

Easy Data Integration

Difficulty of Data Integration

Extracting data from business applications and making it available for other applications or for further business use has become an important need for large and small businesses. In addition, extracting data from applications on a periodic basis for use in reporting and analysis, has been a difficult task.

Traditionally the IT staff had to be relied upon to do this task. A primary reason for this is the complexity of the tools involved in extracting and transferring data.

Business users and analysts as well as IT staff have needed a simpler and easier to use tool to extract data or to transfer data from system to system.

The system should ideally understand the unique nature of the application or data format in consideration. It should still provide powerful extract and data conversion features. At the same time, the ease of use in getting the tool to produce useful results, should be heavily emphasized.

Solution to Consider

QXchange is a very easy to use, data integration software. The user interface is very simple and intuitive. Users can start using the application with no training. Most of the uses that the business users are faced with, can be easily established and executed from this tool. Data can be easily mapped by just dragging and dropping them to the right areas.

QXChange is very flexible and allows the conversion of data in a very simple manner. Excel like functions are used to convert the data. Most users are familiar with these functions from their experience on Excel.



QXchange can quickly and easily transfer data between many standard data formats and applications. Data formats include Excel, Comma delimited flat file, XML, MS Access, MS SQL Server, My SQL, QuickBooks, Salesforce.com, SAP Business One and others. It simplifies all of these various data formats so that they look exactly the same from a user perspective.

It allows simple and clear setup of extraction instructions. These instructions can be saved and re-executed as often as necessary. The instructions can also be set up to run on a specific schedule, such as weekly runs.

At the same time, QXchange has sophisticated features such as source filtering and system variables to allow power users to do more sophisticated data integration.

Key Features

Feature	Description
Extraction	Extraction module allows the specification of various data sources.
Transformation	Transformation allows the conversion of various data items.
Loading	Loading module allows the creation or update of output data items.
Profiles	ETL instructions are coded and saved as profiles for re-execution.
Data Access Plug-ins	QXchange supports access to many different data formats and applications.
Scheduling	Profiles can be established to run at specified times.
Logging	Errors during the ETL process are logged. At the end of the process, the errors can be reviewed.
Formula Expression	QXChange allows the creation of formula expressions using math, string and logical operators combined with data items, variables, constants and functions.
Standard functions	QXchange has a full complement of pre-built excel-like functions to apply against data items. Functions types include Math, String and Date.
Filter Input data	The source data can be limited further by applying filters to the data. The filters can be complex expressions using multiple data items in combination.
Extract from Tables/Views/Queries	Table objects from source can be extracted from. Views/Query objects from source can be extracted from.
View Data	Any dataset object can be selected and the data from that can be immediately viewed in a datasheet view, without actually running the ETL process. The data can be copied and pasted into Excel.
Encryption Security	Critical information such as User and Password are encrypted with Blowfish 128 bit encryption.

Architecture

QXchange is architected for robustness and ease of use. The use of profiles allows the preservation of integration instructions and reuse. The user interface is largely designed to be a profile manager to manage the setup of these instructions.

The different data formats and application types are segregated from the core application and made into plug-and-play modular entities called Data Access Plug-ins (DAP). Internally the DAPs understand the unique nature and constraints of the particular application or data format, but the DAP presents a similar interface back to the engine and the user interface. This minimizes complexity for the user. It also allows the easy addition of additional DAPs to the system.

QXchange System Architecture



The execution engine is the controlling entity for the entire tool. It uses the profile as the instruction set and calls on appropriate modules to execute the data integration tasks. The execution engine has three sections, extraction, transformation and loading.

Extraction and Loading can both call on the DAP modules to access the specific data format in consideration. The transformation module can use the Data Conversion Plug-in to do additional data conversions than is already available in the tool. An internal staging data set is used for data conversions.

A scheduling module allows the selection of a single or a set of profiles to be executed at a specific time, in addition to on-demand. Scheduling can be one-time or recurring.

Data Access Plug-ins

QXchange supports access to many different data formats. These data formats can be types of files (fixed length,

comma delimited, XML), type of database (Access, MySQL) or type of application (QuickBooks, SAP Business One). For every data format supported, there is a separate component called a Data Access Plug-in (DAP).

This allows sophisticated data format specific operations to be done. The DAPs are also optimized for the underlying data structures. The DAPs also enforce the security required by the underlying data structure.

Feature	Description
Text File	This DAP allows access to text files. Text files can be fixed length or delimited. Header labels can be used with these files.
Excel	This DAP allows access to Excel files. Individual worksheets within an Excel spreadsheet can be accessed. Header labels can be used.
MS Access	This DAP supports the Microsoft Access database. Tables and query objects can be accessed. New Tables can be created.
XML	This DAP supports the XML file format. XML tags can be used as data item labels.
MySQL	This DAP supports the MySQL database format.
MS SQLServer	This DAP supports the MS SQLServer database format.
QuickBooks	This DAP supports the QuickBooks file format. It uses the vendor supplied QuickBooks SDK to do all the access and hence is compatible with all versions supported by the SDK.
Salesforce.com	This DAP supports the Salesforce.com hosted environment. It uses the vendor supplied AppExchange SDK and API to do all the access .
SAP Business One	This DAP supports the SAP Business One file format. It uses the vendor supplied SAP B1 SDK to do all the access and hence is compatible with all versions supported by the SDK.
ODBC	This DAP supports the use of ODBC connections. This will allow access to any data format supported by an ODBC driver.

Uses

QXchange can be used for many data related tasks. Tasks can include extraction of data from various databases and applications, conversion of data from one type to another, migration of data from one system to another, etc.

Some examples include:

Extract Opportunities from Salesforce.com and create Customer Jobs and Sales orders in QuickBooks.

Extract Accounts from Salesforce.com and create Customers in QuickBooks.

Extract Invoices from QuickBooks and update opportunities in Salesforce.com

Extract Accounts and Opportunities from Salesforce.com and create them as an Access database for further reporting.

Extract Leads from Salesforce.com and create them as an Excel file for forwarding to marketing activities.

Extract a series of Excel files and convert them into Fixed-length text files to feed another system.

Load a set of comma-delimited text files into a MS SQL Server database.

Get orders entered from an online e-commerce system and load them into QuickBooks as Sales Orders and Invoices.

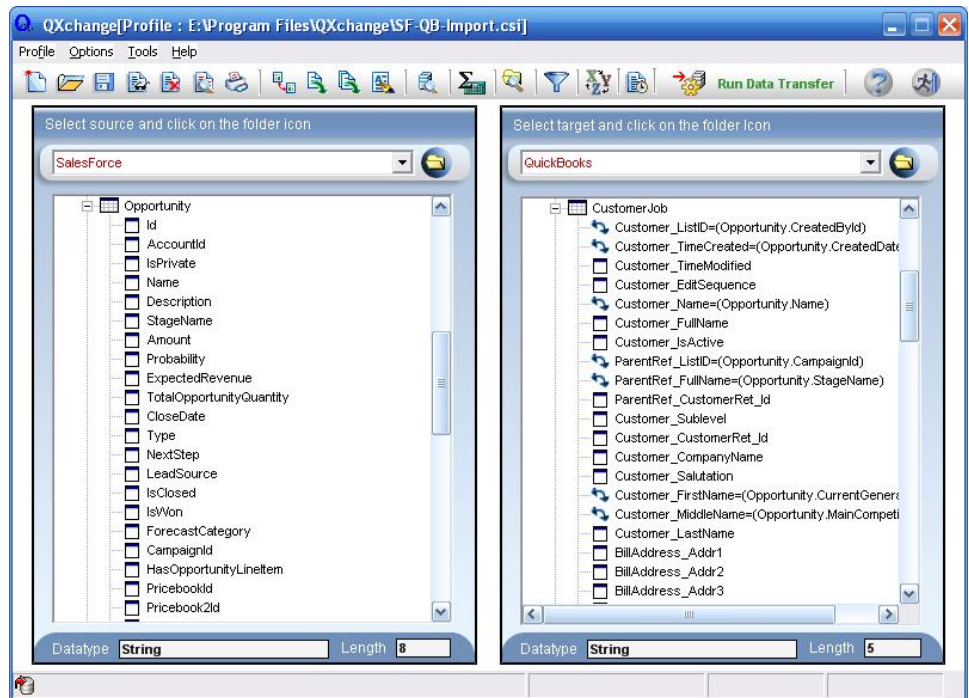
Get customer data entered online and create Customers in QuickBooks.

Get vendor data entered online and create Vendors in QuickBooks.

System Requirements

QXchange is an on-premises, installed application. It runs on Windows compatible machines.

- Operating System : Microsoft Windows 2000/XP/Vista/Server 2003
- Processor : 1.5 GHz (2.2 GHz preferred), x86 based
- Memory : 512 MB of RAM (1 GB preferred)
- Modules : Dot Net Framework 2.0 (with SP1 recommended)
- Browser : IE 5.1(For windows 2000 only) or later



Partners



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