



realisable

IMAN: DATA INTEGRATION MADE SIMPLE

YOUR SOLUTION FOR SEAMLESS, AGILE DATA INTEGRATION

IMAN TECHNICAL SHEET

IMAN BRIEF

Application integration can be a struggle. Expertise in the form of development, technical and domain are all required to successfully integrate an application. Even for simple one-way data-flows, costs and timescales can escalate due to requirement changes, extra-development, and unforeseen issues. Subsequent upgrades or modifications can be equally as troublesome and multiple integrations can result in multiple bespoke applications, multiple ways of doing things, and multiple points of failure.

IMan addresses these problems by providing a single highly configurable and cost-effective platform to integrate applications. IMan enables small-medium enterprises to integrate their business applications, including Sage Accpac, Sage200, SageCRM and online payment processors, quickly, efficiently, robustly and uniformly without any development resources.

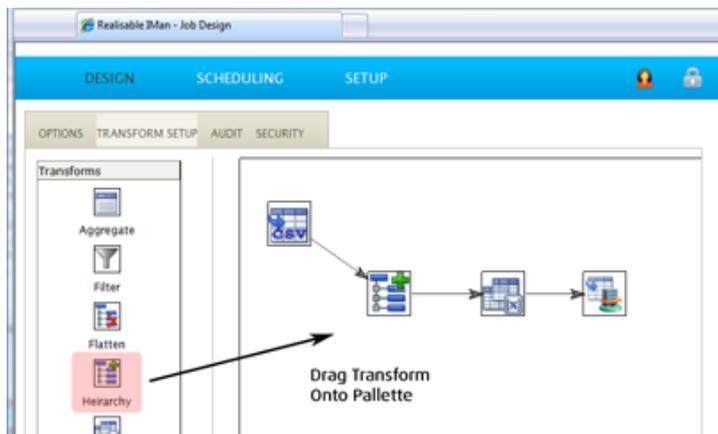
IMan is data integration made simple.

AIMS

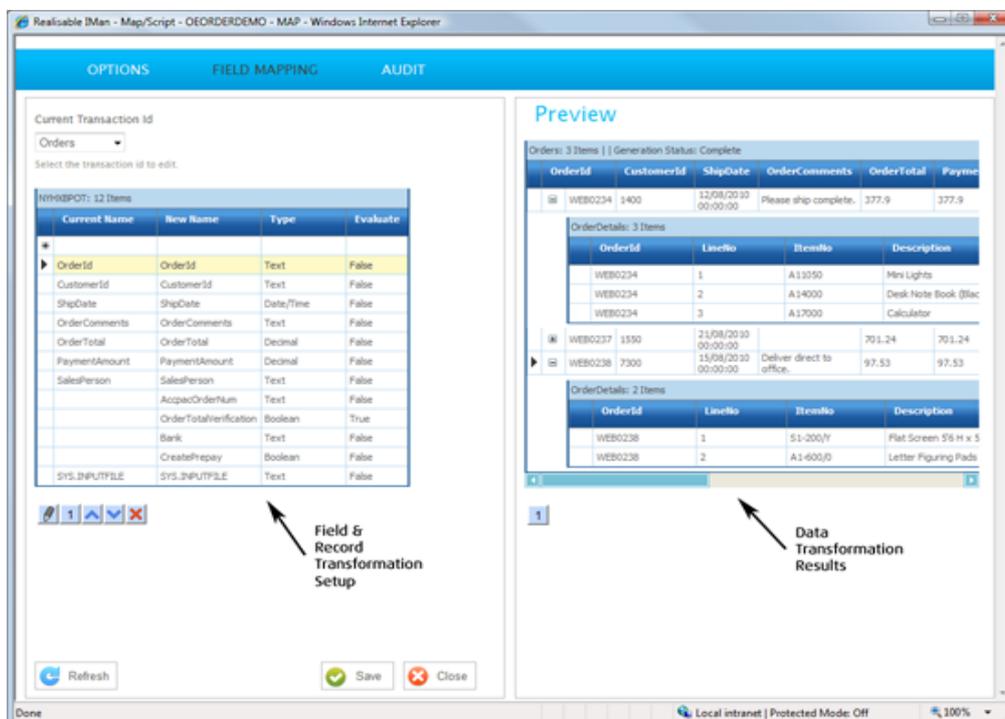
- § Code-Free Integration – The application must allow applications to be integrated without having to know or understand programming; they must be able to configure the integration using a graphical user interface.
- § Flexibility – To provide a tool which can successfully integrate virtually any application & without having to augment the integration with any external custom written application.
- § Ease of Use – The design interface should facilitate quick setup and maintenance of integrations. The 'ease of use' should pervade from a consistent interface design, through to the presentation and underlying functionality of the application adapters.
- § Single Interface for Everything – To provide an interface which integrations are designed, maintained, scheduled, and setup. An interface which can be accessed from anywhere without having to install additional software or client components.
- § Updating and Maintenance – Integration jobs should be updatable without having to re-create or substantially alter them. Source data changes and destination application upgrades should be as transparent as possible.

FEATURES & BENEFITS

- § Graphical Node Based Designer – Integrations are designed using a click and drag graphical node-based interface. Nodes represent activities being made to the data, and the sequence indicates the direction of data flow. The output from one node output becomes the input of another which combines to provide an intuitive & self-documenting integration.

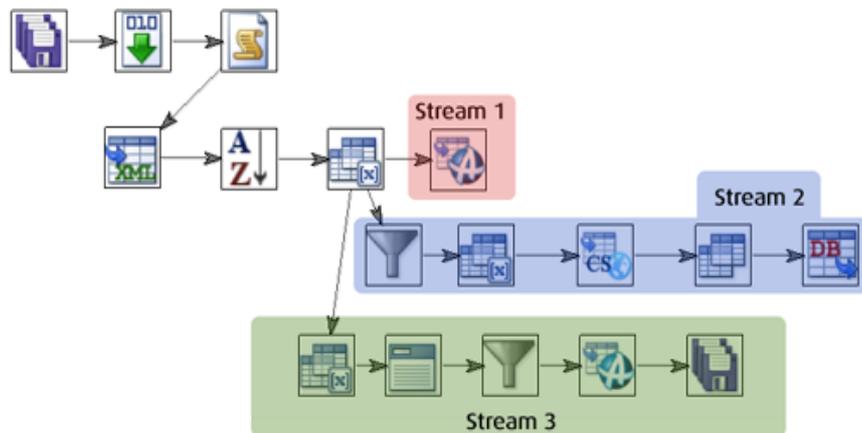


- § Live Preview – Each transform and adapter has a data grid displaying the results of the transformation. The results grid may be refreshed at any time, promoting rapid integration design and setup.



- § Intrinsic Hierarchical Data Support – Each transform, connector and task has been built to support multi-level hierarchical data. This capability, further supported by IMan' data-shaping transforms, gives the flexibility to integrate with complex data structures.

- § Data Transforms – Seven transforms to manipulate data into virtually any form.
- § One source to many endpoints – Every transform and connector can multicast its output to an unlimited number of other transforms. This means that one data source can update multiple transaction types and applications.



In the example, web orders are downloaded from an FTP site, first a customer record in the accounting system is generated, second a transaction is negotiated with an online payment processor, before finally creating the sales order.

- § Duplex Integration – IMan' connectors and tasks provide the capability to update source data or application following the exchange with the destination application(s). The update may occur immediately within the same integration, such as flagging that a transaction has been processed or the writing back a transaction or identity field or; the update may be carried out over a long term transaction, such as notifying that an order has been shipped or the settling of a payment.
- § Modifiable – All integration jobs within IMan are modifiable, allowing organisations to respond rapidly when business processes and/or applications change.
- § Expressions and Formulas – IMan provides a flexible expression engine enabling formula evaluation. Expressions are present within a number of the transforms and tasks, permitting everything from the simplest formulas through to complex functions. Over 120 built-in functions covering string, date, numeric, validation, lookup, sequence generation and ERP specifics. Expressions use the VBA/VBScript, commonly used in many business applications including Microsoft office. The engine provides the full VBA capabilities allowing any COM component to be called from your expressions.
- § Full support for international characters and text encodings.
- § User Definable Auditing – IMan' meets auditing and reconciliation requirements by providing a definable audit log.

- ////////////////////////////////////
- § Common Portal – Both integration designers and end users access the same web portal. End users benefit as they are able to manage the scheduling of integrations, translation tables and recall audit reports; designers have all the functionality from a single application and system administrators have a single application to deploy and administer.

APPLICATION ARCHITECTURE

IMan is a single server install of 3 major components: Engine, Design/Administration Portal and Scheduler.

IMan Engine

The IMan engine carries out all integration processing. Each integration instance is run in a separate process, and multiple integrations may run at the same time.

Design/Administration Portal

The portal is an IIS application providing a single web-browser based interface for:

- § Designing & Maintaining Integrations
- § Scheduling and running of integration processes.
- § Maintenance of setup data, integration job security and lookup data.

Security

Users are assigned rights per-integration where non-administrative users can schedule and maintain lookup data.

Scheduler

The scheduler component, initiates integration processes through either a scheduled execution or through a file driven event.

File-event triggering of events are maintained through an Administrator only setup.

DATA TRANSFORMATIONS

Transforms form the core of IMan and provide the capability to manipulate data before its destination. By connecting several transforms together in a chain, data can be manipulated into virtually any form. This capability means 'source' applications do not need to:

- § Export data in the form in which it is required.
- § 'Pre-normalise' the data prior to processing in IMan.

Data Shaping Transforms

IMan has three transformations to shape data:

- § Hierarchy – Transforms any record type within a data structure to a hierarchical structure. Because the transform acts on a single record type it allows you to either transform a completely flat data structure consisting of just a single record type or to add a further hierarchical element(s) to a pre-existing structure.
- § Flatten – Flatten is the converse of hierarchy. Flatten takes either a full dataset or a group and its children transforming it into a flat structure with no hierarchy.
- § Aggregation – Transforms a logical group records to a single record. In a typical sense, aggregation supports operations such sum, count, min, max. However its broad flexibility allows you to generate a record(s) which are a derivative from other records within the same group.
For example, a sales file from a POS system is used to create nominal journals in an accounting system. To balance the nominal journal an aggregate transform generates a balancing record, which is the negative sum of other lines in the journal.

Field Level Transformations

- § Map - The Map transform is a formula based transformation. Each field in the transform has facility to execute a VBScript expression or function, in which the result becomes the value of the field.



- § Translate – Provides a means to translate the names of records, fields and their types. The translate transform provides a means to quickly adapt existing integrations to new data sources.

Record Level Transformations

- § Filter – The Filter Transform filters/deletes records from a dataset using an expression.
- § Sort – Multi-level sorting within a dataset.

CONNECTORS

IMan provides two types of connectors: application and data.

Data Connectors

IMan's data connectors provide the necessary functionality to exchange data with a variety of applications using common data formats. Each data connector is read/write capable to facilitate bi-directional data exchange.

Data Connectors Key Features:

- § Xml , OleDb/ODBC, CSV, Excel Formats.
- § Each connector maintains a consistent interface both in presentation (UI) and in functionality (Execution). This allows the data format (Xml, CSV, etc) to be independent of its underlying transport (File, FTP, Http).
- § Schema Detection – Each data reader has a schema detection which is used to generate the initial transaction types and fields helping to speed setup. The detection also works to identify changes in the data source, where they are propagated through the integration.
- § Data readers support Http and File locations.
- § Character encoding for text formats (Xml, CSV).
- § Excel – Both Xls and Xlsx formats are supported. The write connector has various formatting and template options, providing a means to distribute data to users which is formatted & easy to interpret.
- § Database – Any ODBC or OleDb compliant data source.
- § Xml connectors support both read and write operations, multiple namespace/schema support and an unrestricted document design.

Application Connectors

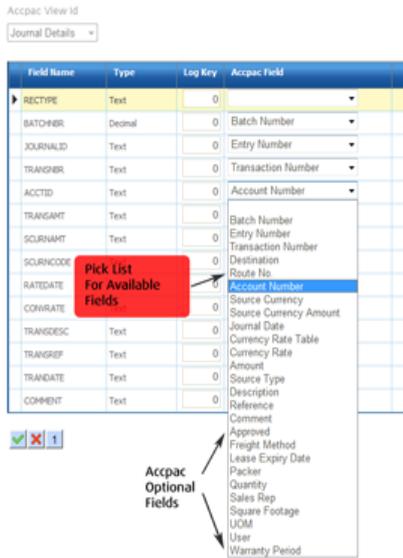
IMan's application connectors allow data interchange with a number of applications such as SageAccpac, Sage200, Payment Gateways (SagePay & Cybersource) & SageCRM.

Each connector supports a raft of integration points for both master (customer, item, supplier, etc) and transactional (invoice, order, nominal journal, etc) data.

Application Connector Key Features:

- § Connectivity is made through application's API, maintaining business logic.

- § Common Interface – Each application adapter uses a common setup interface in which the incoming records and fields are mapped to the application using selections and drop-downs.



This level of abstraction between the interface and the underlying implementation shields integrations from application upgrades. Integrations created for one version of an application will work on a later version with having to re-create or substantially modify the design.

- § Key Field Write Back – Fields such as document numbers and auto-generated ids can be written back to the working dataset serving auditing and compliance; bi-directional integration and; subsequent transformation and integration.
- § Robust error and exception handling – All errors and warnings emitted by the application are logged to the audit log.

TASKS

A set of complementing 'tasks' help to provide you with a single platform under which all integration activities are handled, eliminating external programs and ancillary development tasks common with integration.

- § File handling and FTP (FTP, FTPS and SSH) tasks for remote, network and local file handling.
- § Process execution and custom scripting tasks address bespoke integration requirements which cannot be handled by existing IMan functionality.
- § The Email task provides a means for workflow and alerting by distributing integration and non-integration based data to both end users and external organisations.
E.g. using the email task, a purchase invoice integration following the posting of documents to the accounting system generates emails containing the details of those documents for remote & non-accounting users.

The email task in an alerting scenario may be the direct output of a query against a data source.

AUDITING & VALIDATION

The audit log is divided into summary and detail sections. The summary section is user definable, enabling users to quickly reconcile data between systems. The detail section lists any errors or warnings.

Key Features:

- § Each summary can extract and report data from the transform's dataset. This provides a means to identify the processed data.
- § Each summary can report statistical data such for number of errors, records processed, inserted, updated & deleted.
- § Errors and warnings are identified to their offending records by the fields you define.
- § Data validation is provided through custom log entries, from any of the transforms supporting scripting/formula evaluation.
- § All log entries (summary and detail) are persisted to the IMan database where they can be reported.

PERFORMANCE, THROUGHPUT & VOLUME

Throughput ultimately depends on integration design, transformation required & server performance.

Indicative Performance:

- a. Purchase Invoice Integration Processing 500 Multiline Purchase Invoices – 26 Minutes
Xml Datasource, applying moderate transformation, integrating with Sage Accpac.
- b. Master Item Export for 1100 Items – 180 Seconds.
SQL Datasource, applying heavy hierarchical and expression transformation, generating a complex Xml data document.
- c. Nominal Journal Import containing 100,000 lines – 95 minutes.
CSV Datasource, applying light transformation, integrating with Sage Accpac.

About Realisable Software Ltd.

Realisable Software Ltd provides code-free, cost-effective applications integration solutions for SMEs. Our core IMan product is designed to integrate almost any application with a number of Sage solutions and online payment processors.

Realisable Software

www.realisable.co.uk

Email: sales@realisable.co.uk

Ph: +44 (0) 208 123 1017