

# Electronic Data Interchange (EDI)



# Trading Partners



# What is B2B?

- Business-to-Business describes commerce transactions between business, such as between Manufacturer and wholesaler or between wholesaler and retailer.
- Advantages:  
Cost saving  
Time saving

# Need of Information

- Business thrives on information-the more efficiently Information is communicated and accessed, the healthier is the organization.
- Before EDI, the exchange of information is generally limited to mail, fax etc

# Electronic Data Interchange

- EDI is a set of standardized formats for different types of Business documents that allow otherwise incompatible business data processing systems to exchange documents with out manual intervention.
- Advantages of EDI:
  - Less Human Intervention.
  - High Throughput.
  - Few Errors.
  - Ability to do just in time(JIT).
  - More Security.
- Companies using EDI:
  - Retail Industry, Banking, Health care, Government Sector.

# Different EDI Standards

- American National Standards Institute (ANSI X12 Committee).
- EDIFACT (EDI for Administration, Commerce and Transport).
- TDCC (Transportation Data Coordination Committee)
- VICS (Voluntary Inter Industry Communication Standard).

# Translation

- Translation Software translates business documents into a common EDI standard.
- It also translates EDI Standard data into a format suitable for application Processing.



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Translation Software

### Translation Software

The diagram illustrates the flow of data through translation software. It features a central blue rounded rectangle labeled 'Translator'. To its left are two light blue rectangular boxes, each labeled 'Application Data'. To its right are two red rectangular boxes; the top one is labeled 'Inbound EDI Data' and the bottom one is labeled 'Outbound EDI Data'. Arrows indicate the direction of data flow: one arrow points from the top 'Application Data' box to the 'Translator', and another points from the 'Translator' to the top 'Inbound EDI Data' box. A second arrow points from the bottom 'Application Data' box to the 'Translator', and another points from the 'Translator' to the bottom 'Outbound EDI Data' box.

- Bi-directional software which converts data to and from the EDI standard formats
- Some translators provide any-to-any translation capabilities
- Translators exist for all platforms (mainframe, mid-range, micro, PC)

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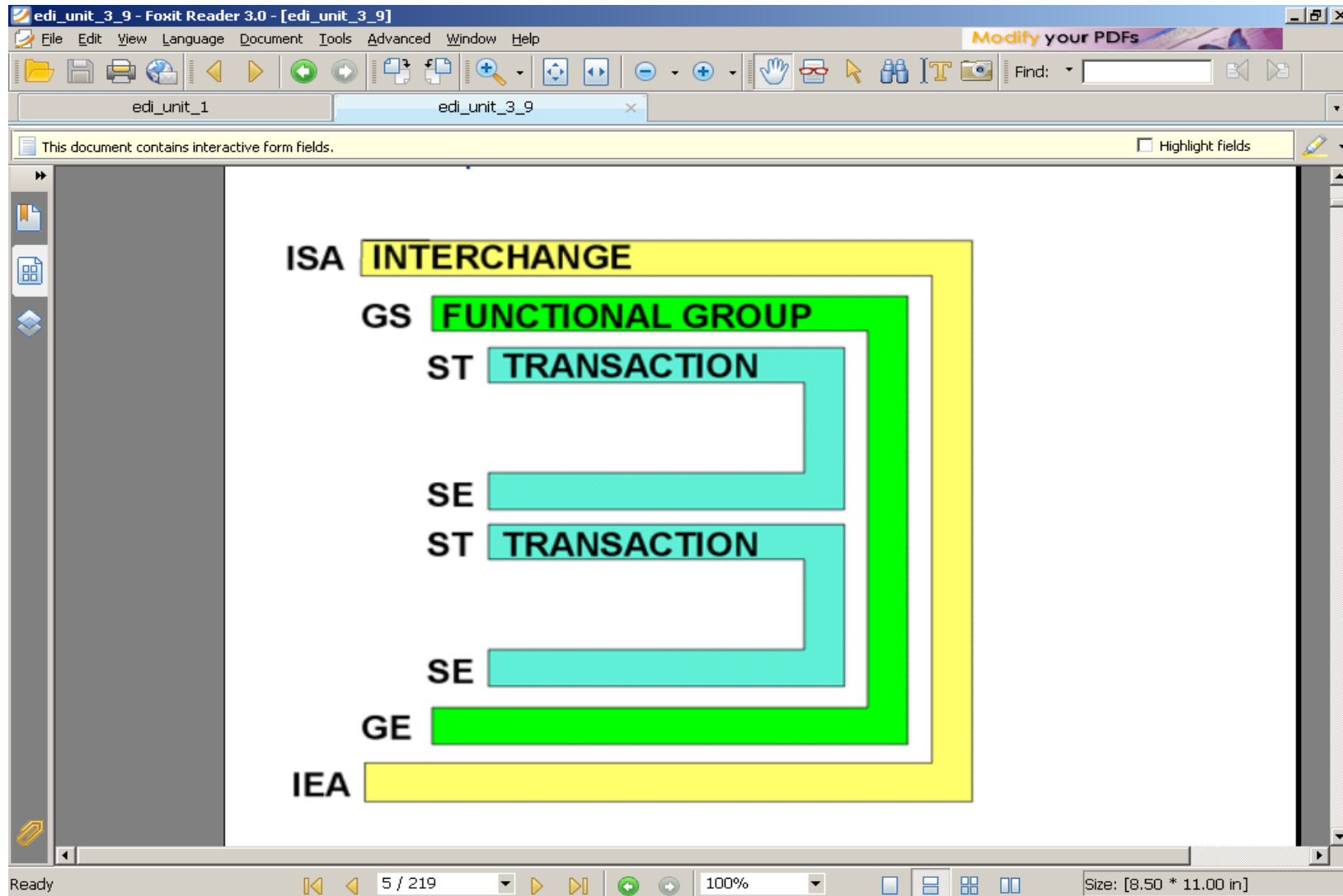
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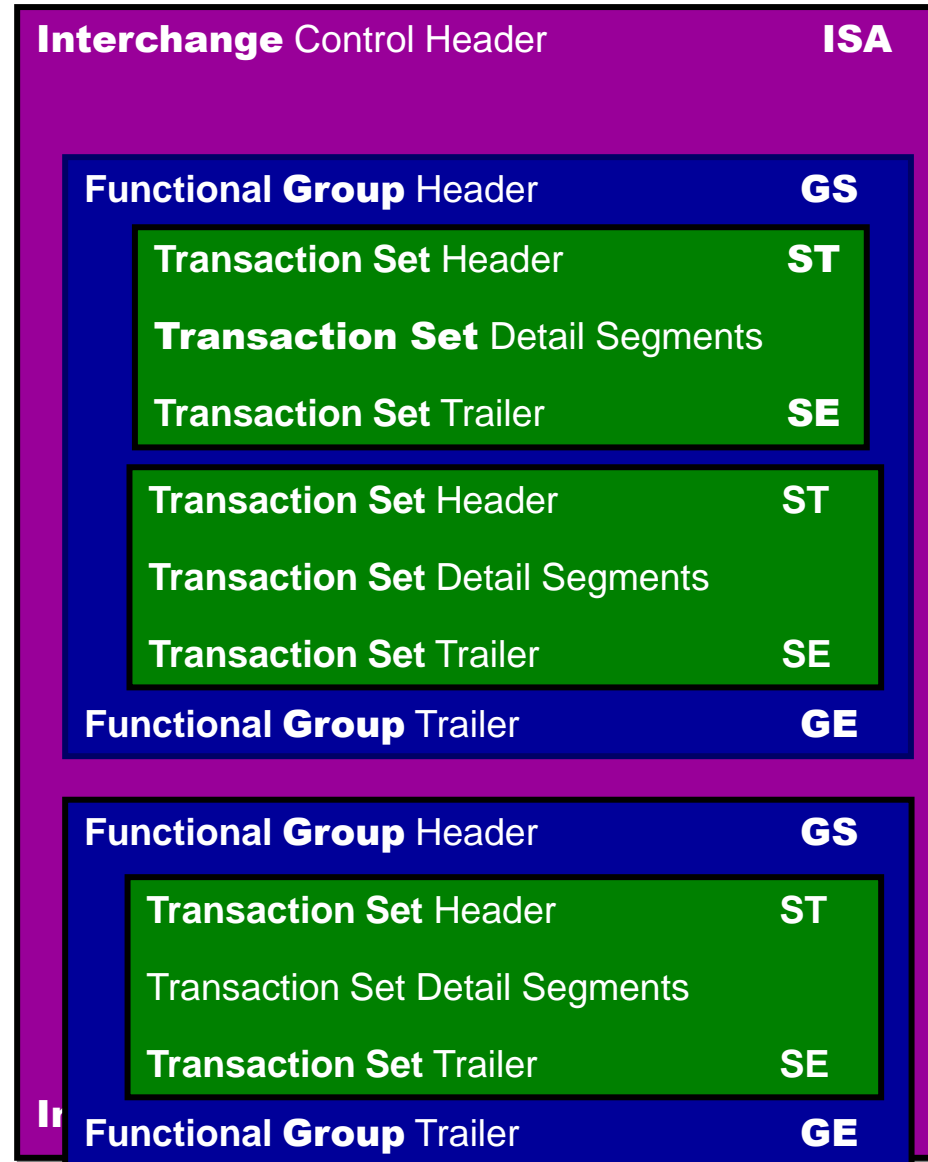
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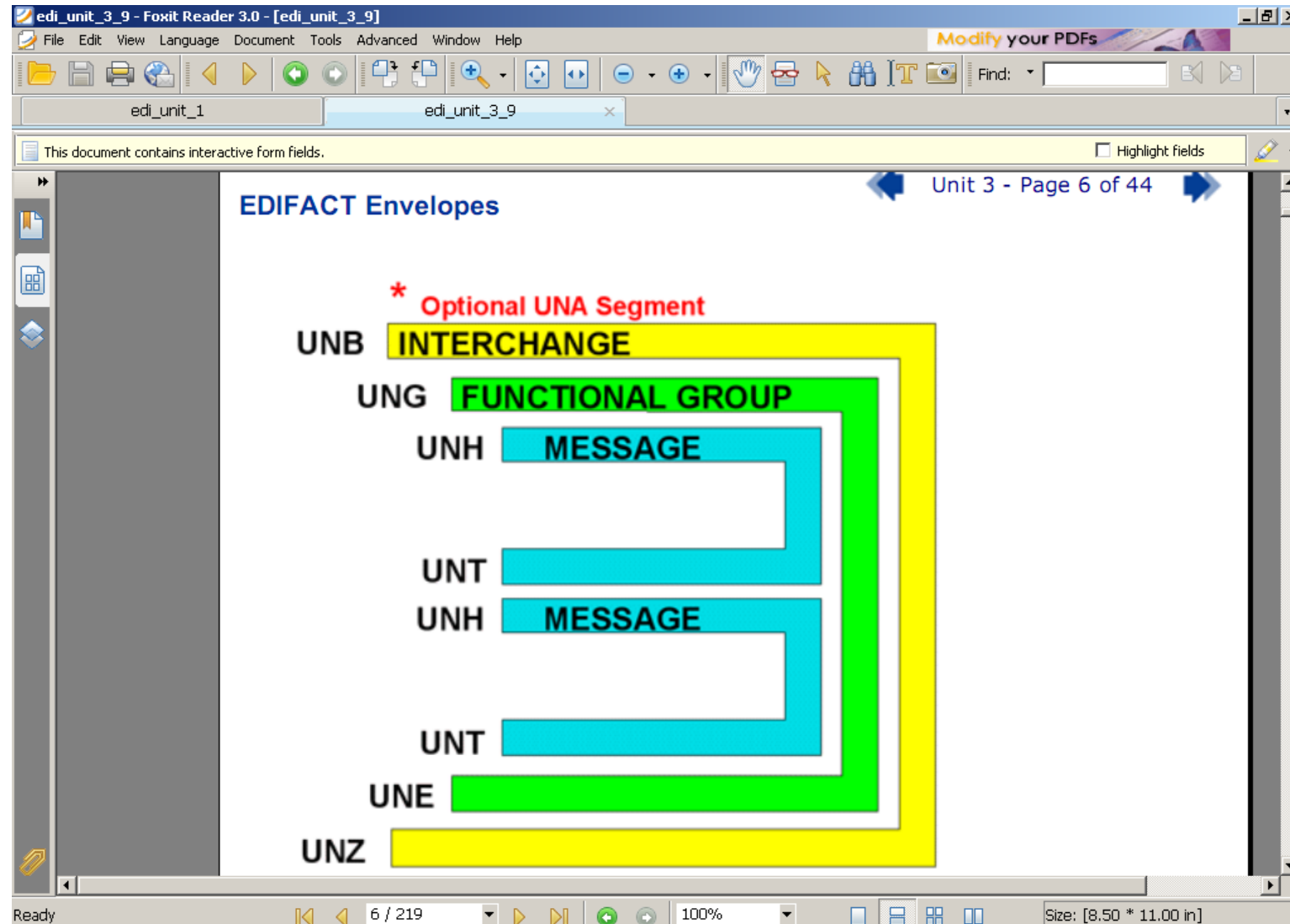




# Types of Envelopes

- Message Envelopes : A specific document describes the types of envelope document and the no. of segments included in that Document.
- Functional Group Envelopes : All message envelopes of a specific transaction set type are enclosed in this envelope.
- Interchange Envelopes : Enclose all functional group envelopes being sent to the same destination.

# EDIFACT Structure



# ISA (Interchange Control Header)

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## ISA Interchange Control Header

To start and identify an interchange of zero or more functional groups and interchange related control segments

Control Segment

TRANSACTION SETS USED IN:

None

REF	ELE ID	NAME	ATTRIBUTES		
01	I01	Authorization Information Qualifier	M	ID	2/2
02	I02	Authorization Information	M	AN	10/10
03	I03	Security Information Qualifier	M	ID	2/2
04	I04	Security Information	M	AN	10/10
05	I05	Interchange ID Qualifier	M	ID	2/2
06	I06	Interchange Sender ID	M	AN	15/15
07	I05	Interchange ID Qualifier	M	ID	2/2
08	I07	Interchange Receiver ID	M	AN	15/15
09	I08	Interchange Date	M	DT	6/6
10	I09	Interchange Time	M	TM	4/4
11	I65	Repetition Separator	M		1/1
12	I11	Interchange Control Version	M	ID	5/5
13	I12	Interchange Control Number	M	N0	9/9
14	I13	Acknowledgment Requested	M	ID	1/1
15	I14	Usage Indicator	M	ID	1/1
16	I15	Component Element Separator	M		1/1

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# IEA (Interchange Control Trailer)

**IEA\*3\*000000058!**

**IEA** Interchange Control Trailer  
To indicate the end of an interchange of one or more functional groups and interchange related control segments.

Control Segment

TRANSACTION SETS USED IN:  
None

REF	ELE ID	NAME	ATTRIBUTES		
01	I16	Number of Included Functional Groups	M	N0	1/5
02	I12	Interchange Control Number	M	N0	9/9

- The IEA segment indicates the end of an interchange

# GS (Functional Group Header)

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Functional Group Header

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## Functional Group Header

**GS Functional Group Header**  
To indicate the beginning of a functional group and to provide control information

Control Structure

**TRANSACTION SETS USED IN:**  
None

REF	ELE ID	NAME	ATTRIBUTES	
01	479	Functional Identifier Code	M	ID 2/2
02	142	Application Sender's Code	M	AN 2/15
03	124	Application Receiver Code	M	AN 2/15
04	373	Date	M	DT 8/8
05	337	Time	M	TM 4/8
06	28	Group Control Number	M	N0 1/9
07	455	Responsible Agency Code	M	ID 1/2
08	480	Version/Release/Industry Identifier Code	M	AN 1/12

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# GE (Functional Group Trailer)

**GE\*35\*66~**

## GE Functional Group Trailer

To indicate the end of a functional group  
and to provide control information

**RESTRICTED: NOT TO BE USED IN BUSINESS  
APPLICATIONS**

**TRANSACTION SETS USED IN:**  
None

REF	ELE ID	NAME	ATTRIBUTES		
01	97	Number of Transaction Sets Included	M	N0	1/6
02	28	Group Control Number	M	N0	1/9

The above diagram illustrates the structure of the Group Trailer.

# ST (Transaction Set Header)

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**ST\*810\*070876~**

**ST Transaction Set Header**  
To indicate the start of a transaction set  
and to assign a control number

CONTROL SEGMENT

TRANSACTION SETS USED IN:

104 110 128 130 135 140 141 142 143 144 145 146  
147 148 152 ...

REF	ELE ID	NAME	ATTRIBUTES
01	143	Tran Set Identifier Code	M ID 3/3
02	329	Tran Set Control Number	M AN 4/9
*03	1705	Implementation Convention Reference	O AN 1/35

\*New element in 4020 and rarely used

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# SE(Transaction Set Trailer)

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Transaction Set Trailer

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## Transaction Set Trailer

### SE\*25\*070876 ~

**SE Transaction Set Trailer**  
To indicate the end of a transaction set and to provide the count of transmitted segments (including the ST and SE segments).

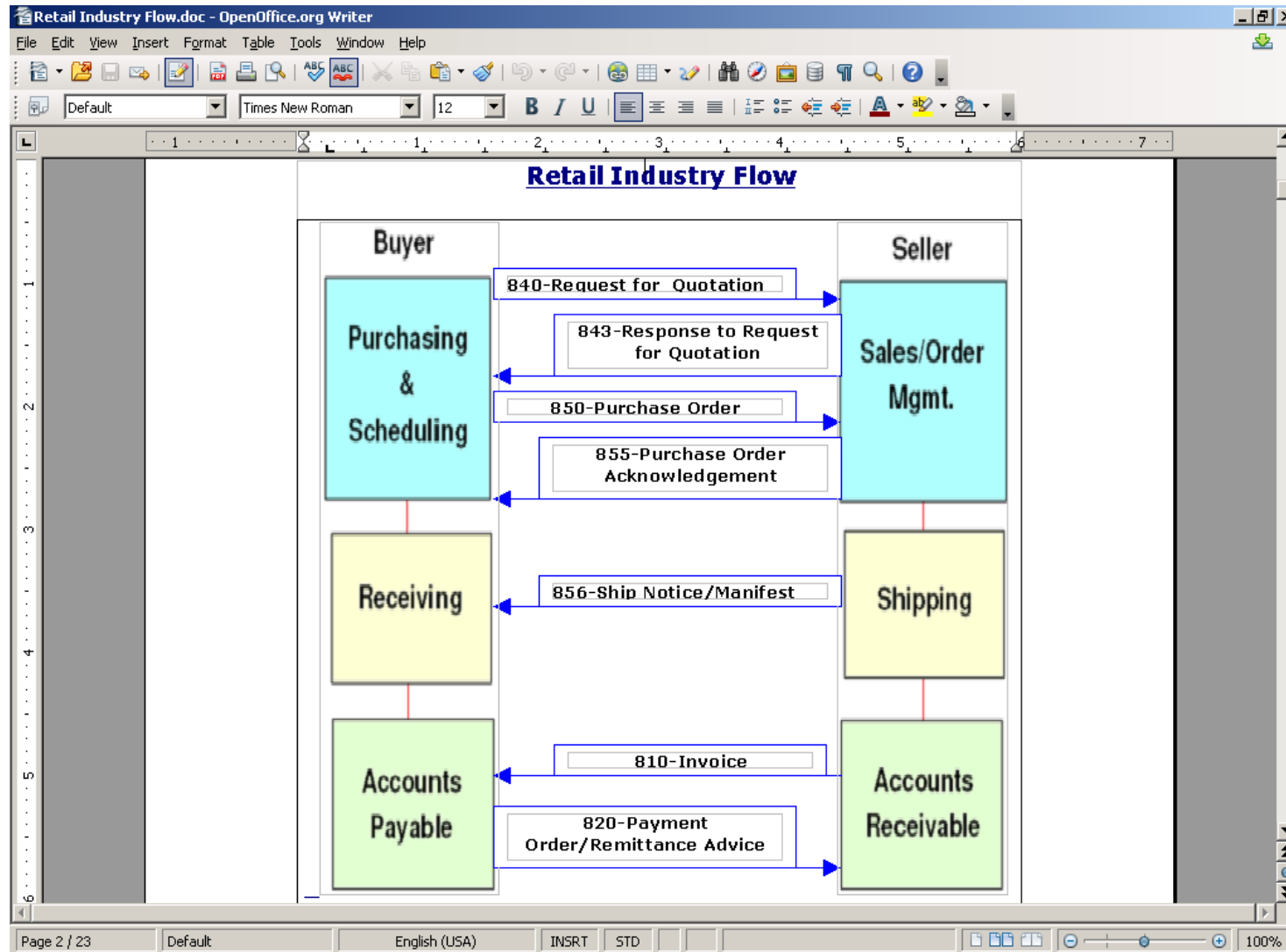
**CONTROL SEGMENT**

**TRANSACTION SETS USED IN:**  
104 110 128 130 135 140 141 142 143 144 145 146  
147 148 152 .....

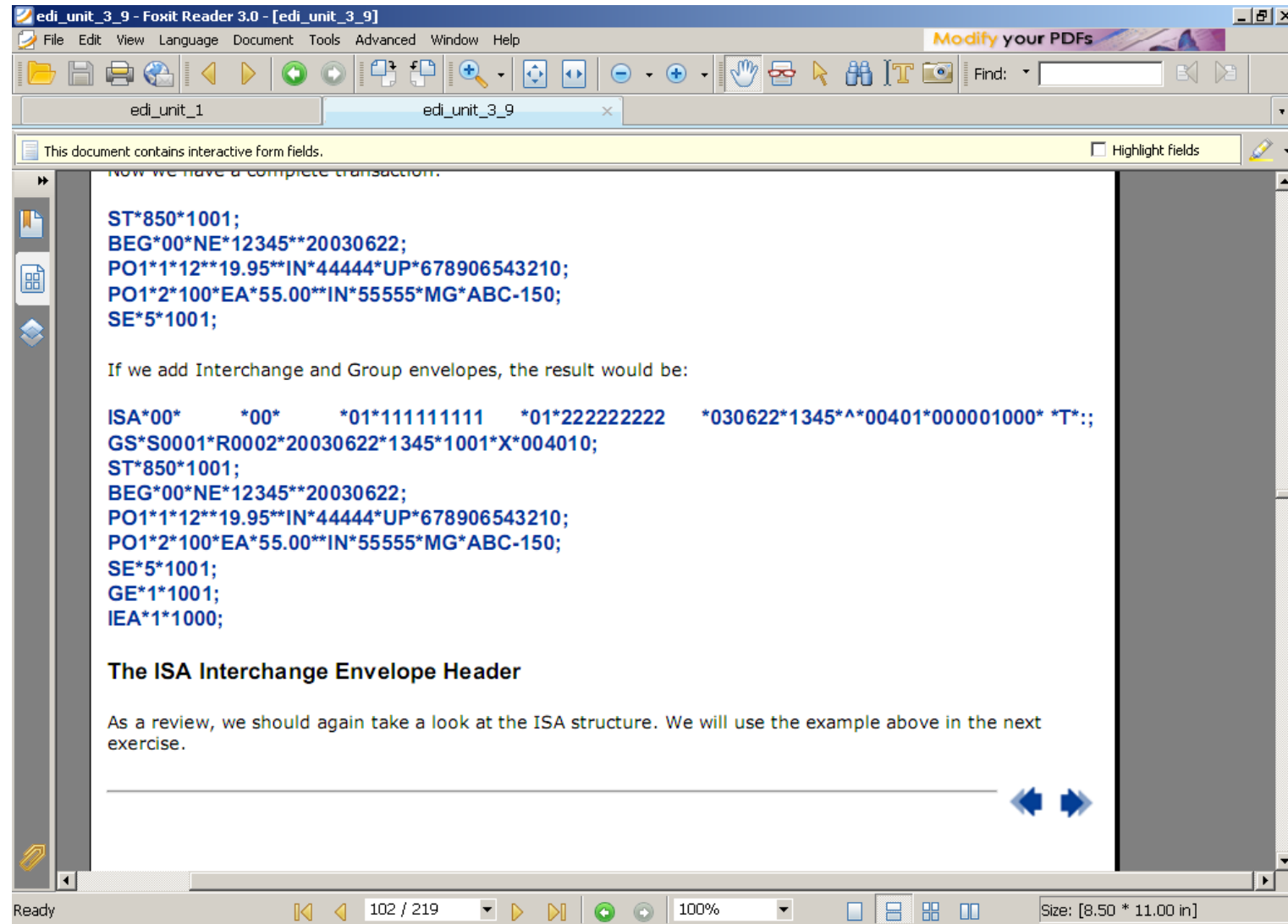
REF	ELE ID	NAME	ATTRIBUTES
01	96	Number of Included Segments	M NO 1/10
02	329	Tran Set Control Number	M AN 4/9

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# Retail Industry Flow



# Sample Input



# EDI Tools

- ▶ Sterling Integrator
- ▶ Biztalk

# Overview of SI

- ▶ IBM® Sterling B2B Integrator enables the security-rich integration of complex B2B processes with diverse partner communities. It provides a single, flexible B2B gateway that enables companies to meet a wide range of B2B integration needs. IBM Sterling B2B Integrator can improve business processes beyond enterprise boundaries and increase visibility into and across supply and demand chains.



# IBM Sterling B2B Integrator enables you to:

- ▶ **Improve business processes** beyond enterprise boundaries.
- ▶ **Use security-rich integration** to connect with business partners.
- ▶ **Employ a range of communications methods** to meet wide-ranging technology requirements including demands for high performance, high availability networks.
- ▶ **Manage data and applications** with flexible tools.
- ▶ **Work with IBM Sterling B2B integrator Mobile** to access capabilities from mobile devices.

THANK YOU !!!!