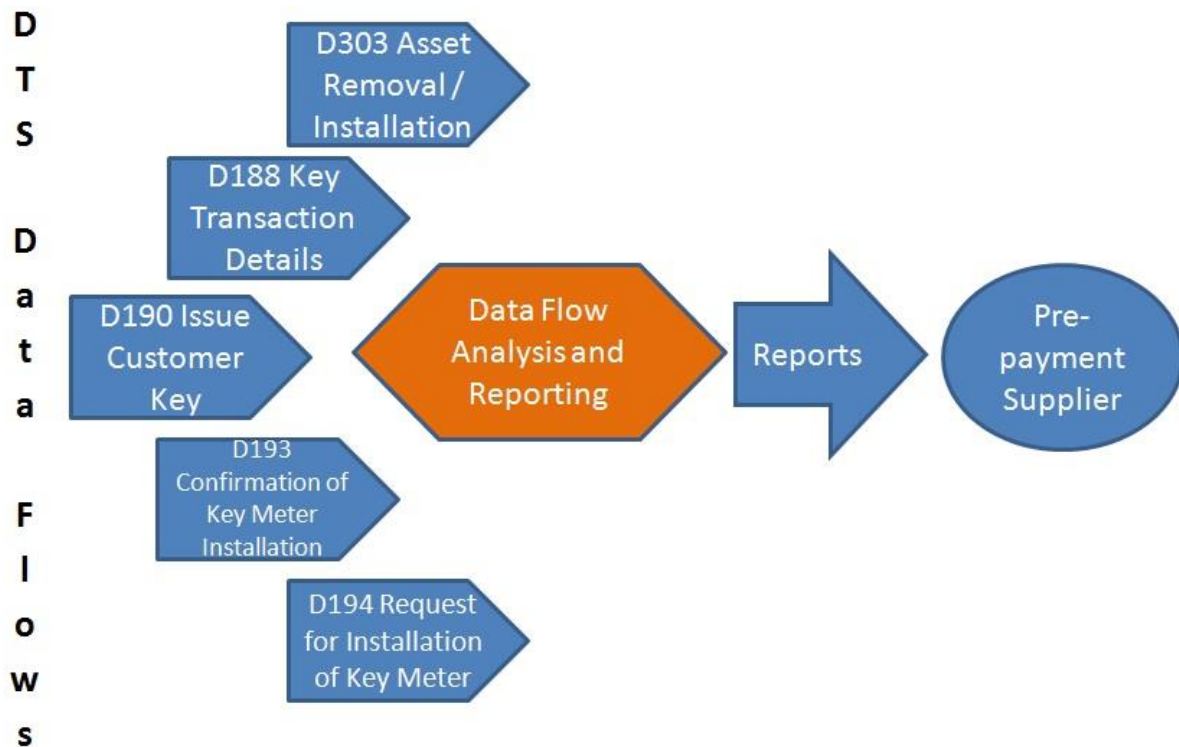




ElectraLink's Data Services for Prepayment

Introduction

There are a number of challenges facing the operation of the electricity pre-payment market in GB resulting in significant issues for all market participants. ElectraLink's new ability to provide insight and reports on the details of the messages passing across its networks enables many of these problems to be tracked down and resolved.





Introduction and background to ElectraLink's Data Services

Competition and interoperability in the electricity retail market are underpinned by a number of core industry processes, eg the change of supplier and settlement processes. The details of these processes are governed by a range of industry codes – the predominant codes being the Master Registration Agreement (MRA) and Balancing and Settlement Code (BSC).

Performing these processes is enabled by using standardised data flow messages, which are published in the Data Transfer Catalogue (DTC) – please see dtc.mrasco.com. In addition, a standard means of sending and receiving these messages is ensured through the provision of the Data Transfer Service (DTS) - a regulated network service that ensures the secure and auditable communication of data flows between users of the service.

The GB electricity Distribution Network Operators are obliged to ensure the provision of the DTS in accordance with their licences (Standard Licence Condition 37). In order to discharge their obligation, the DNOs collectively created and own ElectraLink Ltd, which is responsible for the procurement and management of the DTS. ElectraLink provides the DTS over its Data Transfer Network (DTN).

In February 2012, ElectraLink was granted the capability to develop Data Services, by intercepting, analysing and aggregating regulated market data sent over the DTN, by the users of the DTS. The DTS Users, who represent the main GB electricity retail market participants (i.e. suppliers, DNOs and their agents), recognised that whilst the information contained in the information could provide a great deal of value to help industry improve its performance.

In order to ensure that personal and confidential information was correctly protected, specific rules were agreed on who the services could be provided to, and what information could be delivered. So, for instance, individual market participants' performance can only be identified if the recipients have the right, either by law or contract, to see that information. Similarly individual meter point data can only be provided where the recipient has a right to that information.

Nevertheless, even with these restrictions, there is still considerable value to organisations to get insight into their own activities, and to benchmark their performance against the rest of industry. Also these services provide a great opportunity for the automation of industry reporting so as to reduce the workload for individual companies to collate and send information, and the workload of the receiving organisations in collating different formats and timings of reports so as to be able to analyse the information.



ElectraLink has access to all DTS electricity retail market data that is sent over the DTN (ie the data in flows defined in the DTC) and which underpins the core industry processes that enable the competitive retail market. As demonstrated below, the DTN is the primary vehicle for communicating the data flows that underpin the electricity retail market's operation. Access to this data enables a near complete view of market activity.

At present ElectraLink is able to store DTS data for up to three years for use in data services. This limit is for data protection purposes. ElectraLink's data starts from May 2012..

The unique value of ElectraLink's Data Services is that they draw upon the large and varied volume of data sent over the DTN, which can be efficiently accessed and can provide a holistic view of activities that underpin the electricity retail. Furthermore, DTS data can be combined with additional data sets (e.g. geodemographic data) that could increase the capability of what can be provided.

Value of ElectraLink's Data Services for Pre-payment

The DTS provides the primary means for sending and receiving data flows that underpin GB electricity retail market processes. In summary, the industry processes supported are:

- Change of supplier
- Agent management
- Settlement
- Meter reading
- Meter installation, registration and maintenance
- Pre-payment

Because of the nature of the pre-payment process, knowing details of other activity, for instance change of supply, or meter installation, can provide insight into problems with the flow of pre-payments.

There are also dedicated flows for prepayment which include:

D0179 - Confirmation of Energisation/De-Energisation of Prepayment Meter

D0180 - Request to Energise/De-Energise/Shut Down Prepayment Meter

D0188 - Key Transaction Details

D0189 - Adjust Key Meter Debt/Recovery Rate at Specific Locations

D0190 - Issue Customer Key

D0191 - Request Special Visit to Read/Reset Key Meter



D0192 - Readings and Settings from a Token or Key Meter

D0193 - Confirmation of Key Meter Installation

D0194 - Request for Installation of Key Meter

These flows contain the following content that is not available in registration systems.

- Transaction details (ie credit added/debt paid to meters)
- Installation, reconfiguration and maintenance details (ie appointment requests and completion details)
- Tariff, credit and debt details (ie settings and actual values)
- Details of failure or on-site issues
- Meter reading data
- Site contact details and Mailing address details

Data Flow Coverage

Whilst all major electricity retail market participants are connected to the DTN, and the majority of the information is passed across the DTN, they are not mandated to use the DTN to communicate with one another. Indeed where it is more efficient, some parties send the data flows using an alternative to the DTN. The single most common example of this is where market participants belong to the same corporate group, and they choose to use internal communication systems to send data between the different parts of the business.

Table 1 below provides further detail of the different industry processes supported by the DTS and the extent to which the DTN is used to communicate the DTC flows required to execute those processes. Table 2 provides a flow by flow summary of the coverage provided by the DTN.



Table 1 – DTN coverage of electricity retail market processes

GB Electricity Retail Market Process	Typical DTN coverage	Commentary
Change of Supplier (HH)	80%	Good coverage but missing some intra-group flows, eg in relation to CoS readings
Change of Supplier (NHH)	80%	Good coverage but missing some intra-group flows, eg in relation to CoS readings
Resolve Erroneous Transfer	100%	Full coverage - ie process involves supplier to supplier communication only
Change of Agent (HH)	70%	Limited coverage because Big 6 tend to use own agents
Change of Agent (NHH)	70%	Limited coverage because Big 6 tend to use own agents
New Connection (HH)	90%	Good coverage but missing some intra-group flows, ie between supplier and own agents
New Connection (NHH)	90%	Good coverage but missing some intra-group flows, ie between supplier and own agents
De-energise, Energise and Disconnect	70%	Limited coverage because Big 6 tend to use own agents
Installation, Reconfiguration or Removal of Metering	80%	Generally good coverage but can miss some flows because Big 6 tend to use own agents
Manage Supply	80%	Generally good coverage but can miss some flows because Big 6 tend to use own agents
Manage PPMs	90%	Good coverage but miss some intra-group flows, ie between



GB Electricity Process	Retail Market	Typical DTN coverage	Commentary
			supplier and own agents
Manage Supply Outages	Faults and	90%	Good coverage but miss some intra-group flows, ie between supplier and DNO
Minimise Illegal Abstraction		80%	Theft detection and mitigation do not always use processes that require the sending and receiving of DTN flows. Nevertheless, ElectraLink should have good coverage of those flows that are sent.
Data Collection and Processing of HH Meter Readings		70%	Good coverage but miss some intra-group flows, ie between supplier and own agents
Data Collection and Processing of NHH Meter Readings		70%	Good coverage but miss some intra-group flows, ie between supplier and own agents
Validate and Aggregate Data and Settle		80%	Good coverage but miss some intra-group flows, ie between DCs and DAs in the same group

Table 2 – Flow by flow summary of DTN coverage

Data Flow	Flow Name	Overall DTN Coverage
D0001	Request Metering System Investigation	FULL
D0002	Fault Resolution Report or Request for Decision on Further Action	MEDIUM
D0003	Half Hourly Advances	MEDIUM
D0004	Notification of Failure to Obtain Reading	MEDIUM



Data Flow	Flow Name	Overall Coverage	DTN
D0005	Instruction on Action	HIGH	
D0008	Meter Advance Reconciliation Report	LOW	
D0010	Meter Readings	MEDIUM	
D0011	Agreement of Contractual Terms	MEDIUM	
D0012	Confirmation of the Inclusion of the Metering Point in the Reading Schedules	MEDIUM	
D0018	Daily Profile Data Report	FULL	
D0019	Metering System EAC/AA Data	MEDIUM	
D0022	Estimated Half Hourly Data Report	MEDIUM	
D0023	Failed Instructions	HIGH	
D0028	Standing Profile Data Report	Not sent over the DTN	
D0029	Standard Settlement Configuration Report	FULL	
D0030	Non Half Hourly DUoS Report	FULL	
D0036	Validated Half Hourly Advances for Inclusion in Aggregated Supplier Matrix	LOW	
D0039	Daily Profile Coefficient File	FULL	
D0040	Aggregated Half Hour Data File	HIGH	
D0041	Supplier Purchase Matrix Data File	HIGH	
D0043	Supplier Deemed Take Report	FULL	
D0051	Affirmation of Half Hour Data Retrieval Method and Associated Details	HIGH	
D0052	Affirmation of Metering System Settlement Details	MEDIUM	



Data Flow	Flow Name	Overall Coverage	DTN
D0055	Registration of Supplier to Specified Metering Point	FULL	
D0057	Rejection of Registration	FULL	
D0058	Notification of Termination of Supply Registration	FULL	
D0064	Notification of an Objection to Change of Supplier Made By the Old Supplier	FULL	
D0065	Confirmation of Receipt of a Registration Objection	FULL	
D0066	Rejection of a Registration Objection	HIGH	
D0067	Notification of an Objection to Change of Supplier Sent to the New Supplier	FULL	
D0068	Removal of Registration Objection	FULL	
D0069	Rejection of Registration Objection Removal	LOW	
D0071	Customer Own Reading or Supplier Estimated Reading on Change of Supplier	MEDIUM	
D0072	Instruction to Obtain Change of Supplier Reading	MEDIUM	
D0079	Supplier Purchase Report	FULL	
D0081	Supplier Half Hourly Demand Report	FULL	
D0082	Supplier - Supplier Purchase Matrix Report	FULL	
D0086	Notification of Change of Supplier Readings	MEDIUM	
D0089	Notification from MPAS of Changed Metering Point Details	LOW	
D0090	Confirmation of the Removal of a Registration Objection	FULL	
D0091	Notification of Removal of a Registration Objection	FULL	
D0092	Advice to an Old Supplier of a Change of Supply Registration Deletion	FULL	



Data Flow	Flow Name	Overall Coverage	DTN
D0093	Advice to a New Supplier of a Change of Supply Registration Deletion	FULL	
D0095	Non Half Hourly Data Aggregation Exception Report	HIGH	
D0125	Confirmation of Disconnection of Supply	FULL	
D0126	Action Taken to Make Safe	LOW	
D0131	Metering Point Address Details	MEDIUM	
D0132	Request for Disconnection of Supply	FULL	
D0134	Request to Change Energisation Status	FULL	
D0135	Asset Condition Report	HIGH	
D0136	Report to Supplier of Possible Irregularity	LOW	
D0139	Confirmation or Rejection of Energisation Status Change	HIGH	
D0142	Request for Installation or Change to a Metering System Functionality or the Removal of All Meters	HIGH	
D0148	Notification of Change to Other Parties	HIGH	
D0149	Notification of Mapping Details	HIGH	
D0150	Non Half-hourly Meter Technical Details	HIGH	
D0151	Termination of Appointment or Contract by Supplier	HIGH	
D0152	Metering System EAC/AA Historical Data	FULL	
D0153	Notification of Data Aggregator Appointment and Terms	MEDIUM	
D0155	Notification of Meter Operator or Data Collector Appointment and Terms	MEDIUM	
D0164	Notification of New or Changed Interruption of Supply	INFREQUENT	



Data Flow	Flow Name	Overall Coverage	DTN
D0166	Distribution System Enquiry	INFREQUENT	
D0167	Response to Distribution System Enquiry	INFREQUENT	
D0168	Request for Additional/New MPAN Core(s)	MEDIUM	
D0169	Allocation of New/Additional MPAN Core(s)	FULL	
D0170	Request for Metering System Related Details	LOW	
D0171	Notification of Distributor Changes to Metering Point Details	FULL	
D0172	Confirmation of Changes	HIGH	
D0173	Token Transaction Data	LOW	
D0174	Issue Identity Card for Token Meter Customer	LOW	
D0176	Request Tariff/Debt Change on Token Meter	MEDIUM	
D0178	Confirmation of Token Meter Installation	MEDIUM	
D0179	Confirmation of Energisation/De-Energisation of Prepayment Meter	LOW	
D0180	Request to Energise/De-Energise/Shut Down Prepayment Meter	LOW	
D0181	Smart Card Credit Purchase Transactions	HIGH	
D0182	Smart Card Meter Readings	HIGH	
D0183	Issue New Customer Smart Card	HIGH	
D0184	Issue Replacement Smart Card	MEDIUM	
D0185	Command Acknowledgements for Smart Card Meter	MEDIUM	
D0186	Command Cancellation Advice	HIGH	
D0187	Status Message for Tariff Update, Mode Change, Tariff Change or Debt Clearance	MEDIUM	



Data Flow	Flow Name	Overall Coverage	DTN
D0188	Key Transaction Details	FULL	
D0189	Adjust Key Meter Debt/Recovery Rate at Specific Locations	MEDIUM	
D0190	Issue Customer Key	FULL	
D0191	Request Special Visit to Read/Reset Key Meter	LOW	
D0192	Readings and Settings from a Token or Key Meter	LOW	
D0193	Confirmation of Key Meter Installation	LOW	
D0194	Request for Installation of Key Meter	MEDIUM	
D0197	Smart Card Commands to Remote Terminals	LOW	
D0199	Status Message Report for Previous Card/Security Event Report or Previous Customer/Requested Snapshot	HIGH	
D0200	Request Installation of Smart Card Meter	INFREQUENT	
D0201	Confirmation of Smart Card Meter Installation	LOW	
D0202	Readings and Settings from a Removed Smart Card Meter	LOW	
D0203	Rejection of Changes to Metering Point Details	FULL	
D0204	Selective or Full Refresh of MPAS Details	LOW	
D0205	Update Registration Details	MEDIUM	
D0209	Instruction(s) to Non Half Hourly or Half Hourly Data Aggregator	HIGH	
D0213	Advice from MPAS of Changed Metering Point Details	FULL	
D0214	Confirmation of Proving Tests	HIGH	
D0215	Provision of Site Technical Details	HIGH	
D0216	Request Installation of Token Meter	LOW	



Data Flow	Flow Name	Overall Coverage	DTN
D0217	Confirmation of the Registration of a Metering Point	FULL	
D0221	Notification of Failure to Install or Energise Metering System	LOW	
D0222	Change in Customer Details	LOW	
D0223	Request to Install Check Meter or Carry Out Accuracy Tests	LOW	
D0224	Notification of Programme for Re-Certification Meter Changes	LOW	
D0225	Customer Special Needs	LOW	
D0227	BSCCo Market Domain Data File	FULL	
D0235	Half Hourly Aggregation Exception Report	HIGH	
D0236	Revenue Protection Service Statistical Report	LOW	
D0237	Notification by Revenue Protection Service of Possible Irregularity	FULL	
D0238	Request and Information for Revenue Protection Investigation	LOW	
D0239	Revenue Protection Report on Action Taken	LOW	
D0242	Super customer DUoS Daily Statement	HIGH	
D0259	Notification to New Supplier of Future Changes	INFREQUENT	
D0260	Notification from MPAS of Old Supplier Registration Details	FULL	
D0261	Rejection of Agent Appointment	HIGH	
D0262	Rejection of Disconnection	FULL	
D0265	Line Loss Factor Data File	INFREQUENT	
D0266	Supplier Settlement Header Report	FULL	



Data Flow	Flow Name	Overall Coverage	DTN
D0268	Half Hourly Meter Technical Details	FULL	
D0269	Market Domain Data Complete Set	FULL	
D0270	Market Domain Data Incremental Set	FULL	
D0271	Request Contact Notice	INFREQUENT	
D0272	Reject Contact Notice Request	INFREQUENT	
D0273	Contact Notice to Suppliers	INFREQUENT	
D0275	Validated Half Hourly Advances	LOW	
D0276	GSP Group Consumption Totals Report	FULL	
D0277	Teleswitch Contact Interval Data File	INFREQUENT	
D0278	Teleswitch Market Domain Data File	INFREQUENT	
D0279	Teleswitch Contact Interval Data Report File	FULL	
D0280	Teleswitch Contact to Register Mapping File	FULL	
D0286	Data Aggregation and Settlements Timetable File	FULL	
D0287	Annually Recalculated Researched Consumption	INFREQUENT	
D0289	Notification of MC/EAC/PC	HIGH	
D0290	Instruction to Read Meter	LOW	
D0291	Notification of Register Readings on Change of Measurement Class coincident with Change of Supplier	LOW	
D0294	Confirmation of BM Unit Allocation	INFREQUENT	



Data Flow	Flow Name	Overall Coverage	DTN
D0295	Rejection of BM Unit Allocation	INFREQUENT	
D0296	Supplier BM Unit Report	FULL	
D0298	BM Unit Aggregated Half Hour Data File	HIGH	
D0299	Stage 2 BM Unit Registration Data File	FULL	
D0300	Disputed Readings or Missing Readings on Change of Supplier	FULL	
D0301	Erroneous Transfer Communication	INFREQUENT	
D0302	Notification of Customer Details	HIGH	
D0303	Notification of Meter Operator, Supplier and Metering Assets installed / removed by the MOP to the MAP	HIGH	
D0304	Notification of Meter Asset Provider	MEDIUM	
D0305	Notice of Customer Requested Objection	INFREQUENT	
D0306	Request for Debt Information	INFREQUENT	
D0307	Debt Information	INFREQUENT	
D0308	Confirmation of Customer Debt Transfer	INFREQUENT	
D0309	Confirmation of Debt Assigned	INFREQUENT	
D0310	Notification of Failure to load or receive Metering System Settlement Details	MEDIUM	
D0311	Notification of Old Supplier Information	FULL	
D0312	Notification of Meter Information to ECOES	HIGH	
D0313	Auxiliary Meter Technical Details	HIGH	
D0314	Non Half Hourly Embedded Network DUoS Report	FULL	
D0315	Embedded Network Supercustomer DUoS Daily	HIGH	



Data Flow	Flow Name	Overall Coverage	DTN
	Statement		
D0317	Create New Green Deal Plan	FULL	
D0318	Response from GDCC to Distributor	FULL	
D0319	Request for Initial Green Deal Licensee Validation	FULL	
D0320	GD Provider Response to GDCC	FULL	
D0321	GD Provider Update to Plan Information	FULL	
D0322	GD Provider Update to Charging Information	FULL	
D0323	GD Provider Advice of Pending Green Deal	FULL	
D0324	Advise Green Deal Active at MPAN	FULL	
D0325	Green Deal Plan Information for Green Deal Licensee	FULL	
D0326	Green Deal Licensee Update to Bill Payer Details	FULL	
D0327	Request Green Deal Plan End Date Amendment	FULL	
D0328	Provide Remittance Details	FULL	
D0329	Response to Green Deal Remittance Details	FULL	
D0331	Update Green Deal Market Data	FULL	
D0332	Green Deal Licensee Request for Information	FULL	
D0333	Change of Green Deal Provider	FULL	
D0334	Request for New Green Deal MPAN Core	FULL	
D0335	New Green Deal Plan MPAN Core	FULL	
D0336	Request to Advise Bill Payer of Pending Green Deal	FULL	
D0337	Green Deal End Date Amendment Request to GD Provider	FULL	
D0338	Update to Bill Payer Details	FULL	



Data Flow	Flow Name	Overall Coverage	DTN
D0339	Reject Initial Plan Request	FULL	
D0340	MPAS Response to GDCC	FULL	
D0341	GD Licensee Response to GDCC	FULL	
D0342	Notice of Collection Cessation	FULL	
D0343	Response from GDCC to GD Licensee	FULL	
D0344	Response from GDCC to GD Provider	FULL	