



Infor LN Electronic Commerce User Guide for EDI

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About this document

This document explains the setup and use of electronic data interchange (EDI).

Objectives

The objectives of this book are to describe the setup and use of electronic data interchange (EDI).

Intended Audience

This book is intended for those who want to learn how to use and set up the EDI functionality.

Document summary

This table shows the chapters of this guide:

Chapter 1	Overview	Overview of EDI and its setup data.
Chapter 2	Master Data	Summary of the EDI master data.
Chapter 3	Networks	Setup and use of <u>networks</u> .
Chapter 4	Code and Conversion Tables	Setup and use of codes and conversion data for incoming and outgoing messages.
Chapter 5	Conversion Setups	Definition and usage of <u>conversion setups</u> and the relation with ASCII files.
Chapter 6	Import / Export	Import and export of EDI data.
Chapter 7	Communication	External and internal EDI communication.
Chapter 8	Message Data	Creation and usage of EDI messages.
Chapter 9	History	Usage of EDI history data.

References

For details on:

- The purpose, contents, and setup of BEMIS, refer to *User Guide for BEMIS U8912 US*.
- The types of business documents and the related EDI messages, refer to *User Guide for EDI Business Documents U8998 US*.
- The content and structure of the business document types, refer to *Document Definitions at [Infor EDI](#)*.

How to read this document

This document was assembled from online Help topics. Consequently, references to other sections in the manual are presented as shown in this example:

For details, refer to *Overview*. To locate the referred section, please refer to the Table of Contents or use the Index at the end of the document.

Underlined terms indicate a link to a glossary definition. If you view this document online and you click on underlined text, you jump to the glossary definition at the end of this document.

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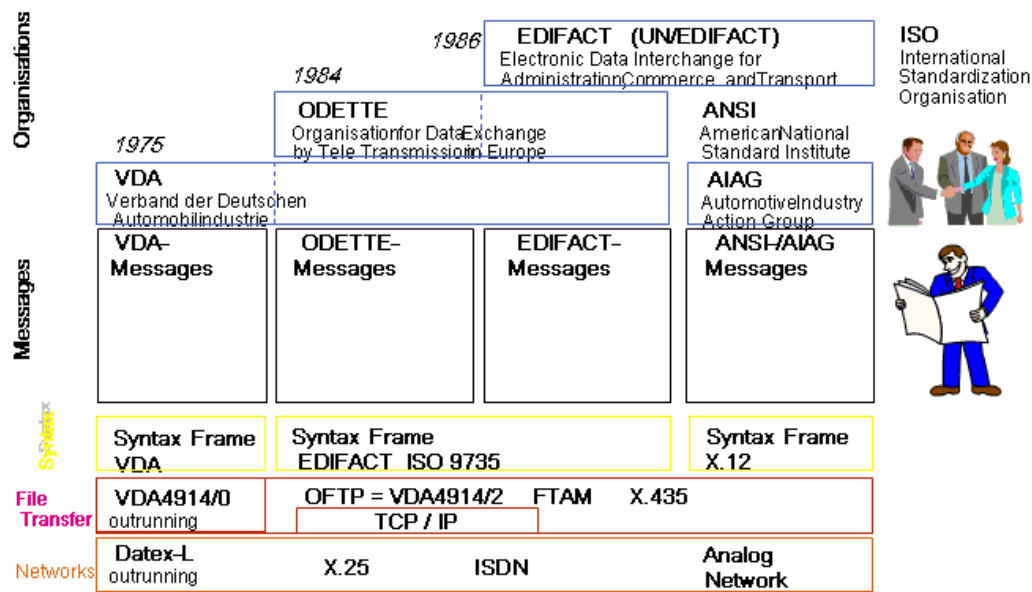
Electronic Data Interchange

Electronic data interchange (EDI) is used to process standard messages between two business partners and to exchange business documents between two systems. For example, a customer sends a purchase order to a supplier through EDI after which the supplier responds by sending an invoice to the customer electronically.

Many external standards of these business documents are defined that provide rules to the related business processes, the business document structure, and the content. In Europe, the UN/ EDIFACT standard is used; in the United States, the standard is called ANSI. Moreover, industry-specific standards are also used, such as SPEC2000 and AECMA for aerospace and defense, and VDA/ODETTE in the automotive industry.

LN has its own internal standard, called BEMIS (Baan Electronic Message Interchange System). LN uses the BEMIS standard to generate and read messages. All external standards can be translated into the internal BEMIS standard or generated from BEMIS by an EDI translator, which uses standard EDI message formats that are supported by your business partners.

This diagram shows the development of the various standards:



Setting up EDI

The setup of EDI-specific data includes the following steps (in order of execution):

1. *Master data (p. 13)*
2. *Networks (p. 17)*
3. *Codes and Conversions (p. 21)*
4. *Conversion setups (p. 27)*
5. *Import / Export (p. 33)*
6. *Communication (p. 35)*
7. *EDI messages (p. 41)*

Master data

Specify the master data that is required to support the EDI environment.

Specify the following master data:

- EDI parameters in the EDI Parameters (ecedi0100s000) session
- Organizations. For more information, refer to *Using organizations (p. 15)*
- EDI messages. For more information, refer to *Creating EDI messages (p. 41)*
- Supported EDI messages. For more information, refer to *Using supported EDI messages (p. 43)*
- Supported EDI messages by business partner. For more information, refer to *Using EDI messages by business partner (p. 43)*
- Outgoing messages by session. For more information, refer to *Creating outgoing messages (p. 41)*

Implementing EDI

This application provides several tools to help you with implementation, which include:

- Default conversion setups for the supported transaction sets.
- Mechanisms for identifying business partners and supported messages.
- Conversion tables to help with specific conversion information.
- Code tables for code identification.
- Message generation management.
- Message audit and correction management.

Using external EDI

The data files are typically transferred between external business partners over commercial (a value added network: VAN) or noncommercial (for example, Internet) networks. The translation of the EDI ASCII files is handled by third-party translation and communication software that can also encrypt data that is transferred over unsecured networks.

The EDI module does not provide this translation/communication functionality. This environment is referred to as external EDI.

Using internal EDI

The transfer of internal EDI messages is similar to the external EDI situation except for the translation requirements and communication requirements. Internal EDI is also referred to as multicompany EDI or multisite EDI.

In multisite EDI implementations, the ASCII files are usually transferred over an internal company network (LAN or WAN), which means that you do not need to encrypt files. Also, because all companies (or sites) in the multisite structure use the same format for the ASCII files, you do not need to translate the files to a different external EDI standard.

Internal (multisite) EDI

In external EDI, ASCII files must be transferred over commercial or noncommercial networks. This transfer requires you to translate the ASCII files to and from standardized encrypted messages. The encryption of the message ensures high data integrity and security and provides a universal format supported by all parties.

However, in multisite EDI implementations (also referred to as internal EDI), the ASCII files are transferred over the internal company network (LAN or WAN), which means that you do not need to encrypt the files. In addition, because all companies in the multisite structure use the same format for the ASCII files, you need not translate to an external EDI standard, such as EDIFACT or ANSI X12.

You can only perform internal EDI between sites (companies) that share a common directory on the company network (either through the use of the same data server or through NFS). In addition, all sites must use the same application server to, for example, allow site A to start a background process in site B that reads messages just sent from A to B. If this real-time transfer of messages is not required, the transfer of internal EDI messages is similar to an external EDI situation, except for the translation and communication software.

Using default data

LN provides default data that can be imported into [EDI](#).

The default data includes the following:

- The X12 and EDI organizations that represent [ANSI X12](#) and [EDIFACT](#) Standard, by which other EDI elements can be grouped.
- Supported messages that follow the X12 and EDIFACT Standard naming conventions, grouped by organization.
- [Conversion setups](#) for each supported message that define the ASCII [file layouts](#) and supported fields for each message.
- Default codes for order types, item code IDs, address code IDs, and address types that can be used in code conversions.
- [Outgoing messages by session](#), which links all supported outgoing messages to the session that prepares the [EDI message](#) for generation.

Using EDI default data

You can export the setup data from company 812 by using the Export EDI Data (ecedi6221m000) session. This session creates the [defaults.edi file](#) in the EDI directory that is specified in the Standard Path field in the EDI parameters of company 812.

Before you run the Export EDI Data (ecedi6221m000) session, you must create an EDI directory in \$BSE and verify that the full path of this directory is specified in the Standard Path field of the EDI parameters in company 812.

Note

You must define a default text group template with the Default Text Groups Template (ttams1121m000) session and assign the template to the user who runs the import before running the Import EDI Data (ecedi6220m000) session. This process is necessary because the import will read a number of [evaluation expressions](#), which are stored as text blocks.

Using organizations

You can use [organizations](#) to determine what coding technique (EDI standard) is used in the current company. The ERP application can support multiple message standards in your company and maintain a group of messages related to that standard.

Organizations are used to:

- Maintain messages supported by your application and by your business partners.

- Maintain code tables and conversion tables.
- Print and maintain text code tables.
- Maintain and print conversion setups.
- Print mapping information.
- Print and display generated messages (history).

Using business partners

Because you will communicate with your business partner over specified networks, you must define the network address of the business partner for the specified networks. This address is the technical address that is used in the envelope information (message overhead) of any EDI message sent to that business partner.

For messages exported from the ERP application for external EDI, the translation communication software uses this network address to determine where to route the message.

For messages imported into the ERP application, use the network address to identify the sender of the received message.

For example, in the default data provided for the conversion setups (the default message file layouts/mapping), use the network address with the network code to determine the business partner on incoming messages.

In any case, use this network address to identify a business partner by network. You can choose to have the network address be the same as the business partner code, or you can use this field to specify the actual technical address of your business partner. Your choice depends on the functionality of your translation/communication software.

Business partners are used to:

- Indicate which messages are supported by specific business partners.
- Maintain and print business partner identifications by network.
- Define conversions that are specific to a business partner (such as forwarding agent codes, warehouses, and sales contract codes).

Networks

Use networks to specify the directory Electronic Data Interchange uses to store and retrieve messages (ASCII files). Because data for multisite business partners does not need to be translated into actual EDI messages, internal EDI data must be separated from external EDI data.

In most cases, you need two networks:

- One network represents the directory for internal (multisite) EDI.
- The other network represents the directory where you exchange files with the translation/communication software that handles the transmission of messages to external business partners.

Using networks

Use networks to specify the directory that ERP EDI uses to store and retrieve messages (ASCII files). Because data for multicompany business partners does not need to be translated into actual EDI messages, internal EDI data should be separated from external EDI data.

In most cases, you will need at least two networks. One network can represent the directory for internal (multicompany) EDI. The other network can represent the directory where you will exchange files with your translation/communication software. This software handles the transmission of messages to external business partners.

Networks are used to:

- Define combinations of EDI messages and business partners.
- Define connection schedules.
- Record business partner identifications by network.
- Identify the networks with which your company will communicate.

Using network addresses

For incoming messages, use the network address to identify the business partner from which the message was received.

For outgoing messages in external EDI, you can include the network address in the exported ASCII file in order to identify the business partner and the network to the translation/communication software. This identification allows the translation/communication software to determine where to route a message exported from ERP.

Directory structure

The directory structure of an EDI network has the following subdirectories:

- appl_from (for external EDI)
- appl_to (for external EDI)
- appl_comm (for internal EDI)
- appl_text
- Command
- trace
- store_recv
- store_sent

The messages are stored in the subdirectory /cXXX, in which XXX is the company where the messages must be read.

Example

The basic directory /usr1/edi will contain the following subdirectories:

- /usr1/edi/appl_from-----> or /usr1/edi/appl_comm
- /usr1/edi/appl_to-----+
- /usr1/edi/appl_text
- /usr1/edi/command
- /usr1/edi/store_recv
- /usr1/edi/store_sent
- /usr1/edi/trace

Creating multiple directories

An easy way to create multiple directories is to create a subdirectory under your EDI path for each company and assign that directory to each company's network.

For example, if companies 420 and 422 are both used for external trade, company 422 can have the path /Home/Edi/422 assigned to its network and company 420 can have the path /Home/Edi/420.

Specifying a range of days

Example 1

The start (from) day is earlier than or the same as the end (to) day.

- Start day is Monday
- End day is Friday

The period runs from Monday to Friday (inclusive).

Example 2

The start (from) day is later than the end (to) day. The period runs from Saturday to Sunday (inclusive).

- Start day is Saturday
- End day is Sunday

1 Su Mo Tu We Th Fr Sa
 |-----|

2 Su Ma Tu We Th Fr Sa
 -| |-

Codes and Conversions

You can control codes and conversion data for incoming and outgoing messages. Code and conversion data information is used to prevent interpretation problems from arising between you and your business partner. In addition, this information is also used to allow a basic level of translation for selected types of data between the ERP application and a foreign system.

These codes can be defined at two levels:

- Codes that have a one-to-one relationship with specific fields or functions within the ERP application, such as tax codes or units of measure
- Codes that cannot be used directly within the ERP application because there is no corresponding application element. These codes are typically used in text fields or reference fields

Data in this business object is used to:

- Defining conversion data
- Processing EDI messages

Code and Conversion tables

Code and conversion tables allow you to define the relationship between a code in an [EDI message](#) and a code used in the LN application. The codes used are usually related to the [organization](#) (which can represent an EDI standard such as [ANSI X12](#) or ODETTE and represent the approved set of codes to be used by that organization).

For example, unit of measure codes are usually unique to an EDI Standards organization. If your internal unit code pcs needs to be translated to each (the ODETTE standard unit), use the conversion code table for units to handle the automatic conversion.

You only need to define [conversion tables](#) when a particular code must be converted from an internal value maintained within the LN application to one that is used externally. If both parties use the same codes for items and warehouses, for example, conversion is not necessary.

One mandatory code is the order type code. For incoming messages, the defined order type codes represent valid order type codes that can be received and processed by LN EDI. For outgoing messages, LN uses the codes to maintain the conversion of order types (out).

Note

Some code conversions in LN EDI require a code ID. Code IDs are qualifiers used in code conversions that allow you to convert additional data specifications. Code IDs are transferred within the first qualifier position of the conversion setup definitions.

Additional Codes

You can predefine certain codes that can be transmitted between you and your business partners.

Although these codes may not have a specific use within the ERP application, the information itself is useful to you and/or your business partner.

You define each code with its own description. You have the option to convert the codes defined in this business object to descriptive text based on how you define the code field in the appropriate conversion setup.

Codes that cannot be used directly within the ERP application (because there is no corresponding application element) are also defined in this business object. These codes are typically used in text fields or reference fields.

Data in this business object is used to process EDI messages.

Conversions by Business Partner

You can create conversion information for selected data elements that is specific to a business partner. This information means that you can control the remaining conversion data required to prevent interpretation problems between you and your business partners.

Using character conversions

Character conversion is only required if a character must be converted to another character.

Example

LN	Business Partner	Convert
A	A	No
a	A	Yes
b	B	Yes

Using incoming conversion data

For incoming messages, use conversion data to translate codes from the EDI messages into codes used by the ERP application.

Conversion data for incoming messages is used in processing EDI messages.

Using outgoing conversion data

For outgoing messages, conversion data is used to translate codes from the LN application into codes used by the [EDI messages](#).

Conversion data for outgoing messages is used to process EDI messages.

Conversion data for incoming messages

Use conversion data for incoming messages to translate the codes used in messages (from your business partner) to codes that are used by your LN application.

Conversion data, outgoing messages

Use conversion data for outgoing messages to translate codes from your LN application into the codes that can be used in the message. This translation lets you transfer correct data that is specific to a business partner in your outgoing messages.

Conversion table for order types (out)

Use order types for those EDI messages that pertain to a single Order, such as orders, order changes, acknowledgments, and invoices. For outgoing EDI messages related to these documents, you must fill in the conversion table for order types (out). This table specifies the correct conversion of codes and determines which LN order, acknowledgment, or invoice types can be sent through EDI. For example, purchase orders of the type PN3 can only be sent through EDI when the code PN3 is present in the conversion table (although it can be converted to a blank code).

All valid order types sent through EDI, along with the corresponding code in the message as specified in the code tables, need to be identified in the conversion table for order types (out). For example, the code in the application (the code in application field) represents the order type (such as PN3) on the LN purchase order change document, and the code in the message (the code in message field) represents the external value that is included in the outgoing message file(s).

The code in message is the value to which the code in application will be converted and that will reside in the exported message when the document (for example, the outgoing purchase order) is exported through LN EDI. The code in message must first be defined as an order type in the code tables and can be used to represent the order types used by the current EDI standard for example, the ANSI X12 purchase order type code.

Business Partners in EDI

The business partner can be one of the following:

- The business partner with whom the EDI message is exchanged, or
- The parent business partner of the business partner with whom the message is exchanged

When you use the parent business partner the amount of conversion data that must be maintained is minimized. However, this situation assumes that all children business partners will use the same conversion values.

Example

You can have the following business partner relationship:

- Parent Business Partner: PAR
 - Sold-to Business Partner: abc
 - Ship-To Business Partner: def
 - Invoice-To Business Partner: ghi

Using EDI you want to:

- Receive EDI orders from abc
- Send EDI shipment notices to def
- Send EDI invoices to ghi

If the business partners abc, def, and ghi all have the same parent business partner (PAR), you can create conversions for each of the individual business partners, or you can define conversion values for only the (parent) business partner. The conversion values defined for PAR are also valid for abc, def, and ghi.

Conversion setups

The ASCII files are the link between EDI software and the ERP application. You can create your own interpretation for the message content for each message and business partner.

Using conversion setups

Messages are identified with a code that relates to a particular standard (ORDERS for the UN/ EDIFACT purchase order, and 850 for the ANSI X12 purchase order).

Conversion setups define the file layout of the ASCII files received into and generated from Electronic Data Interchange for a particular EDI message. In addition, conversion setups define the mapping relationship between the ASCII file fields and the LN application fields as well as the rules for each field's validation and translation (conversion). You can define more than one conversion setup by organization and message type. The only restriction is that the format of the ASCII files must be identical for each organization and message type. This restriction means that relationships are defined for a combination of organization and message type in the Conversion Setups (Relationships) (ecedi5112m000) session.

LN records general message data once for each organization and message type. General message data is referred to as overhead and applies to all conversion setups for the organization and message type concerned.

A conversion setup consists of a name, a definition, and a relationship table. When the module is installed, the basic data is loaded, which allows you to start working immediately. First, choose a similar conversion setup that can be copied. If you cannot find an appropriate conversion setup, you can create a new setup. When you zoom to the definition, an empty definition is generated. In the definition, you can only modify fields with the destination header and line.

Using conversion setups (names)

Conversion setup codes are used to:

- Link conversion setups to a combination of a business partner and message in the EDI Messages Supported by Business Partner (ecedi0111s000) session.
- Print mapping information.

Using conversion setups (definitions)

Conversion setup definitions are used to:

- Correctly generate ASCII files in the Generate EDI Messages (ecedi7201m000) session.
- Correctly read ASCII files in the Common Session for Incoming Messages (ecedi7220m000) session.

Using evaluation expressions

Evaluation expressions are used to select lines in the Definitions of Conversion Setups (ecedi5115s000) session.

ASCII Files

ASCII files

An EDI message arrives as an ASCII file. A normal ASCII file is a text format (arrangement) that cannot be read. The ASCII file must be converted into an application file that LN can read. This conversion is performed by the LN EDI software.

ASCII files consist of records, and records consist of fields that contain the actual information. Examples of fields include the customer number, customer name, and customer address.

If several files are related to each other, they are relational. Relational files occur, for example, if several addresses were recorded for one customer. In this example, the customer number is the key. In the address file, you can search for the addresses using the customer number. A key can include more than one field. If, for example, more than one telephone number is recorded for one address, the key is the customer number together with the address.

To read or create ASCII files, refer to *Processing files* (p. 31).

Naming tracefiles

LN will automatically generate new versions of the trace file. For example, if the file name is trace, LN will generate ASCII files with the following types of names:

- trace.0001
- trace.0002

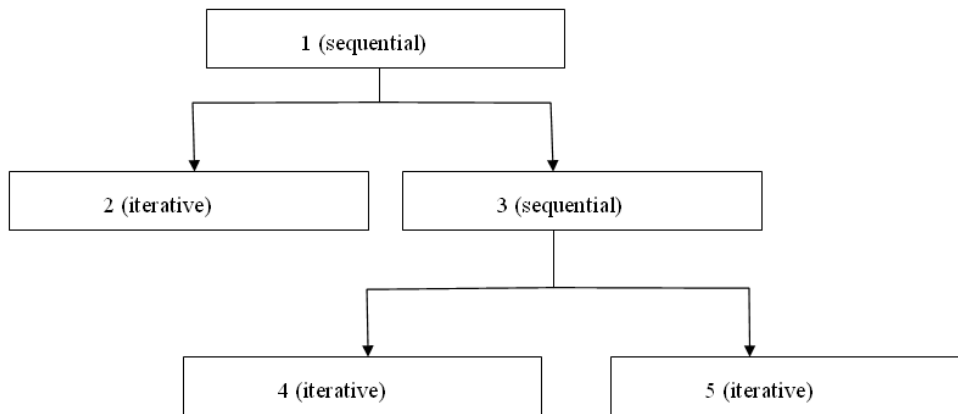
Using a single ASCII file

You can define relationships by specifying the common parts (keys) of two levels, and the related level must be specified for each separate level. Levels that are related to other levels are always sequential, but levels without relationships with other files are always iterative.

Example

In case of a Single file layout, there is one file with five levels and a unique level identifier per level:

Level	File	Level Identifier
-1	orders	ENV
-2	orders	MISC
-3	orders	HEADER
-4	orders	ADDRES
-5	orders	LINE



You cannot refer to a related (parent) level file with a higher level number than that of the current level.

Using multiple ASCII files

You can define relationships by specifying the common parts (keys) of two levels, and the related (parent) level must be specified for each separate level. Levels (parents) that are related to other levels are always sequential, but levels without relationships with other files (to which no lower levels are related) are always iterative.

Example

In case of a Multiple file layout, there are five ASCII files:

Level	File
-1	orders1
-2	orders2
-3	orders3
-4	orders4
-5	orders5

Processing files

The Direct Network Communication (ecedi7205m000) session can be used to receive incoming EDI messages. This session reads the ASCII files received from your business partner through your translation/communication software or directly from another internal ERP company.

You can use the Generate EDI Messages (ecedi7201m000) session to generate outgoing EDI messages. This session creates the ASCII files that will be exported from the ERP application by your translation/communication software for prepared documents.

As an alternative, you can use the Direct Network Communication (ecedi7205m000) session to receive and generate EDI messages. If you select the **Generate Outgoing Message before Connection** check box for the network in the Networks (ecedi0120s000) session, the Direct Network Communication (ecedi7205m000) session will generate all outgoing messages (equivalent to running the Generate EDI Messages (ecedi7201m000) session) prior to reading incoming messages.

Although you can run these sessions to manually initiate the receipt or generation of EDI messages, you can also automate the process by using the EDI interchange controller. This controller initiates direct network communication via a schedule that you define.

Import / Export

You can import and export EDI data in your LN application.

Although much of the setup data in the Electronic Data Interchange (EDI) module is user-definable, LN provides all the necessary EDI data as default data. To avoid entering or changing this data in each of your companies, you can export the setup data to an ASCII file and import the setup data into other companies.

The [defaults.edi file](#) contains data that can facilitate the use of the Electronic Data Interchange (EDI) module.

The information that can be imported from the defaults.edi file can also be exported. Export this information in order to record the existing data baseline before changing conversion setups. If the result of the changes is undesirable, restore the original data by reimporting it. You can also share this data between multiple companies.

Communication

You can set up the communication between:

- Your application and external translation software to allow communication with an external business partner
- Your application and another internal application company to allow multisite processing

EDI interchange controller

The Job Management module in BAAN Tools controls the automation of EDI processing by creating a job that runs the Direct Network Communication (ecedi7205m000) session at a regular interval. However, if you use the Job Management module, you must initiate several of these jobs when [EDI messages](#) for different networks must be generated at different intervals. As a result, the status of the individual jobs cannot be displayed in one single screen, which leads to the loss of job manageability.

To provide a more flexible way to determine intervals and provide a better overview of the communication status of the individual networks, the EDI module provides an interchange controller.

Using the interchange controller

Based on the generated or manually entered [connect times](#), the interchange controller will start at regular intervals the Direct Network Communication (ecedi7205m000) session for the appropriate network. The interchange controller is activated as a background process.

The interchange controller can be activated for all networks or can exclude individual networks.

With the active controller running in the background, you can use the interchange monitor to check the communication status of the individual networks. Unlike Job Management in Tools, the pending jobs

(connect times) of all networks are displayed on a single screen. The interchange monitor will only show the pending jobs for the current day. After a job is finished, it is removed from the list.

When a connect time for one of the networks is reached, the ERP starts the Direct Network Communication (ecedi7205m000) session for that network. The interchange monitor will show which networks are active when the monitor is started (the Communication Status will be Active) and what particular activity is currently performed by the network (displayed under the Activity Status).

External EDI network communication

Whenever the interchange controller initiates the Direct Network Communication (ecedi7205m000) session, the interchange controller uses semaphores to indicate to the external software/communication software that it is currently processing messages.

The semaphore mechanism uses empty files in the command directory of the network to indicate that a certain process is active or ready for activation. This mechanism ensures that ERP EDI and the communication/translation software do not try to simultaneously access the same files in the same directory.

When the translation/communication software (translator) becomes active, it creates a file called Comm.yes in the command directory. This file lets ERP EDI know that a translator is active (but not necessarily processing).

If the external EDI network is set up to generate EDI messages in addition to importing messages during direct network communication, EDI will first generate outgoing messages. Next, EDI creates a file called Command.fil in the command directory after EDI finishes generating the outgoing messages.

If the process is not currently generating outgoing messages, it will create the Command.fil file upon the activation of direct network communication. The existence of the Command.fil file lets the translation/communication software know that EDI is finished processing and that the translation/communication software is free to begin processing.

The translation/communication software reads any messages created by EDI and generates any messages received from external business partners.

Once the messages have been generated, EDI deletes the Command.fil file from the command directory. The lack of the Command.fil file lets EDI know that the translation/communication software has completed its processing and that EDI is free to begin reading incoming messages.

External EDI communication

There are three basic processes that are handled as part of the communication business object when you use a network for external communication:

- Generate ASCII files based on internal file structures.
- Activate EDI software.

- Process inbound EDI messages.

When a message (purchase orders or sales order acknowledgements) is created in the ERP application, ERP prepares ASCII files for the message based on predefined conversion setups.

Periodically, you must activate the external EDI software to generate EDI messages based on ASCII files (a prepared message), to contact the external network, and to reconvert EDI messages to ASCII files.

You can determine how frequently EDI must be activated with the EDI Interchange Controller (ecedi7210m000) session.

When you receive external messages, ERP EDI creates ASCII files to hold the message data. For example, these messages are read and processed in internal order files.

If the ASCII files cannot be converted into internal files due to errors, the ASCII file can still be converted later after correction processing.

Internal EDI communication

For network communication between various internal companies, you can identify the two functions described below. The external EDI software is not used in this environment.

- Generate ASCII files in the current company. After the EDI message is prepared and the EDI message direct network communication is initiated, ERP generates the files.
- Process ASCII files for internal files. LN loads the message generated in the previous function directly into the company for which the messages are intended. If the ASCII files cannot be converted into internal files due to error conditions, the data can still be converted later with the Saved Messages to be Received (ecedi7150m000) session after processing correction with the **Process Saved Messages to be Received** session.

Multicompany communication

EDI allows you to exchange data between two or more local companies. For each network, you can indicate whether or not it is a multicompany network by setting the Multicompany field in the Networks (ecedi0120s000) session.

Depending on your selection, ERP generates the following directories: For multicompany:

- appl_comm
- appl_text
- trace
- store_recv

For external communication:

- appl_from
- appl_to
- appl_text
- trace
- store_rcv
- store_sent

- For multicompany communication, in the appl_comm, appl_text, and store_rcv directories, ERP generates the subdirectory cXXX (where XXX is the company number).

The same multicompany network must be generated for each internal company with which data is exchanged. The value of the Path field must be the same in each company. The directory structure for each company must also be identical.

Setting up multicompany communication

The easiest way to set up such a multicompany network is to use the Export EDI Data (ecedi6221m000) and Import EDI Data (ecedi6220m000) sessions.

In the company of your choice, create (once) the multicompany network, the required EDI messages, and conversion setups. This data can then be copied to the other companies.

When you import network data, the subdirectories must exist.

If you cannot directly access the company for which the EDI messages are intended, you must generate a multicompany network at the receiving side.

For each company, you must enter the network identifications (using the Business Partner EDI Data by Network (ecedi0128s000) session) and specify the required incoming and/or outgoing EDI messages (the EDI Messages Supported by EDI Messages Supported by Business Partner (ecedi0111s000) session).

Automated communication

Determine the networks that will have automated communication and their appropriate time intervals. You can define as many connect frequencies as necessary. The connection frequency determines when the Direct Network Communication (ecedi7205m000) session is started.

Based on the frequencies, you can generate a list of individual connect times per network.

Instead of having to maintain the next connect time with the Connect Times by Network (ecedi0125m000) session, ERP can calculate the connect times by using the data defined in the Connect Frequencies by Network (ecedi0122s000) session. The Generate Connect Times by Network (ecedi0225m000) session generates individual connect times.

You can display or modify the result with the Connect Times by Network (ecedi0125m000) session.

Terminating communication

You can run the Terminate Front-End EDI Processor (ecedi0249m000) session to terminate communication to your translation/communication software. This session creates a file called Command.end in the command directory. The existence of this file can be used to terminate the translation/communication software.

To use this semaphore mechanism provided by ERP EDI, your translation/communication software must create, delete, and check these semaphore files as indicated.

You will want to avoid the unnecessary allocation of CPU resources during the create, delete, and check process that occurs before semaphores have been removed. To do so, activate (at sequenced and staggered intervals) the interchange controller within ERP EDI and the scheduling mechanism within the translation/communication software.

Using EDI messages

Messages are used to:

- Maintaining and printing messages supported by your application, by organization and business partner
- Maintaining outgoing messages by session
- Maintaining and printing code tables and conversion tables
- Maintaining and printing conversion setups and printing mapping information
- Processing saved messages to be received

Creating EDI messages

You can define EDI messages with the EDI Messages (ecedi0105s000) session or import them from the defaults.edi file.

Creating outgoing messages

Outgoing messages by session are produced in the following modules:

- Purchase Control (PUR)
- Sales Control (SLS)
- Sales Invoicing (SLI)
- Inventory Handling (INH)
- Electronic Data Interchange (EDI)

You can import supported EDI messages from the defaults.edi file.

Supported messages

LN supports messages such as displayed in the table. The table includes the transaction set codes, or message codes, to which these messages correspond for the indicated EDI standards.

EDI Standard Message					
-	ANSI X12	EDIFACT	ODETTE	VDA	Dir
Invoice	810	INVOIC	INVOIC	4906/4908	in/out
Remittance Advice	820	REMADV	REMADV	4907	in only
Purchase Order	850	ORDERS	ORDERR	4925	in/out
PO Ac-knowledgment	855	ORDRSP	CONFOR	4926	in/out
Advance Ship Notice	856	DESADC	AVIEXP	4913	in/out
PO Change	860	ORDCHG	REPORD	4906/4908	in/out
PO Change Acknowl.	865	-	CONFOR	4926	in/out

Each message has a code that relates to a particular standard. For example, ORDERS is the code used for the UN/ EDIFACT purchase order, and 850 is the code used for the ANSI X12 purchase order.

Each standard has its own identification method for defining the name of the message.

This naming convention is maintained in the default data. You can easily identify the LN message with the EDI standard name for X12 and EDIFACT. The message names can be customized.

Using supported EDI messages

Supported EDI messages are used to:

- Maintain conversion setups.
- Print mapping information.
- Generate EDI messages.
- Define messages supported by business partners.

Using EDI messages by business partner

After the general setup steps are complete, determine what individual EDI messages you will exchange with your business partner(s). Not every business partner will necessarily support each implemented message type. Use the EDI Messages Supported by Business Partner (ecedi0111s000) session to identify the valid messages you can transmit to or receive from a specific business partner.

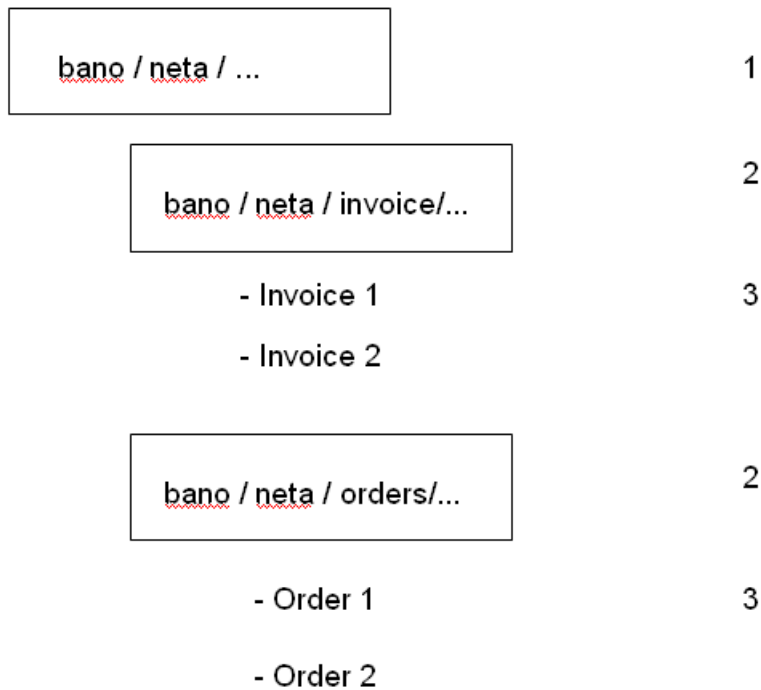
You can also define additional information that could vary by business partner.

For example, slight differences can occur in the structure (field mapping or conversion setup) of a message between business partners; you can use different conversion setups (file layouts for different order types).

Use Supported EDI messages by business partner to generate EDI messages.

Collecting messages by business partner

You must specify the dummy message, defined in the EDI Parameters (ecedi0100s000), if you intend to collect all messages for a business partner. The **New Batch Number** field in the Business Partner EDI Data by Network (ecedi0128s000) session is **By Recipient**.



When you generate messages:

- Interchange Header Conversion Setup, described in the dummy message. This record is created once for each business partner.
- Message Overhead Conversion Setup, described in the dummy message. This record is created for each group of messages. The layout is retrieved from the dummy message to prevent the generation of message overhead records with different layouts.
- Conversion Setup Code, the layout as specified for the message.

EDI message levels and file layouts

Conversion setups specify the relationships between the levels that represent the different sections of the EDI message (overhead, header, line, and footer).

If the corresponding message has a Multiple file layout - which indicates that the data in the message is split across multiple ASCII files - each level corresponds to a unique ASCII file.

If the corresponding message has a Single file layout - which indicates that the data in the message is received in a single ASCII file - each level corresponds to a unique level identification.

For incoming messages, the level identification is specified in the Conversion Setups (Relationships) (ecedi5112m000) session; for outgoing messages, you can define the level identification in the conversion setup definitions.

Relationship sets are required in order for ERP to:

- Select and read the correct file(s) in the EDI Interchange Controller (ecedi7210m000) session (incoming messages)
- Generate the correct ASCII files in the Generate EDI Messages (ecedi7201m000) session (outgoing messages)

Message Data

For outgoing EDI messages, the EDI message data includes the collected message data for which the outgoing ASCII files are not yet generated. For these outgoing EDI messages, you can display and remove any messages to be generated.

For incoming EDI messages, the EDI message data includes the incoming EDI messages (ASCII files) that were not successfully processed and updated into the ERP application.

Incoming EDI messages are unsuccessfully processed for one of the following reasons:

- **Errors**
The errors occurred during the validation process. The data that contains the errors must be corrected prior to reprocessing the message.
- **Interactive Review**
The message for the business partner is set up for interactive review. In this case, the message data must be approved prior to validating and processing the message.

For these incoming EDI messages, you can display, report, maintain and approve the data as well as view any associated errors and warnings. You cannot reprocess these EDI messages until they are approved. If you do not want to reprocess these messages, you can delete the saved messages to be received.

Saved EDI message data

Based on the following reasons, the EDI message data is saved by the Common Session for Incoming Messages (ecedi7220m000) session instead of being updated into the ERP application for which the message is destined:

- **Errors** The errors occurred during the validation process. The data must be corrected prior to reprocessing the message.
- **Interactive Review** The message for the business partner is set up for interactive review. The message data must be approved prior to validating and processing the message.

Maintaining saved EDI message data

You can view or maintain the erroneous data with the Saved Messages to be Received (ecedi7150m000) session. From this session, you can view the message data and associated errors. You can view additional errors or warnings by zooming to the Received EDI Messages Errors (ecedi7151m100) or Received Message Errors (ecedi7551m000) sessions.

Message data can be modified in the Saved Message Data to be Received (ecedi7151s000) session.

After approving the message in the Approve Saved Messages to be Received (ecedi7250m000) session, you can reprocess the saved EDI message with the Process Saved Messages to be Received (ecedi7252m000) session.

After the saved message is successfully processed and updated into the ERP application with the Process Saved Messages to be Received (ecedi7252m000) session, the saved message is automatically deleted from saved messages to be received.

If you decide not to process the message, you can delete it with the Delete Saved Messages to be Received (ecedi7251m000) session. You can access both sessions from the appropriate menu in the Saved Messages to be Received (ecedi7150m000) session.

Structuring reference numbers

The reference number is defined in the following fields:

- Fixed Part
- Date Format
- First Free Number

The reference number can consist of:

- Fixed Part / Date / Sequence Number
- Fixed Part / Sequence Number
- Date / Sequence Number

Reference numbers always consist of 14 positions. The sequence number occupies the positions that are not occupied by the Fixed Part and/or Date.

Processing interactive messages

Inbound messages can be processed interactively or automatically .

If you set up messages as interactive, running the Direct Network Communication (ecedi7205m000) session will result in the message being stored directly. These messages will not be validated.

You can preview incoming messages before they are validated and before they update the ERP application.

Use the Saved Messages to be Received (ecedi7150m000) session to view, modify, approve, and process these messages.

Reprocessing messages with errors

When you process incoming messages, ERP sometimes finds validation errors that prevent the message from being updated in the ERP application. In this case, ERP stores the entire message, which allows you to use the Saved Messages to be Received (ecedi7150m000) session. With this session, you can view and correct data errors, and approve and reprocess the message.

History

The history of both incoming and outgoing messages is kept so that you can trace specific messages. Use EDI history to find out whether a specific transaction was actually sent or received. You can also use EDI history to determine how many messages were received from or sent to specific business partners and to track the status of outgoing messages.

Appendix A

Glossary

A

ANSI

This acronym stands for American National Standards Institute. ANSI is the central body responsible for the identification of a single consistent set of voluntary standards called American National Standards. ANSI is also the US representative to nontreaty standards organizations.

appl_comm

A subdirectory that contains generated messages that must be read by an internal company.

appl_from

The directory that stores all messages generated by EDI. This directory is where your translation/communication software will retrieve files for export. This directory is not included in a multicompany (internal EDI) network.

appl_text

A directory of temporary files that are used to build up text blocks. Records exist in this directory if a message contains any text fields.

appl_to

The directory that stores all messages to be received into the LN application. This directory is where the translation/communication software will write files that must be processed and imported by EDI.

This is not included in multicompany (internal EDI) network.

appropriate menu

Commands are distributed across the **Views**, **References**, and **Actions** menus, or displayed as buttons. In previous LN and Web UI releases, these commands are located in the *Specific* menu.

character conversion

The rules that state how characters from the ERP application are translated before they are placed in a message.

code in the application

A code used in the ERP application that must be translated before sending the message: for example, the order type or the business partner (customer or supplier) code.

code in the message

A standard code used in a specific EDI message that must be translated to or from a value in your ERP application: for example, the EDI message contains a unit of measure that can differ from the one used in LN. This unit of measure must be translated to ensure that the correct unit of measure is transmitted in the EDI message.

Command

In Electronic Commerce, a directory used for semaphores.

Use the semaphore, or flagging, mechanism to communicate with third-party translation/communication software to ensure that the third-party software and ERP EDI do not attempt to access files at the same time. This semaphore mechanism uses the creation and deletion of empty files in this subdirectory to indicate when certain processes are active or can be activated.

connect frequency

The number of times the connection with a specific network should be established.

connect times

The time the connection with a specific network is established.

conversion setups

A code that defines the layout of the ASCII file that contains the message data. This code contains information on the mapping of data elements between ERP application tables and the ASCII files. Although predefined conversion setups are available, you can create your own custom conversion setups.

conversion setups (definitions)

The method used to translate EDI messages.

conversion setups (names)

A code for the basic translation of the message header (global overhead) and one or more codes for the way(s) in which messages can be translated. The code is defined for each organization, message, and direction (and field type).

conversion table

An ERP application table that stores different code conversion values and their relationships between an external code (code in message) and the code in the ERP application.

defaults.edi file

An ASCII file that contains EDI data.

The file contains the following data:

- Networks
- Messages supported by application
- Messages supported by organization
- Organizations
- Code tables
- Conversion setups
- EDI expressions
- Processing sessions for supported outgoing messages

EDIFACT

This acronym stands for Electronic Data Interchange for Administration, Commerce, and Transport. A worldwide organization developing standards for electronic data interchange.

There are other similar organizations (for example, Odette), each using its own subset of standard EDIFACT messages.

When you define messages, you can use the naming convention that coincides with the standard naming conventions to which you are accustomed.

EDI messages

An electronic document (for example, an electronic order acknowledgment) that consists of an organization and a message.

Incoming and/or outgoing messages are processed in specific libraries invoked by EDI communication sessions (for example, in the Sales Control (SLS), Sales Invoicing (SLI), Accounts Payable (ACP), Cash Management (CMG), Purchase Control (PUR), Inventory Handling (INH), and Electronic Data Interchange (EDI) modules).

EDI standard

A protocol defined at national and international levels to define the process, procedures, and format of electronically transmitted data (messages) between two business partners.

electronic data interchange (EDI)

The computer-to-computer transmission of a standard business document in a standard format. Internal EDI refers to the transmission of data between companies on the same internal company network (also referred to as multisite or multicompany). External EDI refers to the transmission of data between your company and external business partners.

evaluation expressions

The expression that indicates which lines of a conversion setup definition are executed and which are not and which fields in the ASCII field are filled and which are not.

file layout

A format that indicates for incoming messages whether the data for the message will reside in a single file or in multiple files. In a single file, the **Level Identification Position** field indicates the position of the level identifier (as defined within the conversion setup), which identifies the record in the ASCII file (for example, header, header text, and line).

messages to be generated

The EDI messages that are marked for generation but have not yet been included in ASCII files.

network

A code that identifies a communication network used to manage data flow through an intermediary (such as communication through a Value Added Network (VAN) via an EDI-translator) or directly, without translation, to a sister company that uses the same software.

network addresses

A code used to identify users/business partners in a network. Generally, these addresses are assigned by the network manager.

order type

A code used to determine the character or function of an order and, consequently, of the message.

Examples:

- Normal order versus return order
- Invoice versus credit note

The classification that determines which sessions (in which sequence) are part of the order procedure. You can also assign one of the following categories to the order type: cost order, collect order, return order, and subcontracting order.

Order type codes are required in the ERP EDI messages that relate to a single order. EDI messages that relate to single orders include messages that process:

- Orders (ANSI X12 850, UN/EDIFACT ORDERS).
- Order changes (ANSI X12 860, UN/EDIFACT ORDCHG).
- Order acknowledgments (ANSI X12 855 and 865, UN/EDIFACT ORDRSP).
- Invoices (ANSI X12 810, UN/EDIFACT INVOIC).

organization

A code that represents a set of standards (such as ANSI X12, UN/EDIFACT, and VDA) used in EDI communication.

outgoing messages by session

The messages that are created by specific ERP sessions, by organization.

reference number

The numbering system used to identify outgoing messages. This number uniquely identifies the message and is created when an EDI message is generated. Because the actual data belonging to the message is distributed over multiple ASCII levels, this number is also used to identify which parts of the message belong together.

saved messages to be received

The saved EDI message data that is read when processing incoming EDI messages.

store_recv

A directory that logs all received messages.

store_sent

A directory that logs all sent messages.

supported EDI messages

The incoming and/or outgoing messages that are supported by the application. These messages can be active (actually used within the company) or not.

supported messages by business partner

The EDI messages used by specific business partners. Only after a business partner and a specific message (incoming and/or outgoing) have been linked, the business partner can communicate with your ERP application for that particular message.

trace

A directory that contains the created log (trace) files.

trace file

A file that contains process data about read or created ASCII files.

transaction set

A complete business document such as a purchase order, invoice, or sales order. A transaction set is synonymous with document or message.

VAN

A company that provides communications services for EDI, such as line speed conversion and protocol matching.

VDA

Acronym for Verband der Automobilindustrie; A standard for automotive electronic interchange of business transactions in Germany. This particular standard uses a fixed length field/record format.

X12

The ANSI standard for interindustry electronic interchange of business transactions within the US. The accredited subcommittee of American National Standards Institute has a mandate to develop standard data formats for business transactions with cross-industry applications.

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