

# Whitepaper

## Business Integration

**From trading community to virtual organisation - maximising the potential of a new era of business integration**

Interest is growing among IT executives in the benefits offered by relatively new developments in the business integration arena such as service oriented architectures (SOA) – a fact backed up by a recent McKinsey<sup>1</sup> survey of CIOs and other senior executives. By improving communication and integration between IT systems regardless of the underlying technology, SOA is just one factor that is making it increasingly easy and quick to share information and reproduce best practice, not only internally but also within an extended business partner community.

There is no “one size fits all” solution to business integration, however, and faced with an environment of inflexible, existing solutions along with promising new technologies that often suffer from misleading promotional hype and a lack of clarity, many businesses are struggling to identify the best way forward.

Most large businesses introduced EDI (Electronic Data Interchange) many years ago to enable them to exchange business critical information electronically with their trading partners. EDI was expected to eliminate the manual processes that result in increased order processing and lead times, introduce human error, and cause lost information due to incomplete fax transmissions, mislaid paperwork and unanswered phone calls. In reality, the technology has struggled to fulfil its true potential.

Traditional EDI relied on transforming information into an agreed message format and exchanging it between trading partners via dial-up connections over a VAN (Value Added Network) - a third party mailbox system. Implementing EDI solutions, maintaining the skills needed to produce data in the correct format for exchange and sending data over a VAN has proven to be expensive. Large organisations that can afford to take advantage of the technology's undoubted benefits have failed to see their ROI fully realised because there was no cost-effective solution available for their smaller trading partners, limiting the success of EDI as take-up rates were much lower than initially forecast.

Today this situation is rapidly changing. The international availability of the Internet, the 'commoditisation' of technology, plus related universally accepted data structures such as XML are transforming the way that data is exchanged, opening up the benefits of business

	Traditional EDI	Transforming	Best Practice
Communication Services	Secure, reliable electronic delivery is possible between larger trading partners using a limited number of traditional capabilities such as asynchronous/bisynchronous, X.25 and X.400 protocols in common use. Data is exchanged in batch mode overnight with slow data exchange speeds.	Point-to-point communications based on dial up protocols deliver security using frame relay or leased lines. ISDN emerges as a high-speed option for the batch exchange of data.	Secure, reliable, near real-time electronic delivery of information is possible between all trading partners and application systems. Can work with traditional and emerging capabilities such as AS2, web services and RosettaNet.
Trading Partner Management	EDI uptake within the trading community is low. Barriers to entry are high. Trading partner management is handled in-house by EDI teams.	In-house EDI management teams are expanded to cope with increasing numbers of trading partners and more complex relationships.	Software tools or outsourcing are used to assist with trading partner management, including community development services, billing operational reports and dashboards. Easy-to-use, customisable portals mean that trading-partners can self-provision and access B2B gateway applications.
Integration	Basic integration is delivered through simple file exchange in local directories over a LAN.	Tightly coupled integration using APIs (Application Program Interfaces) or ODBC (Open Database Connectivity) links.	Complex integration to many internal applications using many different protocols over LANs and WANs.
Application Services	No application services offered.	Web-forms available to electronically exchange data with low technology trading partners	Applications deployed to deliver advanced web-forms processes, online reports, archiving of documents, tracking of all documents and maintenance of product catalogues
Business activity monitoring and event management	Not Available	Simple error/exception reporting.	Events and information about events captured and stored for analysis. Dashboards graphically display real-time and historic data based on the user's profile. Key performance indicators show trading partner interactions from a business point of view (such as response times to POs).
Service Oriented Architecture (SOA)	Not Available	Not Available	B2B gateways developed using service-oriented design methodologies to enable full interoperability with IT strategy.
Business Process Management	Not Available	Business process management delivered through complex coding or scripting usually created by internal IT departments providing interfaces with EDI software.	B2B gateway enables workflow to be defined within the gateway based on trading partner profiles, business rules and requirements. Easy to configure with low cost and low skill base.

Figure 1: Business integration development model

ness integration to all - regardless of size, turnover or technical ability. It is now possible to integrate 100 per cent of a trading community through the various technologies already available.

## Is your organisation making the most of business integration

Assessing where your organisation is today and identifying where you can make effective changes is an obvious first step to maximising the benefits to be gained from business integration. Figure 1 indicates a range of integration stages that organisations across various industries can find themselves at - from traditional EDI to current best practice. In order to reach best practice, businesses can take two main routes, they can rely on B2B

gateway applications (developed in-house or by a specialist vendor) or they can find a trusted partner to provide integration as a service (IaaS).

## An evolving landscape

Developments in technology are undoubtedly making it much easier to benefit from business integration by reducing the traditional barriers to entry previously faced by smaller businesses. The adoption of the Internet, in particular, represents a turning point as it provides a robust, more flexible and cost-effective alternative to traditional EDI based on VANs. However, there are still challenges to be faced. As typical trading communities continue to increase in size, for example, managing them efficiently can become a drain on in-house skills, resources and time.

Figure 2 shows how, as the traditional barriers to business integration have fallen, the number of trading partners able to become e-enabled has risen. It also shows the range of capabilities enterprises need if they wish to make the most of the opportunities available to them.

By employing the correct business integration strategies, organisations can implement solutions that help optimise and support critical business processes. A tight coupling between ERP systems, e-business and other applications combined with the ability to exchange data in multiple formats with customers, suppliers and partners leads to a collaborative, business process based, virtual enterprise. Processes and supply chains become visible from end-to-end, business activities can be closely monitored to provide an early alert to potential problems and rules and workflow can be built-in to provide greater control.

Using just a web browser, data from even the smallest business can be seamlessly created, transformed into the correct format and transmitted to a partner as easily as sending an email. Likewise, small businesses can receive and manage documents just as simply. No matter how small or where in the world a company is located, it can become part of a global supply chain hosted by a major organisation.

The business benefits of effective business integration include:

- Improved customer service - shorter lead times for order fulfilment, a

reduction in errors, improved tracking and visibility of orders and better communications throughout the supply chain.

- Reduced costs - more efficient processes, improved productivity and lower inventory carrying costs.
- Increased profits - reduced costs, quicker product development and a shorter time to market.

Considering that large enterprises have been exchanging data with their larger partners for some time, and that they recognise the benefits and want to bring all their partners onboard, why is this not happening more widely?

## Challenges for large and small

As business integration evolves, many early adopters of EDI technology – large enterprises - find they have an inflexible solution that has been in place for years and has suffered from under investment over time. There is probably a monolithic ERP system at the centre of the organisation onto which an EDI or B2B gateway solution has been bolted. Often a great deal of complex custom code is required to deliver business process management and provide the capabilities needed to get data into legacy applications. It may be necessary to convert data from EDI formats into XML and back again simply to pass it around the organisation.

In this typical scenario, the speed and accuracy with which data can be moved is compromised. The increasing volume and variety of data produced today becomes a challenge. Add to this the fact that old technologies may no longer be supported, the skills associated with them are becoming scarce, and existing knowledge within the organisation is likely to be held by a small number of ageing experts and you have a situation that makes it difficult to integrate new protocols, message types and services. Managing trading communities in today's fast changing, international environment is complex, especially when it is no longer unusual to have to cope with data from thousands of partners. Smaller organisations face a different set of challenges. Most will be considering EDI or business integration solutions in response to a request from a major customer and will naturally feel reluctant to change their existing technology or business processes. Many perceive significant barriers as they are unlikely to have a large – or indeed any – in-house IT resource.

Unfortunately smaller businesses unable or reluctant to move with the times find themselves increasingly disadvantaged in the global market. Without the ability to easily exchange data and integrate it into back office systems they are forced to rely on costly, error prone manual processes that affect business agility. A reluctance to adopt new standards and practices will drastically affect their ability to trade in the future.

## A suggested route to best practice

To help address the challenges raised in this whitepaper, Kewill has written a supplementary 'Suggested Route to Best Practice' document.

Please visit [www.kewill.com/bestpractice](http://www.kewill.com/bestpractice) to download your free copy.

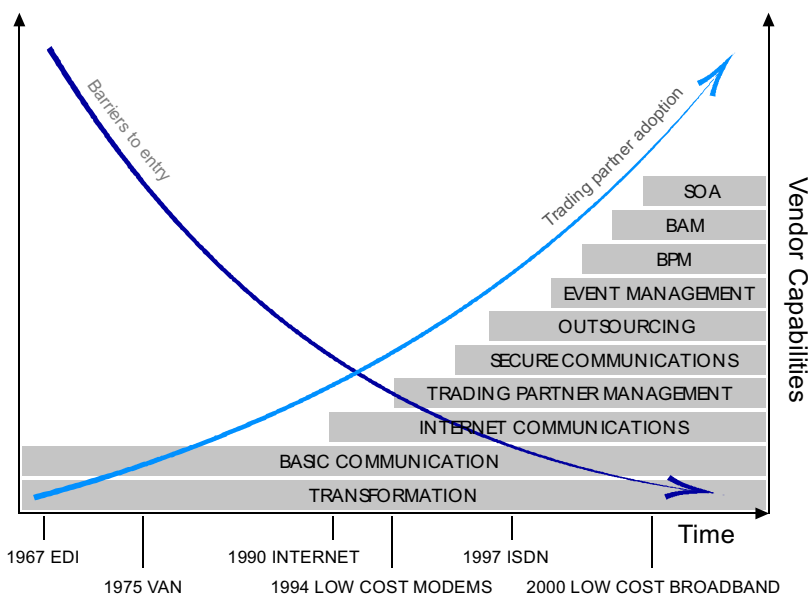


Figure 2: Factors in adoption rates

*1 What's on CIO agendas in 2007: A McKinsey Survey, Janaki Akella, Kishore Kanakamedela and Roger P Roberts, mckinseyquarterly.com, January 2007*



Kewill Systems Plc Oaklands House, 34 Washway Road, Sale, Cheshire, M33 6FS  
Email: eu-marketing@kewill.com Tel +44 (0)161 905 4600 (please select option 2)