GUIDE: Intro to EDI

The Complete Comprehensive Guide
to Electronic Data Interchange.

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INTRODUCTION

EDI (Electronic Data Interchange) has evolved over the years since it was first developed in the 1970s.

The first form of EDI was developed by large transportation enterprises due to the frustrations and shipment delays they used to encounter moving paper-based information to their business partners. To speed up and simplify the business communication process, these enterprises developed a standard format for their industry to exchange business information between each other. This eventually led to today's version of Electronic Data Interchange (EDI)...

WHAT IS EDI?

Electronic Data Interchange (EDI) is a standard along with a set of communication protocols, technology and best practices that allows the exchange of documents between business partners in a structured digital form based on regulated message formats and standards.

Any business document exchanged between companies (for example, purchase order, invoice, shipping notice etc.) can be transferred by EDI, considering both parties have been setup to exchange with the appropriate EDI communication protocol. Thus, EDI replaces the manual exchange of business documents by fax or e-mail to a fully automatic exchange.

COMMON EDI STANDARDS

All EDI transactions are determined according to EDI standards. Many industries have developed their own EDI standards to fit their requirements and business terms. EDI standards are built on the concept of making electronic business documents uniform. EDI standards regulate the correct order and place of the units of data in an EDI document. Below are some of the most commonly used standards:

ANSI ASC X12

Uniform standard, developed by the X12 - non-profit ANSI-accredited, cross-industry standards development organization, to support companies across different industry sectors in North America.

UN/EDIFACT

United Nations/Electronic Data Interchange for Administration, Commerce, and Transport, developed for the United Nations and approved and published by UNECE. EDIFACT is the international standard but is widely used by multiple industries in Europe.

ODETTE

A standard used by the automotive industry in Europe, developed by the Organization for Data Exchange by Tele Transmission in Europe.

SWIFT

Society of Worldwide Interbank Financial Telecommunication is a global member-owned cooperative and the world's leading provider of secure financial messaging services.

ROSETTANET

A standard widely used in the global semiconductor industry, but also in electronic components, consumer electronics, telecommunication, and logistics. RosettaNet is widely used in the USA, but it is also well accepted and even supported by governments in Asia.

PEPPOL

Pan-European Public Procurement Online allows public organizations and their suppliers to exchange standard-based electronic documents over its network. PEPPOL simplify the trading process between private companies and government.

HIPAA

The Health Insurance Portability and Accountability Act is a US-based standard for the exchange of sensitive medical or administrative information such as claim forms, patient medical records, etc. between healthcare providers, using EDI communication method. The HIPAA EDI transaction sets are based on ANSI X12.
HIPAA standard is used only in the medical and healthcare industry, such as hospitals, private practice, health insurance, and any other organization related to medical records or patient care.

TRADACOMS

Tradacoms is an early EDI (Electronic Data Interchange) standard that was largely employed since 1982 in the UK retail industry. It was maintained and extended by the UK Article Numbering Association (now GS1 UK). The standard is no longer being developed and was replaced by the GS1 EDI EANCOM subsets in 1995. Regardless, it has proven itself to be reliable and most of the UK EDI retail still uses it.

COMMON BUSINESS DOCUMENTS

Every industry has their own documents that they need to exchange with their Trading Partners. The most used EDI documents, especially in the retail and manufacturing industries, are as follows:

EDI X12 DOCUMENTS

810 Invoice
An EDI 810 Invoice – is an electronic document sent by the seller to the buyer to receive payment for goods or services provided.

820 Payment Order/Remittance Advice
EDI 820 Payment Order/Remittance Advice is a notification that business partners (seller, buyer, financial institution) use to provide detailed payment information.

846 – Inventory Inquiry/ Advice
An EDI 846 is a notification that the supplier usually sends to the retailer, which contains information about the availability of goods. This EDI transaction is used to inform your trading partners (retailers) about stock levels but does not oblige them to make a purchase.

850 Purchase Order
An EDI 850 Purchase Order is a formal request from a buyer (buying company) to a supplier (seller) requiring the delivery of goods and / or services.

855 Purchase Order Acknowledgment
The EDI 855 is an EDI document that sellers send to a buyer as a response to an order 850, to confirm or reject the delivery of products.
856 Advanced Ship Notice
An EDI 856 is a notification sent by the supplier immediately after the shipment of the goods leaves its warehouse. EDI 856 (ASN) does not physically accompany a shipment but is used to inform the recipient in advance, about the contents of the shipment.

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UN/EDIFACT MESSAGES

ORDERS Purchase order (order for delivery of goods or services) – an electronic message that is like an order for the supply of products. It is formed and sent by the buyer to the supplier.

ORDRSP Purchase Order Response (order confirmation) – an electronic message in which the supplier confirms, accepts, or rejects the delivery for each commodity item. Dispatched by the supplier to the buyer.

DESADV Despatch advice (notice of shipment) – an electronic message that is analogous to the consignment note. This message is generated at the time (or before) the supplier sends the goods. This message indicates the actual (shipped) quantity and range of goods delivered to the buyer.

RECADV Receiving advice (delivery notice) – an electronic message that contains information about the accepted product, as well as it may contain information about the reasons for not accepting the goods. This message is generated at the time (or after) the physical acceptance of the goods by the buyer.

PRICAT Price/sales catalog message (product catalog) – an electronic message that contains information about the goods and their price characteristics. This message is generated by the supplier to transmit information regarding pricing and catalog details.

PROINQ Product inquiry (price list request) – an electronic message containing a list of products for which price information is required. Sent by the buyer as necessary to obtain product information.

COACSU Commercial account summary (the act of review of mutual accounts) – an electronic message that is an analog of the accounting document "Act of reconciliation of mutual settlements"

INVOIC Invoice – an electronic message that is like a paper invoice.

COMDIS Commercial dispute message (commercial discussion) – an electronic message that contains information about the discrepancy between the quantity, prices, and VAT rates. Dispatched by the buyer upon detection of an inconsistency in the invoice (INVOIC).

COMMUNICATION PROTOCOLS

One of the most important aspects of exchanging EDI documents is the way information is transferred from one business partner to another. In most cases, trading partners themselves determine which transmission method (communication protocol) they will use. Here are some of the most used communication protocols in the EDI world:

DIRECT CONNECTION

Direct connection allows you to transfer data directly to a business partner. Types of direct connections include VPN (Virtual Private Network),

FTP (File Transfer Protocol) sFTP (Secure File Transfer Protocol), and AS2, which encrypts data before sending it over the Internet.
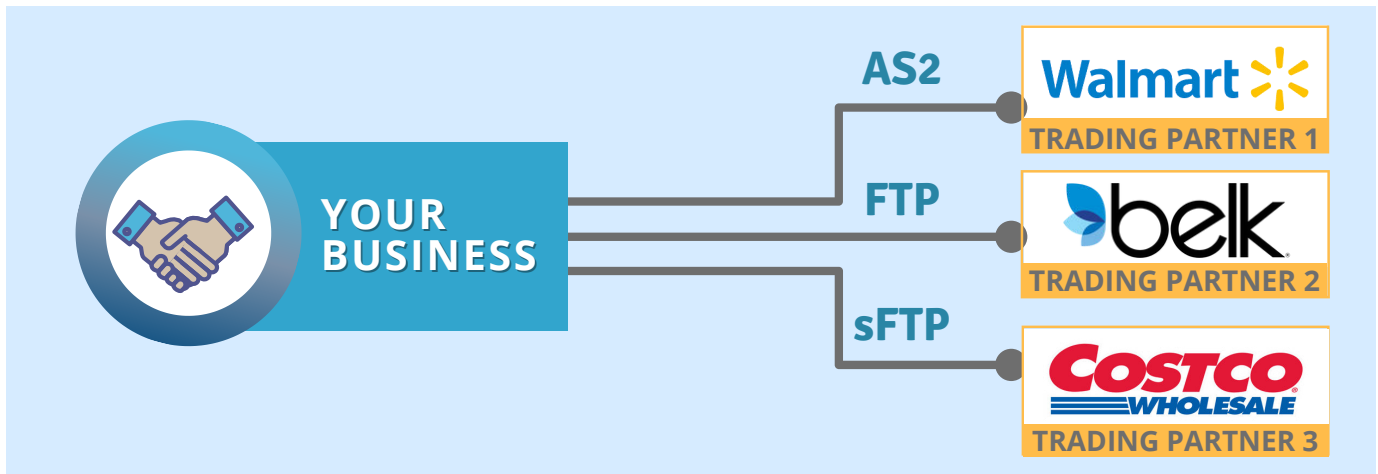
FTP AND SFTP

FTP/SFTP – File Transfer Protocol/Secure File Transfer Protocol. These file transfer protocols allow businesses to connect with their partners via the Internet to exchange EDI documents.

AS2 (APPLICABILITY STATEMENT 2)

AS2 is a secure way to exchange documents over the Internet by using digital certificates and encryption of the EDI data.

VAN (VALUE ADDED NETWORK)

A Value-Added Network (VAN) is considered the "post office" where business partners can collect and sort EDI documents coming through.

As of today, the number of companies using VANs is constantly decreasing, given the lower cost of the Internet and the level of security that someone can implement using Internet communication protocols. Most of the "big players" in retail have switched to point-to-point communications.
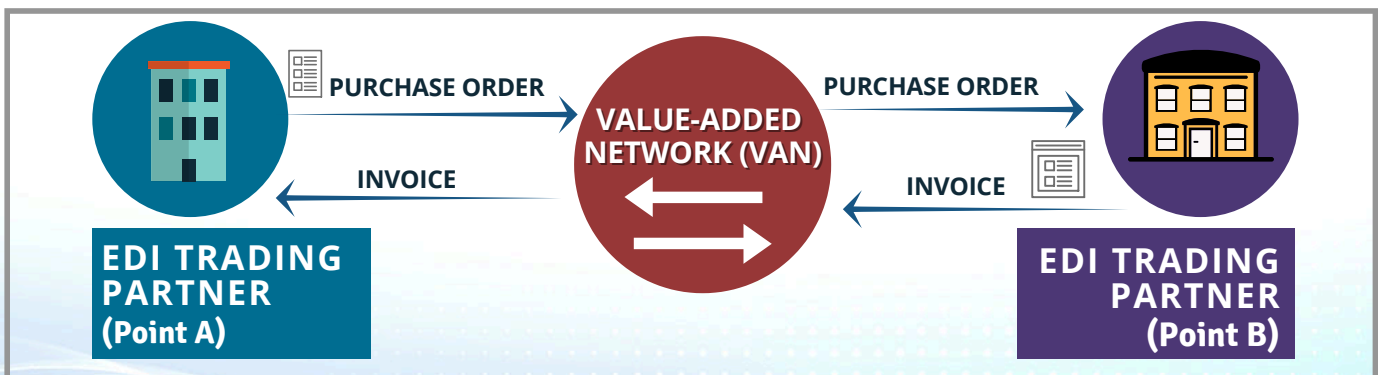
THE EDI PROCESS

Here's the step-by-step process of an EDI Flow:

INBOUND (RECEIVING EDI DOCUMENTS)

01
Receive incoming EDI documents from your Trading Partner (either directly or via a VAN).

02
Convert these documents into a format suitable to your business needs, for easy integration into your ERP Management system (such as XML, TXT, CSV).

03
Integrate these newly converted documents into your ERP Management System.

OUTBOUND (SENDING EDI DOCUMENTS)

01
Prepare outgoing documents, extracted from your ERP Management System; typical document formats at this stage are XML, TXT or CSV.

02
Convert the outgoing documents into EDI format, as specified by your Trading Partner (EDI, x12, EDIFACT).

03
Send these newly converted EDI documents to your Trading Partner using the Communication Protocol requested by them – AS2, sFTP, or VAN.

THE BIG EDI PICTURE

Here is the big picture of an EDI Integration Process, beginning with the EDI document exchange with the Trading Partner(s), then moving on to the transformation of documents on EDI2XML platform, and ending with either a converted file (such as XML) or the data from the documents integrated directly into Management System for quick processing.
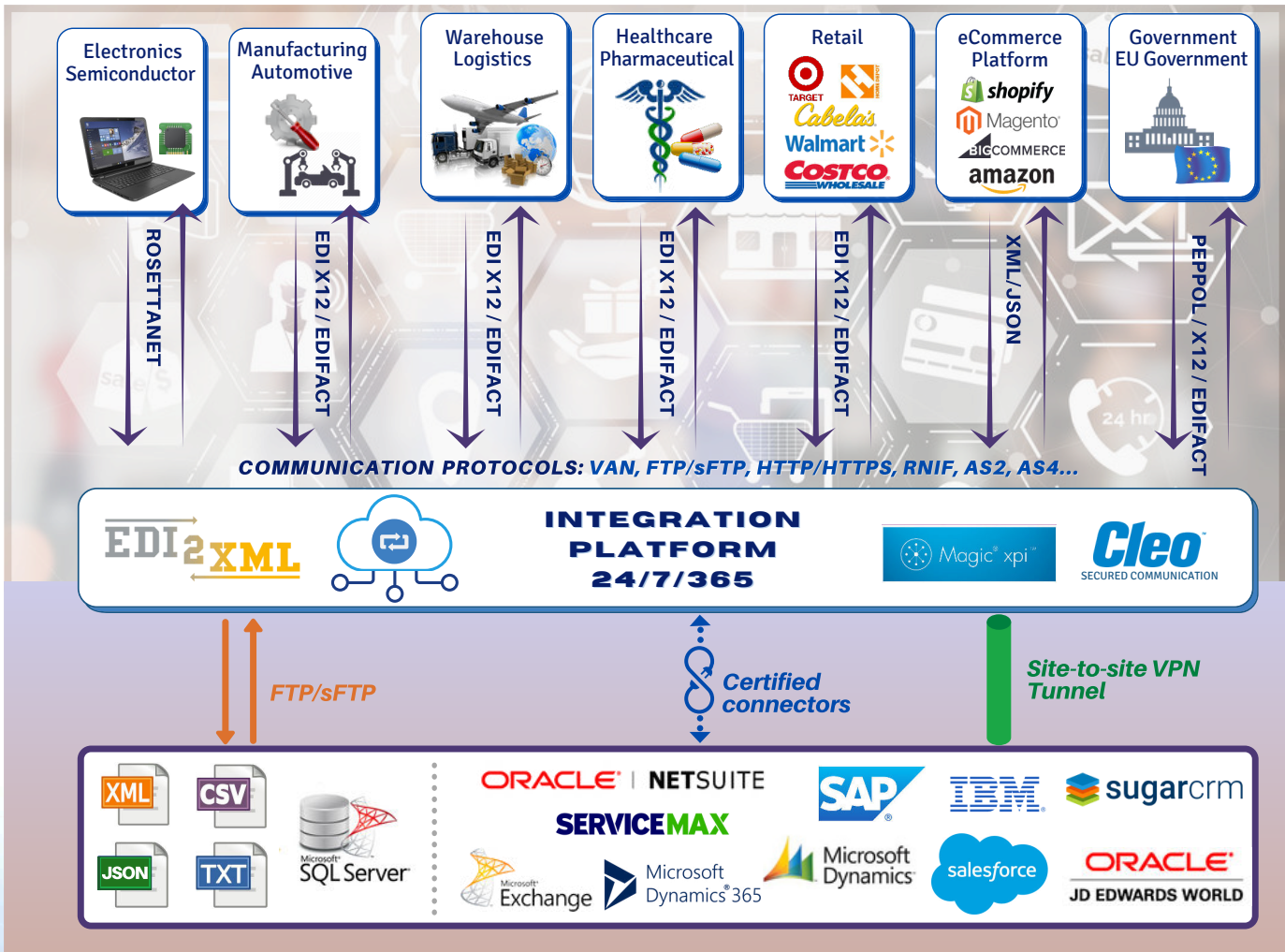
HOW DOES AN EDI DOCUMENT LOOK (EXAMPLE)

The following example details the format of an EDI 810 invoice.

```
ISA*00*        *00*        *12*5141231234    *12*5034564567
*181122*1220*U*00501*000000001*0*T*> GS*IN*5141231234*504564567*20181122*122047*1*X*005010
ST*810*0001
BIG*20181122*I-0042537
N1*RI**92*10055500
N1*ST**92*00262
ITD*05*1*****100
DTM*011*20190120
IT1**2*EA*5.45**UP*888077648572
SDQ*EA*92*00682*1*70674*1
IT1**2*EA*5.45**UP*888077650123
SDQ*EA*92*00111*1*11356*1
IT1**3*EA*4.85**UP*888077648954
SDQ*EA*92*00682*1*11356*1*70674*1
IT1**3*EA*5.15**UP*888077649105
SDQ*EA*92*00011*2*00111*1
IT1**1*EA*5.9**UP*888077648867
SDQ*EA*92*00682*1
TDS*5770
CAD*A***FDEG
CTT*5
SE*20*0001
GE*1*1
IEA*1*000000001
```

EDI formats are typically unreadable by business professionals. Companies need to convert these formats into XML, CSV, TXT, or any other legible format for easy integration into their management system.

THE BUSINESS CYCLE FLOW

There are many scenarios of EDI workflow in the business relationship between the trading partners, thus many different types of EDI transactions may be involved in this process. All depending on the specifics of the company's activities or the requirements of the business partner.

Below we will look at the simplest and most common business process.
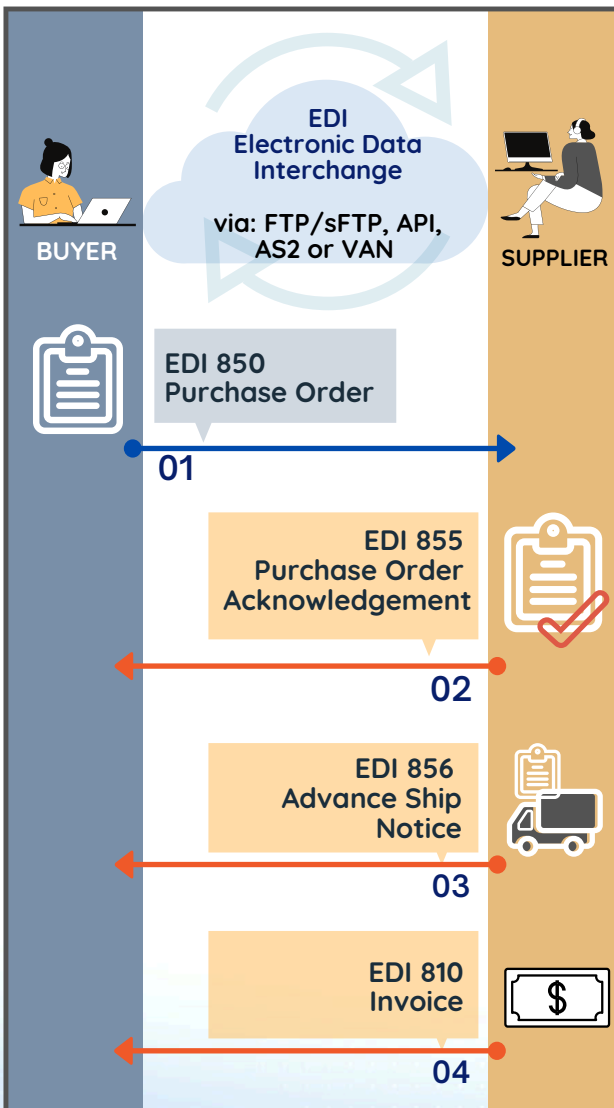
- **Step 1:** The buyer sends the Purchase Order (EDI 850) to the supplier.

- **Step 2:** To confirm readiness to fulfill the order, the supplier sends the buyer a Purchase Order Acknowledgment (EDI 855).

- **Step 3:** As soon as the merchandise is shipped, the vendor sends an EDI 856 Ship Notice (ASN) to the buyer.

- **Step 4:** An invoice 810 will follow so to get paid by the buyer.

Of course, an EDI Flow can get a little more complex. Not just any IT professional can handle EDI projects. An EDI Service Provider or in-house EDI team with a great EDI expertise, is required to handle all EDI transactions exchanged with Trading Partners.

BUYER

SUPPLIER

EDI
Electronic Data
Interchange

via: FTP/sFTP, API, AS2 or VAN

**EDI 850
Purchase Order**

01

**EDI 855
Purchase Order
Acknowledgement**

02

**EDI 856
Advance Ship
Notice**

03

**EDI 810
Invoice**

04

CHOICE OF EDI STANDARD AND PROTOCOL

DIFFERENT TYPES OF EDI SOLUTIONS

Different companies may require different types of EDI solutions, and each company can choose the type of service that best suits its specific requirements. We provide three different EDI services:

- *EDI Web Service*
- *On-Premises EDI Services*
- *EDI Managed Services*

ON-PREMISES EDI SERVICES

We offer EDI2XML services with "on-Premises" deployment at the customer servers. Basically, there will be software components and licenses that will be deployed "on-premises":

- The necessary "binary" engines to process and translate from X12/EDIFACT messages to XML and vice versa.
- Other integration platform to sync and process flows based on pre-defined business logic.

WHICH STANDARD, DOCUMENTS, AND PROTOCOL SHOULD I USE?

If you are just starting out, then you will most likely receive a list of requirements from your new Trading Partner. It all depends which EDI standard they use, which documents they require from their Partners and how they expect these documents to be sent to them. However, each company can choose which type of EDI solution they want to adopt, and which service provider to hire as am EDI integration expert for their integration projects.

EDI WEB SERVICE

EDI2XML Web Service, is an HTTP service running over the internet, on EDI2XML own platform that can receive HTTP requests to translate EDI messages to XML, and XML messages (based on EDI2XML's proprietary format) to EDI.

EDI MANAGED SERVICES

EDI2XML Managed Services is our popular "fully managed EDI service", including communication, transformation, mapping service offering to businesses of all sizes, from various industries. All transformations of EDI files are done on our end, leaving customers with no on-site installation of software or hardware and an EDI project that is on time and within budget.

HOW DOES EDI MANAGED SERVICES WORK?

Incoming

1 EDI2XML connects to the Trading Partner's mailbox to pick up all incoming EDI documents.

2 EDI2XML converts all EDI documents into the customer's desired format.

3 EDI2XML drops transformed files in formats such as xml, csv, json, on the customer's sFTP site, or, integrates directly into the customer's ERP, CRM or any Software Management System or database.

Outgoing

1 EDI2XML picks up all outgoing documents (in the customer's desired format) from the customer's sFTP site or extracted directly from their Management System.

2 EDI2XML converts all outgoing documents into EDI format, as specified by the Trading Partner.

3 EDI2XML pushes newly converted EDI documents to the Trading Partner's mailbox.

BENEFITS OF EDI

Nowadays, most large retailers are known to exchange business documents by EDI, while imposing on any vendor who wish to do business with them to also comply with their demand and adopt EDI.

To do business with these large players, EDI is a must. They will require that all their Business Partners exchange documents electronically in EDI format.

The demand for EDI is growing for this reason and for its numerous benefits...

Improve Shipment Accuracy.

Improves document accuracy due to the elimination of manual labor.

Accelerates the movement of goods to customers.

Enhances flow of information between 2 trading companies.

Improves customer/partner relationships.

Improves cycle time reductions.

Internal teams can now focus on core business tasks and NOT on manual data entry.

Decision-makers can quickly access order statuses.

GETTING STARTED WITH EDI

Before starting any EDI project, it's important to sit down with your team and an EDI expert in order to determine what your EDI needs are and how you can achieve a successful EDI implementation with Trading Partners.

GET STARTED WITH THE FOLLOWING QUESTIONS...

1. Which Business Partners do you expect to be trading with you via EDI? What are their EDI requirements and capabilities? *(Communication Protocols, required EDI documents, requested EDI format (x12? EDIFACT? Custom format?)*

2. Which documents do you need to exchange with each Trading Partner for improved sales processing?

3. What is the EDI transaction volume you expect to have? *(Hundreds of incoming & outgoing documents per day? per month?)*

4. Can you support EDI internally or will you require an outsourced team to help with EDI implementation and support ?

CONCLUSION

By integrating EDI into your Management System, you'll build stronger relationships with your Business Partners, accelerate order processing through the sales funnel, increase automation and data visibility, and improve overall business efficiency.

Bring together the right team of EDI experts to get the job done affordably and quickly. EDI2XML is your one-stop shop for all your EDI needs. From EDI mapping to Partner configuration to Translation Processing, EDI2XML can handle it all.

Are you ready to implement EDI at your company?

Find out how to get started - request a live demo of EDI2XML.

[REQUEST A DEMO](#)

ABOUT EDI2XML

EDI2XML is powered by Namtek Consulting Services. Namtek Consulting Services is a leading Canadian IT firm, providing the latest software solutions and IT services to various industries in small and mid-size market.

It all began in 2000, in Québec, Canada, with an experienced Software Engineer, EDI & Integration Specialist and IT Business Consultant. His goal was to provide flexible, affordable yet high-quality business systems to Small and Medium Enterprises.

EDI2XML was designed to simplify the once-complex B2B EDI communication process. This flexible solution / service is easy to use and can be integrated with any ERP application to streamline the EDI integration process.

ED I 2 XML

Visit: www.edi2xml.com

Call us at: 450 681 3009