EDI eCommerce

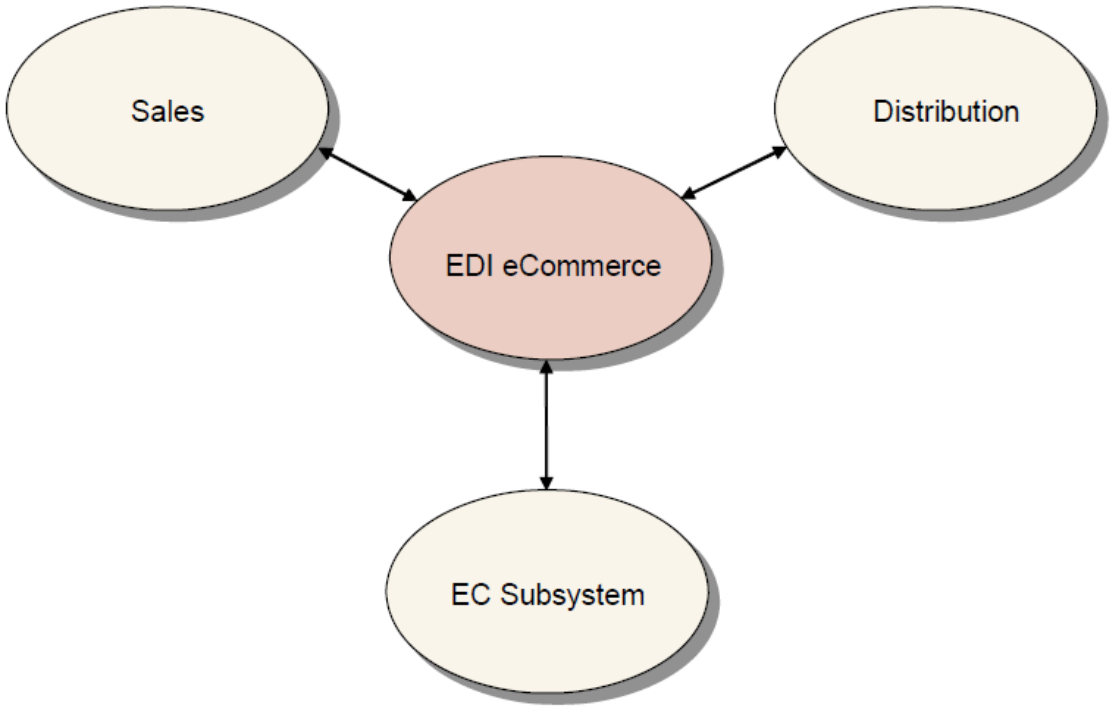
EDI eCommerce manages electronic data interchange (EDI) communications with trading partners. It is the interface between the system and third-party EDI communications or translator products called EC subsystems.

Introduction to EDI eCommerce

EDI eCommerce is an improved method of managing EDI communications with trading partners. It is the interface between the system and third-party EDI communications or translator products called EC subsystems.

EC subsystems send and receive EDI data files containing documents that support such products as QAD Sales. This packaged software performs electronic data communications for flat-file transfer. In the EDI eCommerce context, EC subsystems translate EDI data to and from the QAD standards-neutral formats (SNFs), which are defined for all inbound and outbound EDI documents.

EDI eCommerce Overview



EDI eCommerce's table-based logical structure supports all major EDI standards, making the system compatible with most EC subsystem translation capabilities. Additionally, you can map inbound or outbound data in extensible markup language (XML) format—an important feature in making EDI communications interoperable with external systems.

Traditional EDI processing applications require program changes at the code level to meet the input and output requirements of external systems. In contrast, eCommerce's processing logic, EDI document specifications, and trading partner specifications are stored in database tables. These tables can be modified through the user interface with a set of maintenance programs.

The import and export processes use gateway programs to move data into and out of the database. These programs are the same for all combinations of document type and trading partner. Specifications for trading partners and application document definitions are set up in tables instead of in the code.

EDI eCommerce also stores the EDI data in tables. This table-based approach enhances the system's ability to manipulate, analyze, edit, and reprocess EDI documents.

Note EDI eCommerce supports the EDI requirements of the Enterprise Material Transfer (EMT) module, which allows you to automatically generate purchase orders from sales orders and transmit them to lower-level suppliers. Use eCommerce programs to communicate the following types of EMT-related documents among trading partners:

- Purchase orders
- Purchase order acknowledgments
- Purchase order changes
- Purchase order change acknowledgments
- Advance ship notices (ASNs)

Note EDI eCommerce also supports Bank Drivers.

Elements of EDI eCommerce

EDI eCommerce consists of several elements:

- A document repository
- A tool set containing table definitions and transformation procedures required to integrate transactions and support table maintenance, import, and export
- Document import and export process control functions

Document Repository

EDI eCommerce includes a document repository, this is a set of tables that store data in transition during various phases of processing. Types of data included in the repository include:

- Exchange file documents
- Application documents
- Turnaround data

For more information, see EDI eCommerce Processing on page 6829.

Maintenance programs let you change all three types of repository data. However, you must change data with care, as modifying data values in the eCommerce tables can cause data synchronization problems within the database.

For more information, see Maintaining the Document Repository on page 6947.

Exchange File Repository

This portion of the repository holds data at two stages of processing:

- Inbound data from a standards neutral format (SNF) file before it undergoes transformation processing and is moved into the application document repository
- Outbound data that has already undergone transformation processing before it is written to an SNF file and transferred to the EC subsystem

The system moves documents into and out of the repository as needed. A maintenance program lets you modify data in the exchange file data repository, if necessary.

For more information, see Exchange Data Repository on page 6948.

Application Data Repository

The application data repository includes data in business-document formats:

- Outbound data that is awaiting transformation processing before it is moved to the exchange file repository

- Inbound data that has already undergone transformation processing and is waiting to be transferred into the database

The system moves documents into and out of the repository as needed. A maintenance program lets you modify data in the application document repository, if necessary.

For more information, see Application Data Repository on page 6951.

Direct Import to Application Repository

To provide flexibility in using the document mapping functions of EDI eCommerce, you can import source files directly into the application document repository and export them without having to create business documents.

For example, you can use this feature to:

- Receive an EDI file containing a sales order from an external system.
- Load it into the repository based on an implementation definition.
- Transform it into XML format.

During this process, you are never required to create a sales order in the database.

For more information, see Document Import on page 6890.

Turnaround Data

Turnaround data includes some data items being stored from transactions imported from an EC subsystem. Such data items cannot be mapped into the database as elements of a business document, but are required for related outbound documents.

For example, an inbound supplier schedule includes additional customer data that your company does not ordinarily track in shipping documents. However, the customer requires the same data on all advance ship notices (ASNs) that your company exports for items included on the schedule.

You can define inbound documents from this customer to map turnaround data during gateway processing. The system marks this data as turnaround data and stores it, but does not attempt to map it to the database. The corresponding outbound implementation for this trading partner calls for the outbound gateway program to pick up these data items. The system places them in the appropriate fields on the ASN exchange file document sent to the EC subsystem.

EDI eCommerce provides a tool for modifying stored turnaround data.

For more information, see Turnaround Data on page 6955.

EDI eCommerce Tool Set

The EDI eCommerce tool set includes a set of tables containing trading partner data, exchange file document definitions, and implementation-specific application document definitions used in the transformation process. Additionally, a set of menu programs lets you maintain these tables. Other menu programs are used to set up the system and to run the import and export functions.

Most of the programs are not intended for day-to-day use. Typically, you only require import and export programs, reprocessing programs, and a few reports and browses.

System implementers use the other programs to perform initial setup and to add trading partners and document types during system maintenance.

Document Types

EDI eCommerce allows several types of documents to be exchanged with EC subsystems. The table below lists examples of the international standards typically associated with some of the document types that eCommerce supports. The following organizations define associated standards:

- American National Standards Institute (ANSI) Accredited Standards Committee (ASC) X12
- Electronic Data Interchange for Administration, Commerce, and Transportation (EDIFACT)
- Organization for Data Exchange by Teletransmission in Europe (ODETTE)
- Verband der Automobilindustrie e.V. (VDA)

Note These standards are provided as examples. Because of the flexible, database-centered design of eCommerce, the SNF-based maps can be tailored to any standard or nonstandard business document.

Sample EDI eCommerce Document Types

Document Type	Examples of International Standards
Planning and shipping schedules	• ANSI X12 830 and 862 • EDIFACT DELFOR and DELJIT • ODETTE DELINS • VDA 4905
Purchase orders (including changes and acknowledgments)	• ANSI X12 850, 860, and 865 • EDIFACT ORDERS and ORDCHG

	• ODETTE ORDERR
Invoices	• ANSI X12 810 • EDIFACT INVOIC • ODETTE INVOIC • VDA 4906
Remittance advices	• ANSI X12 820 • EDIFACT REMADV
Advance ship notices (ASNs)	• ANSI 856 • EDIFACT DESADV • ODETTE AVIEXP • VDA 4913
Inventory advice	• ANSI X12 846 • EDIFACT INVRPT • ODETTE STOACT
Distribution order receipts	• ANSI X12 944 • ODETTE STOACT
Sales order shipmnets	• ANSI X12 945 • ODETTE STOACT

EDI eCommerce Processing

During import and export, the system stores data in repository tables based on table-resident exchange file definitions and trading-partner-specific implementation definitions of business documents. Then, it uses transformation definitions to determine the processing actions required to convert between the EDI-oriented exchange file and the system-oriented business document.

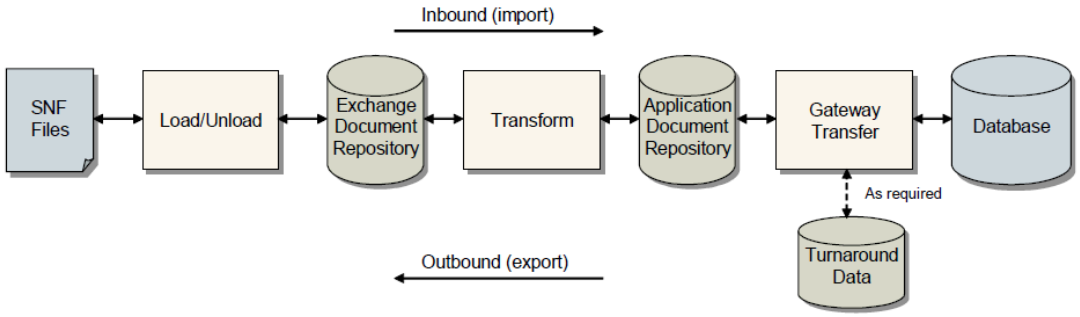
Most eCommerce processing is done at a programmatic level. Little system interface is required during day-to-day use.

Menu-level programs let you select documents for import and export processing, if necessary. Depending on how your system is set up, processing sometimes does not start from the user interface, as in the following case:

- You can use **eCommerce Manager** to set up a time-based process that searches for documents or files and automatically begins processing them.

Three basic steps take place when you import or export a file with eCommerce: load/unload, transform, and gateway transfer. Each step moves data into or out of the repository. The following figure summarizes the process:

Import/Export Process Steps



- Load/Unload
  - The inbound process loads EDI data from the EC subsystem SNF files into the exchange file repository.
  - The outbound process unloads data from the exchange file repository into the EC subsystem SNF files.
- Transform
  - The inbound process transforms the documents from the EDI format into business document format, applying trading partner-specific logic to map fields appropriately.
  - The same process is applied in reverse to outbound documents—business documents are transformed into EDI-oriented formats.

- Gateway transfer
  - The inbound process extracts transformed documents from the repository and calls the appropriate gateway program to update the database.
  - The outbound transfer process starts with the selection of a gateway program. Data is then placed in the document repository.
  - The transfer process also stores trading partner-specific turnaround data on inbound messages. It retrieves stored turnaround data for outbound messages.

The import and export processes run automatically from beginning to end. If the system detects an error with a file or document at any time, it generates error messages and continues processing the rest of the job. Depending on where the error occurs, documents with errors are placed either in an error file or in the appropriate repository with a field indicating an error status. You can then use reporting tools to determine why errors occurred, then correct the problems and reprocess the documents.

For more information, see Correcting Errors on page 6942.

Imports

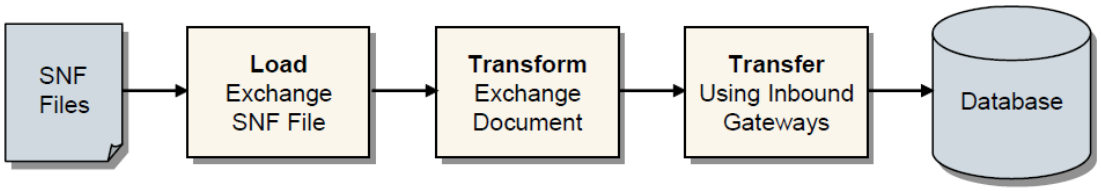
The way import documents are processed and the way gateways are used to transfer data depends on the types of files loaded from the EC subsystem. A single menu program provides access to the documents available for import and allows you to select from a list of eligible files. The system reads control records in the SNF file to determine the document type, then selects the appropriate gateway processing program. All further processing is automatic.

You can also use the import function to load files from the EC subsystem directly into the application document repository. This feature lets you transform inbound files and export them again without ever creating business documents in the database.

For more information, see Document Import on page 6890.

The import process control flow is shown in the following image:

Document Import Process



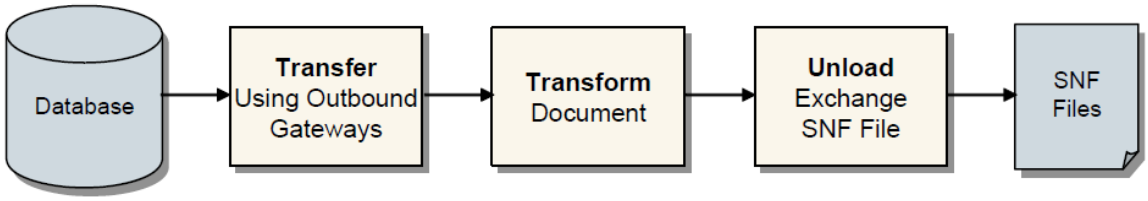
Export

Document export processing is similar to import processing at the user interface, with one exception. Instead of a single export program, there is a program for each type of document. You can enter selection criteria for the specific type of exported document.

These programs begin the process of extracting document data from the database and transforming it into a format that meets the requirements of the receiving trading partner.

The export process control flow is shown in the following image:

Document Export Process



For more information, see Exporting Documents on page 6921.

The system can create optional tracking records for exported documents. After acknowledgment messages are imported from the EC subsystem, tracking records are automatically updated with status information from both the EC subsystem and the trading partner's application.

For more information, see Tracking Exported Documents on page 6943.

Multiple Domains

You can use a single instance of eCommerce to import and export documents between multiple domains and the EC subsystem. Multiple-Domain Processing on page 6912 describes how the system processes EDI transactions in a multi-domain environment.