energy retail association

ERA SRSM Project

Data Item Definition

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1 DOCUMENT CONTROL

1.1 Version History

Version	Date	Author	Description
0.1	14th November 2006	Jason Brogden	Initial draft after first workshop
0.2	5th December 2006	Jason Brogden	Updated draft after 2nd workshop
0.3	11th December 2006	Jason Brogden	Updated draft after 3rd Workshop
1.0	20th December 2006	Jason Brogden	Draft for Approval Updated draft after comments on v3
1	19th January 2007	Jason Brogden	Updated to include additional statement regarding document status. Approved by Steering Group

1.2 Quality Reviewers

Name	On behalf of	Review Focus
Simon Harrison	SRSM Project team	Peer Review
SRSM Data Item Workshop Attendees	ERA Member organisations	Appropriateness and Content

1.3 Distribution List

Name	Role	Purpose
SRSM Stakeholders		

1.4 Related Documents

Document	Date
SRSM Electricity and Gas Smart Meter Specifications v2	January 2007
SRSM Interoperability Documentation	January 2007

1.5 Glossary & Abbreviations

Term	Meaning
ERA	Energy Retail Association
SRSM project	Supplier Requirements of Smart Metering project

1.6 Intellectual Property Rights and Copyright

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2 INTRODUCTION

2.1 Background

This document has been prepared as a deliverable of the Supplier Requirements for Smart Metering (SRSM) project being delivered by the Energy Retail Association (ERA).

The SRSM project is defined in its Terms of Reference and Project Brief and this will not be replicated in this document.

This version of the document, as at the end of the SRSM project in January 2007, is the culmination of several months of Supplier interaction and it represents a snapshot of the agreed current understanding of Supplier requirements for smart metering. It is not intended to be a final and agreed complete statement of requirements. Further development of the SRSM products could change this version of the document.

2.2 Purpose of Document

This document provides a clear understanding of the data required to be stored at the smart metering system to meet the ERA Suppliers' requirements of smart meters for both electricity and gas smart meters.

2.3 Scope

The data item definition covers both gas and electricity smart meter data definition. This removes the duplication that would have been required in 2 separate documents and ensures configuration management is easier.

The entities and data items defines what is stored in the meter, not how it is displayed by the meter or communicated to other parties.

This document defines a minimum set of data to be stored at the meter. It does not define how that data is displayed to the customer, extracted or processed by the Supplier and its agents. For example – the meter could store a meter reading to 5 decimal places, display no decimal places to the customer, 5 decimal places to an engineer and transmit 1 decimal place to the supplier.

As a consequence, data is defined on a meter basis, not on an MPAN basis and the configuration where an MPAN may have more than one meter is not shown or recognised within this data definition.

Data is defined in a logical data model and this product does not define a fixed database schema.

To avoid any confusion with existing industry data, the project has sought to define new data wherever appropriate for smart meters, not squeeze existing data definitions to fit smart metering requirements. Existing governance definitions have been identified where there is an exact match only. Any issues and rationale for divergence have been captured in the comments field.

For true interoperability, agreement should be reached on the detailed definition of all data items down to finalised formats, but that has not been possible in all cases and is not appropriate for all data without external consultation. Therefore, the project has defined the data to a level of detail that can be agreed – that may be a description of the data, some rules associated with the data or a detailed definition of the data itself.

Data has been defined for Credit/Debit meter functionality, but not modelled into the overall data model, as it needs to be confirmed whether this will be delivered by a single metering system. Data has not been defined for other potential data, as it is subject to further discussion.

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3 DATA DEFINITION

3.1 Overview of Definition

Data has been defined in terms of “entities” with “attributes” relating to each “entity”. These data have then been presented in a logical data model to show the relationship between entities.

A description for each entity and data item has been included to aid understanding where relevant.

The “SUD” field shows how often the data item will be updated. The three options are S – **S**tatic Data; U – **U**pdated remotely; D – **D**ynamically updated within the meter.

The “MO” field shows whether the data item is **M**andatory or **O**ptional.

Wherever datetimes are defined, it is assumed that the smart meter is able to allocate datetimes appropriately over day boundaries and if the same time is represented for different periods, the main example being 24:00 one day and 00:00 the next day being the same time.

Where a number has been defined, it has been defined in a format consistent with the DTC:

NUM (n, m) where ‘n’ specifies the total number of digits and m specifies the number of digits after the decimal point. For example the logical format of a number that can take values between 0 and 99.99 is NUM (4,2).

3.2 Overview of Logical Data Model

The data model for the mandatory functions is shown in Appendices A and B. Appendix A shows the definition of data relating to the meter and the relationships with all entities associated with the meter. Appendix B further defines the data from the MPAN/MPRN entity.

That model shows the entities in their own boxes with the primary keys for those entities identified. Data Items in bold are mandatory and those in plain text are optional.

Relationships are shown between entities with a “crow’s foot” at the end of a relationship showing where there are many entities associated with a single entity with a plain line connector.

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3.3 Mandatory Function Data Definition

3.4 Meter Level Data Definition

The table below defines the data required at a Meter level. Meter is the top entity and MPRN/MPAN is the entity that links this definition with the MPAN/MPRN Level Data Definition.

It is assumed that all Authorised Parties for access are defined at an MPAN/MPRN level rather than a Meter level.

Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
Entity – Meter	**This entity describes the non-repeating data relating to the meter itself**									
Meter Identifier	Unique Identifier of the meter as shown on the meter faceplate	1.5, 7.2			CHAR(16)	M	S	Y	All Authorised Parties	Note DTC J0004, as current practice is failing in electricity. Post SRSM, standards need to be set to make every newly installed smart meter Meter Identifier unique WP76 - Unmaintained list of MSNs provides a starting point for standardisation rules – there has been further work done on this by Gemserv It is believed that there is a European

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
										standard for Meter Identifier that relates to CHAR(16), but this has not been found as yet. This future proofs it but has maximum impact industry-wide. Meter Identifier as a CHAR(10) field is a minimum impact definition for electricity. Serial Number as CHAR (14), as defined in RGMA baseline, is a minimum impact definition for gas. Data is governed by the MIR
Utility Type	The type of utility being metered by this meter				CHAR (1): Valid set G, E, D	M	S	Y	All Authorised Parties	Gas, electricity, dual fuel, may be extended to cover water, heat.
Meter Manufacturer	An identifier for the manufacturer				CHAR (26)	M	S	Y	Supplier MAP/MAM	May be dependent on Meter Identifier definition

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
	of the meter									CHAR (10) for RGMA Model Code, but 26 Characters is the longest current manufacturer in Ofgem Schedule 4
Manufacturer Meter Model	A unique identifier for the meter model				CHAR (12)	M	S	Y	Supplier MAP/MAM	As defined by the meter manufacturer. CHAR (10) for RGMA Model Code, but longest in Ofgem Schedule 4 is 12 characters Likely this will be subject to a compliant table (but we will not prejudge where that may sit)
Year of Meter Manufacture	Year of Meter Manufacture as described on meter faceplate	1.5, 7.2			INT (4), CCYY	M	S	Y	Supplier MAP/MAM	
Measurement Multiplier	Factor required to adjust metered quantity to appropriate				INT(3)	M	SU	N (Distributor)	Supplier MAP/MAM	Dependent on CT Ratio and VT Ratio for electricity Default of "1"

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
	measured quantity									U only to correct errors
Meter Clock Date & Time	The running clock date and time	5.3			DATETIME *ccyymmdd hhmmss*	M	U	Y	All to Access	Time defined in GMT for storage – may be converted into BST for display, but that is out of scope of this definition
Meter Clock GMT/Local Time Flag	Defines whether the meter clock is operating in GMT or local time	5.3			CHAR(1), G or L	M	U	Y	Supplier MAP/MAM	Whether the meter is operating in GMT or local time. This allows the Supplier flexibility in setting local or GMT tariffs. Also supports the display of time to the customer.
Local Time Offset from GMT	Configurable number of hours (+ or -) from GMT for local time operation				+/- NUM(3,1), Hours	O	U	Y	Supplier MAP/MAM	Optional, as not required for GMT operation. Default of 0 for GB local time, as the BST offset will be defined in Daylight Saving Time Time Shift Defined for future-

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
										proofing and also other markets.
Daylight Saving Time Time Shift	The number of hours shifted from local time operation for the period of Daylight Saving Time defined by the start and end Datetimes				+/- NUM(3,1), Hours	O	U	Y	Supplier MAP/MAM	Optional, as not required for GMT operation. For BST, currently a 1 hour shift.
Daylight Saving Time Effective From Datetime	The date from which Daylight Saving Time defined is effective.				DATETIME	O	U	Y	Supplier MAP/MAM	Optional, as not required for GMT operation.
Daylight Saving Time Effective To Datetime	The date from which Daylight Saving Time defined is effective.				DATETIME	O	U	Y	Supplier MAP/MAM	Optional, as not required for GMT operation.
Smart Meter Type	This defines the type of smart meter for either gas or electricity	1.5, 7.2			CHAR (4), SING, POLY, ORDI, SEMI	M	S	Y	Supplier MAP/MAM	This defines the type of electricity smart meter, as described in the meter variants section 3.7 of the electricity meter

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
	meters									specification: Single Phase or Poly Phase This is not DTC J0483 For gas this defines ordinary or semi-concealed meters
Number of Terminals	A count of the number of terminals for a single phase meter	1.5, 7.2			INT (1), 4 or 5	O	S	Y	Supplier MAP/MAM	Conditional on Smart Meter Type being single phase (SING).
Number of Elements	A count of the number of elements for a single phase, 5 terminal meter	1.5, 7.2			INT (1), 1 or 2	O	S	Y	Supplier MAP/MAM	Conditional on Smart Meter Type being Single and the Number of Terminals being 5.
Number of Phases	Number of phases a meter can measure	1.5, 7.2			INT (1) 1 or 3	O	S	Y	Supplier MAP/MAM	Conditional on Utility Type being electricity. Number of phases a meter can measure, rather than the supply itself, therefore not an exact match with DTC J0427 and not including 2 phases.

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
Current Rating	Maximum current that will flow through the meter	1.5, 7.2			INT (3), Amps	O	S	Y	Supplier MAP/MAM	Conditional on Utility Type being electricity. Example is 120A
Accuracy Class	Accuracy Class as defined in the Measuring Instrument Regulations	1.5, 7.2			CHAR(1) A, B, C	O	S	Y	Supplier MAP/MAM	Conditional on Utility Type being electricity. A, B, C from MIR SI (2006). May only work with one class of meter, so this may be redundant when implementation is considered
Calorific Value	Calorific value (CV) is a measure of heating power and is dependent upon the composition of the gas. The CV refers to the amount of energy released when a known				NUM(5,2), megajoules per cubic metre (MJ/m3)	O	U	N	Supplier Other Authorised Party	This only applies to gas. The CV is required to convert corrected cubic meters to calorific value in kWh. The CV is required if gas consumption in kWh is to be displayed to the customer.

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
	volume of gas is completely combusted under specified conditions.									
Thermal Energy Calculation Divisor	The amount of energy consumed by a customer in kWh is calculated using the following formula: Energy = (Corrected Volume * Calorific Value)/3.6 This factor of 3.6 is parameterised in this data item for future proofing				NUM(4,2),	O	SU	N	Supplier Other Authorised Party	This only applies to gas and the 3.6 factor converts calorific value to kWh. Currently in statute as 3.6 Allowed as U in case this is changed in the future.
Volume Conversion	This is an adjustment factor applied				NUM(7,6)	O	SU	N	Supplier Other	Currently 1.022640 Allowed as U in case

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
Factor	to allow for temperature and pressure in the conversion of measured cubic metres to actual cubic metres.								Authorised Party	this is changed in the future.
Measurement Multiplier	Identifies the multiples in which the meter is measuring volume e.g. cubic metre, 10's of cubic metres etc.				INT (4)	O	SU	N	Supplier Other Authorised Party	Allowed as U in case this is changed in the future.
Q Max	The highest flowrate at which the relevant instrument provides indications that satisfy the requirements regarding maximum permissible				NUM(6,2)	O	SU	Y	Supplier Authorised Party	Gas Only Definition from MIR

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
	error (MPE)									
Q Min	The lowest flowrate at which the relevant instrument provides indications that satisfy the requirements regarding maximum permissible error (MPE)				NUM(6,2), m3/h	O	SU	Y	Supplier Authorised Party	Gas Only Definition from MIR
3D Grid reference					CHAR (17)	O	U	Y	Supplier Site Visit Agents	Supplier requirement relates to certainty in location for site visits for agents Optional Data Item to reflect that this may be subject to solution and cost Ordnance Survey standard for 2D references depends on accuracy, but an example for 1 metre

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
										accuracy: TQ 38852 77345 On the basis that we would have to add a space and 2 characters for height, this would result in CHAR (17) This facility would help to eliminate crossed meter queries and trace and label problems.
Entity – Software/ Firmware	**Describes the current software/firmware installed in the meter**									
Software/Firmware Identifier	A unique identifier for the firmware or software installed on the meter	5.7			CHAR(10)	M	U	Y	Supplier MAP/MAM	Assumed history not required, therefore no effective to/from dates
Software/Firmware Description	A further description for the firmware or software installed on the	5.7			CHAR(30)	O	U	Y	Supplier MAP/MAM	

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
	meter if necessary									
Software/Firmware Version Number	The version number for the firmware or software installed on the meter	5.7			CHAR(15)	M	U	Y	Supplier MAP/MAM	Includes "." In the dataset
Latest Software/ Firmware update Datetime	The date and time that the latest version of firmware or software was installed	5.7			DATETIME	M	U	Y	Supplier MAP/MAM	If no upgrade, this will be the first load of the firmware or software
Entity – Communications Mechanism	**Describes the communications mechanism(s) installed in the meter**									
Communications Mechanism Identifier	Identifies the communications mechanism installed in the meter	7.2			CHAR(10)	M	U	Y	Supplier Supplier Agents	The detail for each communications mechanism will be subject to implementation considerations, but some potential items are described here Other attributes to be defined in

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
										implementation. This does not exactly match to DTC J0386
Communications Description	Further descriptor of the Communications Mechanism if it is required	7.2			CHAR(30)	O	U	N	Supplier Supplier Agents	
Communications Address						M	U	Y	Supplier Supplier Agents	This does not exactly match to DTC J0385 and is totally dependent on the chosen interoperability solutions
Entity – Meter Level Event Type	**This entity describes the classification of event types that can occur at a Meter level, including faults and alarms, communications and configuration events**									
Meter Event Type	A code identifying categories of event at the Meter level to allow for easy diagnostics	2.5, 10.2, 5.3 (clock failure), 2.5 & 10.2 (overheating,			CHAR(2), valid set defined for communications; configuration; faults, alarms	M	S	Y	Access will depend on the Event Type Always Supplier DNO for	Examples below. Communications events: remote polling of data; meter initiated communication Configuration event:

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
		contact or failure)			Default to fall back on (e.g. 00)				certain types Customer may be restricted from certain Event Types	Clock reset Suggested codes for faults/alarms: Fault Meter Reset Battery Failed Battery Waning Clock failed Clock Resynchronised Cover Removal Attempted Unauthorised Electronic Access Overheating Contactor failure
Entity – Meter Level Event	**This entity shows the events that have occurred at a Meter level against each Meter Event Type, including faults and alarms, communications and configuration events**									
Meter Event Date & Time					DATETIME	M	D U	Y	Access will depend on the Event	It is assumed that Meter Event Date and Time will uniquely identify the events for

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
									Type Always Supplier DNO for certain types Customer may be restricted from certain Event Types	a particular event type Dynamically generated by the meter, but written once and never change. U included allowing the event log to be cleared Will be generated for faults, alarms, change in Meter level configuration data, either remotely or locally.
Meter Event Description	Further descriptor of the event that can be generated by the meter	2.5, 10.2			CHAR (30)	O	D	Y	Access will depend on the Event Type Always Supplier DNO for certain types Customer may be restricted from certain Event Types	May be delivered from software to provide further information on fault/diagnostics to describe a default fault.

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
Entity – Currency	**Currency to be applied to prices and charges on a particular date**									
Currency Symbol	The monetary symbol to be used for the applicable currency	13.2 & 13.3			£ or €	M	U	N	Supplier	
Currency Effective From Datetime	The date from which a currency is effective	13.2 & 13.3			DATETIME	M	U	N	Supplier	
Currency Effective To Datetime	The date to which a currency is effective	13.2 & 13.3			DATETIME	O	U	N	Supplier	This has been added for the circumstance where there may be a change in currency in the future.
Entity – Day Type	**Defines the Day Types to be used elsewhere in the meter configuration**									
Day Type Name	A name for the Day Type				CHAR(10)	M	U	N	Supplier	This will be subject to an agreed set, but it is assumed that that the smart meter is smart enough to be able to derive simple day types from its own calendar (e.g. 1st day of the month,

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
										weekend, weekday etc.). There will be some that need to be defined (e.g. bank holidays that vary every year). It is expected that the smart meter is smart enough to default to a "Normal Day" in the absence of any specific Day Types.
Day Type Description	A further description of the Day Type if necessary				CHAR(30)	O	U	N	Supplier	
Entity – Day Type Dates	**This entity defines the dates for Day Types that require explicit configuration**									
Day Type Dates	The dates defined for each Day Type				DATE	O	U	N	Supplier	This will effectively act as a look-up table for dates to apply to a particular Day Type that needs to be defined. No dates to be defined for "Normal Day" or the simple day types

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
										that are assumed to be able to be derived above.
Entity – MPAN/MPRN	**This entity shows the MPAN/MPRN or multiple MPANs/MPRNs related to a meter**									
MPAN/MPRN					INT(13)	M	SU	N (MPAS/ Sites and Meters)		MPAN as defined in DTC - J0003 MPRN – INT(10), and that is allowed within 13 Update (U) is required to correct errors There is a check digit in this data item based on the Modulus 11 checksum for both MPRN & MPAN. This could be checked via software in the meter to ensure it is a valid combination.

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3.5 MPAN/MPRN Level Data Definition

The table below defines the data required at an MPAN/MPRN level. MPRN/MPAN is the top entity and this is the entity that links this definition with the Meter Level Data Definition. The description for the MPRN/MPAN entity is not repeated in this section for clarity and to ensure that they never become inconsistent

There are some key principles to get across to aid understanding of this data definition. The SRSM project has used new terminology to show the progression of smart metering thinking and to avoid confusion with historical terminology.

Customer Product has been defined as the energy offering that the Supplier has signed with the customer (a tariff in current terms). This has been defined with a number of options (potential components) to give flexibility to the Supplier to offer the customer different prices based on time of day, seasons or day of week and/or consumption levels below or above thresholds. This reflects the principle of flexible tariffs for Suppliers in a smart metering environment.

There can be combinations of the product components defined in the data model (e.g. products which work on a timed basis, but with different prices if consumption levels are exceeded within those time bands). This is a level of complexity in data modelling that is not considered to be warranted at this stage and therefore is not covered in this document.

Supply Index has been defined to show the metered values for the individual energy supplies to the premise, be it a phase or switched contactor supply. This is the core source of metered consumption.

Running Advance Values and Captured Advance Values have been defined for each Customer Product Component to reflect that metered consumption needs to be recorded against each Customer Product Component so that varying prices can be applied to them by the Supplier to generate the customer's bill. It will also allow the extraction of that data to a Customer Display Unit, if it exists. The Running Advance Value is the equivalent of the existing running register displays with captured readings being the equivalent to register readings. It is assumed that Running Advance Values will be dynamically updated by the meter from the relevant Supply Index.

Entity – MPAN/MPRN Level Event Type	**This entity describes the classification of events that can occur at an MPAN/MPRN level, including faults and alarms.**									
MPAN/MPRN Event Type	A code identifying categories of event to allow for easy diagnostics	2.5, 10.2, 5.3 (clock failure), 2.5 & 10.2 (overh			CHAR(2), valid set defined: Default to fall back on (e.g. 00)	M	D	Y	Access will depend on the Event Type Always Supplier	The capture of readings will not be included in the event log, as the date and time of the reading will be stored. Examples of event

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		eating, contact or failure)							DNO for certain types Customer may be restricted from certain Event Types	codes below Configuration event: Change in Customer Product Suggested codes for faults/alarms: Faults Fault Supply Interrupted Illegal Power
Entity – MPAN/MPRN Level Event	**This entity shows the events that have occurred at a MPAN/MPRN level against each MPAN/MPRN Event Type, including faults and alarms, communications and configuration events**									
MPAN/MPRN Event Date & Time	The date and time an event occurred				DATETIME	M	D U	Y		It is assumed that MPAN/MPRN Event Date and Time will uniquely identify the events for a particular event type Dynamically generated by the meter, but written once and never change. U included allowing the event log to be cleared.

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										Will be generated for faults, alarms, change in MPAN/MPRN level configuration data, either remotely or locally
MPAN/MPRN Event Description	Further descriptor of the event that can be generated by the meter	2.5, 10.2			CHAR (30)	O	D	Y	Access will depend on the Event Type Always Supplier DNO for certain types Customer may be restricted from certain Event Types	May be delivered from software to provide further information on fault/diagnostics to describe a default fault.
Entity – Authorised Party Type	**This describes each type of party authorised to access data within a smart meter and is required for security**									
Authorised Party Type	Identifies the type of Party allowed access	4.1, 9, 7.2			CHAR(10)	M	U	N	Supplier	It is assumed that certain parties will be granted access to data and the type of this party is defined here. This makes no assumption on security solution.

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										This should include a valid set of parties e.g. Supplier, Data Collector, MAM, MAP, DNO, SFIC
Authorised Party Type Description	A potentially fuller description of the particular Authorised Party Type	4.1, 9, 7.2			CHAR(30)	O	U	N	Supplier	
Entity – Authorised Party	**This describes each type of party authorised to access data within a smart meter and is required for security**									
Authorised Party Name	A Unique Name for the Party				CHAR(20)	M	U	N (Supplier)	Supplier Party itself Customer for Supplier, DNO	A single Party may be associated with more than one Authorised Party Type (e.g. Supplier, DC & MAM) Up to the Supplier as to what he populates for customer
Authorised Party Effective From Date	The date from which an Authorised Party is authorised to access the data				DATE	M	U	N (Supplier)	Supplier Party itself Customer for Supplier, DNO	Assume rules around dates for access will be defined elsewhere
Authorised Party Effective To Date	The date to which an Authorised				DATE	O	U	N (Suppli	Supplier	Optional as this may be left open-ended, but will be expected to

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	Party is authorised to access the data							er)	Party itself Customer for Supplier, DNO	be populated where the authorised party attributed to the meter (e.g. MAM) changes.
Authorised Party Contact Number	Telephone number for the customer to contact the relevant party				INT(10)	O	U	N (Supplier)	Supplier Party itself Customer for Supplier, DNO	Customer only to be given access to the parties who they should be contacting (e.g. Supplier, DNO)
Authorised Party Communications Address	Identifies the communications address for a particular Authorised Party					M	U	N (Auth Party)	Relevant Authorised Party	This does not exactly match to DTC J0385 and is totally dependent on the chosen interoperability solutions This will be dependent on the communications mechanism, but is required so that the meter knows where to send information to.
Entity – Authorised Party Message	**An Authorised Party may leave a message for the customer and this entity allows that message to be stored for potential presentation to the customer**									
Authorised Party Message Date & Time	The date and time a message was received at the meter				DATETIME	M	D	Y		It is assumed that Authorised Party Message Date & Time will uniquely identify the messages from a particular Authorised

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										Party Dynamically generated by the meter, but written once and never change. Will be generated for messages received, either remotely or locally
Authorised Party Message	The details of the message from the Authorised Party				CHAR(160)	M	U	N (Supplier)	Supplier Authorised Party	160 character field is consistent with that agreed in the meter specifications
Entity – Communications Calendar	**A calendar that can be defined to trigger communications on an MPAN/MPRN basis from the meter to an Authorised Party without any further instruction from the Authorised Party. This calendar can be defined to be triggered on a particular day type at a particular time or by simple configuration of an interval in minutes.**									
Communications Calendar Identifier	Unique identifier for a particular Communications Calendar	5.2			CHAR(10)	M	U	N (Supplier)	Supplier Data Collector Other Authorised Parties	This entity allows Authorised Parties to set up an automatic trigger to send data from the meter. This avoids the need for an instruction from the Authorised Party to extract data. The best example is the periodic download of consumption data.

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Destination Authorised Party Name	Defines the Authorised Party to whom communication will be sent.	5.2, 5.5			CHAR(20)	M	U	N (Supplier)	Supplier Party itself	
Communications Calendar Effective From DateTime	The date and time from which a particular Communications Calendar is effective	5.2, 5.5			DATETIME	M	U	N (Supplier)	Supplier Data Collector Other Authorised Parties	This sets the time from which the interval will be calculated. For example, if the time defined in this data item is midnight on the first of the month with a 90 day interval, data will be automatically sent from the meter 90 days from that date and every 90 days thereafter. This date time may (and probably will) be defined to start before the meter is installed.
Communications Calendar Effective To DateTime	The date and time to which a particular Communications Calendar is effective	5.2, 5.5			DATETIME	O	U	N (Supplier)	Supplier Data Collector Other Authorised Parties	May be open ended, therefore optional
Communications Interval	If the interval option is taken to define the	5.2, 5.5			INT (6), minutes	O	U	N (Suppli	Supplier Data	Triggered from the effective from datetime, as described

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	Communications calendar, this defines the interval in minutes							er)	Collector Other Authorised Parties	above. Annual Communications would require 6 digits and that would be expected as an absolute maximum.
Day Type Name	If the day type option is taken, this defines the day type on which a reading will be taken	5.2, 5.5			CHAR (10)	O	U	N (Supplier)	Supplier Data Collector Other Authorised Parties	Day Types will be defined at the Meter level where they are not simply derived within the meter.
Time of Communications	Identifies the time of day within the day that Communications will take place	5.2, 5.5			TIME	O	U	N (Supplier)	Supplier Data Collector Other Authorised Parties	
Entity – Supply Index	**This describes an index associated with an active supply to the MPAN/MPRN. If there is more than 1 active supply, there will be multiple Supply Indices. For example in electricity:** • **1xSupply Index for a simple single phase meter;** • **2xSupply Indices for a single phase meter with 5 terminals and therefore 2 circuits;** • **3xSupply Indices for a 3-phase meter**									
Supply Index ID	Unique identifier for				CHAR (10)	M	S	N (Suppli	Supplier	

	the Supplier Running Index							er)	MAM	
Supply Index Running Value	The constantly running index that measures the ongoing consumption relating to a particular Supply Index			MID	NUM (10,4)	M	D	Y	Supplier Data Collector	Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.
Import/Export Flag	Identifies whether the Supply Index relates to import or export	5.9, 7.2			CHAR(1), I or E	M	S	Y	Supplier Data Collector	This currently only applies to electricity, but could be considered for gas in future proofing. This should allow reverse running to be identified.
Entity – Reading Calendar	**The calendar that triggers "business as usual", cyclic or interval reads captured as a static read from the Supply Index. This calendar can be defined to be triggered on a particular day type at a particular time or by simple configuration of an interval in minutes.**									
Reading Calendar ID	Unique identifier for a particular reading calendar	5.2			CHAR(10)	M	U	N (Supplier)	Supplier Data Collector	Logically each Supply Index can have its own Reading Calendar, but it is likely that the same reading calendar will be defined for all Supply Indices
Reading	The date and	5.2,			DATETIME	M	U	N	Supplier	This sets the time from

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Calendar Effective From DateTime	time from which a particular reading calendar is effective	5.5						(Supplier)	Data Collector	which the interval will be calculated. For example, if the time defined in this data item is on the hour or on the half hour and the interval is defined at 30 minutes, HH data will be recorded. This date time may (and probably will) be defined to start before the meter is installed.
Reading Calendar Effective To DateTime	The date and time to which a particular reading calendar is effective	5.2, 5.5			DATETIME	M	U	N (Supplier)	Supplier Data Collector	
Reading Interval	If the interval option is taken to define the reading calendar, this defines the interval in minutes	5.2, 5.5			INT (6), minutes	O	U	N (Supplier)	Supplier Data Collector	Triggered from the effective from datetime, as described above. Annual reading would require 6 digits and that would be expected as an absolute maximum.
Day Type Name	If the day type option is taken, this defines the day type on which a	5.2, 5.5			CHAR (10)	O	U	N (Supplier)	Supplier Data Collector	Day Types will be defined at the Meter level where they are not simply derived

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	reading will be taken									within the meter.
Time of Supply Index Reading Capture	Identifies the time of day within the day that a day type reading will be taken	5.2, 5.5			TIME	O	U	N (Supplier)	Supplier Data Collector	
Entity – Captured Supply Index Reading	**A Supply Index Running Value that is captured as a static reading at a particular date and time as defined by the Reading Calendar**									
Captured Supply Index Reading Date & Time	The date and time of reading captured from the Supply Index	5.1			DATETIME	M	D U	Y	Supplier Data Collector	It is expected that the Date and Time will be unique, allowing this as the primary key for a reading. Only U to allow for clearing data for storage purposes
Captured Supply Index Reading	The value of the captured reading from the Supply Index	1.3 & 1.4			NUM (10,4)	M	D U	Y	Supplier Data Collector	Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.

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Entity – Customer Product	**The product offering that the customer is contracted to the Supplier for at a particular time. This is defined to be flexible enough to allow for varying prices depending on time of day usage, seasonal/calendar usage or consumption thresholds.**									
Customer Product Identifier	A unique identifier for a Supplier's customer offering	3.3, 7.2, 6.2, 11.6			CHAR(10)	M	U	N (Supplier)	Current Supplier Customer	This has been defined at CHAR(10) to allow a descriptive identifier
Customer Product Description	Further description of the Customer Product, if necessary	3.3, 7.2, 6.2, 11.6			CHAR(50)	O	U	N (Supplier)	Current Supplier Customer	
Customer Product effective from datetime	The date and time from which a particular Customer Product is effective	3.3, 7.2, 5.5, 6.2, 11.6			DATETIME	M	U	N (Supplier)	Current Supplier	
Customer Product effective to datetime	The date and time to which a particular Customer Product is effective	3.3, 7.2, 5.5, 6.2, 11.6			DATETIME	O	U	N (Supplier)	Current Supplier	
Standing Charge	A weekly standing charge that is applied to the customer for this particular	6.6		DTC J0543	NUM(12,7), Units Monetary (defined by Currency	O	U	N (Supplier)	Current Supplier Customer	This has been defined in the DTC as weekly – the assumption is that standing charges can be scaled to weekly on

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	customer product				for SRSM)					a pro-rata basis. This is defined at 5 decimal places beyond pence, as required.
Entity – Timed Product Component	**A component of the Customer Product that is defined to run in a number of periods between specific times on a daily basis**									
Timed Product Component Identifier	Unique identifier for the Timed Product Component	3.3, 7.2, 6.2, 11.6			CHAR(10)	M	U	N (Supplier)	Current Supplier	
Timed Product Component Effective from datetime	The date and time from which a particular Timed Product Component is effective	3.3, 7.2, 5.5, 6.2, 11.6			DATETIME	M	U	N (Supplier)	Current Supplier	Timed Product Components relating to a particular Customer Product must not overlap with other product components, as that would mean more than 1 price applicable at any one time
Timed Product Component Effective to datetime	The date and time to which a particular Timed Product Component is effective	3.3, 7.2, 5.5, 6.2, 11.6			DATETIME	O	U	N (Supplier)	Current Supplier	
Entity – Timed	**The periods that the Timed Product Component runs for, together with the metered advance and price**									

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Product Component Period	**applicable to those individual periods.**									
Timed Product Component Period Identifier	Unique identifier for a particular period with its own price in a Timed Product Component	3.3, 7.2, 6.2, 11.6			CHAR(10)	M	U	N (Supplier)	Current Supplier	
Timed Product Component Period Start time	Start Time within the day for a particular Timed Product Component Period	3.3, 7.2, 5.5, 6.2, 11.6			TIME	M	U	N (Supplier)	Current Supplier	Timed Product Component Periods must not overlap, as that would mean more than 1 price applicable at any one time
Timed Product Component Period End time	End Time within the day for a particular Timed Product Component Period	3.3, 7.2, 5.5, 6.2, 11.6			TIME	M	U	N (Supplier)	Current Supplier	It is assumed that there must be an end time but that the smart meter is able to recognise periods that go over the end of the day (e.g. 7 p.m. to 7 a.m.). The alternative would be to constrain this data item to always be populated with midnight for those periods.
Timed Product Component Period Price	The price applicable for the particular Timed Product	3.3, 7.2, 6.2,			Currency	O	U	N (Supplier)	Current Supplier	Optional as price data is not mandatory in the meter

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	Component Period	11.6							Customer	specifications
Running Advance Value	A running cumulative measure of metered consumption dynamically updated from the relevant Supply Index that relates to a particular Timed Product Component Period				NUM (10,4)	M	D	Y	Current Supplier Customer	This provides a consumption value to apply to the price for a particular Timed Product Component Period The Running Advance Value is the equivalent of the existing running register displays. For a single component to each index, this value will start at the same value as the index to ensure they are the same Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.
Maximum Demand Value	The highest demand (kW) measured until				NUM (10,4)	O	D U	Y	Supplier Supplier Agents	Maximum Demand Value and Maximum Demand Value Date & Time need to be

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	reset									captured against each logical "register". The software in the meter should reset the values every time it is read and that this can be a calendar driven event. The Maximum Demand value should be recognised as the highest from each of the logical registers and that there should be no summation, as only one of these will be active at any time Only for Maximum Demand capable meters Update (U) is required for reset only
Maximum Demand Value Date and Time	The date and time of the Maximum Demand Value				DATETIME	O	D U	Y	Supplier Supplier Agents	Only for Maximum Demand capable meters Update (U) is required for reset only
Entity – Timed Period Captured Advance	**A Running Advance Value that is captured as a static reading at the start or end time of a Timed Product Component Period**									

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Captured Advance Date & Time	The date and time of reading captured from the Running Advance Value	5.1			DATETIME	M	D U	Y	Supplier Data Collector	It is expected that the Date and Time will be unique, allowing this as the primary key for a reading. Only U to allow for clearing data for storage purposes
Captured Advance Value	The value of the captured reading from the Running Advance Value	1.3 & 1.4			NUM (10,4)	M	D U	Y	Supplier Data Collector	Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.
Entity – Consumption Product Component	**A component of the Customer Product that is defined to run in a number of ranges with specifically defined consumption thresholds**									
Consumption Product Component Identifier	Unique identifier for the Consumption Product Component	3.3, 7.2, 6.2, 11.6			CHAR(10)	M	U	N (Supplier)	Current Supplier	
Consumption Product	The date and time from	3.3, 7.2,			DATETIME	M	U	N (Suppli	Current Supplier	Consumption Product Components relating

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Component Effective from datetime	which a particular Consumption Product Component is effective	5.5, 6.2, 11.6						er)		to a particular Customer Product must not overlap with other product components, as that would mean more than 1 price applicable at any one time
Consumption Product Component Effective to datetime	The date and time to which a particular Consumption Product Component is effective	3.3, 7.2, 5.5, 6.2, 11.6			DATETIME	O	U	N (Supplier)	Current Supplier	
Entity – Consumption Product Component Range	**T he consumption ranges that the Consumption Product Component runs for, together with the metered advance and price applicable to those individual ranges.**									
Consumption Product Component Range Identifier	Unique identifier for a particular range with its own price in a Consumption Product Component	3.3, 7.2, 6.2, 11.6			CHAR(10)	M	U	N (Supplier)	Current Supplier	
Consumption Product Component Range Start	The bottom threshold at which a consumption Product	3.3, 7.2, 5.5, 6.2,			NUM (10,4)	M	U	N (Supplier)	Current Supplier	Consumption Product Component Ranges must not overlap, as that would mean more than 1 price applicable

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Consumption	Component range starts	11.6								at any one time It is assumed that this will be zero for the first range Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.
Consumption Product Component Range End Consumption	The top threshold limit at which a consumption Product Component Range ends	3.3, 7.2, 5.5, 6.2, 11.6			DATETIME	O	U	N (Supplier)	Current Supplier	It is assumed that there does not need to be an end consumption – there must be an open top range
Consumption Product Component Range Price	The price applicable for the particular Consumption Product Component Range	3.3, 7.2, 6.2, 11.6			Currency	O	U	N (Supplier)	Current Supplier Customer	Optional as price data is not mandatory in the meter specifications
Running Advance Value	A running cumulative measure of metered				NUM (10,4)	M	D	Y	Current Supplier Customer	This provides a consumption value to apply to the price for a particular

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	consumption dynamically updated from the relevant Supply Index that relates to a particular Consumption Product Component Range									Consumption Product Component Range The Running Advance Value is the equivalent of the existing running register displays. Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.
Maximum Demand Value	The highest demand (kW) measured until reset				NUM (10,4)	O	D U	Y	Supplier Supplier Agents	Maximum Demand Value and Maximum Demand Value Date & Time need to be captured against each logical "register". The software in the meter should reset the values every time it is read and that this can be a calendar driven event. The Maximum Demand value should be recognised as the highest from each of the logical registers and that there should

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										be no summation, as only one of these will be active at any time Only for Maximum Demand capable meters Update (U) is required for reset only
Maximum Demand Value Date and Time	The date and time of the Maximum Demand Value				DATETIME	O	D U	Y	Supplier Supplier Agents	Only for Maximum Demand capable meters Update (U) is required for reset only
Entity – Consumption Range Captured Advance	**A Running Advance Value that is captured as a static reading at the start or end consumption threshold of a Consumption Product Component Range**									
Captured Advance Date & Time	The date and time of reading captured from the Running Advance Value	5.1			DATETIME	M	D U	Y	Supplier Data Collector	It is expected that the Date and Time will be unique, allowing this as the primary key for a reading. Only U to allow for clearing data for storage purposes
Captured Advance Value	The value of the captured reading from the Running	1.3 & 1.4			NUM (10,4)	M	D U	Y	Supplier Data	Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single

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	Advance Value								Collector	NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.
Entity – Calendar Product Component	**A component of the Customer Product that is defined to run in a number of periods between specific times on a day or type of day in the calendar**									
Calendar Product Component Identifier	Unique identifier for the Calendar Product Component	3.3, 7.2, 6.2, 11.6			CHAR(10)	M	U	N (Supplier)	Current Supplier	
Calendar Product Component Effective from datetime	The date and time from which a particular Calendar Product Component is effective	3.3, 7.2, 5.5, 6.2, 11.6			DATETIME	M	U	N (Supplier)	Current Supplier	Calendar Product Components relating to a particular Customer Product must not overlap with other product components, as that would mean more than 1 price applicable at any one time
Calendar Product Component Effective to datetime	The date and time to which a particular Calendar Product Component is effective	3.3, 7.2, 5.5, 6.2, 11.6			DATETIME	O	U	N (Supplier)	Current Supplier	

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Entity – Calendar Product Component Period	**The periods that the Calendar Product Component runs for defined for each Day Type, together with the metered advance and price applicable to those individual periods.**									
Calendar Product Component Period Identifier	Unique identifier for a particular period with its own price in a Calendar Product Component	3.3, 7.2, 6.2, 11.6			CHAR(10)	M	U	N (Supplier)	Current Supplier	
Day Type Name	The Day Type that the particular Calendar Product Component Periods apply to	3.3, 7.2, 5.5, 6.2, 11.6			CHAR(10)	M	U	N (Supplier)		Day Types are defined at the Meter level where they are not simply derived within the meter. It is assumed that there will always be an active day type for any day (e.g. normal day type defined with exceptional days identified with different Calendar Product Component Periods)
Calendar Product Component Period Start time	Start Time within the day for a particular Calendar Product	3.3, 7.2, 5.5, 6.2,			TIME	M	U	N (Supplier)	Current Supplier	Calendar Product Component Periods must not overlap, as that would mean more than 1 price applicable

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	Component Period	11.6								at any one time
Calendar Product Component Period End time	End Time within the day for a particular Calendar Product Component Period	3.3, 7.2, 5.5, 6.2, 11.6			TIME	M	U	N (Supplier)	Current Supplier	It is assumed that there must be an end time but that the smart meter is able to recognise periods that go over the end of the day (e.g. 7 p.m. to 7 a.m.). The alternative would be to constrain this data item to always be populated with midnight for those periods.
Calendar Product Component Period Price	The price applicable for the particular Calendar Product Component Period	3.3, 7.2, 6.2, 11.6			Currency	O	U	N (Supplier)	Current Supplier Customer	Optional as price data is not mandatory in the meter specifications
Running Advance Value	A running cumulative measure of metered consumption dynamically updated from the relevant Supply Index that relates to a particular Calendar				NUM (10,4)	M	D	Y	Current Supplier Customer	This provides a consumption value to apply to the price for a particular Calendar Product Component Period. The Running Advance Value is the equivalent of the existing running register displays.

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	Product Component Period									Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.
Maximum Demand Value	The highest demand (kW) measured until reset				NUM (10,4)	O	D U	Y	Supplier Supplier Agents	Maximum Demand Value and Maximum Demand Value Date & Time need to be captured against each logical "register". The software in the meter should reset the values every time it is read and that this can be a calendar driven event. The Maximum Demand value should be recognised as the highest from each of the logical registers and that there should be no summation, as only one of these will be active at any time Only for Maximum Demand capable meters

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										Update (U) is required for reset only
Maximum Demand Value Date and Time	The date and time of the Maximum Demand Value				DATETIME	O	D U	Y	Supplier Supplier Agents	Only for Maximum Demand capable meters Update (U) is required for reset only
Entity – Calendar Period Captured Advance	**A Running Advance Value that is captured as a static reading at the start or end time of a Calendar Product Component Period**									
Captured Advance Date & Time	The date and time of reading captured from the Running Advance Value	5.1			DATETIME	M	D U	Y	Supplier Data Collector	It is expected that the Date and Time will be unique, allowing this as the primary key for a reading. Only U to allow for clearing data for storage purposes
Captured Advance Value	The value of the captured reading from the Running Advance Value	1.3 & 1.4			NUM (10,4)	M	D U	Y	Supplier Data Collector	Agreed minimum 6 digits for gas and 5 digits for electricity in specifications. Single NUM (10,4 for consistency) Assumption that 4 DPs required for accuracy testing.

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3.6 Debit/Prepayment Specific Function Data Definition

This has not yet been included in the data model, as it is potential data, but it has been defined in draft below in preparation. Even if it is not part of a single metering system, the data will need to be modelled for a debit smart meter. However, all of the data is currently defined as optional to reflect this uncertainty.

Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
Entity – Mode of Operation	**Describes whether a meter is operating in debit or credit mode**									
Mode of Operation Indicator	An indicator showing whether the meter is operating in Credit or Debit mode	3.1			CHAR(1), C or D	O	U	Y		
Mode of Operation Effective From Datetime	The date and time from which a particular Mode of Operation is effective	3.1			DATETIME	O	U	Y		
Mode of Operation Effective to Datetime	The date and time to which a particular Mode of Operation is effective	3.1			DATETIME	O	U	Y		This is required where the mode is changed to record when it is registered to.

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
Entity - Credit	**Shows all information relating to the credit held**									
Credit Balance	Working credit	3.1, 11.6, 6.3		DTC J0537	NUM (5,2), Units Monetary (from Currency for SRSM)	O	U	D		
Emergency Credit Maximum		3.1, 6.3			NUM (4, 2), Units from Currency	O	U	N (Supplier)		There are a number of smart card meter defined items in the DTC re: threshold, but not the threshold itself
Emergency Credit Balance	Available emergency credit	3.1, 6.3		DTC J0556	NUM (4,2), Units Monetary (from Currency for SRSM)	O	U	D		
Cumulative Credit Purchased	Totalised value	11.9			NUM (8, 2), Units from Currency	O	U	N (Supplier)		Can be used as check against individual values
Entity – Credit Purchased	**Shows all information relating to the credit purchased**									
Date and Time Credit Purchased		11.6			DATETIME	O	U	N (Suppli		It is expected that the Date and Time will be unique, allowing this

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
								er)		as the primary key for credit purchase.
Credit Purchased		11.6			NUM (5, 2), Units from Currency	O	U	N (Supplier)		
Entity – Non-Disconnection Period	**The period that a Supplier can define within which supply will never be interrupted on the basis of insufficient credit on a debit meter**									
Non-Disconnection Period Identifier	Identifies a particular period of non-disconnection	3.1, 7.3, 11.1			CHAR(10)	O	U	N (Supplier)		
Non-Disconnection Period Description	Descriptor	3.1, 7.3, 11.1			CHAR(30)	O	U	N (Supplier)		
Non-Disconnection Period effective from date	3.1, 7.3, 11.1				DATE	O	U	N (Supplier)		For non-disconnection periods relating to particular date periods with a time applied to it
Non-Disconnection Period effective to date	3.1, 7.3, 11.1				DATE	O	U	N (Supplier)		For non-disconnection periods relating to particular date periods with a time applied to

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
										it
Non-Disconnection Period Day Type Name	3.1, 7.3, 11.1				CHAR (10)	O	U	N (Supplier)		For non-disconnection periods relating to a day type (e.g. Christmas day) – this may need further definition of day type Day Types are defined at the Meter level where they are not simply derived within the meter.
Non-Disconnection Period effective from Time	3.1, 7.3, 11.1				TIME	O	U	N (Supplier)		This could apply to either a period driven by date or day type
Non-Disconnection Period effective to Time	3.1, 7.3, 11.1				TIME	O	U	N (Supplier)		This could apply to either a period driven by date or day type
Entity – Fuel Debt	**This describes the balance and means of recovery for fuel debt for pre-payment/debit mode only**									
Fuel Debt Balance		7.3			NUM (7, 2), Units from Currency	O	U	D		
Fuel Debt Recovery Type	Classification of the method of				CHAR (2), T, P,	O	U	N (Supplier)		Timed, Percentage of vended amount retained,

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
	fuel recovery to be employed by the Supplier									
Timed Fuel Debt Recovery Rate	The weekly amount that is deducted from the credit balance	11.3		DTC J0547	NUM (5,2), Units Monetary (Currency) minimum and maximum definition may be required	O	U	N (Supplier)		
Interval for Timed Fuel Debt recovery event	For timed recovery, the interval when the debt will actually be recovered against the rate above (e.g. every hour).				INT (10), Seconds	O	U	N (Supplier)		
Percentage of vended amount retained for Fuel	A percentage of every vend that is retained for				NUM(4, 2), Percentage	O	U	N (Supplier)		

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
Debt	fuel debt recovery									
Vend Threshold for Fuel Debt	Vend Threshold above which fuel debt is recovered				NUM (6, 2), Units from Currency	O	U	N (Supplier)		
Vend Threshold Recovered amount for Fuel Debt	The amount of debt recovered if the vend is above threshold				NUM (6, 2), Units from Currency	O	U	N (Supplier)		
Entity – Non-Fuel Debt	**This describes the balance and means of recovery for non-fuel debt for pre-payment/debit mode only**									
Non-Fuel Debt Balance		11.4			NUM (7, 2), Units from Currency	O	U	N (Supplier)		Optional depending on whether the consideration of non-fuel debt is agreed as part of any smart metering solution
Non-Fuel Debt Recovery Type	Classification of the method of fuel recovery to be employed by	11.4			CHAR (2), T, P,	O	U	N (Supplier)		Timed, Percentage of vended amount retained,

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
	the Supplier									
Timed Non-Fuel Debt Recovery Rate	The weekly amount that is deducted from the credit balance	11.4		DTC J0547	NUM (5,2), Units Monetary (Currency) minimum and maximum definition may be required	O	U	N (Supplier)		
Interval for Timed Non-Fuel Debt recovery event	For timed recovery, the interval when the debt will actually be recovered against the rate above (e.g. every hour).	11.4			INT (10), Seconds	O	U	N (Supplier)		
Percentage of vended amount retained for Non-Fuel Debt	A percentage of every vend that is retained for fuel debt recovery	11.4			NUM(4, 2), Percentage	O	U	N (Supplier)		

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Entity/Data Item	Description	Meter Spec v1 Ref	Other SRSM Ref.	External Refs	Definition (Format, Unit, Valid Set)	MO	SUD	Master Data Source Y/N	Authorised Parties/ Access Rights	Comments
Vend Threshold for Non-Fuel Debt	Vend Threshold above which fuel debt is recovered	11.4			NUM (6, 2), Units from Currency	O	U	N (Supplier)		
Vend Threshold Recovered amount for Non-Fuel Debt	The amount of debt recovered if the vend is above threshold	11.4			NUM (6, 2), Units from Currency	O	U	N (Supplier)		

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3.7 Optional Function Data Definition

There has been no further definition of data that requires further agreement as part of the smart meter specifications, which includes interrupted supply requirements, DNO data requirements energy efficiency data or account data.

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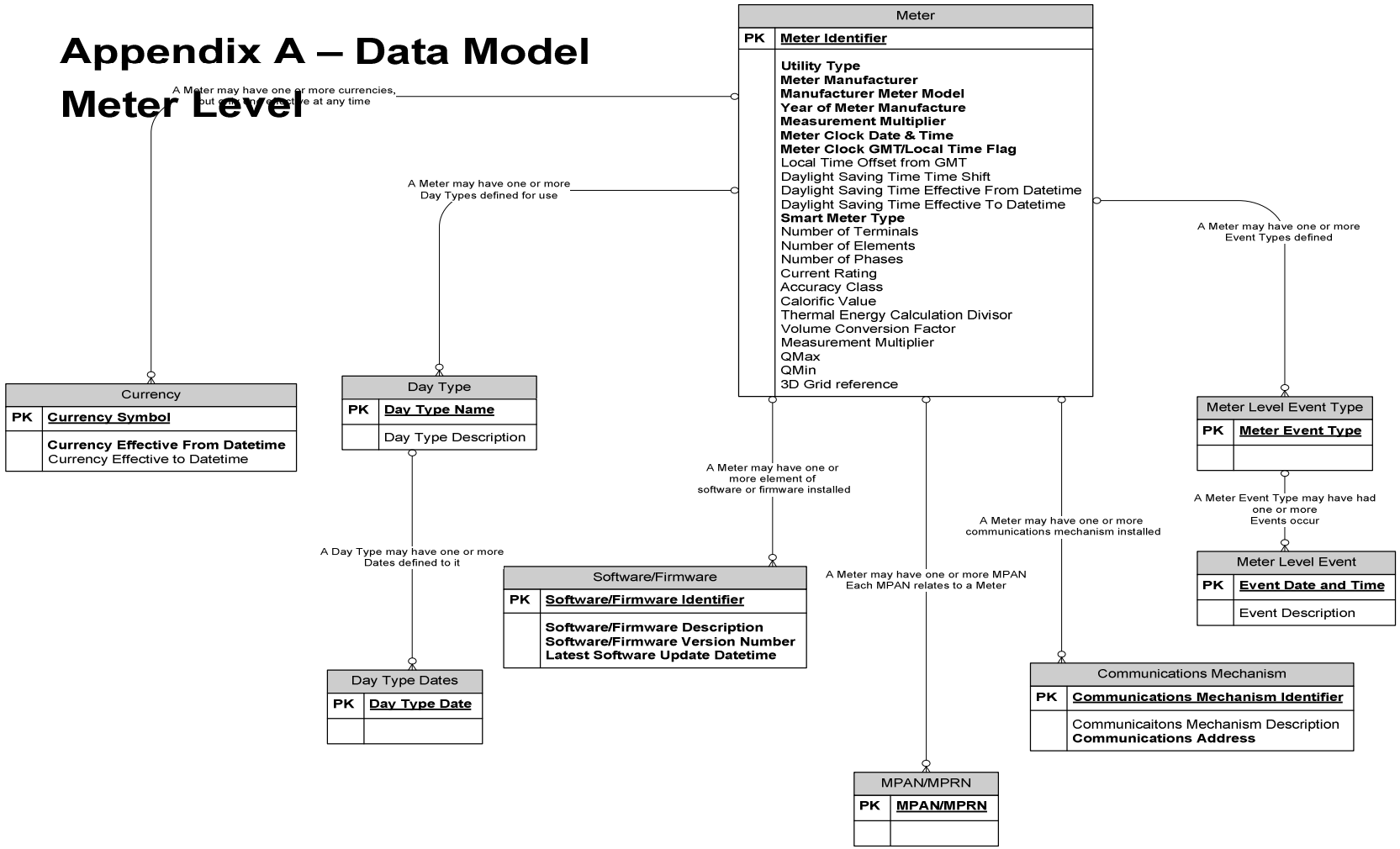
Appendix A – Data Model

Meter Level



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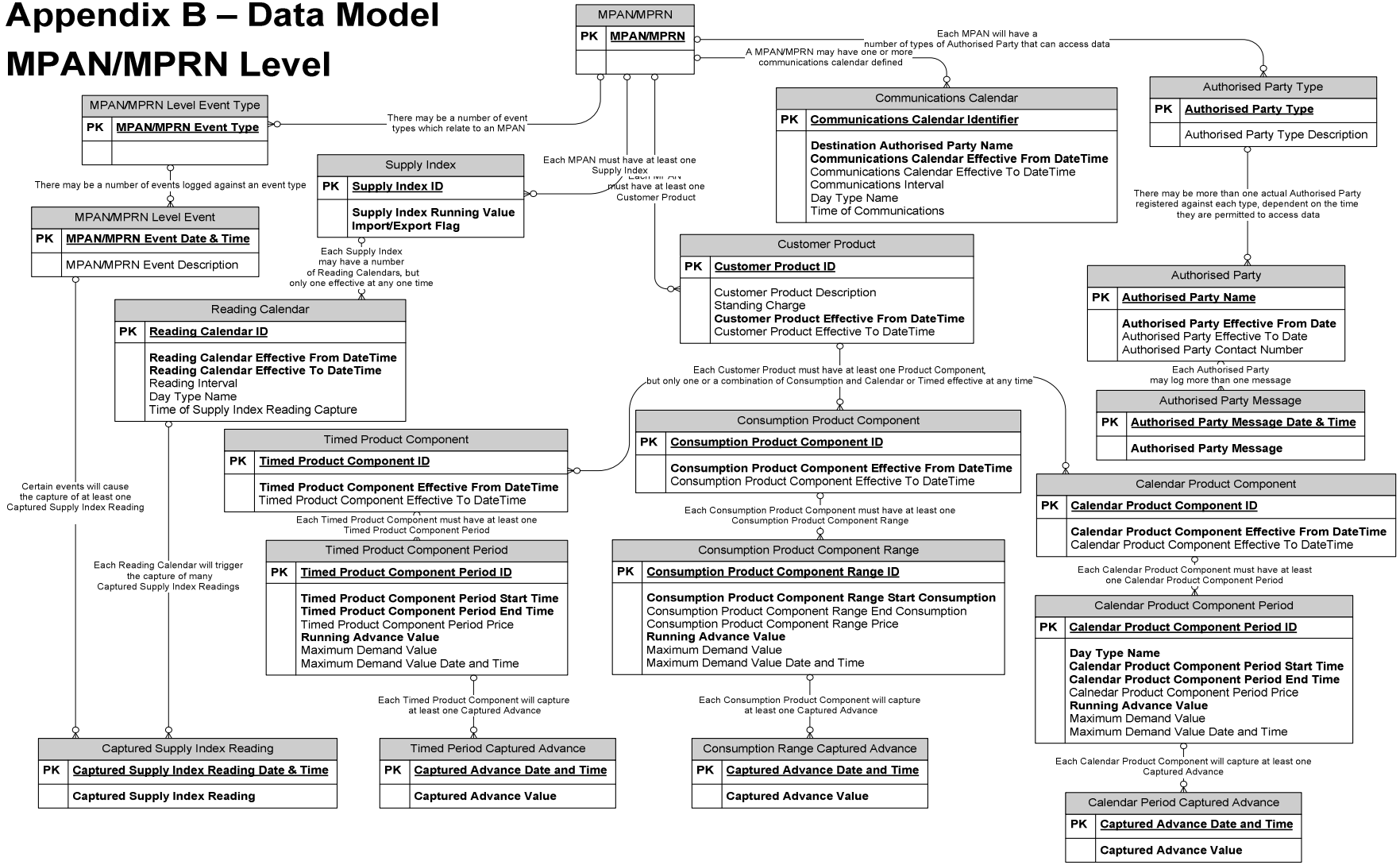
Appendix B – Data Model

MPAN/MPRN Level



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