Customer Briefing Note 012

Bi-Temporal Data Modelling

Edge Background

Edge is our flag-ship web-based software solution for retail water and waste services suppliers in the UK.

Edge has been designed and built from first principles to provide a complete "Business in a Box" for both established and new entrant Licensed Providers.

The Edge system allows seamless operations across the UK – in both the Scottish and English markets.

Edge runs on the Microsoft "Azure" cloud platform, and provides unrivalled flexibility, security and availability.

Deployment of Edge is quick and easy, whether you are a new start or the largest water company in the country.

Bi-Temporal Database Architecture

Bi-temporal Modelling is an information modelling technique designed to handle historical data along two different timelines. This makes it possible to rewind the information to "as it actually was" in combination with "as it was recorded" at some point in time.

To achieve this, information cannot be discarded even if it is erroneous. Within, for example, water billing systems, it is often desirable to be able to recreate an old bill both as it actually looked at the time of creation and as it should have looked given corrections made to the data after its creation.

By focusing on completeness and accuracy of data, Bi-temporal Modelling facilitates the creation of complete audit trails of data. Specifically, this allows for queries which provide:

- The most accurate data possible as we know it now
- Data as we knew it at any point in time
- When and why the most accurate data we had changed

The Edge Billing Engine adopts the principles of Bi-temporal modelling to provide a billing application that can accommodate changing billing data, even after the initial bill have been dispatched.

We do this by capturing two discrete temporal data items for each Billing data parameter.

The first temporal data item is the "Effective Date" for the Billing data parameter. The second temporal data item is the "Cognitive Date". This is the date that we learned about the Billing data parameter, or when we learned that the billing parameter was actually wrong and we corrected the billing parameter.

The upshot of this technology, is that Edge can "go back in time" to correct erroneous data items, and then create new bills for the Customer Account that reflect the corrected data items.

Related Customer Briefing Notes (CBN's)

You may also be interested in these related CBN's

- CBN001: "Edge Overview"
- CBN002: "ADC Billing"
- CBN003: "Volumetric Adjustment"
- CBN004: "Metered Billing"
- CBN005: "Block Tariffs"
- CBN006: "Consolidated Billing"
- CBN007: "Published Tariffs"
- CBN008: "Manual and Automated Billing"
- CBN009: "Bill Output Formats"
- CBN010: "Market Transactions and Data Items"
- CBN011: "Integrated Transaction Management"
- CBN012: "Bitemporal Updates"
- CBN013: "Market Data Set"
- CBN014: "Market Pricing"
- CBN015: "SPID Transfers"
- CBN016: "CRM Module"
- CBN017: "Data Quality"
- CBN018: "Meter Reading Management"
- CBN019: "Sub Meters and Complex Metering"
- CBN020: "Meter Exchange Management"
- CBN021: "Trade Effluent"

Further Information

If you require further information on any aspect of the Edge solution, please contact us at:

Email: enquiries@cloudwater.co.uk

Phone: 01413438992