

Flow Systems Integration

A Management Overview

Date: 01/12/2008

Introduction



The genuine need

Unrestricted sharing of data & business processes among any connected application or data sources in an enterprise.



The best solution

Systems integration software from Flow Software

Systems Integration, or ‘Enterprise Application Integration’ for the geeks out there, has come of age to meet this need. To quote Wikipedia:

“In today’s competitive and dynamic business environment, applications such as Supply Chain Management, Customer Relationship Management, Business Intelligence and Integrated Collaboration environments have become imperative for organizations that need to maintain their competitive advantage. Enterprise Application Integration (EAI) is the process of linking these applications and others in order to realize financial and operational competitive advantages.

When different systems can’t share their data effectively, they create information bottlenecks that require human intervention in the form of decision making or data entry. With a properly deployed EAI architecture, organizations are able to focus most of their efforts on their value-creating core competencies instead of focusing on workflow management.

For generations, systems have been built that have served a single purpose for a single set of users without sufficient thought to integrating these systems into larger systems and multiple applications. EAI is the solution to the unanticipated outcome of generations of development undertaken without a central vision or strategy. The demand of the enterprise is to share data and processes without having to make sweeping changes to the applications or data structures. Only by creating a method of accomplishing this integration can EAI be both functional and cost-effective.

One of the challenges facing modern organizations is giving all their workers complete, transparent and real-time access to information. Many of the legacy applications still in use today were developed using arcane and proprietary technologies, thus creating information silos across departmental lines within organizations. These systems hampered seamless movement of information from one application to the other. EAI, as a discipline, aims to alleviate many of these problems, as well as create new paradigms for truly lean proactive organizations. EAI intends to transcend the simple goal of linking applications, and attempts to enable new and innovative ways of leveraging organizational knowledge to create further competitive advantages for the enterprise.”

Enterprise Architecture Integration (EAI) is a response to decades of creating distributed monolithic, single purpose applications leveraging a hodgepodge of platforms and development approaches. EAI represents the solution to a problem that has existed since applications first moved from central processors. Put briefly, EAI is the “unrestricted sharing of data and business processes among any connected application or data sources in the enterprise.”

Systems integration is therefore used for four major reasons:

- ✔ Data (information) integration: ensuring that information in multiple systems is kept consistent.
- ✔ Process integration: linking business processes across applications.
- ✔ Vendor independence: extracting business policies or rules from applications and implementing them in the EAI system, so that even if one of the business applications is replaced with a different vendor's application, the business rules do not have to be re-implemented.
- ✔ Common facade: An EAI system could front-end a cluster of applications, providing a single consistent access interface to these applications and shielding users from having to learn to interact with different applications.

The benefits of utilising System Integration tools are therefore many and include:

- ✔ Saving money
- ✔ Selecting 'best of breed' applications
- ✔ Saving effort
- ✔ Improving accuracy
- ✔ Saving time
- ✔ Increasing staff productivity
- ✔ Improving turnaround of business transactions
- ✔ Reducing expenses on paper & consumables
- ✔ Simplifying the introduction of new applications
- ✔ Manage the flow of data from legacy applications into new solutions
- ✔ Populating new applications e.g. data warehousing and business intelligence.

With so many potential benefits, why has there been minimal great software available?

Allow Flow Software to comment.

Who are Flow Software?

Flow Software's main objective is to provide leading edge integration software that gives our customers a competitive advantage, by enabling faster, smarter business results.

Flow is an innovative software organisation with offices in New Zealand and Australia. We specialise in designing, developing, and supporting middleware integration and EDI technologies. This is complimented by consultancy, support, implementation and training services for our customers and business partners.

Our customers utilise Flow Software in the following capacities:-

- ✔ Traditional EDI between the computer systems of independent businesses
- ✔ Integration of information systems within one organization, e.g. within a retail environment between the head office and the branches incorporating their corporate applications, branch accounting systems and POS.
- ✔ Within one location where the need exists to interchange data between disparate applications, e.g. integrating ERP & CRM, or feeding data warehouses for Business Intelligence utilisation.

In addition to directly aiding corporations and businesses, Flow Software has proven an attractive solution for software providers of ERP, financial, accounting, retail and POS solutions to facilitate integration within their customer sites. To this end Flow Software supports an extensive network of software companies and resellers.

Flow Software is currently experiencing rapid growth, whilst continuing to partner with the growing list of software suppliers who are eager to provide their customers with advanced EDI capabilities to augment their own functional capabilities.

Why rely on Flow?

In today's competitive world, few companies are truly unique, however we believe Flow Software is very, very special. Ten reasons why our customers benefit from investing in Flow Software:

Specialisation

We live and breathe EDI... 7 by 24! Many EDI solutions are invariably promoted by organizations that support a wide and diverse array of technologies. As such EDI is seen as a minor component of their business. At Flow it's 100% EDI. The benefit to customers is our ever increasing focus on how to improve our functionality and deliverability. We are at the forefront of international standards, and able to deliver 'best practice' to our increasing customer base.

Flexibility

Our solutions are upgradable and user driven. We do not have to depend on programming our software to meet customer needs. The benefits include an attractive entry-level investment combined with minimal disruption and costs when expanding your use of EDI.

Versatility

The software is indecently versatile when applied to genuine business needs. We have catered for an extensive range of popular software solutions, databases, and the EDI standards of many of the nation's leading trading organisations. We are happy to quote for any requirement, and offer an unconditional money-back guarantee if problems exist during the provision of the software.

Efficiency

Whereas you may choose to process your EDI transactions on a daily basis, flexibility exists to process information "real-time". Either way, the software is capable of processing significant volumes of transactions with an extremely high throughput. Even running on a standard PC, there should be no impact on the speed of processing and delivery of information.

Experience

The team at Flow Software have extensive experience in the design, development, support and implementation of business applications software. Added to this pedigree is in-depth experience in the integration of EDI capabilities with ERP, financial and accounting packages, combined with a focus on the evolving international trends and technologies specific to our area of specialization. The collective experience of the team is channeled to being experts in this field. If there is a better way to address your requirements, we will advise you!

Accessibility

We will work with any sized company, any database and any software package. You can undertake EDI with your trading partners regardless of location.

Responsiveness

It may not happen overnight, but we can meet very aggressive deadlines. Having already supported a wide array of popular business software packages, and catering for the needs of many of New Zealand's leading businesses, we do not have to re-invent the wheel or rely upon expensive programmers. Note that whereas we may well have catered for your current application software package and trading partner, invariably each customer has unique requirements and therefore the preference for providing a quotation for each project.

Scalability

Flow Software can be installed to transfer a single type of data between you and a specific trading partner, and subsequently add more templates to support multiple transactions to multiple external organizations and to facilitate data transfer within your organization and the systems supported by you. There is never a need for the software to be replaced nor to incur additional license fees or be penalised based on the increasing volume of data being processed. The addition of more functionality will be transparent to the existing users, therefore eliminating disruption.

Endorsements

We are recommended by many of the most popular software packages in the marketplace. Whether using accounting packages such as MYOB and QuickBooks, or ERP solutions such as SAP/B1, Exonet or Axapta, we are proud to be associated with such excellent products.

And finally... Price!

Feedback from our customers confirms that our software and services is highly cost-effective. We provide Flow on an annual license basis, therefore minimizing the initial investment and providing customers with the opportunity of not renewing the license without penalty... to-date no single customer has chosen not to renew! There are no hidden charges based on usage and volume of transactions, and software updates are provided free-of-charge. Therefore customers can budget with confidence. Once installed, additional templates to cater for your growing community of EDI partners are readily provided, and will be quoted for up-front. It is highly likely that flow can utilize your current technology and networks, therefore minimizing or eliminating the need to invest in any additional technology.

A Product Overview

Q. What databases can Flow Software access?

A. The following databases can be accessed (read from or written to) by Flow:

- ✓ Microsoft SQL Server 2000 and above
- ✓ Microsoft Access 97 and above
- ✓ MySQL 4.x and above
- ✓ Oracle 8i and above
- ✓ Interbase 5.6 and above
- ✓ Informix
- ✓ DB2
- ✓ MYOB v9 / v10 (Premier and Enterprise)
- ✓ Any ODBC compliant database as per the Microsoft ODBC specification
- ✓ Any ADO compliant data source as per the Microsoft ADO specification

These databases can be accessed using either the SQL89 or SQL92 specification (as supported by the database platform).

Q. What software packages can Flow access?

A. The below list is an indication of the accounting systems that Flow can work with. It is not a complete list (however we have clients running each of these systems) and this is because Flow does not actually work with the “accounting system”, it works with the “database” as specified above (eg Flow works with Exonet, however it achieves this because it is capable of working with MS SQL 2000)

- | | |
|--------------------|--------------------------|
| ✓ QuickBooks | ✓ Sybiz Vision |
| ✓ MYOB | ✓ Microsoft Great Plains |
| ✓ Quanta | ✓ Microsoft Axapta |
| ✓ Exonet | ✓ Microsoft CRM |
| ✓ Sage Accpac | ✓ Plus Factor |
| ✓ Sage Pastel | ✓ ABM |
| ✓ SAP Business One | ✓ CashManager |
| ✓ Global | ✓ MoneyWorks |

Q. What businesses benefit from Flow?

A. We are always designing templates so that you can use Flow to link to even more companies via EDI. Just a small sample of local companies supported include:

- ✓ Farmers Trading
- ✓ Rexel
- ✓ JA Russell
- ✓ Plumbing World
- ✓ Mitre 10
- ✓ Foodstuffs
- ✓ Carters
- ✓ Fisher & Paykel
- ✓ Ingram Micro
- ✓ Placemakers
- ✓ Crane
- ✓ Mastertrade
- ✓ ITM
- ✓ Bunnings
- ✓ Progressive Enterprises
- ✓ First Mobile
- ✓ Digital Mobile
- ✓ Mainfreight

Q. What data files does Flow support?

A. The following files can be accessed (read from or written to) by Flow:-

- Flat Files** Any file stored in ASCII format that has a structured format of defined 'Records' and 'Fields'. Records are commonly separated with 'Carriage Return/Line Feed' character pairs however any separator will work. Fields are commonly separated with comma, tab, or vertical tab characters however any separator will work.
- EDI Files** Any EDI type file based on either UN/EDIFACT or ANSI X12
- XML Files** Any XML type file that can be described by the XML Schema (XSD) specification as published by World Wide Web Consortium (W3C). This includes any XML based standards such as SOAP, XHTML, and ebXML.

Q. How does Flow actually process the data?

A. Flow provides a mapping engine that is capable of translating data from one structured data set to another. In short, if Flow can access the data, then it can translate that data to another structured data set. The mapping engine is capable of restructuring the data as it is transformed so that the source and destination data sets do not need to have similar data structures.

Mapping logic is implemented in the form "events" containing Object Pascal code. Any logic can be implemented within the scope of the Object Pascal programming language. Its programming functionality provided in Flow is a subset of the programming functionality provided by Delphi that was deemed to be useful to an operator of Flow (other Delphi functionality can be implemented as required). The user interface provides a graphical interface for the user to enter the "scripts" for each event. The order of events is defined within the Flow program. The user can control the execution and timing of certain events.

Q. What are 'actions'?

A. Actions are a combination of data access, maps, and transports that perform a certain 'action'. An example of an action is 'Export invoices to Placemakers' - this action reads data from the accounting software, formats it into the correct file, and sends it to the correct trading partners (ie Placemakers). An action is defined by the user. An action can have multiple steps. It is common for an action to receive a request, process it, then produce a response. The whole action needs to be completed, otherwise everything is rolled back. I.e. if the response is not sent, then the incoming data is not processed into the database, and the action is flagged as an error waiting for operator review. The operator can review the log and re-process the action.

Q.. How does Flow transmit data between computers?

A.. Flow provides the ability to move computer files between computers (typically using a TCP/IP based network). The following standards are available for transporting files however the recommended standard is HTTP/S.

- ✓ Local file access (Windows functions for reading/writing/detecting files around hard drives)
- ✓ LAN file access (Windows functions for reading/writing/detecting files around Local Area Networks). This can be performed using either UNC or Mapped Network Drives.
- ✓ FTP - reading and writing files via the FTP standard.
- ✓ HTTP/S POST - reading and writing files via the HTTP POST specification
- ✓ HTTP/S GET - reading and writing files via the HTTP GET specification
- ✓ SMTP - sending files via SMTP standard
- ✓ POP - receiving of files via the POP3 standard
- ✓ ebMS - sending and receiving of files via interaction with various third party ebMS implementations (Flow does not currently provide its own ebMS product)
- ✓ SOAP - sending and receiving of files via the SOAP standard
- ✓ MSMQ - sending and receiving of files via the Microsoft Message Queue standard.

Q. Can I produce reports from within Flow?

A. Flow has an award winning built-in 'banded' report writer. The functionality of the report writer is comparable to Crystal Reports. The report writer is capable of creating form layouts (eg invoices, orders) as well as reports (e.g. customer sales by month report). It is typically used to create custom 'notification' reports to provide users with information about what is happening with their electronic transactions. Reports can be delivered either directly to printer, to file, screen, or email. Reports can be published in many formats including XHTML, PDF, JPEG, and Excel. Reports can be embedded directly into an email body.

The report writer is developed and maintained by a third-party of which Flow has purchased the source code. Flow is responsible for integration of the report writer into the core Flow source code.

Q. How do I know what's going on?

A. All processes performed by Flow are logged within an audit trail. A log is created each time an "action" is run. Every Log is saved in the database and can be reviewed at anytime. Logs can be deleted by a user with administrative access. A log stores the following information about the execution of an action:-

- ✓ Date and Time of Execution
- ✓ The Action Id and Name
- ✓ The final status of the execution (Successful, Canceled, Error)
- ✓ The trading partner the execution occurred for
- ✓ Executed by (either Flow or the server)
- ✓ Any SQL statements that were executed
- ✓ Any files (filename and location) imported or exported during execution
- ✓ Any database transactions flagged as processed during the execution
- ✓ Any transports that were initiated during execution (files received or sent)

Q. How secure is the Flow software?

A. Security is provided at many levels:

Program Security

The software license is secured using 128bit Public/Private key encryption. This is similar to security used on HTTPS banking websites. It is impossible for software licenses to be created without the Private Key. Personal (or private) information that is stored in Flow is encrypted using RC4. The configuration database is only accessible to people with user rights on the MS SQL server. As with any program that stores its configuration information in a MS SQL server - that information is only as secure as the user access to the MS SQL server.

User Security

To access the Flow program you need to login with a username and password. Users can be created with either user rights or administrative rights. The password is secured using MD5 (if a password is lost it must be recreated).

Transport Security

Information is encrypted during transport depending on the method of transport selected. For example, Emails are sent in clear text so the data in the email is not encrypted. For HTTPS the data is encrypted using 128bit SSL certificates. For this reason we only recommend HTTPS for secure transport of data over the internet.

Q. What technology do I need to run Flow?**A. Flow requires the following minimum hardware to operate:-.**

- ✔ Windows 2000 / Windows XP / Windows 2003 / Windows Vista
- ✔ Intel Pentium 3 or equivalent CPU
- ✔ 256MB RAM
- ✔ 200MB disk space for program files
- ✔ Extra disk space to store EDI files

In addition the following third party software products are installed as part of the Flow program:

- ✔ MS SQL Server 2005 Express
- ✔ MS Dot Net Framework 2
- ✔ MS XML v6
- ✔ MS XML v4

It is also recommended that you have the following hardware / software available to operate Flow. None of this is required to operate Flow:

- ✔ Internet Connection - for sending and receiving files
- ✔ Email program - for reviewing email messages
- ✔ MS Excel (or other spreadsheet software)- for reviewing files if need be
- ✔ Internet Explorer (or other internet browser software) - for reviewing files if need be, or operating the web interface of Flow
- ✔ Remote Access - for simplified support

Flow Software's main objective is to provide leading edge integration software that gives our customers a competitive advantage, by enabling faster, smarter business results. Flow is an innovative New Zealand software company that specialises in designing, developing, and supporting middleware integration and EDI technologies. Operating from offices in Auckland and Sydney, Flow is utilized to undertake EDI with dozens of national traders and integrates seamlessly with all the popular accounting packages.

This information forms an advisory specification document for Flow Software and is accurate at the date of writing. No warranty or guarantee is implied. No assumption of risk is accepted. Any functionality not detailed specifically in this document can be assumed to be excluded from the Flow Software product. Please seek advice from with your Flow consultant to clarify any conditions or features for your specific requirements. Flow terms and conditions apply.