



WHITE PAPER

# Transform your business with digital B2B integration

Open EDI to API services and securely unleash  
your data from anywhere



## Separate but equal is a thing of the past

Every day, organizations around the world rely on complex networks of partners, banks, vendors and customers to conduct business. To keep up with advances in technology, increasing data volumes and expanding connections, companies are paying closer attention to their B2B integration strategy. Modern B2B integration solutions need to be more open, flexible and scalable. And they must utilize, and work in concert with, APIs to support new customer experiences.

Depending on the nature of the B2B relationship between two parties, and the type of software and devices used, B2B data transactions can occur on any combination of channels: EDI, FTP, API, or REST/SOAP-based web services.

However, this multi-channel B2B configuration is not optimal because it consists of separate integration silos that must be governed individually, incurring a higher total cost of ownership.

For example, if your B2B integration strategy includes an EDI silo and an API silo, it means:

- Higher costs of maintaining core infrastructure. Taking on the costs associated with managing two systems, two support teams, and two databases.
- Greater risk of non-compliance with government standards or SLAs. Providing visibility into each system, tracking and tracing inventory of each system, and managing access rights for each system is a lot to manage.
- Lost business. Onboarding partners and customers into separate systems is more complicated and takes a long time. Increasing the time to market that you're able to support for your customers or partners tarnishes your reputation and net new business.

What's needed is a single system that governs the flow of all data transactions.

Is there a way to allow for centralized visibility, performance monitoring and tighter security, but also strengthen engagement through apps that enhance the customer experience? Yes. But it's worth understanding how each integration technology complements one another to form a complete picture for today's digital B2B integration.

## EDI: A secure, established B2B technology

Electronic Data Interchange (EDI) is especially common in supply chain processes, such as order-to-cash and procure-to-pay, which is used by banks to exchange corporate payables and receivables with enterprise customers.

This technology is also popular in the government and healthcare sectors for exchanging customs documents, legal documents, health records and business-to-government reports. It provides a strict framework for well-coded business processes, where all parties agree on specific formats for exchanging information such as invoices, purchase orders, and advanced shipment

notifications. It also captures advanced rules for how information in a document is treated and whether or not it should be exchanged.

But EDI has limitations. It's only capable of asynchronous interactions and confined to standardized protocols. It can't exchange data in more open environments where new data streams are expected to flow in real time and on demand from devices, mobile and web applications.

## API: An agile, disruptive B2B technology opening innovative possibilities

APIs are the reigning stars of the web, mobile and cloud universe. Companies like Google, Expedia and Salesforce mastered the science of APIs to disrupt industries and deliver a new genre of value-added content and services with anytime accessibility and instant results.

APIs enable the development of new revenue streams and services for companies through new transactions and by exposing program functionality to the outside world, enabling applications that share data and consume each other's services.

Representational State Transfer (REST) allowed APIs to provide web services using mobile apps. No longer seen as just application and B2C technology, REST is used by the IT community as a B2B-like exchange protocol. As interactions between businesses and consumers take place on a variety of applications, devices and network channels, REST-based exchange patterns provide the agility and consistency needed to make it happen. Customers, partners and employees now have access to business services and data anytime, anywhere, on any device and from any source.

REST-enabled APIs permit synchronous (real time) access and update of financial, customer, supplier and social data directly into business applications. Data consumers can then receive updates with virtually no latency period.

## EDI and API: delivering digital B2B integration

The main differences between EDI and APIs for B2B data exchange also complement each other and allow for a digital B2B integration solution.

Enterprises won't be able to sustain two different channel silos indefinitely, and they can't just replace one with the other. But EDI and API can operate under one centralized B2B flow governance, making the whole much greater than the sum of the parts. The advantages are game changing.

- **Economies of scale.** For implementing B2B interactions and deeper insight into the technical aspects of data integration, transaction delivery and process integration (such as consolidating, tracking, storing and auditing files, messages, process events, acknowledgments, receipts, errors and exceptions).

## B2B EDI solution scenario

Develop a successful solution for a company engaged in global freight forwarding, contract logistics and warehousing processes spanning 60 countries.

### Objectives

- Deploy an integrated, globally reliable B2B data interchange system
  - Extend visibility and analytics capabilities throughout the supplier network
  - Develop enterprise-level best practices for serving and integrating customers
  - Comply with global government and industry regulations
  - Relying on siloed legacy B2B/EDI solutions
  - Possessing insufficient IT resources to support a growing, global network
  - Lacking global visibility into B2B processes
- ### B2B EDI Solution Results
- Provides a single, integrated data interchange solution for all customers and partners
  - Enables monitoring of key performance indicators (KPI) and SLAs
  - Sends proactive alerts based on business events and metrics
  - Empowers teams through self-service, templated reporting and mapping services
  - Improves quality and speed of customer engagement

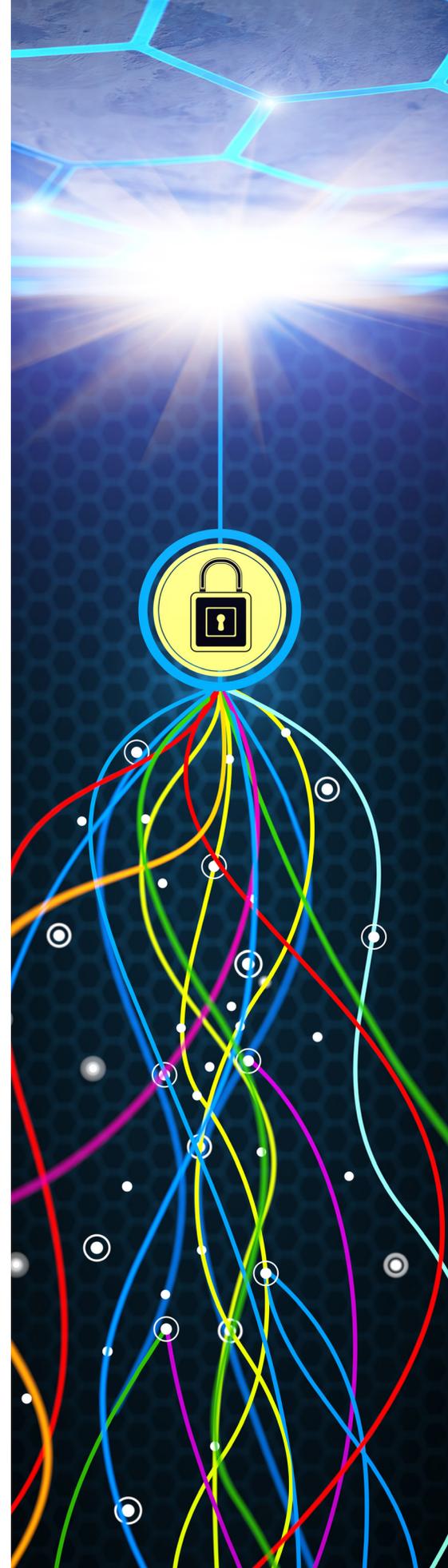
- **Central repository.** For endpoint profiles and processes (valuable when dealing with large numbers of external business partners, and when multiple business units interact with the same partners or provision partners with similar processes).
- **Consistent support.** For various data formats, mappings, transports and communication protocols, and security standards.
- **Enhanced partner community interactions.** By enabling APIs that offer a streamlined alternative to sending electronic data interchange (EDI) documents. API and EDI provide the ability to innovate and generate new applications and services for their customers.

There are two methods that can help you achieve digital B2B integration with EDI and API. Choosing the right approach depends on your industry, legacy platforms, and the nature and evolution of your business.

- **API-enabled EDI solution.** Using APIs to open the EDI, allowing access to B2B services via other applications, portals and mobile apps.
- **Interoperable EDI and API gateways.** Applying a combination of EDI and APIs to the same business transaction. For example, ordering an item using EDI, and then tracking the shipment using API.

Both methods offer centralized visibility and control over your digital B2B integration strategy.

B2B EDI	B2B APIs
<b>Technical Attributes</b>	
Batch/semi-real time	Real time
Asynchronous	Synchronous
Defined service levels (non-repudiation, security, acknowledgement)	No pre-defined service levels
Hundreds of transactions/sec	Thousands of transactions/sec
Used with messages and large files	Used mainly with small messages
Requires middleware on both B2B ends	Only requires middleware on one end
Communication protocols: AS1/AS2/AS3/AS4, SFTP, FTPS, ebMS	Communication protocols: REST, SOAP WS
Message formats: XML, X12 EDIFACT	Message formats: JSON, XML



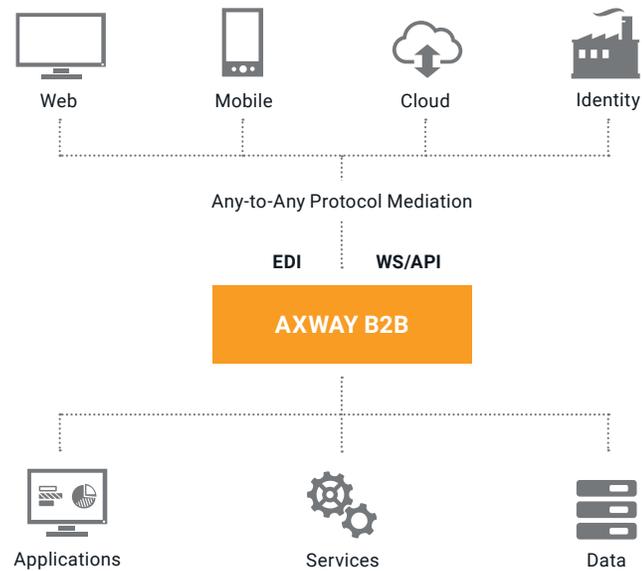
**B2B EDI****B2B APIs****Technical Attributes** (continued)

<b>Mainly for B2B integration</b>	B2B integration, A2A integration, as well as cloud/on-premise hybrid integration
<b>Governance is entrenched in EDI history</b>	Governance is a new trend, just started to be viewed as a must have
<b>Installations are on-premise hybrid with a migration trend to the cloud</b>	Delivered equally on-premise and in cloud

**Business Attributes**

<b>Partner-oriented</b>	Application-oriented and user-oriented
<b>Industry standards based</b>	Technical standards based
<b>Business application friendly</b>	Mobile device friendly
<b>Medium length deployment</b>	Fast deployment
<b>Standardized message formats (orders, invoices, shipment notices) driven mainly by standards bodies</b>	Ad hoc message formats. EDI formats can be used for basic implementations. Driven mainly by the service implementer
<b>System of records</b>	System of engagement
<b>Partner on boarding requires a technical and business workflow</b>	Partner on boarding is typically simpler
<b>Services are well defined and don't regularly evolve</b>	Services are defined by APIs and require full life-cycle management
<b>Business agreements are often required</b>	Usage conditions are defined unilaterally by APIs
<b>SLAs are commonplace</b>	SLAs are not top of mind
<b>Used for order-to-cash and similar supply chain cycles, as well as multi-chain interoperability</b>	Used for data and service exposure
<b>Value is in efficiency in partner relations</b>	Value is in both partner relationship and service monetization
<b>Owned by supply chain and IT departments</b>	Owned by Chief Digital Officer and IT departments

An API-enabled EDI solution lets external applications access EDI services through APIs.



## API-enabled EDI solutions

An EDI solution with API capabilities allows external applications, such as customer portals and mobile apps, to access all the EDI services using APIs. REST APIs expose EDI services and unlock new “EDI as a Service” capabilities, giving users direct access to transfer-related information through a mobile app or access portal.

### Benefits of API-enabled EDI:

- Offers a single point of user administration
- Provides flexibility to generate custom applications for improved customer interactions
- Simplifies and speeds up new business interaction implementations
- Brings self-service qualities to EDI interactions
- Reduces total cost of ownership through consolidation
- Exposes governance services and permits partners to build their own governance applications
- Centralizes security and simplifies identity and access management
- Provides visibility into onboarding status

The combination of EDI transaction processing and exposure of APIs provide supply chain companies new methods to reach their global communities. The use of API technology supports mobile initiatives and takes the place of telephone, fax or email orders. In this scenario, companies have the ability to build mobile applications to interact with the suppliers or with the customers. An order can be placed with a supplier through traditional EDI technology, but the order is received by the supplier via their mobile application and acknowledged with a functional acknowledgment (FA) just like the rest of the traditional EDI orders are managed.



Such extensions of traditional EDI exchange patterns open new revenue opportunities for trading partners. They are managed and monitored with the same transaction visibility and notification processes, enabling greater control and data flow governance.

### Interoperable EDI and API Gateways

Some B2B processes involve complex, multi-party interactions where multiple types of messages, exchange protocols, and exchange channels are commonplace.

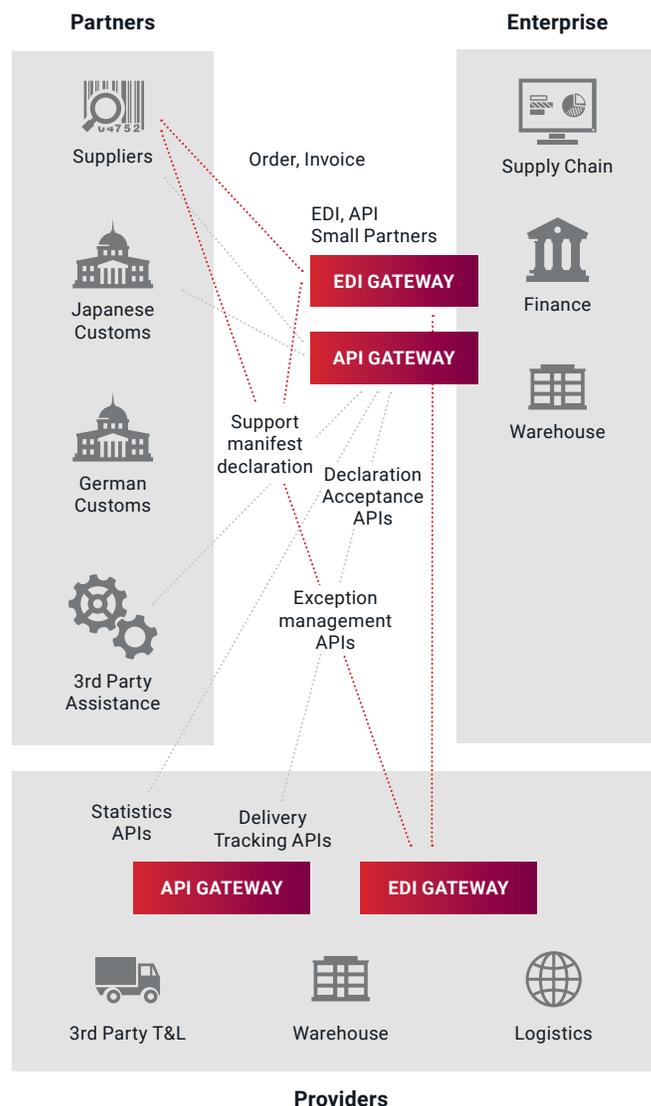
This is especially true for wide order-to-cash processes involving custom declarations, invoice payment, and tracking of shipment. These B2B transactions can be API-based or EDI-based.

Examples of EDI-based transactions include the classical document exchanges such as purchase orders, shipment notices, and invoices. Examples of API REST/web services B2B transactions include traceability of shipment, exception handling on damaged items or interrupted process. B2B transactions that may use either EDI, web services or REST APIs, include customs declarations (manifest declarations) as a consumed service and customs response as an exposed service.

EDI standards have come a long way in helping small businesses use an integrated, interoperable EDI and API data exchange system, going so far as to define API access to EDI exchanges and thereby allowing enterprises to integrate 100% of their B2B partners.

API-based transactions can include complementary services that aren't built into EDI standards – services that provide visibility into transport tracking, statistics on volumes, SLAs and error rates. They also include interactive exception management such as transport cancellation and exception notification.

**In an interoperable EDI and API gateway, a multiple combination of API- and EDI-based transactions work in concert to serve the same order-to-cash process.**



## Single-point management of EDI and API

By combining EDI and API into a single solution, business partners can be centrally managed whether they use API or EDI data integration. Security policies can be applicable to all B2B data flows regardless of the protocols they follow and the channels they stream through.

Centralized management enables single onboarding of partners and updates their profile information and processing preferences through APIs. Centralized visibility of all types of B2B data flows, SLA monitoring, business analytics, alert handling and others, can be combined into one digital B2B integration solution, giving you a competitive edge.

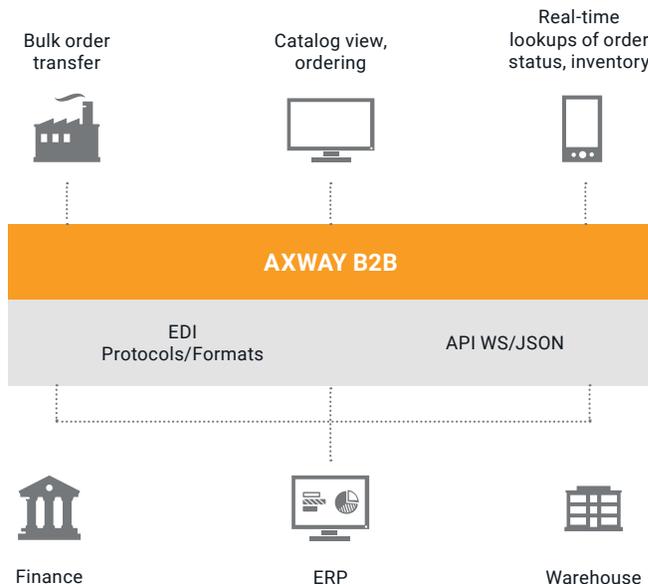
## Digital B2B Integration – the best of both worlds

Axway is a leading provider of EDI and API technology. With our Digital B2B Integration Services, you have a modern integration foundation to unleash your data securely from anywhere, helping you to innovate your business and open the door to new growth opportunities.

## Be ready for change

Spurred by the growing complexity of mobile networks and cloud connectivity – and the challenges and opportunities this presents – enterprises that traditionally relied on an EDI-only strategy to conduct business transactions must now reimagine the way they engage consumers and partners. Supporting and capitalizing on today's new digital economy demands EDI modernization combined with API and cloud services.

### A single-point management solution centralizes partner, security and data flow management.



## Axway Digital B2B Integration Services

- Business monitoring
- Partner management
- Custom reporting and analytics
- Mapping services
- Data flow recognition and correction
- Policy enforcement (authentication, authorization, content filtering, routing and more)
- Any-to-any format conversion
- Wide range of business and application protocols
- Combine REST with traditional integration patterns
- Synchronous end-to-end integrations

See how one company is achieving results

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[axway.com/products/b2b-integration](https://axway.com/products/b2b-integration)