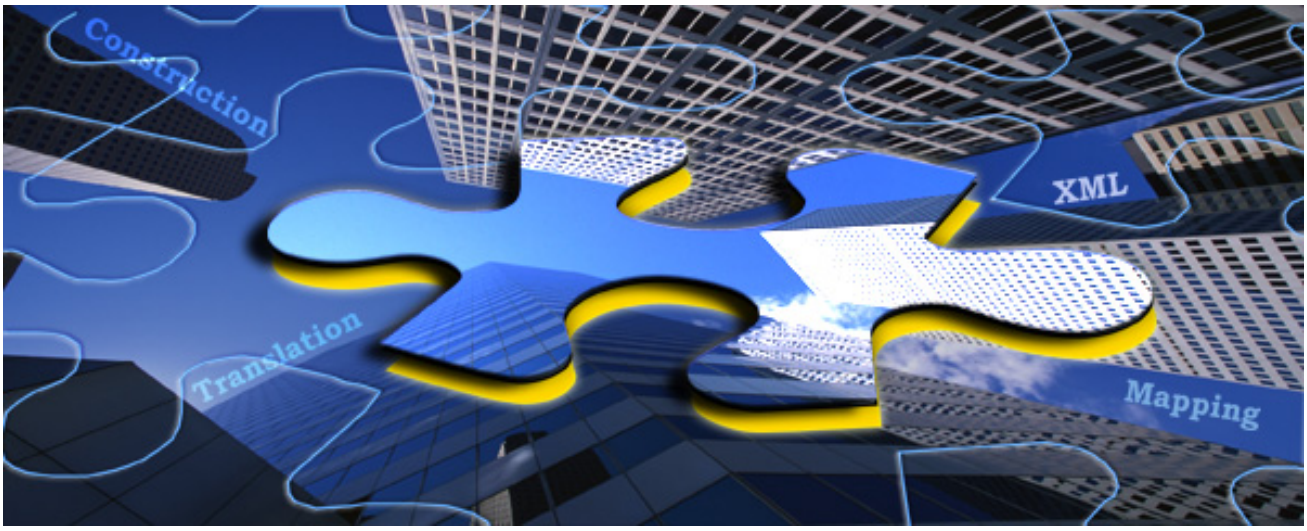
Data Interchange plc

XLATE Evolution



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Xe

Overview

Xe is for anyone who needs a mapping facility that can transform documents from one syntax format into another.

For users who do not want to create the maps themselves, Data Interchange plc can provide bespoke mapping services, creating the necessary map files for the user to slot into his system and integrate with his other applications.

Xe also provides a number of tools that support the user in the management and manipulation of documents and their definitions.

This product can also be integrated with ODEX Enterprise and other applications.

Key Features

Standard reference library

The following dictionaries are included in the full version of Xe:

- EDIFACT D93A to EDIFACT D01B
- Eancom 93 and Eancom 97
- Tradacoms messages from versions 1, 4, 6, 8 and 9
- ANSI X12 3030, 3060, 4010, 4020, 4040
- VDA 4905, 4906, 4908, 4913, 4915, 4916, 4920, 4921

Further dictionaries can be imported as and when they become available.

Mapper Development Tools

- File Investigator displays EDI files in user-friendly format
- Hex Viewer shows files in hex format
- Object Packager tool enables the creation of an EDI file containing EDIFACT objects

Mapper

- Drag-and-drop GUI
- Any-to-any mapping
- Performs multiple maps on a single source file
- Uses a mapping script to generate a .NET DLL to perform each map
- Has access to .NET framework
- Ability to customise maps by using C# or VB.NET code in the mapping script

- Splits output files across multiple files according to configured rules
- Uses tables to define and validate EDI and in-house files
- Self generating Index file
- Command line application for stand-alone operation

Mapper supported syntaxes

- EDIFACT (including v4)
- ANSI X12 (including version 4040+)
- UNGTDI (Tradacoms)
- VDA
- SAP IDoc
- CSV
- Flat files

Mapper supported formats

- ASCII
- EBCDIC
- Unicode
- UnicodeBe
- UTF-8 format

Mapper functionality

- Arithmetic operations
- Conditional logic
- Counters
- Stream processing to create and validate sequence numbering

Integration

- Integration with other DI products

On-line Help

- Full context-sensitive help throughout Xe

Xe Feature Details

Standard reference library

The full version of Xe ships with a broad selection of dictionaries in common usage within the automotive and retail sectors.

The Web version of Xe provides a smaller number of dictionaries, but more can be obtained from Data Interchange if required. Extra dictionaries can be loaded using the Import Dictionary facility.

As new dictionaries are developed by the standards bodies and made generally available in machine-readable format, Data Interchange will create an importable version which will be made available to users.

Integration

Both Xlate and Xe can be integrated with ODEX Enterprise, thus providing the user with the possibility of automated translation for incoming files and automated transmission of translated outgoing files. Odex Enterprise's integration with Xe and back-office systems means that received EDI files can be translated into a different format for each system that wants to use the data.

On-line Help

Every page and every dialog in Xe has a Help button or F1 Help, providing full context-sensitive on-line help. Generated using ComponentOne Doc-To-Help 6.5, the Help also provides full Index and Search facilities, navigation buttons and print function.

In addition, the Xe Mapper has extra context-sensitive on-line help, displayed on the special Help page tab of the GUI. Here are displayed explanatory details relating to whichever item in the Mapper has been clicked on.

Mapper Feature Details

Mapping

Using a combination of drag-and-drop and simple programming in C# or VB.NET, Xe allows the user to create file transformations based on a source file definition and a target file definition.

Once the source and target file definitions have been loaded, the Mapper GUI allows the fields or data elements to be mapped from the source file definition into the target file definition and displays a visual representation of the mapping on the GUI.

Behind the scenes, the Mapper creates a script file which is used to convert the mapping into a DLL. This DLL can then be executed against the source file in order to create the required target file.

Each individual map is compiled into a unique DLL to be used at runtime, removing the need for the mapping script to be compiled afresh each time.

Counters

Xe provides the ability to set up counters, which are available throughout each individual mapping process. Counters allow a running total to be maintained, for example, which can then be mapped at the end of the mapping process.

Stream processing

Xe mapping makes use of stream processing to create and validate sequence numbering such as Interchange Control References. Values of such numbers are maintained by Xe for future use, thus ensuring that sequential numbering can be controlled for each individual trading partner.

Index file

The Index file underpins Xe's extended range of functionality and supports the following features:

- Any-to-any file format mapping
- XML
- Multiple maps from the same source document

When the mapping script and DLL have been generated and the map is ready to be applied to a source file, the Mapper will auto-create an index specifically for the map being created.

This will ensure that the appropriate parameters are used to transform the source file into the target file.

The role of the index is to control what is input to the mapping process, which definition files are used and which map DLL is executed.

Command Line Application

The Command Line version of Xe enables you to integrate the Mapper component of Xe with ODEX Enterprise or to run it as a stand-alone feature.

The Command Line version allows you to do two things:

- Generate a mapping script
- Generate a DLL from a map and run it to create a transformation

Once tables have been defined (if necessary) and a map script has been created, a mapping DLL can be generated using the command line application XeCmd.

Once a map script has been created, a mapping DLL generated and an index put together, the map can be executed using the same Xe command line application that was used to generate the map.

When running Xe from the command line using XeCmd, a configuration file is required. The configuration file includes all the mandatory information Xe requires to be able to execute a map, such as the source file and destination file, as well as optional parameters that can be used to alter Xe's behaviour.

Product Architecture

Xe comprises four components:

- Standard Reference Library

- Xlate translator
- Mapper Development Tools
- Mapper

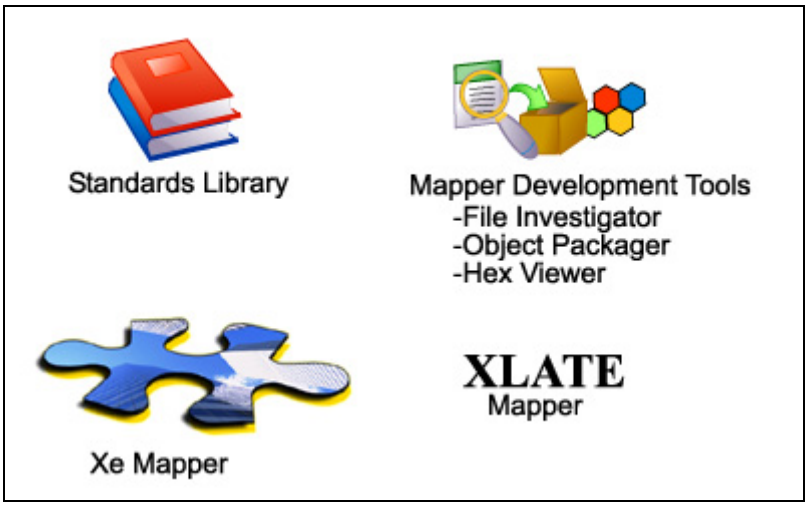

Figure 1- The Xe Components

Standard Reference Library

The Standard Reference Library includes all the most recent EDIFACT standards releases, as well as a range of ANSI X12, VDA, Eancom and Tradacoms dictionaries.

The Standard Reference Library offers automatic generation of Xlate tables (EDF and HDF definition files) from all the above-mentioned dictionaries, and a reporting capability.

The Xlate translator

The Xlate component is provided primarily to support existing users, who already have Xlate tables in place for their current translation requirements. Xlate may still be used for new mapping, but it has now been superseded by the Xe Mapper.

The Xlate component of Xe provides for the translation of business documents in and out of standard EDI format. Its range of in-house file formats is less than that of Xe, covering only flat files format.

The Xe GUI also provides facilities for creating or editing an existing Xlate index file (IDX) required for Xlate mapping.

Xlate is table-driven and supports EDIFACT, UNGTDI and ANSI X12 syntaxes.

Mapper Development Tools

File Investigator – this allows the user to examine the contents of EDI files in a variety of user-friendly ways. EDI data can be displayed in raw or hierarchical views, highlighting errors in syntax and structure.

Object Packager – enables the creation of an EDI file containing one or more objects. An object is an EDIFACT concept introduced in

version 4 of the standard. Adding an object results in the insertion of a UNO-UNP segment pairing into the EDI file, at the same level as a message i.e. within a group or interchange. A UNO-UNP pairing is inserted for each file or certificate added to the file and acts as an “envelope” for the object.

Hex Viewer – this provides a specialised view on the contents of a file, allowing the user to see at a glance the position of any character in the file and its hexadecimal representation.

The Mapper

The Mapper delivers comprehensive mapping capabilities, enabling business documents of almost any format (i.e. EDIFACT, ANSI X12, UNGTDI, VDA, flat files and CSV), to be converted to different formats, providing a complete Any-to-Any mapping functionality.

The Mapper allows data to be mapped from an input file to one or more output files with the aid of a GUI. A definition for the input file and the output file must be provided, then the mapping can be performed using a combination of drag-and-drop techniques and some simple programming. For existing maps, the GUI enables the user to see which source and target fields are involved in the mapping process, and the manner in which each field is mapped.

The Mapper makes use of a scripting language to facilitate its powerful mapping ability. Xe can perform arithmetic operations and conditional logic and can even utilise C# code snippets to achieve particular mapping requirements. This allows Xe translation maps to have access to the entire .NET Framework, enabling the Xe scripts to access databases and deliver data in custom formats all within the script itself. Because of this, there is no need for further applications and additional scripts to manipulate the data before or after the main translation.

In control of the process at runtime is the Xe Index file. This XML file contains references to entities which combine to specify the actions that Xe takes on encountering a given source document or message type. Such entities include source and target document definitions and message syntax. By analysing the properties of the file to be transformed and then referencing the Index file, Xe can determine the appropriate mapping to run.

System Requirements

Hardware

- Pentium II 400 Mhz
- 128 Mb RAM
- 100 Mb disk space for installation

Software

To install and run Xe, the following are required:

- Internet Explorer 6 or above (to be already installed)

And one of the following:

- Windows XP and associated Service Packs
- Windows 2000
- Windows 2000 Server
- Windows 2003 Server

Other pre-requisites, such as the .NET framework, are included on the installation disk and will be installed automatically if necessary.