contains an Invalid MPAN Type, e.g. the Import MPxN is populated with an Export MPAN

3.8.109.4 Additional DCC System Processing

Upon receipt of a successful Response resulting from the UpdateHANDeviceLog Service Request to Add a Device, the DCC shall, for the specified DeviceID identified within the Service Request, perform the following action.

a) Update the Smart Metering Inventory and set the Device status of the DeviceId to 'Whitelisted'
b) Where the DeviceID to be added to HANDeviceLog is an Electricity Smart Meter or a Gas Smart Meter, the association between the DeviceID and its MPxN(s) is recorded in the Smart Metering Inventory and DCC Alert N16 is sent to the Electricity Distributor(s) or Gas Transporter (as applicable)

The DCC Systems shall wait for a timeout period to receive the updated Device Log from the CHF following the successful execution of an UpdateHANDeviceLog Service Request to Add a Device. The timeout period that the DCC Systems shall wait for the Alert is defined as "JoinTimePeriod" as specified within the Service Request plus a configurable network transmission time to allow delivery of the Alert over the SM WAN.

a) If the CHF Device Log confirming communications have been established with the Device specified in the Service Request is received within the timeout period, then the DCC Systems shall notify the Responsible Supplier for the specified Device via a DCC Alert N24, and;
    i. For ESME, GSME, HCALCS and PPMID the Device Status is set to 'InstalledNotCommissioned' in the Smart Metering Inventory

b) If the CHF Device Log confirming communications have been established with the Device specified in the Service Request is not received within the timeout period, then the DCC Systems informs the User via a DCC Alert N25.

When a User requests the Request Type "Add" variant of this Service Request 8.11, then an unsuccessful Command Response indicates that the CHF did not execute the Command, the details provided in the Service Request have NOT been successfully added to the CHF Device Log and no further actions are triggered by the DCC Systems.

When a User requests the Request Type “Remove” variant of this Service Request 8.11, then the Command Response indicates whether the specified Device provided in the Service Request was either successfully removed from the CHF Device Log or the removal was unsuccessful. Upon receipt of a successful Response resulting from the UpdateHANDeviceLog Service Request to Remove a Device, the DCC shall, where the Device Status is currently ‘Whitelisted’, set the Device status to ‘Pending’. No additional DCC Alerts are produced by the DCC Systems.

3.8.110 Restore HAN Device Log

3.8.110.1 Service Description

Service Request Name	RestoreHANDeviceLog
Service Reference	8.12
Service Reference Variant	8.12.1
Eligible Users	Import Supplier (IS) Gas Supplier (GS)
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Communications Hub Function (CHF)
Can be future dated?	No
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes
GBCS Cross Reference	Communications Hub Function
GBCS MessageCode	0x0003
GBCS Use Case	CCS03

3.8.110.2 Specific Data Items for this Request

RestoreHANDeviceLog Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
OldCHFID	Device ID of the old Communications Hub Function being replaced	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 246 : RestoreHANDeviceLog (sr:RestoreHANDeviceLog) data items

3.8.110.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for 'Old CHF Device' Existence validation.

Response Code	Response Code Description
E081202	The Old CHF ID doesn't correspond to a Device of Type Communications Hub Function
E081204	The Device Status of the new Communications Hub Function is invalid
E081205	The User is not a Responsible Supplier to any of the MPxNs associated with Device(s) in the Old CHF ID Whitelist

3.8.111 Restore Gas Proxy Function Device Log

3.8.111.1 Service Description

Service Request Name	RestoreGPFDeviceLog
Service Reference	8.12
Service Reference Variant	8.12.2
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Any Gas Supplier or Import Supplier who is a Responsible Supplier for any Device which is associated with the same Communications Hub Function as the relevant Gas Proxy Function may request this Restore GPF Device Log Service Request.
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Gas Proxy Function (GPF)
Can be future dated?	No
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes
GBCS Cross Reference	Gas Proxy Function
GBCS MessageCode	0x008C
GBCS Use Case	GCS59

3.8.111.2 Specific Data Items for this Request

RestoreGPFDeviceLog Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
OldGPFID	Device ID of the old Gas Proxy Function being replaced	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 247 : RestoreGPFDeviceLog (sr:RestoreGPFDeviceLog) data items

3.8.111.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for 'Old GPF Device' Existence validation.

Response Code	Response Code Description
E081221	The Old GPF ID doesn't correspond to a Device of Type Gas Proxy Function
E081222	The Device Status of the new Gas Proxy Function is invalid
E081223	The User is not an Import Supplier to any of the MPxNs associated with Device(s) in the CHF ID Whitelist associated to the BusinessTargetID GPF

3.8.112 Return Local Command Response

3.8.112.1 Service Description

Service Request Name	ReturnLocalCommandResponse	
Service Reference	8.13	
Service Reference Variant	8.13	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.112.2 Specific Data Items for this Request

ReturnLocalCommandResponse Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
OriginalRequestID	Concatenation of BusinessOriginatorID, BusinessTargetID and OriginatorCounter, separated by ":" in the original Service Request RequestID	sr:RequestIDType See 3.10.1.1	Device GBCS Response is not an Alert: Yes Otherwise: N/A	None	N/A
DeviceGBCSResponse	Contents of the response to be returned to DCC – Contents will depend on the original command Valid Set • See Table below if the GBCSPayload contains a Response • See Table below if it contains an Alert	xs:base64Binary	Yes	None	N/A

Table 248 : ReturnLocalCommandResponse (sr:ReturnLocalCommandResponse) data items

The following table lists the Service Requests Responses and Device Alerts needed by the DCC Systems from Users via the return Local Command Response Service Request if these are collected from execution of Local Commands on Devices. Note that a HHT will receive all Alerts / Responses from all HAN Devices whilst it is connected; these may or may not be related to the execution of Local Commands.

Service Request Responses
3.2 - Restrict Access For Change Of Tenancy
6.8 - Update Device Configuration (Billing Calendar)
6.14.1 - Update Device Configuration (Auxiliary Load Control Description)
6.14.2 - Update Device Configuration (Auxiliary Load Control Scheduler)
6.15.2 - Update Security Credentials (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

Service Request Responses
8.12.2 - Restore Gas Proxy Function Device Log
11.2 – Read Firmware Version
11.3 - Activate Firmware

Alerts
Device Addition To / Removal From HAN Whitelist Alerts used by DCC to manage the CHF/GPF Device Log Backup process (GBCS Alert Codes: 0x8F12 – CHF Device Log Updated)
GPF Device Log Backup Alert (GBCS Alert Code: 0x8071)

3.8.112.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

Response Code	Response Code Description
E081301	The Original Request ID doesn't correspond to a Command to be Delivered Locally for which no Response has been received
E081302	The Response doesn't correspond to the Original Request ID or it isn't a valid Alert Type (This check is not applicable to Service Request 6.23 Update Security Credentials (CoS))
E081303	• If the OriginalRequestID is included in the Request, the Device GBCS Response is not a successful Response • If the OriginalRequestID is not included in the Request, the Device GBCS Response is not a o Response for a Command to be Delivered Locally for which no Response has been received or o valid Alert Type corresponding to a Command for which an Alert is expected and for which the DCC Systems have to perform the relevant actions

Note that Response Codes E081301 and E081303 should be ignored by Users if they correspond to Commands that were not applied locally.

3.8.112.4 Specific Data Items in the Response

This Service Response is defined by the Acknowledgement Service Response Type as documented in clause 3.5.2 - Acknowledgement to a Request.

3.8.113 Communications Hub Status Update – Install Success

3.8.113.1 Service Description

Service Request Name	CommunicationsHubStatusUpdate-InstallSuccess	
Service Reference	8.14	
Service Reference Variant	8.14.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.113.2 Specific Data Items for this Request

CHFInstallSuccessSMWAN Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceID	The device ID of the Communications Hub successfully installed (CHF)	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
CHFInstallType	Valid set in this context from the enumeration is: • New CHF Install • Replacement CHF Install	sr:CHFInstallType (Restriction of xs:string (Enumeration))	Yes	None	N/A
InstallDateTime	An optional field to record the date and time that the CHF was successfully installed	xs:dateTime	No	None	UTC Date-Time
UserRefID	An optional field to record User reference for activity or engineer job	sr:UserRefID (Restriction of xs:string (maxLength = 25))	No	None	N/A
MPxN	The reference number identifying an electricity or a gas metering point. For dual fuel installs this value can be populated with either reference number.	sr:MPxN (Restriction of xs:string (minLength = 1, maxLength = 13))	Yes	None	N/A
GISData	GPS coordinates. Where address information is not available, alternative location data may be provided	sr:GISData (Restriction of xs:string (maxLength = 25))	No	None	N/A
AerialInstall	Indication of whether external aerial installed Valid set: • true • false	xs:boolean	Yes	None	N/A
CHFLocation	Installation location within Consumer Premise as further defined through Communications Hubs Support Materials and Installer Training Plans Valid set: • Outside Premises • Indoors on external wall • Deep indoors • Basement or Cellar	sr:CHFLocation (Restriction of xs:string (Enumeration))	Yes	None	N/A
AdditionalInformation	An optional field to record any specific User information of Communications Hub installation details or activity	Restriction of xs:string (maxLength = 200)	No	None	N/A

Table 249 : CHFInstallSuccessSMWAN (sr:CHFInstallSuccessSMWAN) data items

3.8.113.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

For this Request, the general Authorisation Checks as defined below shall not be carried out.

- a Response Code of E5 as defined in clause 3.2.4 "Verify that the Service Request or Signed Pre-Command is applicable to the Device status"

Response Code	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 SMI Status is not 'Commissioned'. The change in logistical status of the CHF will be processed by the DCC, but no commissioned status is set according to information from the SM WAN rather than Service Requests. If the CHF SMI Status is not 'Commissioned' this suggests that the CHF Device has not been installed successfully.

3.8.114 Communications Hub Status Update – Install No SM WAN

3.8.114.1 Service Description

Service Request Name	CommunicationsHubStatusUpdate-InstallNoSMWAN	
Service Reference	8.14	
Service Reference Variant	8.14.2	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.114.2 Specific Data Items for this Request

CHFInstallSuccessNoSMWAN Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceID	The device ID of the Communications Hub installed (CHF)	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
CHFInstallType	Valid set in this context from the enumeration is: • CHF Install – no SM WAN	sr:CHFInstallType (Restriction of xs:string (Enumeration))	Yes	None	N/A
InstallDateTime	An optional field to record the date and time that the CHF was successfully installed	xs:dateTime	No	None	UTC Date-Time
UserRefID	An optional field to record User reference for activity or engineer job	sr:UserRefID (Restriction of xs:string (maxLength = 25))	No	None	N/A
MPxN	The reference number identifying an Import electricity or a gas metering point.	sr:MPxN (Restriction of xs:string (minLength = 1, maxLength = 13))	Yes	None	N/A
GISData	GPS Coordinates. Where address information is not available, alternative location data may be provided	sr:GISData (Restriction of xs:string (maxLength = 25))	No	None	N/A
AerialInstall	Indication of whether external aerial installed Valid set: • true • false	xs:boolean	Yes	None	N/A
CHFLocation	Installation location within Consumer Premise as further defined through Communications Hubs Support Materials and Installer Training Plans Valid set: • Outside Premises • Indoors on external wall • Deep indoors • Basement or Cellar	sr:CHFLocation (Restriction of xs:string (Enumeration))	Yes	None	N/A

PremiseType	Identifies the property type to support coverage incident resolution Valid set: • Detached / Semi Detached • Terraced • Low Rise Apartment (MDU <= 5 floors) • High Rise Apartment (MDU > 5 floors) Note that the XML representation of < and > is as follows • < >	sr:PremiseType (Restriction of xs:string (Enumeration))	Yes	None	N/A
MetalObstructionCheck	Connectivity Obstruction Check 1 identifies: Is there a local metal obstruction (as defined in CHSM) or metal meter cabinet? Valid set: • true • false	xs:boolean	Yes	None	N/A
ConnectivityObstruction Check	Connectivity Obstruction Check 2 identifies: Does the premise have thick stone walled construction (as defined in CHSM)? Valid set: • true • false	xs:boolean	Yes	None	N/A
SharedObstructionCheck	Connectivity Obstruction Check 3 identifies: Is the Comms Hub in a shared / communal area (as defined in CHSM)? Valid set: • true • false	xs:boolean	Yes	None	N/A
AdditionalInformation	An optional field to record any specific User information of Communications Hub installation details or activity	Restriction of xs:string (maxLength = 200)	No	None	N/A

Table 250 : CHFInstallSuccessNoSMWAN (sr:CHFInstallSuccessNoSMWAN) data items

3.8.114.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

For this Request, the general Authorisation Checks as defined below shall not be carried out.

- a Response Code of E5 as defined in clause 3.2.4 “Verify that the Service Request or Signed Pre-Command is applicable to the Device status”

Response Code	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.

3.8.115 Communications Hub Status Update – Fault Return

3.8.115.1 Service Description

Service Request Name	CommsHubStatusUpdate-FaultReturn	
Service Reference	8.14	
Service Reference Variant	8.14.3	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Registered Supplier Agent (RSA)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.115.2 Specific Data Items for this Request

CHFFaultReturn Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceID	The device ID of the Communications Hub Returned (CHF)	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
CHFFaultReturnType	Valid set: • Fault identified prior to installation • Fault identified post installation	sr:CHFFaultReturnType (Restriction of xs:string (Enumeration))	Yes	None	N/A
UserRefDateTime	An optional field to record User recorded time of activity or engineer job	xs:dateTime	No	None	UTC Date-Time
UserRefID	An optional field to record User reference for activity or engineer job	sr:UserRefID (Restriction of xs:string (maxLength = 25))	No	None	N/A
OtherDeviceID	The Device ID of the ESME/GSME associated with the CHF If there is no ESME or GSME associated with the CHF, OtherDeviceID should be populated with the CHF DeviceID	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
IncidentReference	An optional field to record a DCC Service Management associated incident reference	sr:IncidentReference (Restriction of xs:string (maxLength = 15))	No	None	N/A
CHFConnectionMethod	To record how the Communications Hub has been installed and connected to the rest of the Smart Metering System within the consumer premise Valid set: • Hot-shoe • Cradle • ESME	sr:CHFConnectionMethod (Restriction of xs:string (Enumeration))	Yes	None	N/A

CHFFaultReason	User description of fault Valid set: • Damaged case • Damaged Connector • Illegal interference or missing seals • Environmental conditions exceeded • SM WAN Fault • SMHAN Interface Fault • LED Fault • Aerial Fault • Manufacturing defect	sr:CHFFaultReason (Restriction of xs:string (Enumeration))	Yes	None	N/A
AdditionalInformation	An optional field to record any specific User information of Communications Hub installation details or activity	Restriction of xs:string (maxLength = 200)	No	None	N/A

Table 251 : CHFFaultReturn (sr:CHFFaultReturn) data items

3.8.115.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

For this Request, the general Authorisation Checks as defined below shall not be carried out.

- a Response Code of E5 as defined in clause 3.2.4 "Verify that the Service Request or Signed Pre-Command is applicable to the Device status"

Where a User with a User Role of RSA submits the Service Request then a specific validation check will be carried out for Response Code E5 as described in the table below.

Response Code	Response Code Description
E5	The User Role is RSA and the CHF Device Status is not Pending
E081401	The Device Type of the Device being notified is not CHF
E081405	The user reference date & time supplied is a future date
W081401	The CHF Device status is not 'Decommissioned'.

3.8.116 Communications Hub Status Update – No Fault Return

3.8.116.1 Service Description

Service Request Name	CommsHubStatusUpdate-NoFaultReturn	
Service Reference	8.14	
Service Reference Variant	8.14.4	
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Registered Supplier Agent (RSA)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	8 – DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.116.2 Specific Data Items for this Request

CHFNoFaultReturn Definition

Data Item	Description / Values	Type	Mandatory	Default	Units
DeviceID	The Device ID of the Communications Hub Returned (CHF)	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
CHFNoFaultReturnType	Valid set: • No Fault Return (general) • No Fault Return (non-dom opt out • No Fault Return (dual supplier HAN variant replacement) • No Fault Return (SM WAN variant replacement requested by DCC) • Lost or Stolen Hub	sr:CHFNoFaultReturn Type (Restriction of xs:string (Enumeration))	Yes	None	N/A
UserRefDateTime	An optional field to record User recorded time of activity or engineer job	xs:dateTime	No	None	UTC Date-Time
UserRefID	An optional field to record User reference for activity or engineer job	sr:UserRefID (Restriction of xs:string (maxLength = 25))	No	None	N/A
IncidentReference	An optional field to record a DCC Service Management associated incident reference	sr:IncidentReference (Restriction of xs:string (maxLength = 15))	No	None	N/A
AdditionalInformation	An optional field to record any specific User information of Communications Hub installation details or activity	Restriction of xs:string (maxLength = 200)	No	None	N/A

Table 252 : CHFNoFaultReturn (sr:CHFNoFaultReturn) data items

3.8.116.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

For this Request, the general Authorisation Checks as defined below shall not be carried out.

- a Response Code of E5 as defined in clause 3.2.4 “Verify that the Service Request or Signed Pre-Command is applicable to the Device status”

Where a User with a User Role of RSA submits this Request then a specific validation check will be carried out for Response Code E5 as described in the table below.

Response Code	Response Code Description
E5	The User Role is RSA and the CHF Device Status is not Pending
E081401	The Device Type of the Device being notified is not CHF

E081405	The User reference date & time supplied is a future date
W081401	The CHF Device status is not 'Decommissioned'.

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3.8.117 Request Customer Identification Number

3.8.117.1 Service Description

Service Request Name	RequestCustomerIdentificationNumber	
Service Reference	9.1	
Service Reference Variant	9.1	
Eligible Users	Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated)	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload • Service Response (from Device) – CINMessage Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0058	0x0083
GBCS Use Case	ECS50	GCS36

3.8.117.2 Specific Data Items for this Request

The RequestCustomerIdentificationNumber XML element defines this Service Request and does not contain any other specific data items.

3.8.117.3 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.

3.8.117.4 Specific Data Items in the Response

If the Response is not successful, the generic Service Response (from Device) – GBCSPayload is returned to the User (see 3.5.6).

If the Response is successful, the CIN is added to it, as an XML data item, by the DCC Systems and the Service Response XML returned will be the CINMessage structure (see 3.5.7). The DCC shall return the following data items which are specific to this Service Response.

CustomerIdentificationNumber Definition:

Data Item	Description / Values	Type	Mandatory	Default	Units
CustomerIdentificationNumber	A number issued to Electricity Smart Meter / Gas Smart Meter for display on the user interface	Restriction of xs:string (length = 4 pattern = "[0-9]{4}")	Yes	None	None

Table 253 : CustomerIdentificationNumber (sr:CustomerIdentificationNumber) data items

3.8.118 Update Firmware

3.8.118.1 Service Description

Service Request Name	UpdateFirmware	
Service Reference	11.1	
Service Reference Variant	11.1	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated	8 – Non-Device	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Response to a Non-Device Service Request Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.118.2 Specific Data Items for this Request

UpdateFirmware Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
FirmwareImage	The Firmware Image corresponding to the Firmware Version This is a base64 encoded version of the GBCS defined Firmware "OTA Upgrade Image". The Firmware Image is the full OTA Upgrade Image as defined in GBCS. Note that this includes not only the Manufacturer Image but also additional signature and OTA Header information. Please see GBCS for details of how to construct the OTA Upgrade Image	Restriction of xs:base64Binary (max Length = 10240000)	Yes	None	N/A
FirmwareVersion	An identifier representing a firmware image that has been approved for release by the User concerned. The Firmware version as held in the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F. This value must align with the firmware version value listed on the Central Products List (excluding the colon separator between octet values) and the Firmware Hash held on the CPL must match the Manufacturer Image Hash pursuant to clause 6.1(i) of the Service Request Processing Document. For avoidance of doubt, there is no direct comparison made between this FirmwareVersion value to the File Version value contained in the OTA Header (as defined by GBCS).	sr:FirmwareVersion (Restriction of xs:string (minLength=1, maxLength = 8))	Yes	None	N/A

DeviceIDList	Comma separated list of Device IDs. Containing a minimum of 1 and a maximum of 50000 Device IDs, each as defined by sr:EUI	Restriction of xs:string (minLength = 23 maxLength = 1199999 pattern = "([A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2},)*([A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2})")	Yes Minimum 1 and Maximum 50,000 Device IDs	None	N/A

Table 254 : UpdateFirmware (sr:UpdateFirmware) data items

3.8.118.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

For this Service Request and as an exception, the Authorisation Check associated to E5 allows the Device's SMI Status to be 'Suspended'

Response Code	Response Code Description
E110101	The Firmware Version is not approved. The Firmware version ID does not align with an entry on the Central Products List.
W110101	The Update Firmware Warning contains between one and three lists of Device IDs for which the validation failed for each DeviceID: • InvalidDeviceIDList . The DeviceID does not exist or the User is not the Meter Import Supplier • NotCommissionedDeviceIDList. The Meter status is not 'Commissioned' or 'Suspended' or the Device is not a Meter • NotApplicableFirmwareDeviceIDList. The Firmware Version is not applicable to the Meter
E110102	The firmware is not marked as active in the Central Products List and Smart Meter Inventory.
E110103	The DCC Systems calculated Hash value over the Manufacturer Image part of the FirmwareImage provided by the User within the Service Request differs from that held in the CPL for the specified FirmwareVersion.
E110105	The firmware image is not constructed as per the GBCS definition, i.e. the FirmwareImage does not contain both an OTA Header and a Firmware Image

	concatenated together , or where the Target Device is a SMETS2+ Device, the Length of the base64 encoded version of the GBCS defined Firmware "OTA Upgrade Image" exceeds 1024000.

3.8.118.4 Specific Data Items in the Response

This Service Request synchronous response is defined in the XSD DSPUpdateFirmwareWarning XML element, which contains the list(s) of Device IDs that failed DCC Authorisation / Validation.

The DCC shall return the following data items which are specific to this Service Request for Successful Responses

DSPUpdateFirmwareWarning Definition:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
InvalidDeviceIDList	Comma separated list of Device IDs for which the User ID is not the Import Supplier or the DeviceIds don't exist. Containing a minimum of 1 Device ID, each as defined by sr:EUI	sr:DeviceIDList (Restriction of xs:string (minLength = 23 pattern = "([A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2},)*([A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2})"))	No The Response will contain at least one of the 3 Lists and it could contain all of them	None	N/A
NotCommissionedDeviceIDList	Comma separated list of Device IDs which aren't in a status of "Commissioned" or "Suspended" or the Device is not a Meter.. Containing a minimum of 1 Device ID, each as defined by sr:EUI	sr:DeviceIDList (Restriction of xs:string (minLength = 23 pattern = as for InvalidDeviceIDList above))	No The Response will contain at least one of the 3 Lists and it could contain all of them	None	N/A
NotApplicableFirmwareDeviceIDList	Comma separated list of Device IDs for which the Firmware is not applicable. Containing a minimum of 1 Device ID, each as defined by sr:EUI	sr:DeviceIDList (Restriction of xs:string (minLength = 23 pattern = as for InvalidDeviceIDList above))	No The Response will contain at least one of the 3 Lists and it could contain all of them	None	N/A

Table 255 : DSPUpdateFirmwareWarning (sr:DSPUpdateFirmwareWarning) data items

3.8.118.5 Additional DCC System Processing

The DCC Systems shall calculate a Hash over the Manufacturer Image part of the FirmwareImage provided by the User within the Service Request and ensure that the Hash calculated matches that held in the CPL for the specified FirmwareVersion. Where the DCC identifies any mismatch in Hash values, a Response Code of E110103 shall be returned to the User.

3.8.119 Read Firmware Version

3.8.119.1 Service Description

Service Request Name	ReadFirmwareVersion	
Service Reference	11.2	
Service Reference Variant	11.2	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Registered Supplier Agent (RSA) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter(ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) Communications Hub Function (CHF)	
Can be future dated?	DSP	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity and Communications Hub	Gas
GBCS MessageCode	0x0059	0x0084
GBCS Use Case	ECS52	GCS38

3.8.119.2 Specific Data Items for this Request

ReadFirmwareVersion Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The UTC date and time the User requires the command to be executed on the Device ID • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time

Table 256 : ReadFirmwareVersion (sr:ReadFirmwareVersion) data items

3.8.119.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.119.4 Additional DCC System Processing

Upon receipt of a Response to this Service Request containing a Firmware Version value:

1. if the Target Device Type is ESME, GSME or CHF and the Firmware Version returned by the Device matches an entry on the CPL for that Device Model, but is different from that stored in the SMI, the DCC Systems shall update the Firmware Version in the SMI to the value returned by the Device. Note that updating the Firmware Version may also update the Device's GBCS Version in the SMI.
    a. If the target Device is CHF, the associated GPF Firmware Version shall also be updated.
    b. If the Firmware Version entry on the CPL for that Device Model has a status of "Current" and the Read Firmware Version Service Request was not submitted by the Responsible Supplier, DCC Alert N49 shall be sent to the Responsible Supplier.
    c. If the Firmware Version entry on the CPL for that Device Model has a status of "Removed", the SMI Firmware Version shall be updated, but the Device Status shall not be set to 'Suspended'. In this case DCC Alert N50 shall be sent to the Responsible Supplier as a warning.
2. if the Target Device Type is ESME, GSME or CHF and the Firmware Version returned by the Device does not match an entry on the CPL for that Device Model, DCC Alert N51 will be sent to the Responsible Supplier as a warning and the SMI Firmware Version will not be updated.

3. if the Target Device Type is GPF and the GSME Firmware Version returned by the GPF is different from that stored in the SMI, DCC Alert N52 will be sent to the Responsible Supplier as a warning and the SMI Firmware Version will not be updated.

3.8.120 Activate Firmware

3.8.120.1 Service Description

Service Request Name	ActivateFirmware	
Service Reference	11.3	
Service Reference Variant	11.3	
Eligible Users	Import Supplier (IS) Gas Supplier (GS)	
Security Classification	Critical	
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)	
Can be future dated?	Device	
On Demand?	Yes	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this Request (Only one populated	For Service Request 4 – Transform For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause3.5 for more details on processing patterns • Acknowledgement • Response to Transform Request - PreCommand Format • Service Response from Device – GBCSPayload • Service Response (from Device) - FutureDatedDeviceAlertMessage • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	0x0012	0x0012
GBCS Use Case	CS06	CS06

3.8.120.2 Specific Data Items for this Request

ActivateFirmware Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The date and time at which the firmware will be activated • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	N.A
FirmwareHash	Hash calculated over the Manufacturer Image part of the FirmwareImage as defined by GBCS. The Firmware Hash as held in the CPL and presented in the format XX..XX (64 characters) where each X is one of the characters 0 to 9 or A to F. This data item must align with the value on the CPL (excluding the colon separator between octet values). Note that a hexBinary value of length 32 is defined as 32 octets; an octet is represented as 2 characters.	Restriction of xs:hexBinary (minLength = 32, maxLength = 32)	Yes	None	N/A

Table 257 : ActivateFirmware (sr:ActivateFirmware) data items

3.8.120.3 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 and clause 3.10.2 for Execution Date Time validation.

3.8.120.4 Additional DCC System Processing

The DCC Systems shall monitor all Responses received to this Service Request.

Where the DCC identifies any Response which indicates the sucesful processing of the activate firmware Command (executionOutcome = Success) on a Device and the Firmware Version returned by the Device matches an entry on the CPL for that Device Model, an update to the Smart Metering Inventory shall be made by the DCC.

The DCC Systems shall update the DeviceFirmwareVersion data item within the Smart Metering Inventory to record the new DeviceFirmwareVersion value for the specified Device ID received in the Response. Where the DeviceFirmwareVersion for the specified Device is now the current valid version, and the Device Status was 'Suspended' and the Firmware Version returned by the Device matches an entry on the CPL for that Device Model with a status of "Current" the DCC Systems shall update the Device Status to the status it held

immediately prior to its Suspension" and DCC Alert N29 will be sent to the Responsible Supplier and to the Electricity Distributor or Gas Transporter..

If the Firmware Version returned by the Device matches an entry on the CPL for that Device Model with a status of "Removed", the SMI Firmware Version will be updated, but the Device Status will not be set to 'Suspended'. In this case DCC Alert N50 will be sent to the Responsible Supplier as a warning.

Note that if the Firmware Version returned by the Device is invalid (doesn't match an entry on the CPL for that Device Model) DCC Alert N51 will be sent to the Responsible Supplier as a warning and the Smart Metering Inventory Firmware Version will not be updated.

3.8.121 Request WAN Matrix

3.8.121.1 Service Description

Service Request Name	RequestWANMatrix	
Service Reference	12.1	
Service Reference Variant	12.1	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Registered Supplier Agent (RSA) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this request (Only one populated)	8 - DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Response to a Non- Device Service Request Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.121.2 Specific Data Items for this Request

RequestWANMatrix Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
UPRN	Unique Property Reference Number	sr:UPRN (Restriction of xs:positiveInteger (totalDigits = 12))	One item and only one item must be set	None	N/A
PartialAddress	Postcode and Address Identifier that uniquely identify an address	sr:PartialAddress	One item and only one item must be set	None	N/A

Table 258 : RequestWANMatrix (sr:RequestWANMatrix) data items

PartialAddress Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
PostCode	Postcode of Metering Point This search criteria is case insensitive.	sr:Postcode (Restriction of xs:string (minLength = 6 maxLength = 8))	Yes	None	N/A
AddressIdentifier	Address Identifier (house number or house name), that combined with the Postcode, allows the identification of the premises. This search criteria is case insensitive.	sr:AddressIdentifier (Restriction of xs:string (maxLength = 30))	Yes	None	N/A

Table 259 : PartialAddress (sr:PartialAddress) data items

3.8.121.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

For this Request, the general Authorisation Checks as defined below shall not be carried out.

- a Response Code of E4 as defined in clause 3.2.4 “Verify that the User, in the User Role defined in the Service Request is a Eligible User for the Device” or
- a Response Code of E5 as defined in clause 3.2.4 “Verify that the Service Request or Signed Pre-Command is applicable to the Device status”

Response Code	Response Code Description
E120101	No premises can be identified from the Request
E120102	No SM WAN data exists for the requested location (property)

3.8.121.4 Specific Data Items in the Response

This Service Response is defined in the XSD ResponseMessage DSPWANMatrix element, which contains the SM WAN connectivity details.

Request WAN Matrix Service Request Response Data Items
DSPWANMatrix Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
Request	Input details of the Request, i.e. UPRN or Partial Address	sr:RequestWANMatrix	Yes	None	N/A
CSPRegion	The CSP Region the address is associated with Valid set: • North • Central • South	sr:CSPRegion (Restriction of xs:string (Enumeration))	Yes	None	N/A
CoverageAvailability	Coverage Availability Valid set: • true. (Yes) • false. (No)	xs:boolean	Yes	None	N/A
AnticipatedCoverageDate	If Coverage Availability is set to false, the anticipated date when Coverage will be available. If no Coverage is planned then this date will be set to '3000-12-31T00:00:00Z'	xs:date	Coverage Availability = false: Yes Otherwise: N/A	None	N/A
WANTechnology	The WAN technology to be used for this location The allowable values shall be in line with Equipment names as defined and maintained within Annex E of the CH INSTALLATION AND MAINTENANCE SUPPORT MATERIALS	sr:WANTechnologyType (Restriction of xs:string (maxLength = 30))	Yes	None	N/A

ConnectivityLikelihood	The likely Connectivity strength Valid set: • High • Medium • Low	Restriction of xs:string (Enumeration)	Yes	None	N/A
AuxiliaryEquipmentRequired	Free text with details of any required auxiliary equipment, if any	Restriction of xs:string (maxLength = 50)	No	None	N/A
AdditionalInformation	Free text providing additional information	Restriction of xs:string (maxLength = 250)	No	None	N/A

Table 260 : DSPWANMatrix (sr:DSPWANMatrix) data items

3.8.122 Device Pre-notification

3.8.122.1 Service Description

Service Request Name	DevicePrenotification	
Service Reference	12.2	
Service Reference Variant	12.2	
Eligible Users	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Registered Supplier Agent (RSA) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	DCC Access Control Broker	
Can be future dated?	No	
On Demand?	No	
Capable of being DCC Scheduled?	No	
Command Variants applicable to this request (Only one populated)	8 - DCC Only	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	N/A
GBCS Use Case	N/A	N/A

3.8.122.2 Specific Data Items for this Request

DevicePrenotification Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	A unique ID for the Device	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DeviceManufacturer	The name of the Device's manufacturer. With the exception of IHD and CAD: • The Device Manufacturer is the <device_model_manufacturer_identifier> from the CPL and presented in the format XXXX where each X is one of the characters 0 to 9 or A to F • This data item should be aligned with the value on the CPL otherwise a validation error is raised, see E120203. Note that the DUIS data item removes the colon punctuation that exists in the CPL definition between octet values. For IHD and CAD this data item is free text and is not validated by the DCC.	sr:DeviceManufacturer (Restriction of xs:string (maxLength = 30))	Yes	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceModel	The specific model of the Device, as used by the manufacturer. With the exception of IHD and CAD: • The Device Model is the concatenation of <device_model .model_identifier>< device_model .hardware_version.version>< device_model .hardware_version.revision> from the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F Where: • the first 4 characters are the model identifier • the next 2 characters are the hardware version.version • the final 2 characters are the hardware version.revision • This data item must be aligned with the value on the CPL otherwise a validation error is raised, see E120203. Note that the DUIS data item removes the colon punctuation that exists in the CPL definition between octet values. For IHD and CAD this data item is free text and is not validated by the DCC.	sr:DeviceModel (Restriction of xs:string (maxLength = 30))	Yes	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceType	The Type of Device Valid set: • ESME • GSME • CHF • HCALCS • PPMID • IHD • CAD With the exception of IHD and CAD, which are not validated by the DCC, this data item must be aligned with the value on the Central Products List otherwise a validation error is raised, see E120203. See Table below for mapping between XML enumeration valid set values and CPL values.	sr:DeviceType (Restriction of xs:string (Enumeration))	Yes	None	N/A
SMETSCHTSVersion	The version of SMETS or CHTS that the Device complies with e.g. V1.58 This should align with the SMETS_CHTS version version_number value contained on the CPL.	sr:SMETSCHTSVersion (Restriction of xs:string (minLength = 1, maxLength = 20))	Device Type = CAD: N/A Otherwise: Yes	None	N/A
FirmwareVersion	The operational version of Firmware of the Device The Firmware version as held in the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to FA This data item must be aligned with the value on the Central Products List otherwise a validation error is raised, see E120203. Note that the DUIS data item removes the colon punctuation that exists in the CPL definition between octet values.	sr:FirmwareVersion (Restriction of xs:string (minLength = 1, maxLength = 8))	All Devices except Type 2: Yes Type 2: N/A	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ESMEVariant	Electricity Smart Metering Equipment Variant. Valid set: • A. Single Element • B. Twin Element • C. Polyphase • AD. Single Element with ALCS • BD. Twin Element with ALCS • CD. Polyphase with ALCS • ADE. Single Element with ALCS and Boost Function • BDE. Twin Element with ALCS and Boost Function • CDE. Polyphase with ALCS and Boost Function See Table 229 for mapping.	sr:ESMEVariant Restriction of xs:string (Enumeration)	DeviceType = ESME: Yes Otherwise: N/A	None	N/A
AssociatedGPFDeviceID	A unique ID for the Gas Proxy Function Device associated with the Communications Hub Function	sr:EUI (See clause 3.10.1.3)	DeviceType = CommunicationsHubFunction: Yes Otherwise: N/A	None	N/A

Table 261 : DevicePrenotification (sr DevicePrenotification) data items

3.8.122.3 Specific Validation for this Request

See clause 3.2.5 for general validation applied to all Requests.

For this Request, the general Authorisation Checks as defined below shall not be carried out.

- a Response Code of E4 as defined in clause 3.2.4 “Verify that the User, in the User Role defined in the Service Request is a Eligible User for the Device” or
- a Response Code of E5 as defined in clause 3.2.4 “Verify that the Service Request or Signed Pre-Command is applicable to the Device status”

Response Code	Response Code Description

E120201	The Device ID already existed in Smart Metering Inventory and its Status was not 'Decommissioned' or 'Withdrawn'
E120203	The Device Type / Manufacturer / Model / Firmware Version data specified by the User do not match the values contained on the Central Products List (CPL) that have been approved for use.
E120204	Not all the applicable optional data items are included in the Request or not applicable data items are included in the Request
E120207	This Device Type (GPF) can't be Pre-notified

3.8.122.4 Additional Obligations

A User must ensure that all Devices that are required to be displayed via the Smart Metering Inventory and/or required to be connected into the Home Area Network (HAN) must have an associated Device Pre-notification Service Request sent to the DCC.

The DCC shall ensure that the Communication Hub Function and Gas Proxy Function Devices are pre-notified and associated details are updated into the Smart Metering Inventory on behalf of Users.

3.8.122.5 Additional DCC System Processing

Upon successful execution of a DevicePrenotification Service Request, the DCC shall update the Smart Metering Inventory and set the SMI Status of the DeviceId to 'Pending' where the Device Type is one that has an SMI Status recorded within the Smart Metering Inventory.

3.8.123 Record Network Data (Gas)

3.8.123.1 Service Description

Service Request Name	RecordNetworkData(Gas)	
Service Reference	14.1	
Service Reference Variant	14.1	
Eligible Users	Gas Transporter (GT)	
Security Classification	Non Critical	
BusinessTargetID - **Device Type applicable to this request**	Gas Smart Meter (GSME)	
Can be future dated?	No	
On Demand?	Yes	
Capable of being DCC Scheduled?	Yes	
Command Variants applicable to this request (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)	
Common Header Data Items	See clause 3.4.1.1	
Data Items Specific to this Service Request	See Specific Data Items Below	
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Service Response (from Device) - DSPScheduledMessage Format • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request	
Response Codes possible from this Service Request	See clause 3.5.10 for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS MessageCode	N/A	0x0080
GBCS Use Case	N/A	GCS31

3.8.123.2 Specific Data Items for this Request

For execution of this Service Request as an On Demand Service, The RecordNetworkDataGAS XML element defines this Service Request and does not contain any other specific data items.

For execution of this Service Request as DCC Scheduled Service, The DSPRecordNetworkDataGAS XML element defines this Service Request. The User shall include this XML element within the Service Request 5.1 (Create Schedule) and does not contain any other further specific data items.

3.8.123.3 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.

3.9 DCC Alert Messages

3.9.1 Specific Data Items in the DCC Alert Message

Each Alert Code being reported as a DCC Alert shall conform to the DCC Alert format as defined in 3.6.3 DCC Alerts - DCCAlertMessage Format. The DCC shall ensure that the Body of each DCC Alert (DCCAlert XML element) conforms to one of these fourteen DCC Alert formats as defined in the table below:

DCCAlert Definition

DCC Alert Format / Data Item	Description / Allowable values	Type	Mandatory for Alert Codes	Default	Units
PowerOutageEvent	The trigger event indicates that a device power has failed	sr:PowerOutageEvent See 3.9.2	AD1	None	N/A
DeviceStatusChangeEvent	The trigger event indicates that a Device's SMI Status has changed	sr:DeviceStatusChangeEvent See 3.9.3	N1, N2, N8, N9 , N16, N28 and N29, N44, N45	None	N/A
DSPScheduleRemoval	The trigger event indicates that a DCC Schedule is to be deleted	sr:DSPScheduleRemoval See 3.9.4	N4, N5, N6, N17, N37 and N40	None	N/A
CommandFailure	The trigger event indicates that a Command has failed	sr:CommandFailure See 3.9.5	N3, N7, N10, N11, N12, N13, N14, N15, N33, N34, N35, N36, N38, N41 and N53	None	N/A
FirmwareDistributionFailure	The trigger event indicates that a Firmware Distribution Command to the CSP has failed, at least for some of the Devices	sr:FirmwareDistributionFailure See 3.9.6	N18, N19, N20, N21, N22 and N23	None	N/A
UpdateHANDeviceLogResult	The trigger event indicates if a Command to Update a Communications Hub Whitelist Update. (addition ONLY) has succeeded or no Alert has been received by the DCC. .	sr:UpdateHANDeviceLogResult See 3.9.7	N24 and N25	None	N/A

DCC Alert Format / Data Item	Description / Allowable values	Type	Mandatory for Alert Codes	Default	Units
ChangeOfSupplier	The trigger event indicates if an Update Security Credentials (CoS) has succeeded or has failed the CoS Party access control	sr:ChangeOfSupplier See 3.9.8	N26 and N27	None	N/A
DeviceLogRestored	The trigger event indicates that the CHF or GPF Device Log has been restored	sr:DeviceLogRestored (See clause 3.9.9)	N30, N31	None	N/A

DCC Alert Format / Data Item	Description / Allowable values	Type	Mandatory for Alert Codes	Default	Units
PPMIDAlert	The trigger event indicates an Alert has been generated by the PPMID Device	sr:PPMIDAlert (See clause 3.9.10)	N39	None	N/A
SecurityCredentialsUpdated	The trigger event indicates receipt of a success Response from Update Security Credentials where the Remote Party whose certificate has been placed on the Device is not the sender of the Service Request	sr:SecurityCredentials Updated (see clause 3.9.11)	N42	None	N/A
PPMID Removal	The trigger event indicates success Response from Update HAN Device Log (Removal) where the where the removed Device is a PPMID that was joined to both Electricity and Gas Smart Metering Equipment	sr:PPMIDRemoval (See clause 3.9.12)	N43	None	N/A
QuarantinedRequest	The trigger event indicates that the Service Request has been quarantined, because an Anomaly Detection volume threshold or attribute limit has been breached	sr:QuarantinedRequest (See clause 3.9.17)	N46, N47, N48	None	N/A

FirmwareVersionMismatch	N49. The trigger event indicates there is a mismatch between the Device's Firmware Version in SMI and that returned by the Read Firmware Version Service Request and that the version returned by the Device matches an entry on the CPL with a status of "Current" N50. The trigger event indicates there is a mismatch between the Device's Firmware Version in SMI and that returned by the Read Firmware Version Service Request, the Activate Firmware Service Request or the Future Dated Firmware Activation Alert and that the version returned by the Device matches an entry on the CPL with a status of "Removed" N51. The trigger event indicates there is a mismatch between the Device's Firmware Version in SMI and that returned by the Read Firmware Version Service Request, the Activate Firmware Service Request or the Future Dated Firmware Activation Alert and the version returned by the Device doesn't match an entry on the CPL N52. The trigger event indicates there is a mismatch between the GSME's Firmware Version in SMI and that returned by the Read Firmware	sr:FirmwareVersionMismatch (See clause 3.9.13)	N49, N50, N51, N52.	None	N/A

DCC Alert Format / Data Item	Description / Allowable values	Type	Mandatory for Alert Codes	Default	Units
	Version Service Request where the target Device is GPF				
DualBandCHAlert	The trigger event indicates an Alert has been generated by the Dual Band CHF Device	sr:DualBandCHAlert (See clause 3.9.14)	N54	None	N/A
S1SPAlertDSP	Used for conveying an S1SP Alert N55: The trigger event indicates that a SMETS1 Service Provider reports a Service Request validation error or other notification. N56: The trigger event is the provision of a prepayment top-up UTRN in response to a Service Request where SRV is 2.2	sr:S1SPAlertDSP (See clause 3.9.15)	N55, N56	None	N/A
SMETS1CHFirmwareNotification	See Clauses 1.4.7.13 and 1.4.7.14.	sr: SMETS1CHFirmware Notification (See clause 3.9.18)	N57	None	N/A
ALCSHCALCSConfiguration Change	The trigger event indicates the ESME's ALCS/HCALCS configuration has changed	sr:ALCSHCALCSConfigurationChange (See clause 3.9.19)	N58	None	N/A
DUISVersionMismatch	The trigger event indicates that the DCC Alert or Service Response to be sent to the User is not compatible with their DUIS XSD version	sr:DUISVersionMismatch (See clause 3.9.16)	N999	None	N/A

Table 262 : DCCAlert (sr:DCCAlert) data items

3.9.2 Power Outage Event

3.9.2.1 Specific Data Items for this DCC Alert

PowerOutageEvent Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
CommsHubDeviceID	The Device ID of the Communications Hub that reported the Power Outage	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
StartDateTime	The timestamp when the Power Outage started. This value is provided by the CSP.	sr:dateTime	Yes	None	UTC Date-Time
MPxN	DCC Alerts sent to all User Roles identified with MPxN associated to the HAN: • IS and ED. The primary MPAN of the Electricity Smart Meter associated with the Communications Hub Function. • GS and GT. The MPRN of the Gas Smart Meter associated with the Communications Hub Function.	sr:ImportMPxN (Restriction of xs:string (minLength = 1, maxLength = 13))	Yes	None	N.A

Table 263 : PowerOutageEvent (sr:PowerOutageEvent) data items

3.9.3 Device Status Change Event

3.9.3.1 Specific Data Items for this DCC Alert

DeviceStatusChangeEvent Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	The Device ID which status is changing.	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DeviceStatusChange	The type of Device Status Change.	sr:DeviceStatusChange	Yes	None	N/A

Table 264 : DeviceStatusChangeEvent (sr:DeviceStatusChangeEvent) data items

DeviceStatusChange Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
MeterIdentity	Meter Identity details	sr:MeterIdentity	DCC Alert N16: Yes Otherwise: N/A	None	N/A
MeterDecommissioningOrWithdrawal	Device Decommissioning / Withdrawal details	sr:MeterDecommissioningOrWithdrawal	DCC Alert N1 or N2: Yes Otherwise: N/A	None	N/A
DeviceRemovedFromInventory	Device in a status of 'pending' for > 36 months has been removed from Inventory	sr:DeviceRemovedFromInventory (empty – included in the XML to describe DCC Alert type)	DCC Alert N8: Yes Otherwise: N/A	None	N/A
CHFDecommissioning	Communications Hub Function Decommissioned	sr:CHFDecommissioning (empty – included in the XML to describe DCC Alert type)	DCC Alert N9: Yes Otherwise: N/A	None	N/A
DeviceSuspended	Device Suspended	sr:DeviceSuspendedOrRestored (empty – included in the XML to describe DCC Alert Type)	DCC Alert N28: Yes Otherwise: N/A	None	N/A
DeviceRestored	Device Restored from Suspension	sr:DeviceSuspendedOrRestored (empty – included in the XML to describe DCC Alert Type)	DCC Alert N29: Yes Otherwise: N/A	None	N/A
RecoveryCompleteACBCredentials	SMKI recovery procedure is complete - at least one of the KRP Certificates on the Device has been replaced with an ACB Certificate	sr:RecoveryCompleteACBCredentials	N44: Yes Otherwise: N/A	None	N/A
RecoveryComplete	SMKI recovery procedure is complete - all required Certificates on the Device have been recovered. i.e all relevant ACB Certificatess have been replaced with Supplier/Network Operator certificates	sr:RecoveryComplete (empty – included in the XML to describe DCC Alert Type)	N45: Yes Otherwise: N/A	None	N/A

Table 265 : DeviceStatusChange (sr:DeviceStatusChange) data items

MeterIdentity Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
MeterMPxNs	MPxNs associated to the Meter	sr:MeterMPxNs	Yes	None	N/A
ESMEVariant	Electricity Smart Metering Equipment Variant. Valid set: • A. Single Element • B. Twin Element • C. Polyphase • AD. Single Element with ALCS • BD. Twin Element with ALCS • CD. Polyphase with ALCS • ADE. Single Element with ALCS and Boost Function • BDE. Twin Element with ALCS and Boost Function • CDE. Polyphase with ALCS and Boost Function See Table 229 for mapping.	sr:ESMEVariant Restriction of xs:string (Enumeration)	Device Type = ESME: Yes Otherwise: N/A	None	N/A

Table 266 : MeterIdentity (sr:MeterIdentity) data items

MeterMPxNs Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ImportMPxN	The reference number identifying an Import electricity or a gas metering point	sr:ImportMPxN (Restriction of xs:string (minLength = 1 maxLength = 13))	Yes	None	N/A
SecondaryImportMPAN	The reference number identifying a Twin Element Import electricity secondary metering point	sr:MPAN (Restriction of xs:string (minLength = 13 maxLength = 13))	Twin Element Electricity Smart Meter: Yes Otherwise: N/A	None	N/A
ExportMPAN	The reference number identifying an Export electricity metering point	sr:MPAN (Restriction of xs:string (minLength = 13 maxLength = 13))	Export Electricity Smart Meter: Yes Otherwise: N/A	None	N/A

Table 267 : MeterMPxNs (sr:MeterMPxNs) data items

MeterDecommissioningOrWithdrawal Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
MeterCommissioningOrWithdrawal	MPxNs associated to the Meter	sr:MeterMPxNs	Yes	None	N/A
AssociatedType1Device	Type 1 devices associated to the Device being Decommissioned / Withdrawn	sr:AssociatedType1Device (minOccurs = "0", maxOccurs = "7")	No (all associated Type 1 Devices are to be included)	None	N/A

Table 268 : MeterDecommissioningOrWithdrawal (sr:MeterDecommissioningOrWithdrawal) data items

AssociatedType1Device Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	Device ID of the Type 1 associated Device	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DeviceType	Device Type of the Type 1 associated Device. Valid set: • HCALCS • PPMID	sr:DeviceType (Restriction of xs:string (Enumeration))	Yes	None	N/A

Table 269 : AssociatedType1Device (sr:AssociatedType1Device) data items

RecoveryCompleteACBCredentials Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
SupplierCertificateType	The type of the Supplier certificate; • DigitalSigning • KeyAgreement • KeyAgreementTopUp	Restriction of xs:string (Enumeration) (minOccurs = 1 maxOccurs = 3)	Yes	None	N/A
NetworkOperatorCertificateType	The type of the Network Operator certificate; • DigitalSigning • KeyAgreement	Restriction of xs:string (Enumeration) (minOccurs = 0 maxOccurs = 2)	No	None	N/A

Table 270 : RecoveryCompleteACBCredentials (sr:RecoveryCompleteACBCredentials) data items

3.9.4 DSP Schedule Removal

3.9.4.1 Specific Data Items for this DCC Alert

DSPScheduleRemoval Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DSPScheduleID	ID of the DCC Schedule being removed	sr:scheduleID (See clause 3.10.1.22)	Yes	None	N/A
DeviceID	The Device ID for which the DCC Schedule is being removed	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 271 : DSPScheduleRemoval (sr:DSPScheduleRemoval) data items

3.9.5 Command Failure

3.9.5.1 Specific Data Items for this DCC Alert

CommandFailure Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
CommandRequestID	Request ID of the Command that failed	sr:RequestIDType See 3.10.1.1	Yes	None	N/A
DSPScheduleID	For DCC Scheduled Commands, ID of the DCC Schedule associated to the Command	sr:scheduleID (See clause 3.10.1.22)	No (only applicable to DCC Scheduled Commands)	None	N/A
DeviceID	The Device ID for which the Command failed	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 272 : CommandFailure (sr:CommandFailure) data items

3.9.6 Firmware Distribution Failure

3.9.6.1 Specific Data Items for this DCC Alert

FirmwareDistributionFailure Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
UpdateFirmware RequestID	Request ID of the Update Firmware Service Request associated to the Command that failed	sr:RequestIDType See 3.10.1.1	Yes	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
MeterIDs	Comma separated list of Meter Device IDs (each with the sr:EUI format) that: • The CSP wasn't able to identify – DCC Alert N19 • Were included in the Command that failed CSP validation – DCC Alert N18, N20, N21 • Were included in the Command that failed delivery to CSP – DCC Alert N22 • Were included in the Command for which no Validation Response was received from the CSP – DCC Alert N23	sr:DeviceIDList (Restriction of xs:string (minLength = 23 pattern = "([A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2},)*([A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2}-[A-Fa-f0-9]{2})"))	Yes (minimum of 1 and maximum of 50,000 Device IDs)	None	N/A

Table 273 : FirmwareDistributionFailure (sr:FirmwareDistributionFailure) data items

3.9.7 Update HAN Device Log Result

3.9.7.1 Specific Data Items for this DCC Alert

UpdateHANDeviceLogResult Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
UpdateHANService RequestID	Request ID of the Update HAN Device Log Service Request. The DCC Alert Code indicates success (N24) or failure (N25)	sr:RequestIDType See 3.10.1.1	Yes	None	N/A

Table 274 : UpdateHANDeviceLogResult (sr:UpdateHANDeviceLogResult) data items

3.9.8 Change of Supplier

3.9.8.1 Specific Data Items for this DCC Alert

ChangeOfSupplier Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ChangeOfSupplierServiceRequestID	Sent to the Update Security Credentials (CoS) sender. Request ID of the Update Security Credentials (CoS) Service Request. The DCC Alert Code (N26) indicates that the request has failed CoS Party access control or, for Future Dated Requests, DSP access control at the point the Request is to be sent to the CoS Party.	sr:RequestIDType See 3.10.1.1	DCC Alert N26: Yes Otherwise: N/A	None	N/A
DeviceChangeOfSupplier	Sent to the old Import Supplier for the Device, together with DCC Alert Code N27 to inform them of the Change of Supplier	sr:DeviceChangeOfSupplier	DCC Alert N27: Yes Otherwise: N/A	None	N/A

Table 275 : ChangeOfSupplier (sr:ChangeOfSupplier) data items

DeviceChangeOfSupplier Data Items:

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	The Device ID which has changed Supplier	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DeviceType	Device Type that has changed Supplier Valid set: • ESME • GSME • GPF • HCALCS	sr:DeviceType (Restriction of xs:string (Enumeration))	Yes	None	N/A
MPxNs	MPxN(s) associated to the Device, i.e. • MPAN(s) for ESME and HCALCS • MPRN for GSME or GPF	sr:MeterMPxNs	Yes	None	N/A

Table 276 : DeviceChangeOfSupplier (sr:DeviceChangeOfSupplier) data items

3.9.9 Device Log Restored

3.9.9.1 Specific Data Items for this DCC Alert

DeviceLogRestored Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
RestoredDate	Date when the Device Log was restored	xs:date	Yes	None	N/A
CHFDeviceLog	CHF Device Log restored	sr:CHFGPFDeviceIDs	N30: Yes Otherwise: N/A	None	N/A
GPFDeviceLog	GPF Device Log restored	sr:CHFGPFDeviceIDs	N31: Yes Otherwise: N/A	None	N/A

Table 277 : DeviceLogRestored (sr:DeviceLogRestored) data items

CHFGPFDeviceIDs Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
OldCHFDeviceID	The Device ID of the old CHF from which the Device Log is restored to the new CHF via Service Reference 8.12.1	sr:EUI	Yes	None	N/A
NewCHFDeviceID	The Device ID of the new CHF to which the Device Log is restored via Service Reference 8.12.1	sr:EUI	Yes	None	N/A
OldGPFDeviceID	The Device ID of the GPF associated to the old CHF. It is the source from which the Device Log is restored to the new GPF via Service Request 8.12.2	sr:EUI	Yes	None	N/A
NewGPFDeviceID	The Device ID of the GPF associated to the new CHF. It is the target to which the Device Log is restored to via Service Request 8.12.2	sr:EUI	Yes	None	N/A

Table 278 : CHFGPFDeviceIDs (ra:CHFGPFDeviceIDs) data items

3.9.10 PPMID Alert

3.9.10.1 Specific Data Items for this DCC Alert

PPMIDAlert Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	The Device ID of the PPMID that generated the Alert	sr:EUI	Yes	None	N/A
DeviceAlertCode	The Alert Code of the Alert generated by the PPMID Valid set: • 8F1E • 8F30 • 8F3D • 8F3E • 8F3F • 8F78	xs:hexBinary	Yes	None	N/A

Table 279 : RequestIDType data items

3.9.11 Security Credentials Updated

3.9.11.1 Specific Data Items for this DCC Alert

SecurityCredentialsUpdated Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	The ID of the Device on which the Security Credentials were updated	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
RemotePartyRole	The role which has had its certificate(s) changed on the Device, the only valid value in this context from the enumeration is; • NetworkOperator	sr:RemotePartyRole Restriction base xs:token (Enumeration)	No	None	N/A
RemotePartySeq NumberChange	Sequence numbers associated with the certificate	sr:RemotePartySeqNumberChange (see Table 281)	Yes	None	N/A
Certificates	All the Certificates (type and hash) that have been placed on the Device by the Service Request	sr:Certificates (see Table 282)			

Table 280 : SecurityCredentialsUpdated (sr:SecurityCredentialsUpdated) data items

RemotePartySeqNumberChange Data Items Definition

Data Item	Description	Type	Mandatory	Default	Units
RemotePartyFloorSequenceNumber	Sequence number for the role	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 9223372036854775807	Yes	None	N/A
RemotePartyPrepaymentTopUpFloorSeqNumber	Prepayment Floor sequence number	sr:floorSequenceNumber (Restriction of xs:nonNegativeInteger minInclusive = 0, maxInclusive = 9223372036854775807	No	None	N/A

Table 281 : RemotePartySeqNumberChange (sr:RemotePartySeqNumberChange) data items

Certificates Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
CertificateType	The type of the certificate that was replaced. Valid set: • DigitalSigning • KeyAgreement • KeyAgreementTopUp	xs:string (Enumeration)	Yes	None	N/A
CertificateHash	The hash value of the certificate	sr:SHA1 xs:base64Binary	Yes	None	N/A

Table 282 : Certificates (sr:Certificates) data items

3.9.12 PPMID Removal

3.9.12.1 Specific Data Items for this DCC Alert

PPMID Removal Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
PPMIDDeviceID	The DeviceID of the PPMID removed from the HAN Device Log	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
CHFDeviceID	The DeviceID of the CHF from which HAN Device Log the PPMID has been removed	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 283 : PPMIDRemoval (sr:PPMIDRemoval) data items

3.9.13 FirmwareVersionMismatch

3.9.13.1 Specific Data Items for this DCC Alert

FirmwareVersionMismatch Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	The Device ID with a Firmware Version mismatch between the SMI and the Device	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DeviceType	Device Type of the Device with a Firmware Version mismatch between the SMI and the Device *Valid set:* • *ESME* • *GSME* • *CHF*	sr:DeviceType (Restriction of xs:string (Enumeration))	Yes	None	N/A
FirmwareVersion SMI	N49, N50. The Device's Firmware Version in SMI prior to its replacement with the value returned by the Device N51, N52. The Device's Firmware Version in SMI The Firmware version as held in the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F. This data item matches the value on the CPL (excluding the colon separator between octet values)	Restriction of xs:string (minLength = 1, maxLength = 8)	Yes	None	N/A
FirmwareVersion Device	N49, N50. The Device's Firmware Version held on the Device and now updated in the SMI post response returned by the Device The Firmware version as held in the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F. This data item matches the value on the CPL (excluding the colon separator between octet values) N51. Firmware Version returned by the Device, which is unknown (it doesn't match an item on the CPL)	Restriction of xs:string (minLength = 1, maxLength = 8)	Yes	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
	N52. GSME Firmware Version returned by the GPF				

Table 284 : FirmwareVersionMismatch (sr: FirmwareVersionMismatch) data items

3.9.14 DualBandCHAlert

3.9.14.1 Specific Data Items for this DCC Alert

DualBandCHAlert Items Definition (This contains a choice of data item elements based on the AlertCode being reported to the User as defined by the mandatory column below, so not all data items listed below are mandatory for each AlertCode)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
CHFDeviceID	Device ID of the Dual Band CHF that generated the Alert	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
DeviceAlertCode	The Alert Code of the Alert generated by the Dual Band CHF. Note – preceding 0x removed as per GBCS definition. Valid set: • No additional data included within Alert: o 8F21 o 8F22 o 8F23 o 8F24 o 8F25 o 8F27 o 8F29 o 8F2B • Additional data included within Alert: o 8F20 o 8F26 o 8F28 o 8F2A o 8F2C o 8F2D	xs:hexBinary	Yes	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
GBCSHexadecimalMessageCode	The Message Code corresponding to the GBCS Use Case of those Dual Band CH Alerts that include additional data. Valid Set: • 0110. GBCS Use Case DBCH06 Limited Duty Cycle Action Taken Sub GHz Alert - Alert 8F20 • 0111. GBC Use Case DBCH07 Sub GHz Sub GHz Channel Changed Sub GHz Alert. Alert 8F26 • 0112. GBC Use Case DBCH08 Sub GHz Channel Scan Request Assessment Outcome Sub GHz Alert. Alert 8F28 • 0113. DBCH09 Sub GHz Configuration Changed Sub GHz Alert. Alert 8F2A • 0114. DBCH10 Message Discarded Due to Duty Cycle Management Sub GHz Alert. Alert 8F2C • 0115. DBCH11 No More Sub GHz Device Capacity Sub GHz Alert. Alert 8F2D	xs:hexBinary	AlertCode is 8F20, 8F26, 8F28, 8F2A, 8F2C or 8F2D: Yes Otherwise: N/A	None	N/A
LimitedDutyCycleActionTaken	This data item is a decode of the Alert details sent to the ACB (DCC Access Control Broker) for GBCS Use Case - **DBCH06.** This event shall occur when the CH measurement of Duty Cycle rises above the Normal-Limited Duty Cycle Threshold When this occurs the CHF shall identify the Device for which the largest number of unicast messages have been received on any Sub GHz Channel over the last Duty Cycle Measurement Period and set Device ID within the Alert accordingly.	sr:LimitedDutyCycleActionTaken	Alert = 8F20: Yes Otherwise: N/A	None	N/A
SubGHzChannelChanged	This data item is a decode of the Alert details sent to the ACB (DCC Access Control Broker) for GBCS Use Case - **DBCH07.**	sr: SubGHzChannelChanged	Alert = 8F26: Yes Otherwise: N/A	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
	The Sub GHz operational channel has changed as a result of a Channel Scan				
SubGHzChannelScanRequestAssessmentOutcome	This data item is a decode of the Alert details sent to the ACB (DCC Access Control Broker) for GBCS Use Case - **DBCH08.** This event shall occur when a Channel Scan is triggered on a Communications Hub (CH). Once the CHF assesses the Channel Scan request generates a Alert to notify the result of the assessment to the ACB (DCC Access Control Broker). If any of the checks fails, no further checks are undertaken by the CHF at that point. Note that some of the failures, e.g. HHT connected, will automatically trigger another Channel Scan assessment when that condition is no longer true, e.g. HHT no longer connected to the SMHAN. If all of the checks are passed or scanTrigger is SMHANFormation), the CHF shall set statusCode to ScanRequestAccepted and the CHF will carry out the Channel Scan	sr:SubGHzChannelScanRequestAssessmentOutcome	Alert = 8F28: Yes Otherwise: N/A	None	N/A
SubGHzConfigurationChanged	This data item is a decode of the Alert details sent to the ACB (DCC Access Control Broker) for GBCS Use Case - **DBCH09.** The Sub GHz Configuration has changed as a result of a successful GBCS command Use Case DBCH04 (Service Request 6.28 Set CHF Sub GHz Configuration). See clause 3.8.81.2	sr: SubGHzConfiguration (see clause 3.8.81.2)	Alert = 8F2A: Yes Otherwise: N/A	None	N/A
MessageDiscardedDueToDutyCycleManagement	This data item is a decode of the Alert details sent to the ACB (DCC Access Control Broker) for GBCS Use Case – **DBCH10.** This is a notification to the ACB that the CHF has discarded a Remote Party Command to a	sr: MessageDiscarded	Alert = 8F2C: Yes Otherwise: N/A	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
	Sub GHz Non GSME Device due to communications being suspended with that Device. Whenever a CHF is limiting communications to a Sub GHz Non GSME Device, the CHF shall on receipt of any Remote Party Command for that Device notify the ACB (DCC Access Control Broker) that the message has been discarded by the CHF				
NoMoreSubGHz DeviceCapacity	This data item is a decode of the Alert details sent to the ACB (DCC Access Control Broker) for GBCS Use Case – **DBCH11.** This is a notification to the ACB that the CHF has not allowed a Device to join the SMHAN on a Sub GHz Frequency as the CHF has no more capacity at Sub GHz. The event occurs when: • A Device other than a GSME or HCALCS is added to the CHF Device Log • There are already 4 Devices (excluding GSME and HCALCS) that joined the SMHAN on a Sub GHz frequency; and • the Device added then attempts to join the SMHAN on a Sub GHz Frequency the CH shall not allow the Device to join the SMHAN on a Sub GHz Frequency	sr: sr:DeviceNotJoinedSubGHzSMHAN	Alert = 8F2D: Yes Otherwise: N/A	None	N/A

Table 285 : DualBandCHAlert (sr: DualBandCHAlert) data items

LimitedDutyCycleActionTaken (GBCS Use Case DBCH06) Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceIDToSuspend	The Device ID of the Device to be Suspended. This is a decode of the content of the Use Case Specific Additional Content from Alert 0x8F20, message Code 0x0110. 1) if 'Device ID' is not that of a GSME, the CH shall send to that Device a Suspend ZCL Messages command with the Suspension Period parameter set to Suspension Period; and 2) if 'Device ID' is that of a GSME, in the Suspend ZCL Messages command response to the next Get Suspend ZCL Messages Status command received by the CH from that GSME, the CH shall set the Suspension Period parameter to Suspension Period. For clarity, HAN communications with the specified Device will not be possible for Suspension Period	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Table 286 : LimitedDutyCycleActionTaken (sr: LimitedDutyCycleActionTaken) data items

SubGHzChannelChanged (GBCS Use Case DBCH07) Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
OperatingSubGHzChannel	The Sub GHz Channel currently operating on the SMHAN, being one of 0 to 61 in the Lower Band Sub GHz (863 to 876 MHz) frequency range or one of 0 to 26 in the Upper Band Sub GHz (915 to 921 MHz) frequency range. This is a decode of the content of the Use Case Specific Additional Content (value of Operating Sub GHz Channel) from Alert Code 0x8F26, message Code 0x0111.	sr: OperatingSubGHzChannel	Yes	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ScanTrigger	Trigger of the Scan that resulted in the change to the operating channel Valid Set: ▪ RemotePartyCommand ▪ GSMERequest ▪ GSMEMissedItsCurfew ▪ GSMEMissingForTheLastDay ▪ CHDetectedMessageFailureProblems ▪ CHDetectedMessageRetryProblems ▪ SubGHzNon-GSMEDeviceRequest ▪ SMHANFormation This is a decode of the content of the Use Case Specific Additional Content (ScanTrigger) from Alert Code 0x8F26, message Code 0x0111	sr:ScanTrigger (Restriction of xs:string Enumeration)	Yes	None	N/A

Table 287 : SubGHzChannelChanged (sr: SubGHzChannelChanged) data items

OperatingSubGHzChannel Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
OperatingLowerBandSubGHzChannel	One of channels 0 to 61 in the Lower Band Sub GHz (863 to 876 MHz) frequency range. This is a decode of the content of the Use Case Specific Additional Content (value of Operating Sub GHz Channel) from Alert Code 0x8F26, message Code 0x0111	sr: ChannelIn863To876MHzRange (Choice of Channel0 sr:NoType to Channel61 sr:NoType)	Operating Channel in 863 to 876 MHz Range: Yes Otherwise: N/A	None	N/A
OperatingUpperBandSubGHzChannel	One of channels 0 to 26 in the Upper Band Sub GHz (915 to 921 MHz) frequency range. This is a decode of the content of the Use Case Specific Additional Content (value of Operating Sub GHz Channel) from Alert Code 0x8F26, message Code 0x0111	sr: ChannelIn915To921MHzRange (Choice of Channel0 sr:NoType to Channel26 sr:NoType)	Operating Channel in 915 to 921 MHz Range: Yes Otherwise: N/A	None	N/A

Table 288 : OperatingSubGHzChannel (sr: OperatingSubGHzChannel) data items

SubGHzChannelScanRequestAssessmentOutcome (GBCS Use Case DBCH08) Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
StatusCode	The Status Code resulting from the Channel Scan assessment Valid Set: • ScanRequestAccepted • HHTConnected • DutyCycleUsageIsTooHigh • JoiningIsCurrentlyPermitted • GSMEOTADistributionUnderway • TooManyScansToday • TooManyCommandsToday • TooManyScansThisWeek This is a decode of the content of the Use Case Specific Additional Content (scanRequestAssessmentOutcomeAndTrigger) from Alert Code 0x8F28, message Code 0x0112	Restriction of xs:string (Enumeration)	Yes	None	N/A
ScanTrigger	Trigger of the Scan that resulted in the change to the operating channel Valid Set: ▪ RemotePartyCommand ▪ GSMERequest ▪ GSMEMissedItsCurfew ▪ GSMEMissingForTheLastDay ▪ CHDetectedMessageFailureProblems ▪ CHDetectedMessageRetryProblems ▪ SubGHzNon-GSMEDeviceRequest ▪ SMHANFormation This is a decode of the content of the Use Case Specific Additional Content (scanRequestAssessmentOutcomeAndTrigger) from Alert Code 0x8F28, message Code 0x0112	sr:ScanTrigger (Restriction of xs:string Enumeration)	Yes	None	N/A

Table 289 : SubGHzChannelScanRequestAssessmentOutcome (sr: SubGHzChannelScanRequestAssessmentOutcome) data items

MessageDiscardedDueToDutyCycleManagement (GBCS Use Case DBCH10) Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
RequestID	The Request ID of the Command being discarded. This is a decode of the content of the Use Case Specific Additional Content (Additional Data') from Alert Code 0x8F2C, message Code 0x0114.	sr:RequestIDType (see clause 3.10.1.1)	Yes	None	N/A
CRAFlag	GBCS flag that indicates the message type being one of: Command, Response or Alert. This is a decode of the content of the Use Case Specific Additional Content (Additional Data') from Alert Code 0x8F2C, message Code 0x0114. Valid Set: • Command • Response • Alert	sr:CRAFlag Restriction of xs:string (enumeration)	Yes	None	N/A

Table 290 : MessageDiscardedDueToDutyCycleManagement (sr: MessageDiscarded) data items

NoMoreSubGHzDeviceCapacity (GBCS Use Case DBCH11) Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	The Device ID of the Device not allowed to join the SMHAN on a Sub GHz frequency. This is a decode of the content of the Use Case Specific Additional Content (otherInfo) from Alert Code 0x8F2D, message Code 0x0115	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceType	The Device Type of the Device not allowed to join the SMHAN on a Sub GHz frequency. This is additional information added by the DCC Systems, where the Device ID matches that of a Device on the SMI. Valid Set: • *GSME* • *HCALCS* • *PPMID* • *IHD* • *CAD* (Only one of these Device Types is expected to correspond to the Device ID in the Alert, since only these Device Types can operate at Sub GHz Frequencies. However the DCC Systems will return the Device Type corresponding to the Device ID in SMI, which could also be CHF, GPF or ESME)	sr:DeviceType (Restriction of xs:string (Enumeration))	No	None	N/A

Table 291 : NoMoreSubGHzDeviceCapacity (sr: sr:DeviceNotJoinedSubGHzSMHAN) data items

3.9.15 S1SPAlertDSP

3.9.15.1 Specific Data Items for this DCC Alert

S1SPAlertDSP Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
S1SPAlert	The SMETS1 Service Provider information to be included in a DCC Alert such as a Service Request validation error or communications failure with the Device, or provision of a UTRN value	sr:S1SPAlert (See clause 3.9.15.2)	Yes	None	N/A
DSPScheduleID	For DSP Scheduled Service Requests, ID of the DSP Schedule associated with the Request	sr:scheduleID (See clause 3.10.1.22)	No	None	N/A

Table 292 : S1SPAlertDSP (sr:S1SPAlertDSP) data items

3.9.15.2 Specific Data Items for element S1SPAlert

S1SPAlert Data Items Definition

Data Item	Description / Allowable values	Type	**Mandatory**	**Default**	**Units**
RequestID	The Request ID of the Request to which the S1SP Alert corresponds	sr:RequestIDType (See clause 3.10.1.1)	No	None	N/A
DeviceID	The Device ID which is the subject of the S1SP Alert	sr:EUI (See clause 3.10.1.3)	No	None	N/A
S1SPAlertCode	Code provided by the SMETS1 Service Provider indicating the meaning of the S1SP Alert	xs:string (See clause 3.9.15.3)	Yes	None	N/A
AdditionalInformation	Additional Information provided by the SMETS1 Service Provider	xs:string	No	None	N/A
UTRN	The SMETS1 UTRN.	Restriction of xs:string (minLength = 20, maxLength = 20, pattern = "[0-9]{20}"))	No	None	N/A
DateTime	Date Time when the SMETS1 Service Provider generated the S1SP Alert	xs:dateTime	Yes	None	N/A
ds: Signature	The signature shall be calculated by the S1SP using one of its private keys in line with clause 3.3 where the document is the S1SPAlert. A full definition is shown in XMLDSIG.	ds:Signature (See XMLDSIG XSD)	Yes	None	N/A

Table 293 : S1SPAlert (sr:S1SPAlert) data items

3.9.15.3 S1SP Alert Codes in DCC Alerts

This section specifies the meaning associated with the SMETS1 Service Provider codes which can be sent to DCC Service Users in DCC Alerts which are Countersigned S1SPAlerts.

S1SP Alerts may contain an S1SP Alert Code as defined here or a Response Code as defined in 3.5.10.

An S1SP Alert Code consists of a four letter prefix followed by a number. S1SP Alert Code types are:

- SMETS1 UTRN. Prefix 'S1UT';
- SMETS1 Validation Error. Prefix 'S1VE';
- SMETS1 Communication Error. Prefix 'S1CE'; or
- other condition also indicated by prefix 'S1'

The DCC shall maintain and publish to all Users the list of S1SP Alert descriptions and, for each such description the associated S1SP Alert Code.

The DCC shall publish such information regarding an S1SP Alert at least [10] working days before any such S1SP Alert is created in relation to a SMETS1 Service Request operated through the DCC.

3.9.16 DUISVersionMismatch

3.9.16.1 Specific Data Items for this DCC Alert

DUISVersionMismatch Items Definition (This contains a choice of data item elements based on the Response being reported to the User as defined by the mandatory column below. Each DCC Alert will contain either a *DCCAlertVersionMismatch* or a *ServiceResponseVersionMismatch* data item)

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DCCAlertVersionMismatch	The DCC Alert generated by the DCC Systems is not compatible with the DUIS version used by the User	sr:DCCAlertVersionMismatch	Incompatible DCC Alert: Yes Otherwise: N/A	None	N/A
ServiceResponseVersionMismatch	The Service Response is not compatible with the DUIS version used by the User	sr:ServiceResponseVersionMismatch	Incompatible Service Response: Yes Otherwise: N/A	None	N/A
ServiceUserDUISVersion	The DUIS Version currently used by the User, according to the DCC Systems. This will be set to the same value as the Response schema Version	xs:string	Yes	None	N/A

Table 294 : DUISVersionMismatch (sr: DUISVersionMismatch) data items

DCCAlertVersionMismatch Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DCCAlertCode	The DCC Alert Code incompatible with the User's DUIS XSD version	xs:string	Yes	None	N/A
DeviceID	The Device ID corresponding to the incompatible DCC Alert, if applicable	sr:EUI (See clause 3.10.1.3)	No	None	N/A
RequestID	The Request ID corresponding to the incompatible DCC Alert, if applicable	sr:RequestIDType (see clause 3.10.1.1)	No	None	N/A

Table 295 : DCCAlertVersionMismatch (sr: DCCAlertVersionMismatch) data items

ServiceResponseVersionMismatch Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
RequestID	The Request ID of the Service Request incompatible with the User's DUIS XSD version	sr:RequestIDType (see clause 3.10.1.1)	Yes	None	N/A
ServiceReference	The Service Reference of the Service Request incompatible with the User's DUIS XSD version	xs:string	Yes	None	N/A
ServiceReference Variant	The Service Reference Variant of the Service Request incompatible with the User's DUIS XSD version	xs:string	Yes	None	N/A
ServiceRequestDUISVersion	The DUIS Version of the Service Request incompatible with the User's DUIS XSD version Valid Values; • 1.0 • 2.0	xs:string	Yes	None	N/A

Table 296 : ServiceResponseVersionMismatch (sr: ServiceResponseVersionMismatch) data items

3.9.17 Quarantined Request

3.9.17.1 Specific Data Items for this DCC Alert

QuarantinedRequest Data Items Definition

Data Type / Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ADUserThresholdBreach	Request quarantined, because an Anomaly Detection User specific volume threshold has been exceeded	sr:ADBreach	N46: Yes Otherwise: N/A	None	N/A
ADDCCThresholdBreach	Request quarantined, because an Anomaly Detection DCC system-wide volume threshold has been exceeded	sr:ADBreach	N47: Yes Otherwise: N/A	None	N/A
ADAttributeLimitsBreach	Request quarantined, because an Anomaly Detection Attribute Limit has been breached	sr:ADBreach	N48: Yes Otherwise: N/A	None	N/A

Table296a : QuarantinedRequest (sr: QuarantinedRequest) data items

ADBreach Data Items Definition

Data Type / Data Item	Description / Allowable values	Type	Mandatory	Default	Units
RequestID	Request ID of the quarantined Service Reference Variant	sr:RequestIDT ype (see clause 3.10.1.1)	Yes	None	N/A

Data Type / Data Item	Description / Allowable values	Type	Mandatory	Default	Units
QuarantineEventRef	Quarantine event reference generated by the DCC Data Systems for a particular instance of an Anomaly Detection quarantine threshold / attribute limit being exceeded. Note this is not an Incident reference.	Restriction of xs:integer (totalDigits = 20)	Yes	None	N/A

Table 296b : ADBreach (sr:ADBreach) data items

3.9.18 SMETS1CHFirmwareNotification

3.9.18.1 Specific Data Items for this DCC Alert

SMETS1CHFirmwareNotification Data Items Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
DeviceID	The Device ID of the affected SMETS1 GPF	sr:EUI (See clause 3.10.1.3)	Yes	None	N/A
FirmwareVersion	The firmware version of the FirmwareImage included in the corresponding Update Firmware Service Request, as held in the CPL and presented in the format XXXXXXXX where each X is one of the characters 0 to 9 or A to F	Restriction of xs:string (minLength = 1, maxLength = 8)	Yes	None	N/A
FirmwareVersionUpdateStatus	The outcome of the Firmware update request. Valid Set: • *UpdateRequested* • *ActivationSuccessful*	Restriction of xs:string (Enumeration)	Yes	None	N/A

Table 297 : SMETS1CHFirmwareNotification (sr: SMETS1CHFirmwareNotification) data items

3.9.19 ALCSHCALCS Configuration Change

3.9.19.1 Specific Data Items for this DCC Alert

ALCSHCALCSConfigurationChange Data Items Definition

Data Type / Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ESMEDeviceID	The Device ID of the ESME for which the ALCS / HCALCS configuration has changed	sr:EUI (see Section 3.10.1.3 EUI)	Yes	None	N/A

Table 297a: ALCSHCALCSConfigurationchange (sr:ALCSHCALCSConfigurationChange) data items

3.10 Data Types Shared Across Service Requests

This section defines those Data Types that are included in a number of Requests within clause 3.8 Service Request Definitions.

3.10.1 Definitions

3.10.1.1 RequestIDType

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
RequestIDType	Concatenation of the following 3 components separated by ":" • 1 EUI-64 value (type sr:EUI) • 1 EUI-64 value (type sr:EUI) • 1 integer value >= 0 and < 2^{64} The regular expression to validate this value is defined in the DUIS XML Schema. The validation allows an integer from 0 to 18,446,744,073,709,551,615	Restriction of xs:token (base type xs:normalisedString) Pattern as per DUIS XML Schema definition	request: Yes solicited Response from DCC: Yes solicited Response from Device: Yes unsolicited Response (Device or DCC Alert): N/A	None	N/A

Table 298 : RequestIDType data items

3.10.1.2 ResponseIDType

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
ResponseIDType	Concatenation of the following 3 components separated by ":" • 1 EUI-64 value (type sr:EUI) • 1 EUI-64 value (type sr:EUI) • 1 integer value >= 0 and < 2^{64} The regular expression to validate this value is defined in the DUIS XML Schema. The validation allows an integer from 0 to 18,446,744,073,709,551,615	Restriction of xs:token (base type xs:normalisedString) Pattern as per DUIS XML Schema definition	solicited Response from DCC: N/A solicited Response from Device: Yes unsolicited Response (Device or DCC Alert): Yes	None	N/A

Table 299 : ResponseIDType data items

3.10.1.3 EUI

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
EUI	1 EUI-64 value (type sr:EUI)	Restriction of xs:token (base type xs:normalisedString)	No	None	N/A

Table 300 : EUI data items

3.10.1.4 CommandVariant

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
CommandVariant	Value to indicate to the DCC Systems if a request has to be • transformed to a GBCS command • or sent via the CSP network, returned to the User to be locally applied (via a Hand Held Terminal) or both • or executed by DCC Valid set: 1, 2, 3, 4, 5, 6, 7, 8 and 9 for DCC Systems internal use only. Not to be used by Users.	Restriction of xs:positiveInteger (Enumeration)	Request: Yes Otherwise: N/A	None	N/A

Table 301 : CommandVariant data items

3.10.1.5 ServiceReference

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
ServiceReference	Identifier that signals the particular Service Requests to DCC (and is driven from the User's selection of Service Request)	Restriction of xs:string (Enumeration)	Request: Yes Solicited Response (DCC and Device): Yes Otherwise: N/A	None	N/A

Table 302 : ServiceReference data items

3.10.1.6 ServiceReferenceVariant

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
ServiceReferenceVariant	Identifier that signals the particular Service Reference Variant to DCC (and is driven from the User's selection of Service Request)	Restriction of xs:string (Enumeration)	Request: Yes Solicited Response (DCC and Device): Yes Otherwise: N/A	None	N/A

Table 303 : ServiceReferenceVariant data items

3.10.1.7 ResponseCode

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
ResponseCode	Code indicating the success or exceptions generated by the original request. These codes are listed in clause 3.5.10 and clause 3.10.3 or at a service request level where there is a specific response code for that request. Valid set: See clause 3.5.10, clause 3.8 and clause 3.10.3.	Restriction of xs:string (Enumeration)	Yes	None	N/A

Table 304 : ResponseCode data items

3.10.1.8 ExecutionDateTime

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	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 date indicates that an existing Service Reference Variant of the same type for the same Device is to be cancelled	xs:dateTime	No	None	UTC Date-Time

Table 305 : ExecutionDateTime data items

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3.10.1.9 Date

Where a date or date-time does not support wildcards the xs:date or xs:dateTime types are used instead by the DCC Systems.

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
Year	Specified or non-specified year	sr:Year (see clause 3.10.1.10)	Yes	None	N/A
Month	Specified or non-specified month	sr:Month (see clause 3.10.1.11)	Yes	None	N/A
DayOfMonth	Specified day of month or last day of month or second last day of month or non-specified day of month	DayOfMonth (see clause 3.10.1.12)	Yes	None	N/A
DayOfWeek	Specified or non-specified day of week	sr:DayOfWeek (see clause 3.10.1.13)	Yes	None	N/A

Table 306 : Date data items

3.10.1.10 Year

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SpecifiedYear	Four digit year	Restriction of xs:nonNegativeInteger (minInclusive = 2014, totalDigits = 4)	No Either SpecifiedYear or NonSpecifiedYear must be entered	None	N/A
NonSpecifiedYear	Tag to indicate wildcard for year	sr:NoType (see clause 3.10.1.20)	No Either SpecifiedYear or NonSpecifiedYear must be entered	None	N/A

Table 307 : Year data items

3.10.1.11 Month

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SpecifiedMonth	The month January = 1, through to December = 12 Note – a single digit or two digits are both supported by the XML schema e.g "1" or "01"	Restriction of xs:nonNegativeInteger (minInclusive = 1, maxInclusive = 12, totalDigits = 2)	No Either SpecifiedMonth or NonSpecifiedMonth must be entered	None	N/A
NonSpecifiedMonth	Tag to indicate wildcard for month	sr:NoType (see clause 3.10.1.20)	No Either SpecifiedMonth or NonSpecifiedMonth must be entered	None	N/A

Table 308 : Month data items

3.10.1.12 DayOfMonth

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SpecifiedDayOfMonth	Day of the month Note – a single digit or two digits are both supported by the XML schema e.g "1" or "01"	Restriction of xs:nonNegativeInteger (minInclusive = 1, maxInclusive = 31, totalDigits = 2)	No One and only one of the four elements must be set	None	N/A
LastDayOfMonth	Tag to indicate last day of month	sr:NoType (see clause 3.10.1.20)	No One and only one of the four elements must be set	None	N/A
SecondLastDayOfMonth	Tag to indicate second last day of month	sr:NoType (see clause 3.10.1.20)	No One and only one of the four elements must be set	None	N/A
NonSpecifiedDayOfMonth	Tag to indicate wildcard for day of month	sr:NoType (see clause 3.10.1.20)	No One and only one of the four elements must be set	None	N/A

Table 309 : DayOfMonth data items

3.10.1.13 DayOfWeek

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SpecifiedDayOfWeek	Single digit day of week, with Monday being 1 and Sunday 7	Restriction of xs:nonNegativeInteger (minInclusive = 1, maxInclusive = 7)	No One and only one of the two elements must be set	None	N/A
NonSpecifiedDayOfWeek	Tag to indicate wildcard for day of week	sr:NoType (see clause 3.10.1.20)	No One and only one of the two elements must be set	None	N/A

Table 310 : DayOfWeek data items

3.10.1.14 ReadLogPeriod

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
StartDateTime	The date-time (in UTC) of the start of the data set required: Valid set: • For On Demand Requests, date-time not in the future • For Future Dated Requests, date-time <= ExecutionDateTime	xs:dateTime (Note wild cards are not supported)	Yes	None	UTC Date-Time
EndDateTime	The date-time (in UTC) of the end of the data set required Valid set: • >= StartDateTime An End Date of '3000-12-31T00:00:00Z' will be interpreted by the DCC Systems as 'read to the end of the log'. Note that only the current Eligible User Role will be able to 'read to the end of the log', because the generic authorisation check associated to response Code E4 is applicable to the read log period.	xs:dateTime (Note wild cards are not supported)	Yes	None	UTC Date-Time

Table 311 : ReadLogPeriod data items

3.10.1.15 ReadLogPeriodOffset

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
StartDateOffset	Number of days prior to or including the current date to set the start date for the data set required Valid set: between 0 and -400 days	sr:logPeriodOffset defined as a nonPositiveInteger between 0 and -400	Yes	None	N/A
StartTime	The time of day on the Start Date the data has to start to be read	xs:time	Yes	None	UTC Time
EndDateOffset	Number of days prior to or including the current date to set the end date for the data set required Valid set: <= 0 and >= StartDateOffset	sr:logPeriodOffset defined as a nonPositiveInteger between 0 and -400	Yes	None	N/A
EndTime	The time of day on the End Date the data has to finish being read	xs:time	Yes	None	UTC Time

Table 312 : ReadLogPeriodOffset data items

3.10.1.16 ReadLogPeriodAbstractType

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
ReadLogPeriod	The start and end date-time period for which the log is to be read	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 313 : ReadLogPeriodAbstractType data items

3.10.1.17 ReadLogPeriodFDAbstractType

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	The UTC date and time the User requires the command to be executed on the Device ID • Date-time in the future that is either <= current date + 30 days or the date = '3000-12-31T00:00:00Z'	xs:dateTime	No	None	UTC Date-Time
ReadLogPeriod	The start and end date-time period for which the log is to be read	sr:ReadLogPeriod (see clause 3.10.1.14)	Yes	None	N/A

Table 314 : ReadLogPeriodFDAbstractType data items

3.10.1.18 KAPublicSecurityCredentials

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
KAPublicSecurityCredentials	The Key Agreement Public Security Credential (of the requesting User) to be used where the request to read sensitive data is from an Unknown Remote Party (e.g. Other User, 'Old' Responsible Supplier or, for Device Type Gas Smart Meter, Gas Transporter)	sr:Certificate (xs:base64Binary)	Yes	None	N/A

Table 315 : KAPublicSecurityCredential data items

3.10.1.19 ScheduleDatesAndTime

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SwitchTime	The time of day when the schedule is to be activated	xs:time	Yes	None	N/A
StartDate	Start of the date period when the schedule is applicable Valid set: • Valid date (with wildcards)	sr:Date (with wildcards)	Yes	None	N/A
EndDate	End of the date period when the schedule is applicable Valid set: • Valid date (with wildcards)	sr:Date (with wildcards)	Yes	None	N/A

Table 316 : ScheduleDatesAndTime data items

3.10.1.20 ScheduleDatesAndTimeWithoutWildcards

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SwitchTime	The time of day when the schedule is to be activated	xs:time	Yes	None	N/A
StartDate	Start of the date period when the schedule is applicable Valid set: • Valid date	xs:date	Yes	None	N/A
EndDate	End of the date period when the schedule is applicable Valid set: • Valid date	xs:date	Yes	None	N/A

Table 317 : ScheduleDatesAndTimeWithoutWildcards data items

3.10.1.21 NoType

A type definition to indicate that the specific data item does not have a type associated with it, and is simply an empty tag.

3.10.1.22 ScheduleId

The scheduleID uniquely defines a schedule on held by the DCC for a specified Device

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
scheduleID	Value between 0 and 1,000,000,000,000 that uniquely defines a schedule held by the DSP for a given device.	Restriction of xs:nonNegativeInteger	Yes	None	N/A

Table 318 : ScheduleId data items

3.10.1.23 GasDateWithWildcards

A number of Gas use cases allow a wildcard setting that allows for a repeating functionality. Note that there is no validation against illogical dates beyond the schema validation of the date.

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
GasYearWithWildcard	Specified or non-specified year	sr:GasYearWithWildcards	Yes	None	N/A
GasMonthWithWildcards	Specified or non-specified month	sr:GasMonthWithWildcards	Yes	None	N/A
GasDayOfMonthWithWildcards	Specified day of month or last day of month or second last day of month or non-specified day of month	sr:GasDayOfMonthWithWildcards	Yes	None	N/A
GasDayOfWeekWithWildcards	Specified or non-specified day of week	sr:GasDayOfWeekWithWildcards	Yes	None	N/A

Table 319 : GasDateWithWildcards data items

3.10.1.24 GasYearWithWildcards

Supports the definition of Year with wildcards.
GasYearWithWildcards is a choice of two elements, so one of them is mandatory.

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SpecifiedYear	NonSpecifiedYear	Restriction of xs:nonNegativeInteger (minInclusive = 2014, totalDigits = 4)	No	None	N/A
NonSpecifiedYear	Tag to indicate wildcard for year	sr:NoType	No	None	N/A

Table 320 : GasYearWithWildcards data items

3.10.1.25 GasMonthWithWildcards

Supports the definition of Month with wildcards.
GasMonthWithWildcards is a choice of two elements, so one of them is mandatory.

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SpecifiedMonth	Two digit month Note – a single digit or two digits are both supported by the XML schema e.g "1" or "01"	Restriction of xs:nonNegativeInteger (minInclusive = 1, maxInclusive = 12, totalDigits = 2)	No	None	N/A
NonSpecifiedMonth	Tag to indicate wildcard for month	sr:NoType	No	None	N/A

Table 321 : GasMonthWithWildcards data items

3.10.1.26 GasDayOfMonthWithWildcards

Supports the definition of Day Of Month with wildcards.
GasDayOfMonthWithWildcards is a choice of two elements, so one of them is mandatory.

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SpecifiedDayOfMonth	Two digit day of month Note – a single digit or two digits are both supported by the XML schema e.g "1" or "01"	Restriction of xs:nonNegativeInteger (minInclusive = 1, maxInclusive = 31, totalDigits = 2)	No	None	N/A
NonSpecifiedDayOfMonth	Tag to indicate wildcard for day of month	sr:NoType	No	None	N/A

Table 322 : GasDayOfMonthWithWildcards data items

3.10.1.27 GasDayOfWeekWithWildcards

Supports the definition of Day Of Week with wildcards.
GasDayOfWeekWithWildcards is a choice of two elements, so one of them is mandatory.

Data Type	Description / Allowable values	Type	Mandatory	Default	Units
SpecifiedDayOfWeek	One digit day of week, with Monday being 1 and Sunday 7	Restriction of xs:nonNegativeInteger (minInclusive = 1, maxInclusive = 7)	No	None	N/A
NonSpecifiedDayOfWeek	Tag to indicate wildcard for day of week	sr:NoType	No	None	N/A

Table 323 : GasDayOfWeekWithWildcards data items

3.10.2 Validation

The specific validation applicable to the DUIS Defined Shared Data Types is as follows;

Validation Check	Process	Response Code
Is the Execution Date Time in a Future Dated Request valid?	Check that the Execution Date Time is a date-time in the Future and either no later than the current date plus 30 days or the date is '3000-12-31T00:00:00Z' to specify cancellation of the Request	E1000
Is the Read Log Period Start Date Time not later than the required execution date-time?	Check that the Read Log Period (sr:ReadLogPeriod) Start Date Time is not later than the current date-time for "On Demand" and the Execution Date Time for "Future Dated" requests	E1001
Is the Read Log Period End Date Time valid?	Check that the Read Log Period (sr:ReadLogPeriod) End Date Time is not earlier than the Log Start Date Time	E1003
Is the Read Log Period Offset EndDate Offset valid?	Check that the Read Log Period Offset (sr:ReadLogPeriodOffset) End Date Offset is not earlier than the Read Log Period Offset Start Date Offset	E1004
Are the Public Security Credentials included?	1. For those Service Requests that return Sensitive data and are available to Device Unknown Remote Parties (e.g. 'Old' Responsible Supplier and 'Other User') the Key Agreement Public Security Credentials are included in the Service Requests. 2. For all Service Requests not subject to the Key Agreement Public Security Credentials are not included in the Service Requests.	E1006
Are the Public Security Credentials valid?	For those Requests that include Public Security Credentials in the Request body: Check that the certificates used in the chain of trust have NOT expired (i.e. their expiry date is post the date of check or, for Future Dated Requests, post the Execution Date) and that the certificates used in the chain of trust have NOT been revoked (i.e. they are not included in the Certificate Revocation List) Check that the Certificate was validly issued under SMKI.	E1007
Does the Device included in the Request exist?	For those Requests that include a Device ID in the body, check that the Device ID exists in the Smart Metering Inventory This is not applicable to Service Reference 12.2 (Device Pre-notification) which is used to add Devices to the Smart Metering Inventory	E1008
Is the Service Request valid for the Target Device?	• For On Demand or Future Dated Service Requests: Check that if the BusinessTargetID Device is a Gas Smart Meter that the User Role is GIS, and that User is the Responsible Supplier for that Device. • For Create Schedule (for DCC Scheduled Service Requests): Check that if the DeviceID Device is a Gas Smart Meter that the User Role is GIS, and that User is the Responsible Supplier for that Device.	E1010

Validation Check	Process	Response Code
Is the Service Request Target Device a Dual Band CHF?	Check that the Service Request's Target Device is a Dual Band Communications Hub (Only applicable to Service Requests 6.28, 6.29, 6.30, 6.31 and 6.32. This check will only fail for CHFs not recorded by the DCC Systems as having a "Single Band *(2.4GHz only)"* HAN Variant. Please see HAN Variant for the corresponding CHF Device Id returned by Service Request 8.2 (Read Inventory) Response or by the SSI Read Inventory screen)	E1011

Table 324 : Validation checks

3.10.3 Response Codes

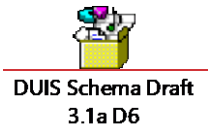
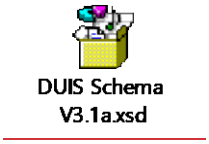
The Response Codes applicable to the DUIS Defined Shared Data Types are as follows;

Response Code	Response Code Name	Response Code Type	Description	Applicable to Response Types
E1000	Failed Validation – Invalid Date-Time for Future Dated Request	Error	Future Dated Service Request Execution Date-Time is not valid	Acknowledgement
E1001	Failed Validation – Log Period Start Date Time later than required execution date-time	Error	The Log Period (sr:ReadLogPeriod) Start Date Time is later than the current date-time for "On Demand" or the Execution Date Time for "Future Dated" requests	Acknowledgement
E1003	Failed Validation – Log Period End Date Time earlier than Start Date Time	Error	The Log Period (sr:ReadLogPeriod) End Date Time is earlier than the Log Period Start Date Time	Acknowledgement
E1004	Failed Validation – Log Period Offset End Date smaller than Start Date	Error	The Log Period Offset (sr:ReadLogPeriodOffset) End Date is smaller (earlier) than the Log Period Offset Start Date Time	Acknowledgement
E1006	Failed Validation – Security Credentials Mismatch	Error	For those Service Requests that include sensitive data in the Response: Service Requests from Device URPs (e.g. 'old' Responsible Supplier and 'Other User') do not include the User's Key Agreement Public Security Credentials or are included in other cases	Acknowledgement
E1007	Failed Validation – Invalid Security Credentials	Error	For those Requests that include Public Security Credentials in the payload: At least one of the certificates used in the chain of trust has expired or been revoked or has an incorrect format	Acknowledgement and DCC Alerts
E1008	Failed Validation – Invalid Device ID	Error	The Device ID included in the Request body doesn't exist in the Smart Metering Inventory	Acknowledgement
E1010	Failed Validation – Invalid Device Type	Error	The Device Type is invalid	Acknowledgement
E1011	Failed Validation – Device not a Dual Band Communications Hub	Error	The DCC does not have this Device recorded as a Dual Band Communications Hub	Acknowledgement

Table 325 : Response codes

ANNEX A – DUIS XML SCHEMA

The DUIS XML Schema is enclosed in the embedded document below. It is compliant with the XML 1.1 standard and can be viewed using Internet Explorer. The DUIS XML Schema contains 2 top level items that are used to define the messages passed between the Users and the DCC Systems. These top level items are:

- Request – Defines the Service Requests and Signed Pre-Command for the DCC Systems
- Response – Defines the Responses that are returned by the DCC Systems to Users. This covers Service Responses, Device Alerts, DCC Alerts and Acknowledgements.

For the avoidance of doubt, the DUIS XML Schema is provided as the authoritative source for data item definitions. Where any inconsistencies may exist between the definitions contained within the main text within this document and the DUIS XML Schema data item definitions then the DUIS XML Schema shall take precedence.