Redlined CVA Data Catalogue Annex C: Transmission Company EDL Specification text for P369 'National Grid Legal Separation changes to BSC'

This Modification proposes changes to sections 1 and 2.1. We have redlined these changes against Version 21.0.

There is no impact on any other part of this document for this Modification.

Amend section 1 as follows:

1 Introduction

Electronic Dispatch Logging is the existing principal mechanism by which power stations in the existing Pool receive instructions from the Transmission Company and redeclare availability and dynamic parameters to the. Transmission Company.

Under NETA within the rolling Balancing Mechanism window, the balancing of the power system is the Transmission Company's sole responsibility. A secure, reliable and proven system for issue and acceptance of balancing instructions is a pre-requisite for the Transmission Company prior to first operation of the power system under NETA. The EDL approach has been adopted for NETA as it is familiar to many and therefore represents a low risk to the NETA programme against the target implementation date.

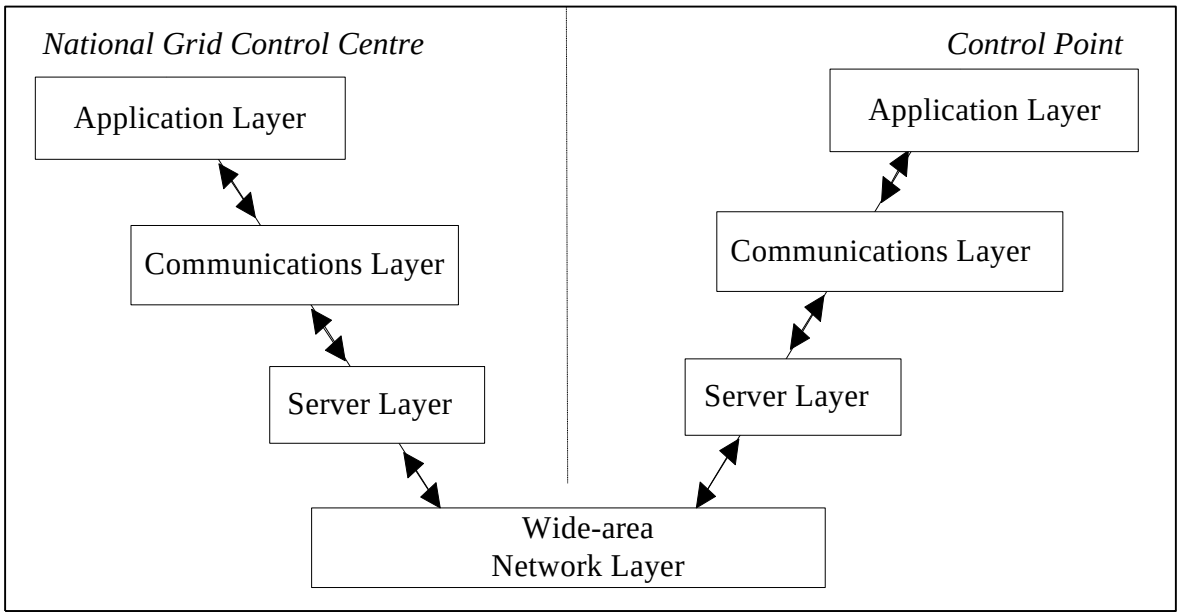
EDL is the means by which a Control Point for a single or number of BMUs communicates with the Transmission Company. Any Control Point who wishes to receive balancing market instructions and Ancillary Services instructions from the Transmission Company under NETA must have an EDL link to the ~~System Operator~~Transmission Company. An overview of the interfaces with the Transmission Company under NETA was given in a DISG paper 19/01.

Logically the EDL system comprises four layers; Application, Communication, Server and Wide-area Network as illustrated in Figure 1.

- Application Layer. This contains the Man-Machine User Interface and other supporting processes. This layer is provided entirely by each of the Transmission Company and the Company responsible for the Control Point to meet their own individual requirements.
- Communication Layer[1]. This provides the interface between the application layer (often via a database) and the server layer (via messages). It is primarily the Communications Layer which implements the interface described in this document. This layer is provided by each of the Transmission Company and the Company responsible for the Control Point to meet both their own individual requirements and the functional requirements of the EDL Server Layer.
- Server Layer. This is that part of the Wide-area Network Layer which transfers data between origins and destinations within a network-server domain (transparent task to task communication) to provide the message delivery system. This layer is provided by the Transmission Company.
- Wide-area Network layer. For present purposes, this may be taken to include the lower layers (i.e. physical and data link layers) of the required communications stack. It may be TCP/IP (the ~~System Operator's~~Transmission Company's preferred option) provided by any platform vendor or DECnet provided by Compaq.

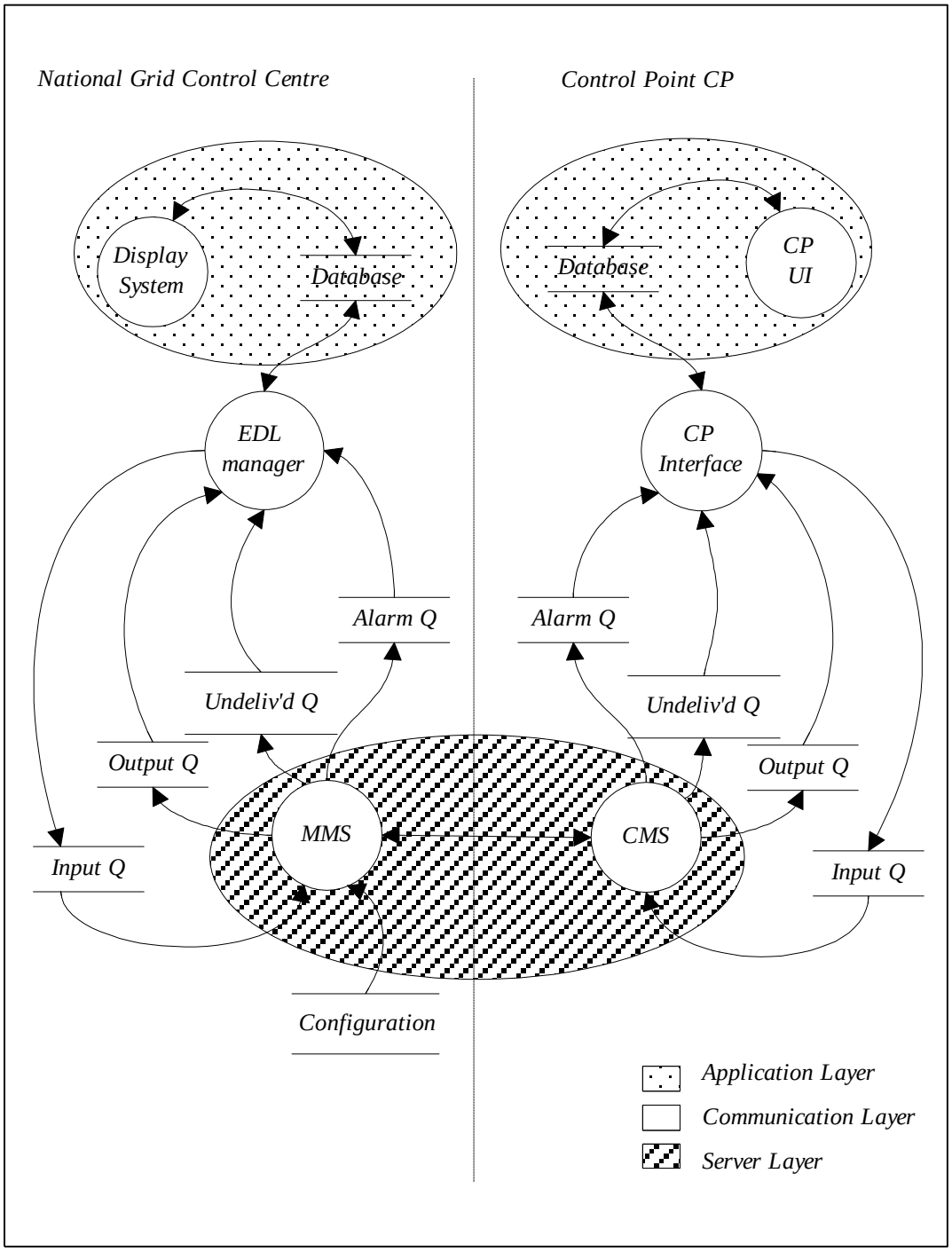
[1] Not to be confused with the seven Communications Layers of the ISO OSI Model

Figure 1. Process Layers in EDL System



The logical implementation of the layer strategy is illustrated in Figure 2. The interface between the Communications Layer and the Server Layer is via messages deposited in four inter-process communications queues. It is the format of these messages that is the subject of this document.

Figure 2. Diagram of EDL Processes



The Server Layer consists of a single process on each node. The Master Message Server (MMS) runs on the ~~System Operator~~Transmission Company node and establishes connections to a Client Message Server (CMS) on each Control Point node.

Amend section 2.1 as follows:

2.1 Message Guidelines - General Description

All messages are simple ASCII text strings to aid development of Application and Communication layers by all parties. With the exception of Server Messages the messages comprise three parts.

- A message Prefix Part
- A message Header Part
- A message Data Part

The message Prefix Part is not transmitted between computer systems. It is used for communication between the Communications Layers and the Server Layers of the system on each node.

Message Prefix Parts are removed by the Server Layer from messages received from the Communication Layer before sending the messages to the Wide-area Network Layer for transmission.

Messages Prefix Parts are added by the Server Layer to messages received from the Wide-area Network Layer before sending the messages to the Communication Layer.

The message Header Part is constructed by the Communication Layers.

The message Data Part is constructed by the Communication Layer, usually based on information from the Application Layer, although some messages are originated by the Communications Layer.

This separation between Header & Data Parts is notional. In practice some elements of the Data Part will be processed by the Communications Layers. Furthermore the boundary between Header and Data Parts has been deliberately constructed such that the common components of all messages are arranged at the beginning of the Data Part and so may be viewed as either Header or Data Parts.

All dates and times[2] are referenced to Greenwich Mean Time.

Times stamps within message Data Parts are to a resolution of one minute. The standard DEC-VMS format is used. i.e. dd-mmm-yyyy hh:mm. (17 characters). Note that the valid range of the time component is 00:00 to 23:59.

Time stamps within message prefix parts are to a resolution of 10ms. The standard DEC-VMS format is used. i.e. dd-mmm-yyyy hh:mm:ss.nn. (23 characters). Note that the valid range of the time component is 00:00:00.00 to 23:59:59.99.

Fields within the Prefix Parts and the Data Parts are delimited by a space character. All message parts are terminated with a ^ character.

Fields containing variable length text items are left justified and space filled.

Fields containing variable length numeric items are right justified and zero filled.

[2] Inter-machine time comparisons should only be to a minute resolution

The leading character of the day part of a date/time field may be a space.

Messages consist of three types; control, instruction and submission. Select/deselect control messages are sent from the Transmission Company to a Control Point while path/nopath control messages are sent from a Control Point to the Transmission Company. These messages control the availability of a BM Unit both to be instructed by the Transmission Company and to submit dynamic parameters. For instruction and submission messages to be exchanged, the ~~System Operator~~Transmission Company must first have sent a select message while the Control Point must have sent a path message. Various message formats are defined for Ancillary Service instructions and Balancing Market Bid/Offer Acceptance instructions that are used by the Transmission Company to instruct a Control Point. Likewise, submission message formats are defined which allow a Control Point to submit various BM Unit dynamic parameters to the Transmission Company. If an error is detected by the Control Point in an instruction message, or by the Transmission Company in a submission message, the text of the message, or the truncated part thereof containing a reference number and log time will be sent back to the originator together with a pre-defined error code.