ElectraLink
DTS Fact Sheet
2011

Data Transfer Service Overview

ElectraLink's Data Transfer Service (DTS) underpins the UK competitive electricity industry, enabling market competition through interoperability. This is delivered at minimal cost and the highest levels of security.

Recent significant hardware and software upgrades to the DTS have further helped establish ElectraLink as critical to delivering Britain's Smart energy future, helping the energy industry deploy and ensure the interoperability of Smart metering.

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SERVICE ARCHITECTURE

The Data Transfer Service (DTS) provides a managed file transfer service. Files contain one or more information "flows", such as meter reading information, in a standard logical format.

The DTS provides a local connection to the User's internal network through Gateway servers. These Gateways provide the interface to the DTS network.

Users generate files and submit them to their local Gateway for onward transmission, or make the files available for collection by the Gateway. A standard header record in the file contains the information necessary to deliver the file to the intended recipient.

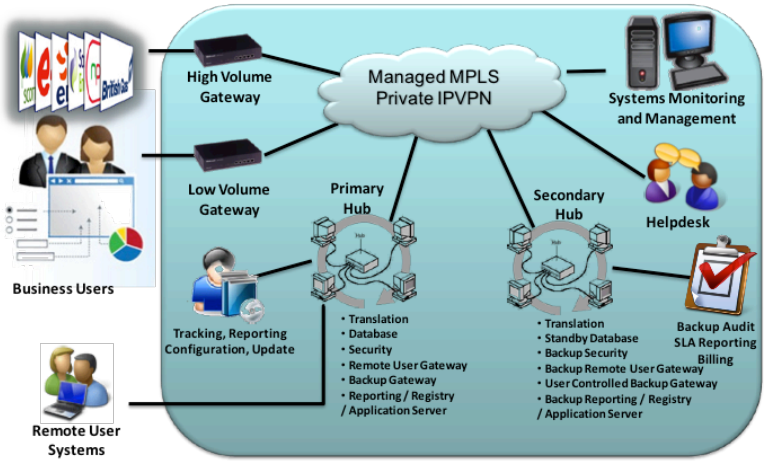
The User's Gateway handles the encrypting and digital signing of the files and also transfers the files over the DTS via the central hub to the destination Gateway. The central hub authenticates and decrypts the files before syntactically validating and transforming the files into the format required by the recipient. The central hub re-signs and encrypts the files and routes them to the destination Gateway.

On receipt of a file, the destination Gateway authenticates and decrypts the file and delivers it to the agreed location on the User's network, or holds the files on the Gateway ready for the User to collect.

DTS FUNCTIONALITY SUMMARY

The DTS provides a functionally rich list of services as standard. These include the provision of:

- Intelligent message collection, including choice of alphabetic or chronological message processing;
- File routing based on business content rather than senders having to use different e-mail addresses or some other means to identify different recipients;
- Automatic file encryption and decryption using 512 bit Public Key Infrastructure (PKI) encryption;
- File compression for transmission;
- Syntactic validation of file contents based on industry-agreed encoding rules;
- Optional enhanced validation further confirming data flow integrity, including:
  - Mandatory data items;
  - Group range;
  - Group hierarchy;
  - Valid set content;
  - Group conditionality;
- File translation; Users can choose the format of the files they receive based on 'Pool file', variable and fixed formats, file translation is processed centrally and transparently;
- Pro active network management including network level and application level alerting;



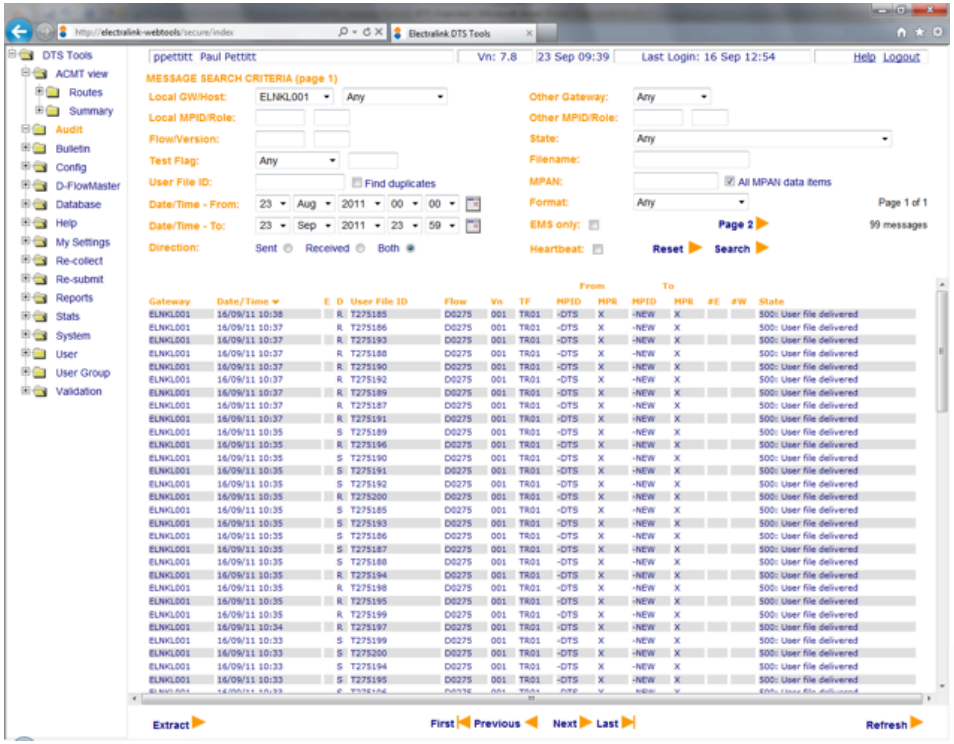
- Acknowledgments (Acks) for every file processed, including those rejected (Negative Acknowledgements - NAcks);
- Automatic daily reports detailing all files sent and received;
- Service Level Agreements for availability and speed of data throughput;

- Suite of tools known as Web Tools, including:
  - Audit - real-time view of message status on the service with service-wide accurate timestamps at all processing stages;
  - Automatic Configuration Management Tool (ACMT) - configure where data is delivered in real-time;
  - Re-send - without having to regenerate the data;
  - Re-collect - without having the sender re-send the message;
  - DFlowMaster - to generate/ amend/validate network compliant data flows using an intelligent forms-based tool; and
  - Statistics - a view of service level status, usage trends etc.
  - Web Tools user management, to add, delete and amend Web Tools users and their privileges

RESILENCE

The DTS is based on a highly resilient architecture:

- Component level resilience within each use gateway
  - Dual power supplies;
  - Uninterruptable Power Supplies;
  - Redundant disks and processors;
- Automatic failover of communications link;
- Automatic failover to a Central Backup Gateway in the event of a User Gateway failure;
- Complete replication of the primary Central Hub to a Disaster site, with near real time synchronisation.



AUDIT

The DTS records details of all transfers and their progress through the service. This is done through a logging & tracking subsystem, which records all the appropriate information in an Oracle database in real time. This information is made available to Users of the service through a web browser, across the secure DTS, or using a standard VPN client across the public Internet.

For further information please contact:

Paul Gath
Chief Technical Officer
ElectraLink Limited
Ground Floor
Grafton House
2 - 3 Golden Square
London
W1F 9HR

Telephone: 020 7432 3000

ElectraLink