EDI ECommerce

TRAINING GUIDE

70-2909A
MFG/PRO eB2
April 2004

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QAD Inc.
6450 Via Real
Carpinteria, California 93013
Phone (805) 684-6614
Fax (805) 684-1890

LearningServices@qad.com
http://www.qad.com/services/learn/

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About This Course

Course Description

QAD designed this course to give implementers and operators of EDI ECommerce an understanding of the product. This course includes:

- Import/export set up, processing logic, and test principles for implementers
- Import/export set up, execution, and analysis for operators

Activities and exercises throughout the course allow students to practice key concepts and processes.

Training Objectives

Introduction

Product Overview

- The overall EDI process
- EDI ECommerce role in the total EDI solution
- EDI ECommerce terminology
- EDI ECommerce architecture
  1. Repositories
  2. Processes
  3. Libraries
- Major benefits over other solutions

EDI ECommerce Functionality

- Mapping input data fields to MFG/PRO data fields
- Handling record sets (header/detail combinations)
- Handling trading partner and record control data
- Processing control records
- Configuring trading partners
- Handling the same transaction from multiple partners
- Saving non-MFG/PRO data needed in export transactions
- Using the Trading Partner Library

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Set Up EDI ECommerce

- Techniques for EDI ECommerce product-specific implementation
  - Set up the EDI ECommerce control file
  - How EDI ECommerce uses data
  - Define the EC subsystem and its control record structure
  - Define exchange file records and fields
  - Associate exchange file records with the EC subsystem
  - Define MFG/PRO documents
  - Define implementations
  - Define and modify transformation mapping actions
  - Define transmission groups for outbound documents
  - Set up trading partners
  - Test transactions through the system
  - Set up inbound and outbound EDI ECommerce
  - Process inbound and outbound EDI ECommerce documents

Operation and Processing

- Run transactions through the system
- Import and export documents
- Review session reports
- Analyze problems
- Re-import and re-export documents

Who Should Attend This Course

- Implementers and operators who have a need to set up and use EDI ECommerce

Approximate Length of Course

- This course is designed to be taught in 4 days

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Prerequisites

- General familiarity of Electronic Data Interchange (EDI) concepts
- Knowledge of MFG/PRO is helpful

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General Training Facilities Information

- Telephone or fax
- Messages
- Restrooms
- Class hours: start and finish times, and punctuality
- Breaks: frequency, approximate times
- Parking considerations; carpooling
- Emergency procedures: location of first aid, contact person for assistance
- Exit locations, building hours
- Location of approved smoking area

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CHAPTER 1

Introduction to EDI ECommerce

Course Overview

- Introduction to EDI ECommerce
- Business Considerations
- Set up EDI ECommerce
- Process EDI ECommerce

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Course Overview

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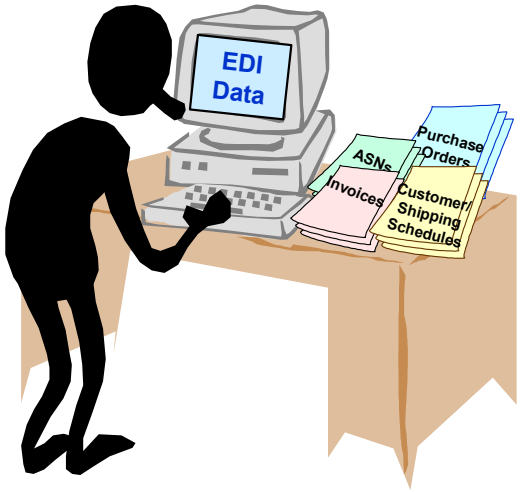
EDI ECommerce

What is it and why do I need it?



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EDI ECommerce

Why do I need it?

EDI ECommerce is a table-driven, global EDI message conversion system that allows a common software solution to seamlessly support a wide range of trading partners, translator products (communication subsystems) and document types, across a variety of industries and geographies.

In fact, QAD believes that EDI ECommerce is functionally superior to any other ERP-based EDI solution available on the market today.

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As an alternative to the traditional hard-coded EDI solutions, the EDI ECommerce architecture places the processing logic, EDI document specifications, and trading partner specifications into database tables that can be modified at the user interface level with a set of maintenance programs.

This table-driven design translates into a dramatically lower total cost of ownership. Although actual cost savings will depend on a variety of factors, many of which are unique to each installation, QAD expects that implementation and/or maintenance costs can be50% or greater when compared to other hard-coded, integration solutions.

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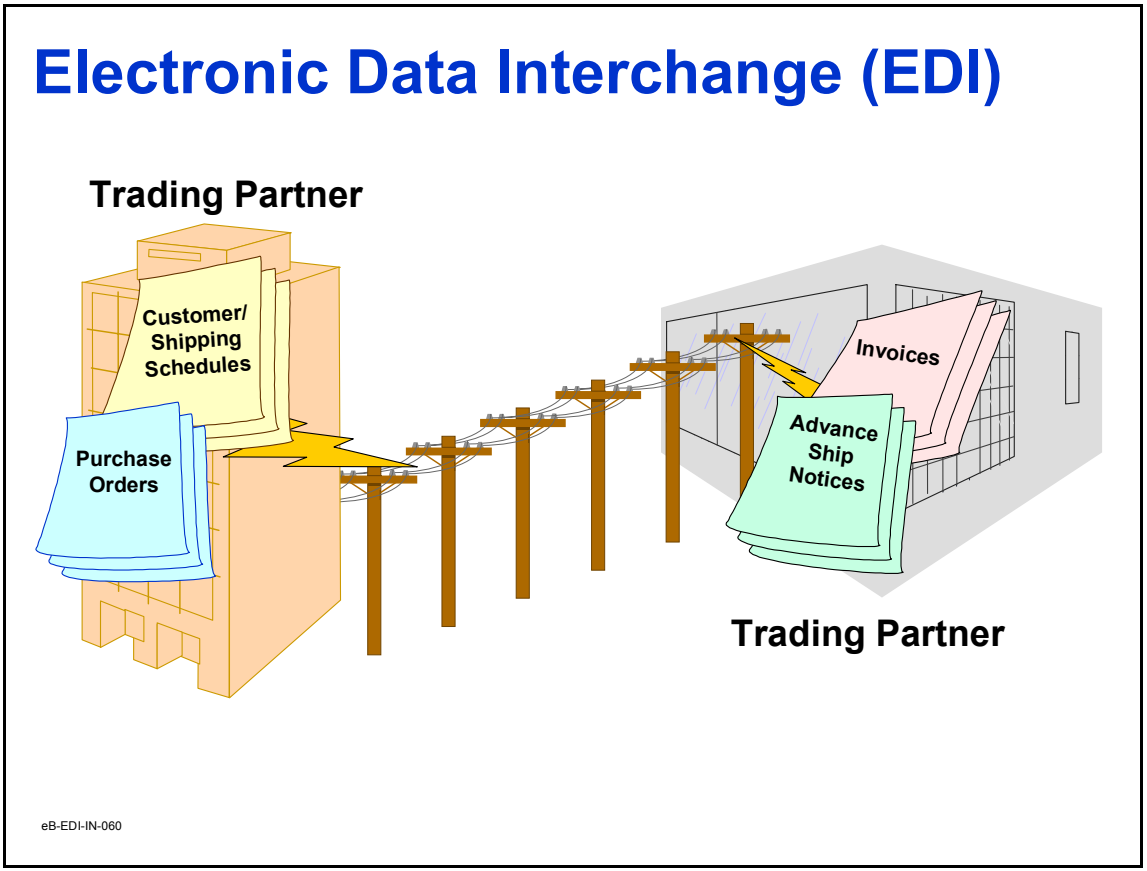

Electronic Data Interchange (EDI)

EDI is the hands-off exchange of computer readable, standardized documents between business trading partners. There exists in the EDI world many varying protocols and standards which users must be able to accommodate.

The most commonly used EDI standards follow.

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EDI Standards Supported

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

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EDI Standards Supported

These are the current standards supported by EDI ECommerce. The product is flexible enough to support other global standards. Future development activity will likely involve enabling of these other standards.

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Available Gateways

- Purchase Orders (in and out)
  - Grocery (UCS) enabled
- PO Acknowledgment (in and out)
- PO Change (in)
- Schedules (in and out)
  - Planning, Shipping, and Sequenced
- Advance Shipping Notice (in and out)
- Invoice (out)
  - Grocery (UCS) enabled
- Remittance Advice (in)
- Inventory Advice (in)
- Distributed Order Receipt (in)
- Sales Order Shipment (in)
- Consignment Usage (in and out)
- Self-Billing (in and out)
- Generic Gateway (in and out)

eB-EDI-IN-080

Available Gateways

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A Single Worldwide EDI Interface

- Supportable by QAD, Partners, and Expert Users
- Fully Configurable
  - A powerful tool set
- Standing Team
  - Provides ongoing development
- Good customer/partner reaction and interaction

"Better than Oracle, equivalent or better than SAP"

Quote from a top global EDI engine supplier

eB-EDI-IN-100

Product Commentary

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Product Value Elements

- Customer EDI control
- Reduced implementation and maintenance costs
- Flexibility in EDI translators and service partners
- Continually added Gateways
- Global deployment
- Forward migration compatibility with MFG/PRO
- A standing EDI Team
  - Delivering continual enhancements
- Support migrating customers

eB-EDI-IN-110

Product Value Elements

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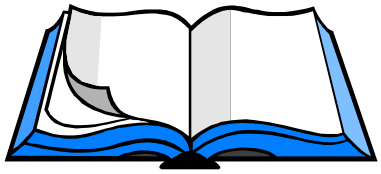
EDI ECommerce Terminology

- Standards Neutral Format (SNF)
- Document Type
- Inbound and Outbound
- Records and Fields
- EC Subsystem (Translator)
- Data Repositories
- Data Definitions
- Exchange-Side
- MFG/PRO-Side
- Gateways
- Turnaround Data
- Transformation Mapping
- Tokens
- Trading Partner
- Trading Partner Library



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Terminology

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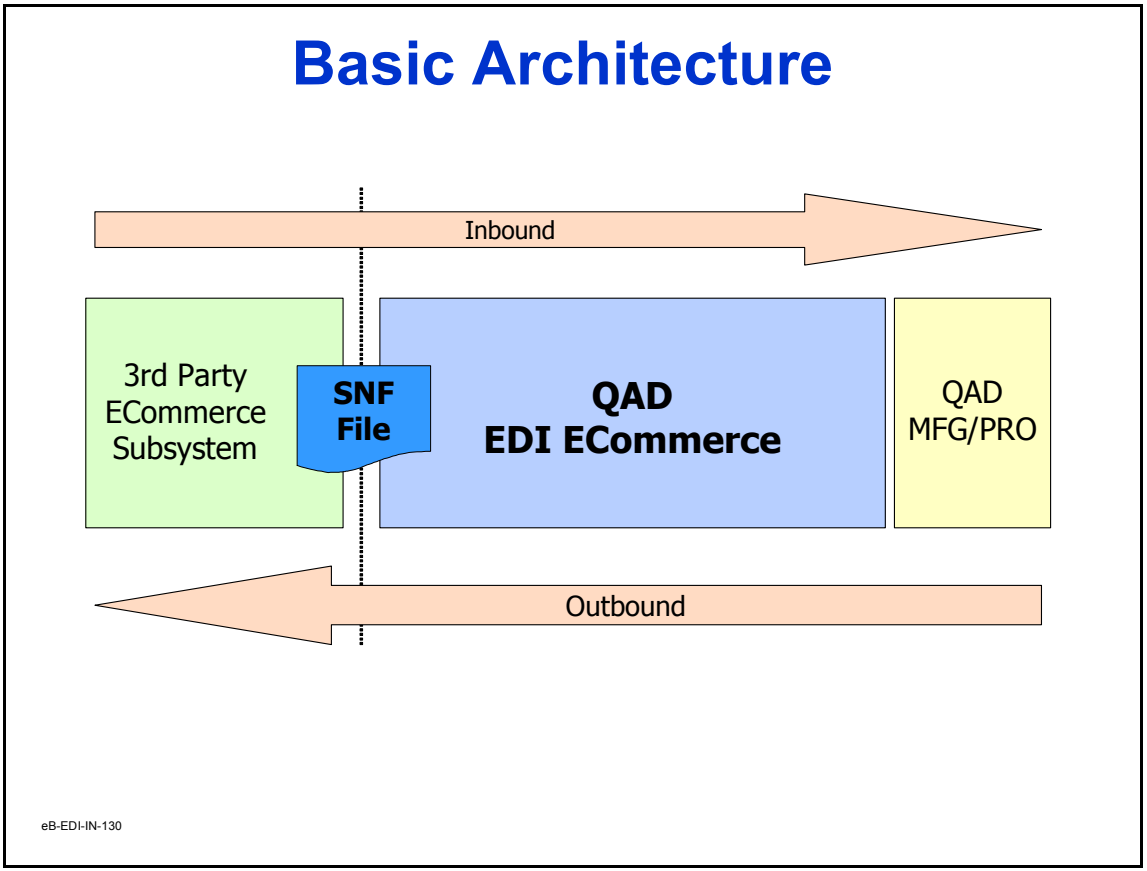

EDI ECommerce Basic Architecture

Basic Overview of Product Plus EC Subsystem

There are three major EDI processing operations:

1. The inbound process loads EDI data from the sub-system (communication) layer into an EDI ECommerce database. The outbound process unloads data into the sub-system (communication) layer.
2. The Transformation process converts and modifies data between an EDI-centric format into the MFG/PRO application format.

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3 For Inbound documents, a transfer process then extracts the EDI transformed documents, calls the appropriate gateway program that then updates into MFG/PRO databases. The reverse process is followed for outbound data.

EC Subsystem: What is it?

EC subsystems send and receive EDI data files containing documents used by the Sales and Distribution Modules of MFG/PRO. Among other functions, they act as a “post office” to pick up and deliver EDI data between trading partners.

They translate EDI data to and from Standards Neutral Format (SNF), designed by QAD to create subsystem and EDI standard independence.

EC subsystems are sometimes called third-party EDI translator communications packages.

EC Subsystem: What does it do?

EC subsystems send and receive EDI data files containing documents used by the Sales and Distribution Modules of MFG/PRO.

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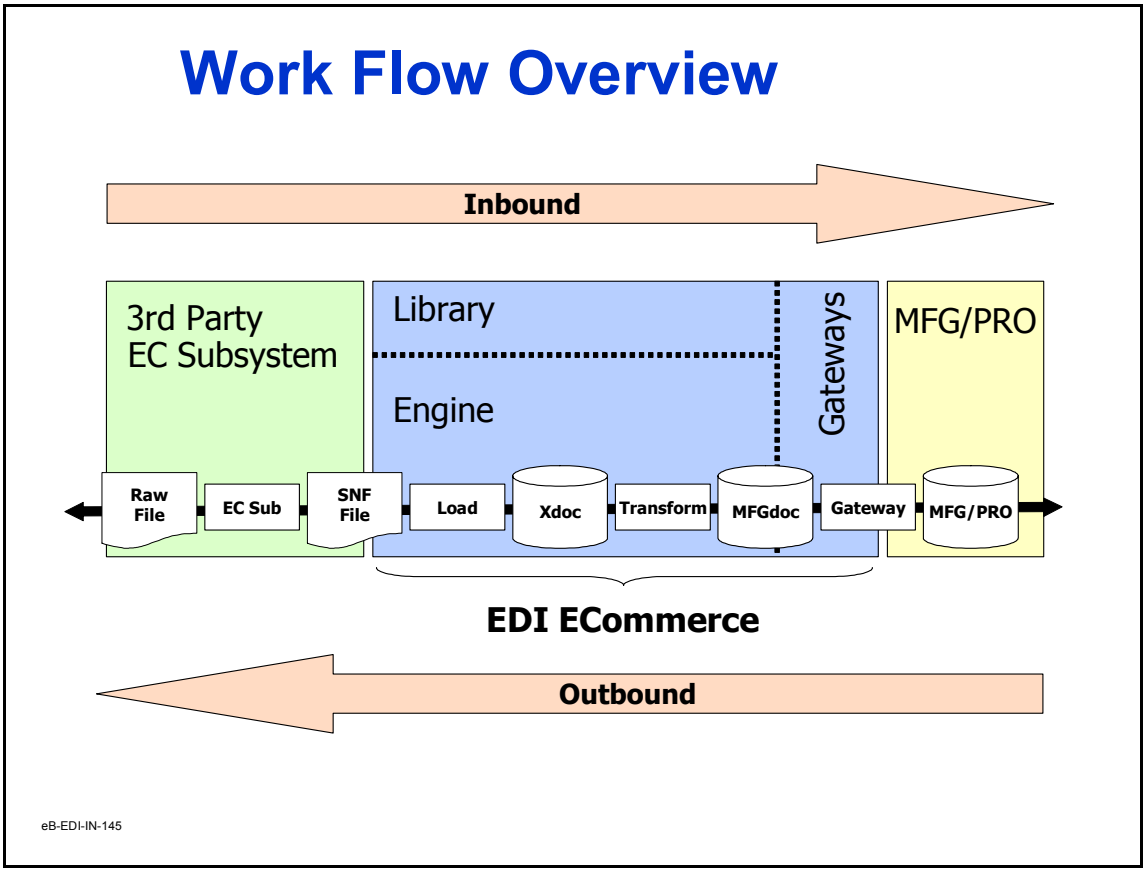

Work Flow Overview

The 3 major components of the EDI ECommerce product are the Library, Engine, and Gateways.

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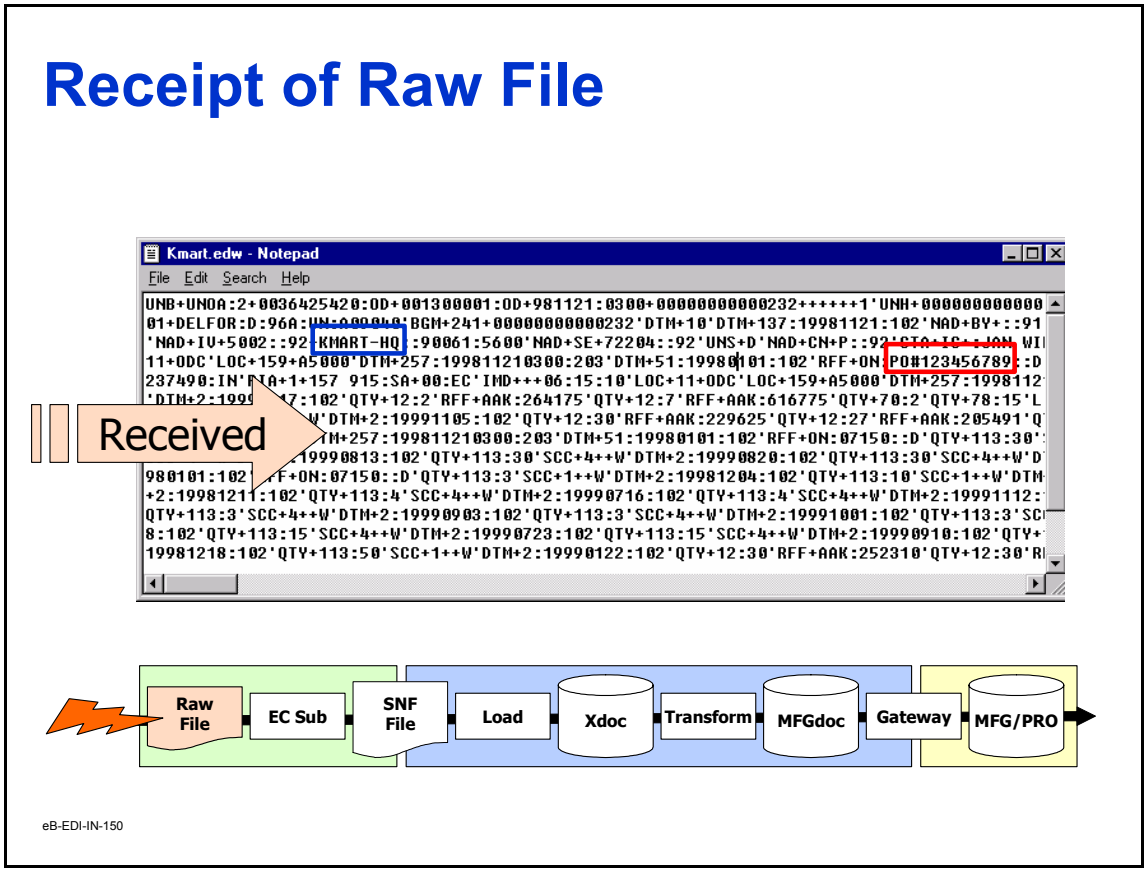

Receipt of Raw File

This is an example of a raw EDI formatted file with 2 of the data elements highlighted for tracking purposes through subsequent processing steps.

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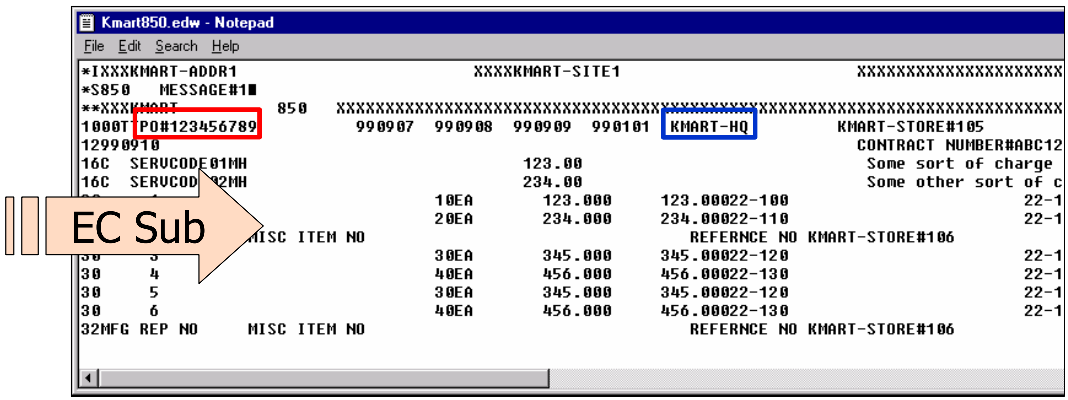
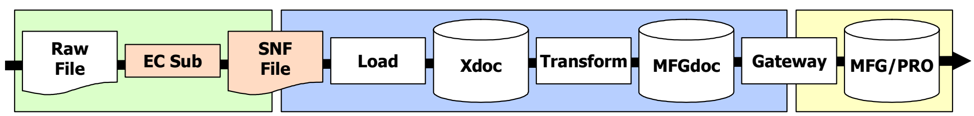
Mapping to SNF File





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Mapping to SNF

Load/Unload

- Loads EDI SNF files from the EC subsystem into the Exchange File Repository (inbound)
- Unloads data from the Exchange File Repository into the EC susbsystem (outbound)

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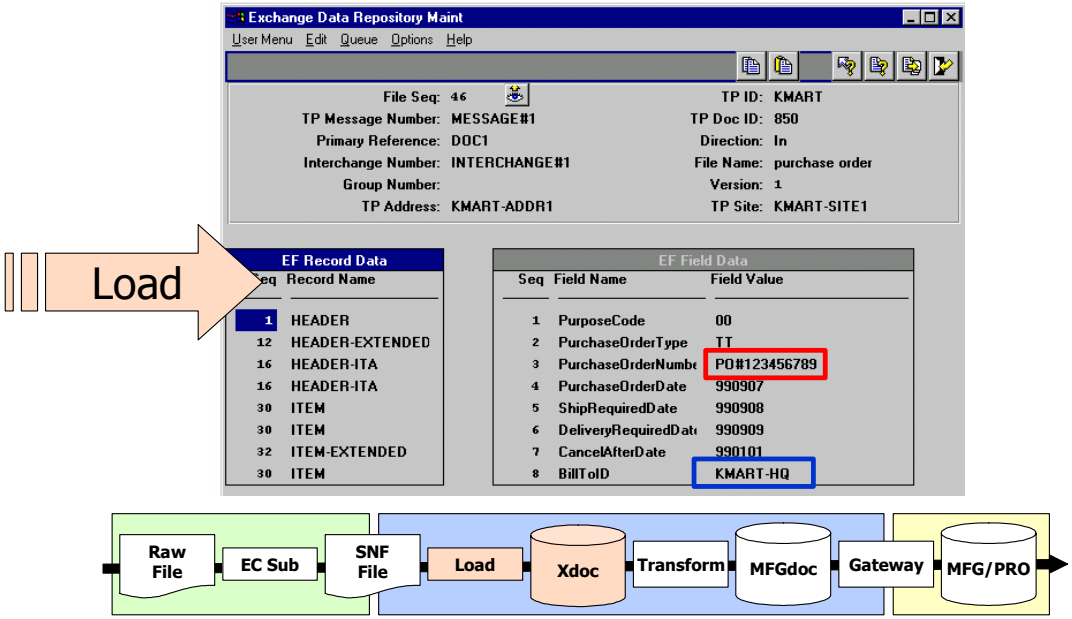
Load to Exchange File



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Load to Exchange File

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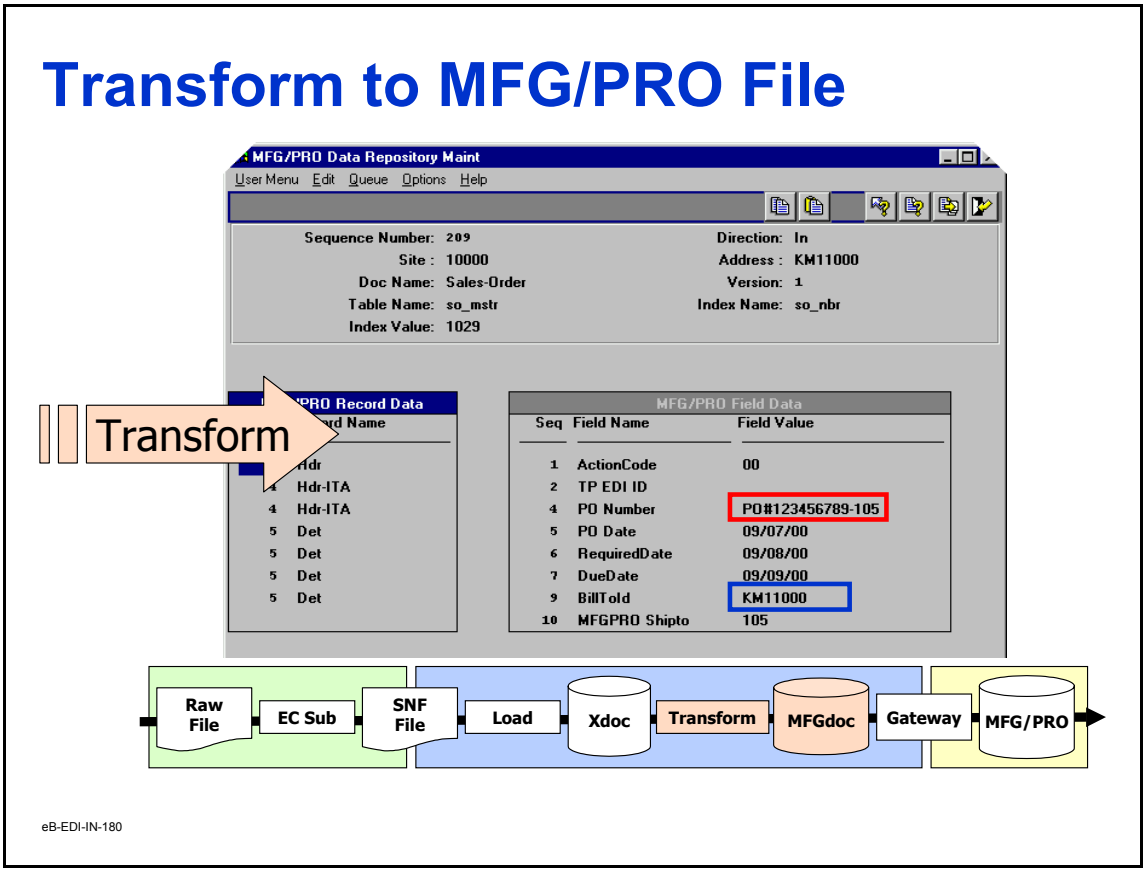

Transform to MFG/PRO File

Transform

- Applies trading partner-specific logic to map fields appropriately
- Other key product features include:
  - Callable functions for transforming data
  - A cross-reference capability when a customer calls something by a different name
  - A validation process to insure compliance with business rules
  - Session process reporting / error reporting
  - A Turnaround data repository for trading partner data not stored in MFG/PRO

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Other key product features include the following:

- Callable functions for transforming data, displaying error and warning messages, lookups, etc.
- A data naming cross-reference capability
- A validation process to ensure compliance with business rules
- Session process reporting and error reporting
- A Turnaround data repository for trading partner data not stored in MFG/PRO

Inbound

- Transforms documents from standards neutral exchange file format into MFG/PRO format

Outbound

- Transforms documents from MFG/PRO format into standards neutral exchange file format

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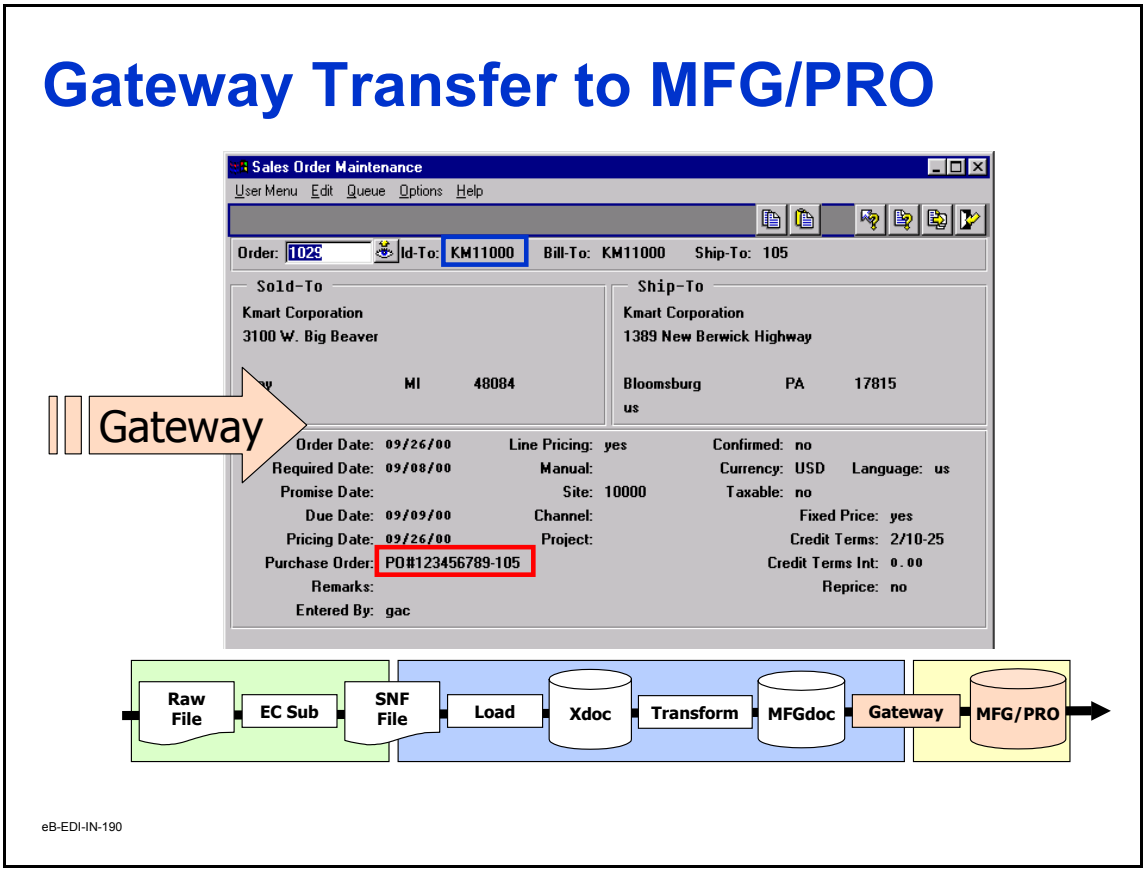

Gateway Transfer to MFG/PRO

Gateway Transfer

Definition: A gateway is a Progress application program that moves data from MFG/PRO (outbound) or into MFG/PRO (inbound), obeying application, business and database integrity rules.

Inbound

- Extracts transformed documents from MFG/PRO repository
  - Calls appropriate gateway program to update MFG/PRO database

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  - Saves turnaround data

Outbound

- Selects a gateway program
  - MFG/PRO data placed into MFG/PRO Repository
  - Pulls turnaround data

Warning Though possible, do not run multiple concurrent EDI ECommerce sessions because there are no safeguards against document double processing.

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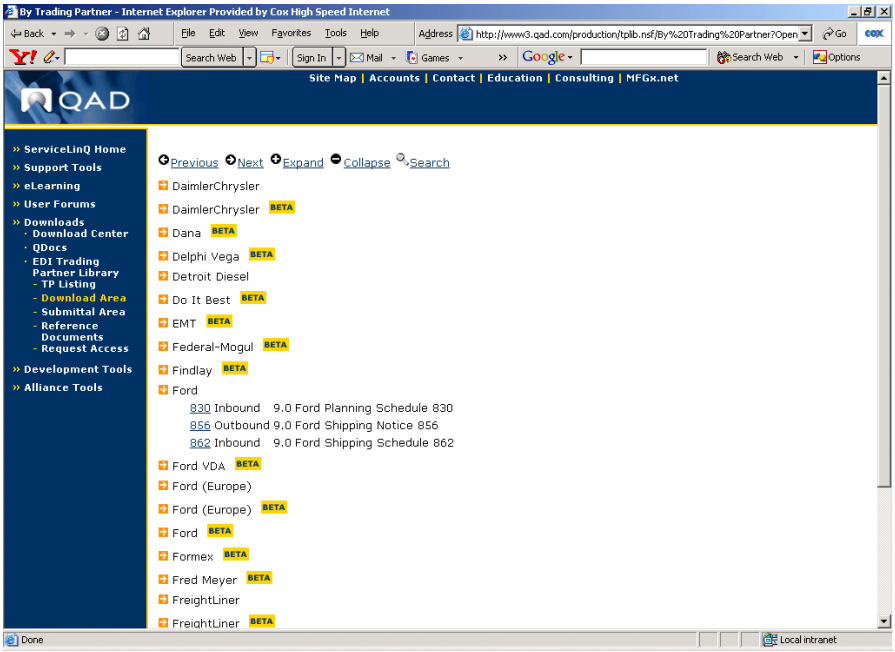
Trading Partner Library



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Trading Partner Library

The Trading Partner Library (TPL) provides a collection of trading partner documents (TPdocs). Examples would be a GM Invoice or a Wal-Mart Purchase Order.

- Subscription-based program
- User access via the web to all TPdocs
- User has ability to submit new documents (via ZIP files)

Content

- Marketing and technical information
- TPL Listing
- Downloading
- Submittals

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Course Objectives

In this class you learn how to:

- Identify some key business considerations before setting up EDI ECommerce in MFG/PRO
- Set up EDI ECommerce in MFG/PRO
- Process EDI ECommerce in MFG/PRO

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Course Objectives

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Course Overview

- ✓ Introduction to EDI ECommerce
- Business Considerations
- Set up EDI ECommerce
- Process EDI ECommerce

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CHAPTER 2

Business Considerations

Business Considerations

In this section you learn how to:

- ✓ **Identify some key business considerations before setting up EDI ECommerce**
- Set up EDI ECommerce in MFG/PRO
- Process EDI ECommerce in MFG/PRO

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Business Considerations

- EC Subsystem
- Standards
- Electronic Documents
- Trading Partners
- Value Added Network
- Installation Checklist
- Multi-Database
- Distributed Operations
- Training

eB-EDI-EC-BU-020

Business Considerations

This chapter is intended to locate in one place the most common business considerations relevant to the implementation of EDI ECommerce. By reviewing and discussing these issues as a class, students will gain a better appreciation for the complexities of implementing and managing EDI transactions. EDI is not simple, but EDI ECommerce provides a flexible tool set for the future.

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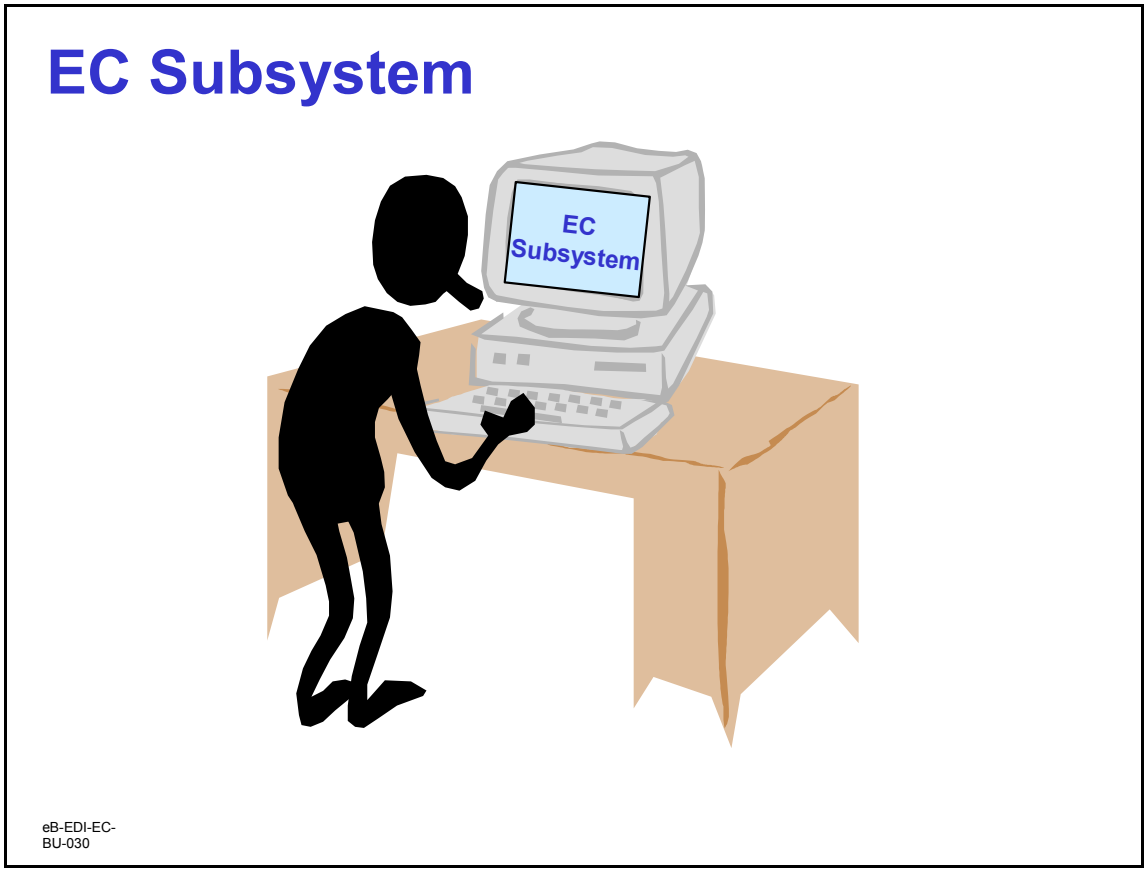

EC Subsystem

EC Subsystems Allow

- Seasoned users to develop communications between their trading partners and themselves

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Standards

- ANSI (ASC X12)
- EDIFACT
- ODETTE
- VDA

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Standards

Standards Allow You To

- Communicate using a standard method and protocol

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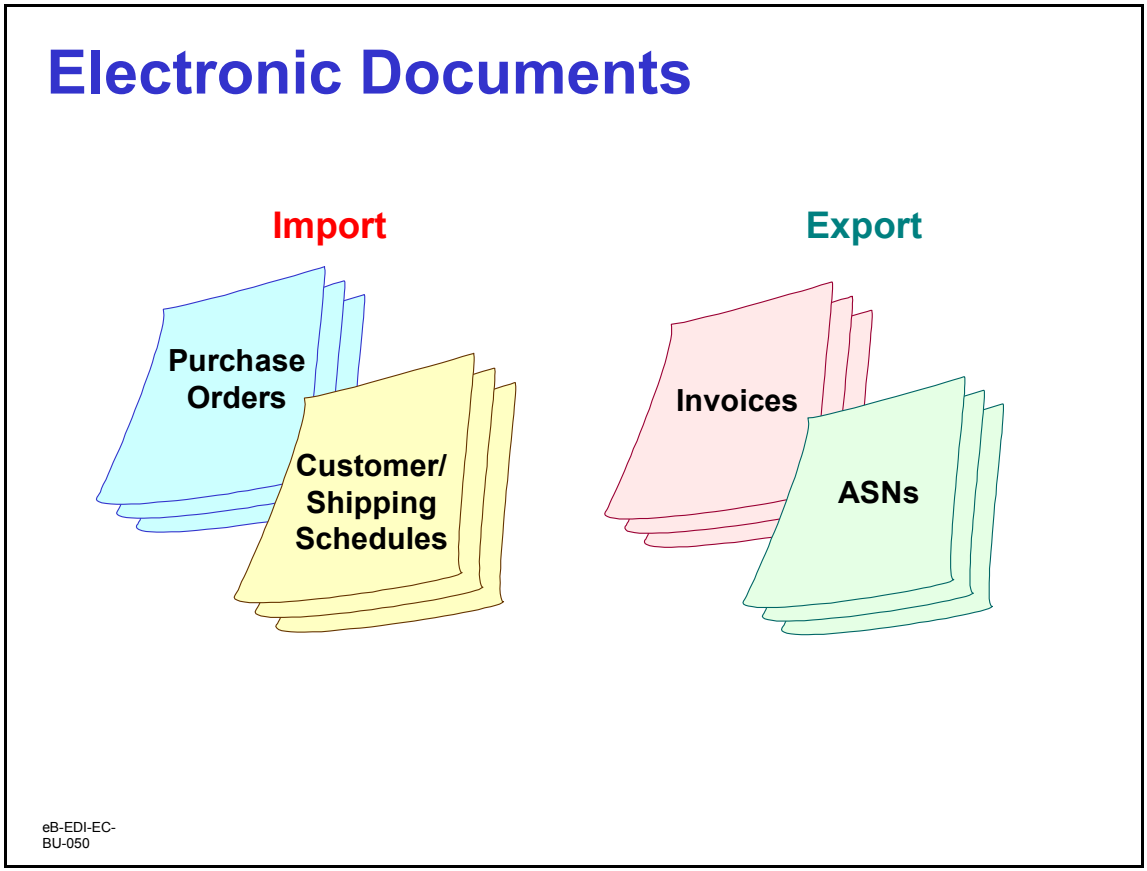

Electronic Documents

Electronic Documents Allow You To

- Eliminate wasted time filing and verifying paper trails as well as data entry errors

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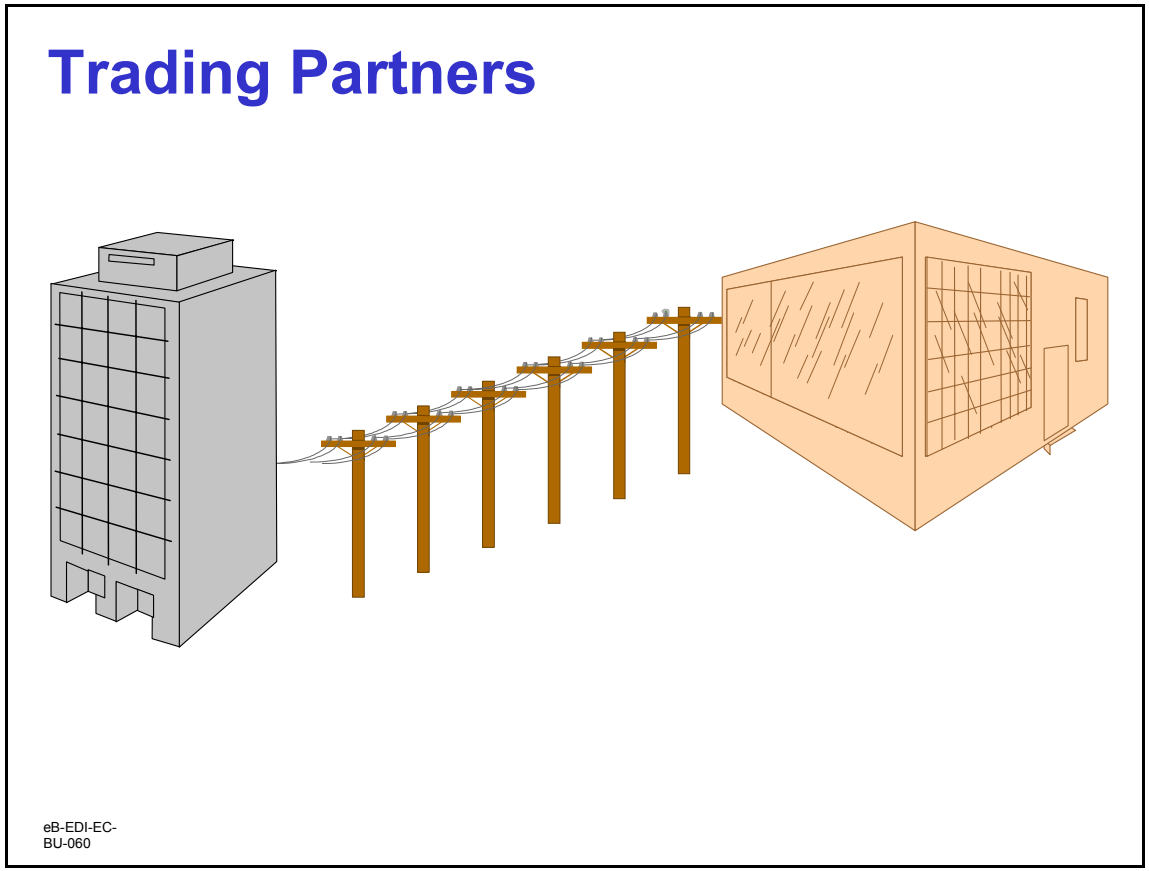

Trading Partners

Trading Partners Allow You To

- Communicate business transactions for specific customers

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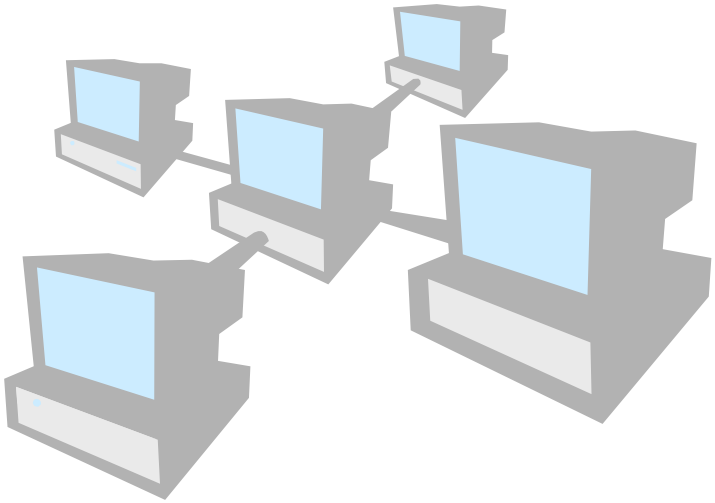
Value Added Network



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Value Added Networks (VANs)

VANs Allow You To

- Communicate with trading partners without incurring the cost of large storage space

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Installation Checklist

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Installation Checklists

- Multi-Database
- Business issues
- Trading partner specifics
- Distributed operations
- Training

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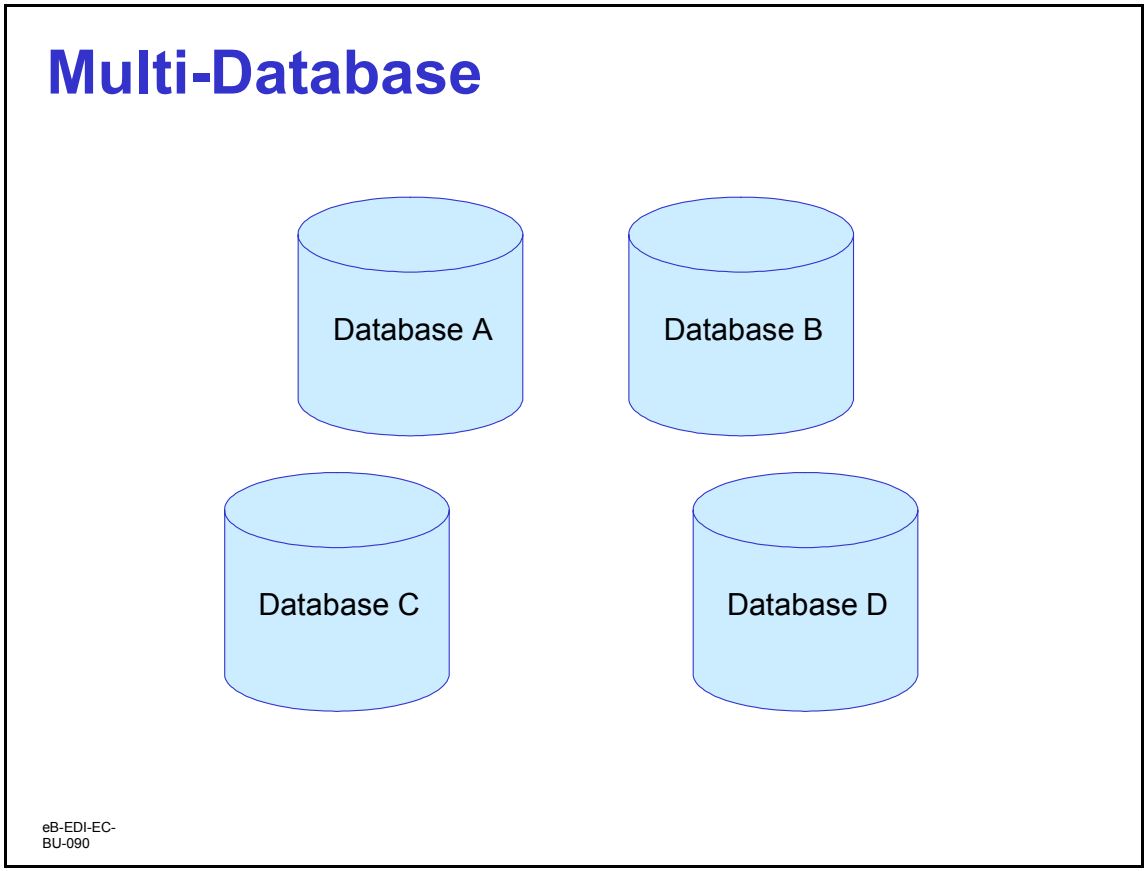

Multi-Database

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Distributed Operations

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Distributed Operations

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Training

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Review

- Processes and Procedures
- Reporting Requirements
- Customer Expectations
- Product Configuration

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Review

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Course Overview

- ✓ Introduction to EDI ECommerce
- ✓ Business Considerations
- ♦ Set up EDI ECommerce
- ♦ Process EDI ECommerce

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Course Overview

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CHAPTER 3

Set Up EDI ECommerce

Set up EDI ECommerce

In this section you learn how to:

- ✓ Identify some key business considerations before setting up EDI ECommerce in MFG/PRO
- ✓ **Set up EDI ECommerce in MFG/PRO**
  - Process EDI ECommerce in MFG/PRO

eB-EDI-EC-SU-010

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EDI ECommerce: A Data Integration Tool Set

- **Document Repositories**
  - Exchange Documents
  - MFG/PRO Documents
  - Turnaround Data
- **Table-Driven Tool Set**
  - Table Definitions
  - Exchange File Document Definitions
  - Transformation Definitions
  - Trading Partner Specifications
  - Implementation-Specific Document Definitions
  - Functions
- **Import/Export Process Control Functions**

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Data Integration Tool Set

Repositories

- Store data during processing
  - Exchange file data repository
  - MFG/PRO data repository
  - Turnaround data repository

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EC Subsystem

- Data communications
- Trading partner documents
  - Mapped to/from exchange file formats
- Document acknowledgement, reconciliation, archiving

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EC Subsystem

What is it?

- Translates EDI data to and from standards neutral format (SNF)
- Third-party EDI translator communications package
  - Flat file transfer

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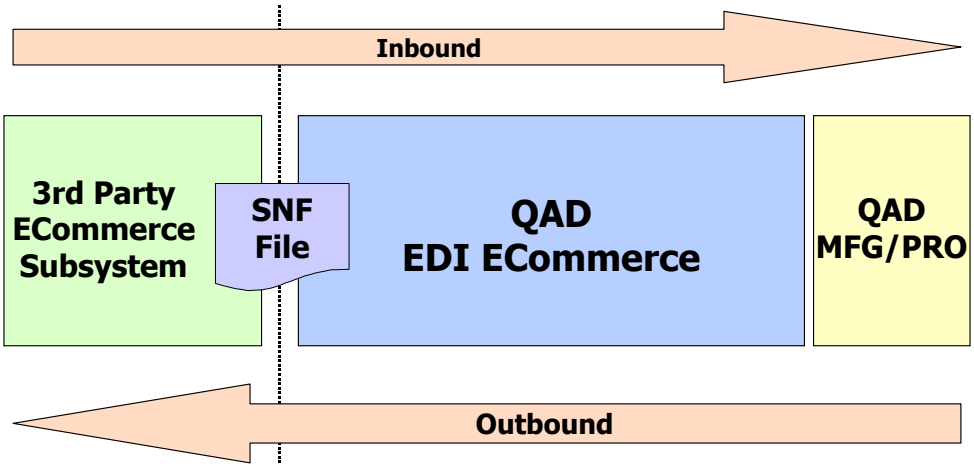
EDI ECommerce Architecture



eB-EDI-EC-SU-040

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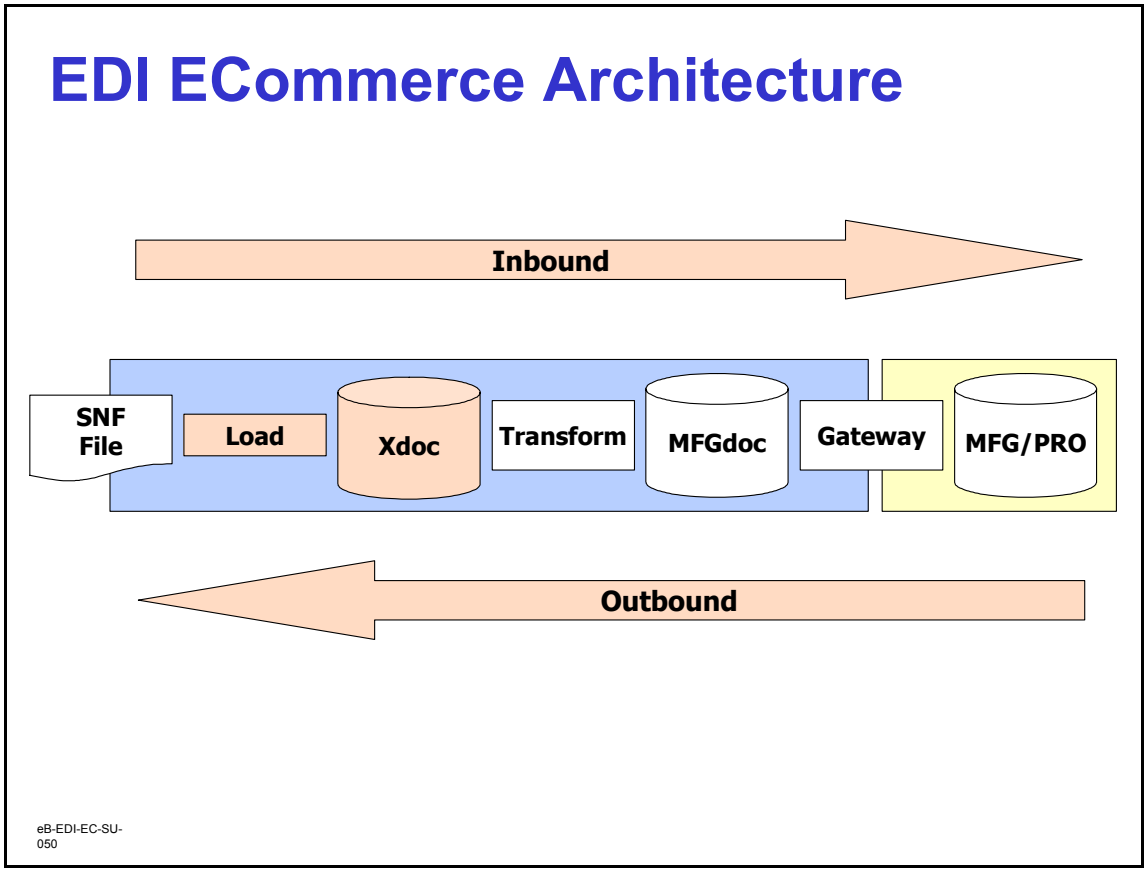

EDI ECommerce Architecture Concepts

The EDI ECommerce Module converts EDI messages into MFG/PRO records, or visa versa. This conversion can be simple or very complex:

- It can be as simple as copying data from one field to another
- It can be as complex as mapping multiple input records and fields to a different set of records and fields

However, whether simple or complex, EDI ECommerce accomplishes the conversion in 3 steps. Thus, EDI ECommerce handles all conversions within the same simple architecture.

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Inbound Process

In the Inbound process, the 3 steps are:

1. Load from a flat file.
2. Convert the data from EDI-centric to MFG/PRO-centric format.
3. Write to the MFG/PRO database.

Outbound Process

In the Outbound process, the steps are reversed:

1. Read from the MFG/PRO database.
2. Convert the data from MFG/PRO-centric to the required EDI-centric formats.
3. Unload the data to a flat file.

Read/Write Flat Files

- The EDI record input or output step is called “Load/Unload”

Data Conversion

- The conversion step is called “Transformation Processing”

Database Access

- MFG/PRO database access is called “Gateway Processing”

Inbound Process in Detail

Let's look at the Inbound process.

Load

Load prepares for Transformation by loading the EDI-centric records into a table called the “Exchange Repository”.

This load, from a flat file to the Repository, processes the file control records and saves control data (such as trading partner ID and destination site code) for use in the Transformation process.

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No conversion occurs in Load processing, but all control information is captured so that it is readily available wherever needed in the Transformation.

Load processing thus prepares for Transformation simplifying the actual Transformation logic.

Transformation

The heart of EDI ECommerce processing is Transformation. All the data and record structure conversions occur in the Transformation step. Processing control records and storage of non-

MFG/PRO data for later use occur outside of Transformation. The focus of Transformation is the actual format conversions of the individual data fields and record structures.

Gateway Processing

Gateway Processing writes the “transformed” data to the MFG/PRO database. Transformed data is stored in a table called the “MFG/PRO Repository” by the Transformation process.

Gateway Processing reads the data from the MFG/PRO Repository and creates records in the MFG/PRO database. Again, no conversion occurs in Gateway Processing.

Outbound Process in Detail

The Outbound process is the reverse of the Inbound process.

The Gateway reads data from the MFG/PRO database, Transformation writes the Exchange File Repository, and the Unload process writes the outbound data into a transmission group.

Summary

In summary, EDI ECommerce has a simple architecture, which uses 3 modular processes to accomplish any data interchange from simple to very complex:

1. Load/Unload
2. Transformation
3. Gateway Processing

Execution

Import or Export of a set of documents is a one-step task

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- Importing is done in Document Import (Document Import 35.1)
- Exporting is done by type of document:
  - Shipment ASN Export 35.4.1
  - Invoice Export 35.4.3
  - Purchase Order Acknowledgment 35.4.5
  - Supplier Shipping Schedule 35.4.8
  - Purchase Order Export 35.4.9
- Status and Error Reporting
  - Exchange Doc Status Report 35.9.2
  - MFG/PRO Doc Status Report 35.9.9
  - Exchange-MFG/PRO Xref Report 35.9.14

Setup

The 3 modular processes that combine to Import or Export EDI documents are independent of each other. Each process is setup up separately:

Exchange File Processing

1. EC Subsystem Definition Maintenance 35.3.1
2. EC Subsystem/Exchange Maintenance 35.13.3
3. Trading Partner Maintenance 35.13.7
4. Trading Partner Parameter Maintenance 35.13.10
5. Transmission Group Maintenance 35.13.13
6. Exchange Definition Maintenance 35.15.6

Transformation

1. Transformation Definition Maintenance 35.15.17
2. ECommerce Function Maintenance 35.15.21

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Gateway Processing

1. Implementation Definition Maintenance 35.15.13
2. MFG/PRO Definition Maintenance 35.15.10

Modular Character of Processes

The modular character of the processes enables any “setup” to be reused. A new trading partner relationship is typically implemented by using “copy” functions to create the basic implementation from existing processes. The unique requirements of the relationship are implemented by making minor modifications to the “copied” setups.

- The copy functions are:
  - Exchange Definition Copy 35.15.1
  - MFG/PRO Definition Copy 35.15.2
  - Implementation Definition Copy 35.15.3
  - Transformation Definition Copy 35.17.1
  - ECommerce Function Copy 35.17.2

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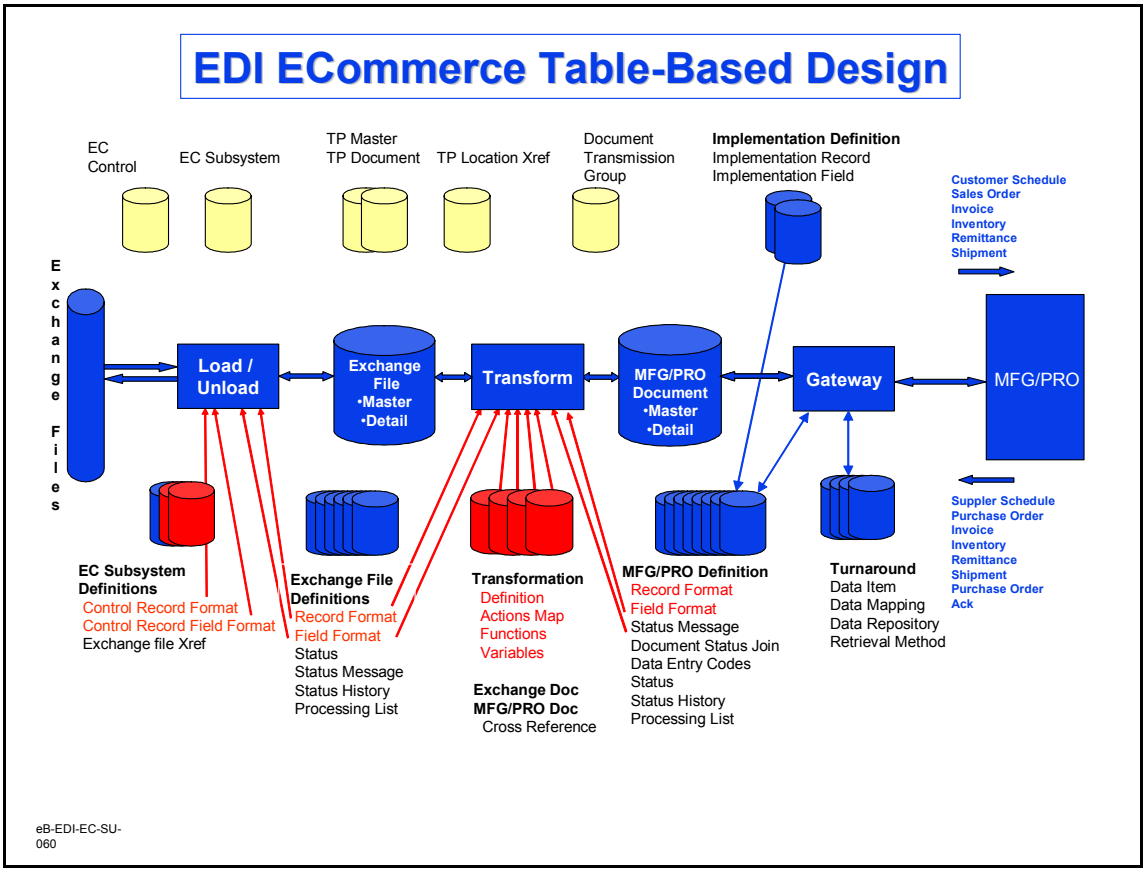

EDI ECommerce Table-Based Design

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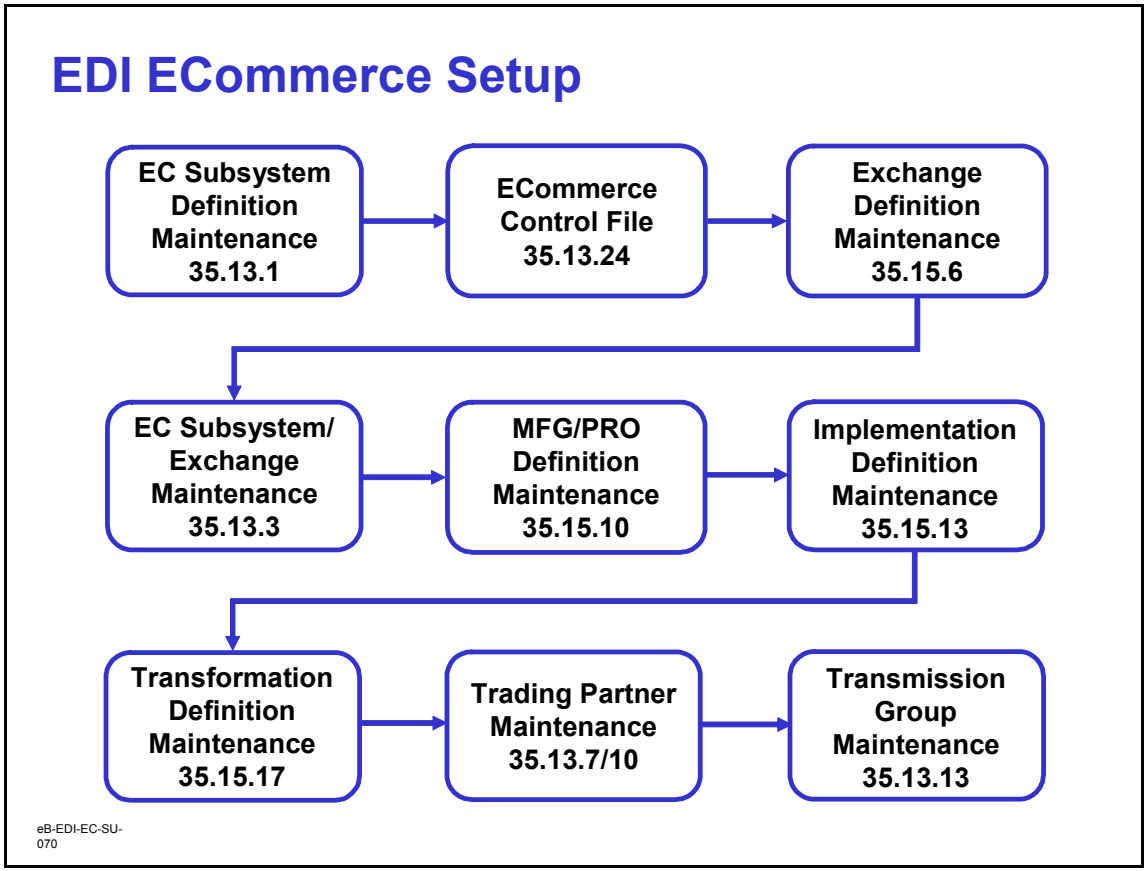

Setting Up EDI ECommerce

This chapter is for system implementers and EDI specialists who set up EDI ECommerce.

The setup procedures assume that you have already done a standard implementation and have defined common data, such as items, customers, and sites in the MFG/PRO database.

The complexity of setting up and implementing EDI ECommerce depends on a company's specific needs. If a company usually exchanges standard types of EDI documents with trading partners, then the QAD-developed transformation mappings available with the Trading Partner Library will probably meet that company's needs with a minimum of customization.

Keep in mind, however, that the powerful implementation tools of EDI ECommerce enable companies to perform setup tasks of much greater complexity.

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The illustration above is a suggested sequence for setting up master files for EDI ECommerce. It is based on the information that flows from one master file to another and the prerequisites that need to be completed before setting up a file.

Document Exchange Requirements

A significant step in the implementation process is defining to MFG/PRO the document exchange requirements of an external EC subsystem. During setup, you do this in terms of several elements:

Control Record Structures and Formats

- Used by the EC subsystem

Data Structure Definitions of SNF Exchange Files

  - Communicated between the EC subsystem and MFG/PRO

Transformation Mappings

- Describe to MFG/PRO the actions needed to transform data from one system's specifications to the other's
  - If these actions require functions not provided with EDI ECommerce, implementers can define their own functions using the appropriate menu-level program

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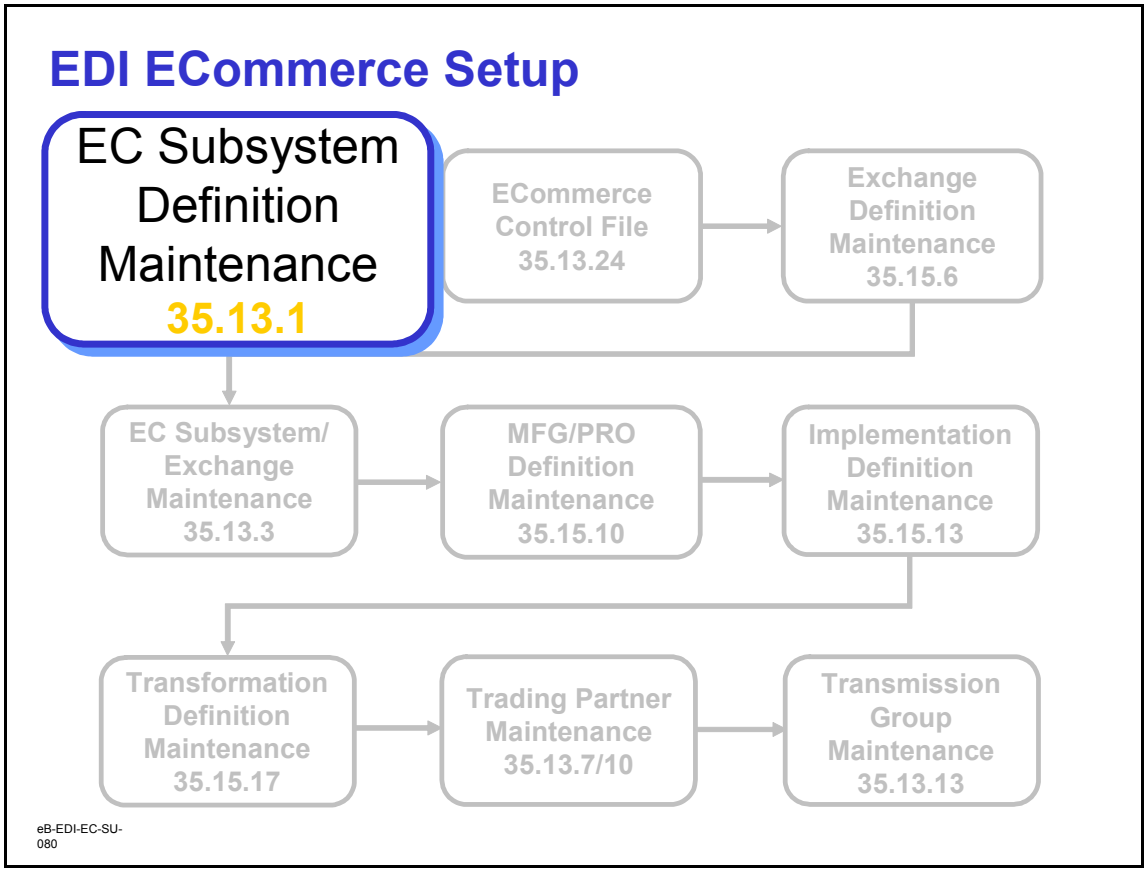

EC Subsystem Definition Maintenance

Menu Number 35.13.1

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EC Subsystems

- Actis
- GE Exchange
- Peregrine STX (TrustedLink)
- Perwill
- Radley's Redi
- Seeburger
- Sterling's Gentran
- Tie-Commerce (formerly St. Paul's Software)
- Trinary Edi-windows
- Others

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EC Subsystems

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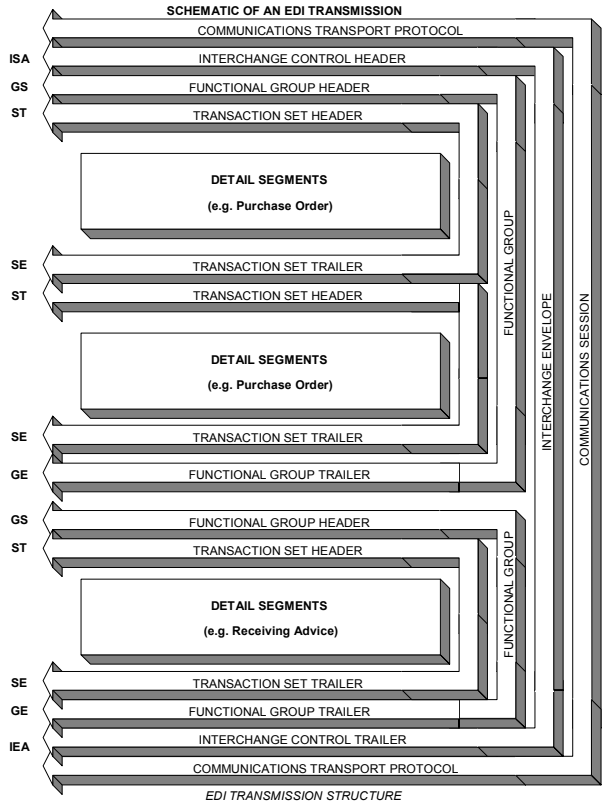

eB-EDI-EC-SU-110

Schematic of an EDI Transmission

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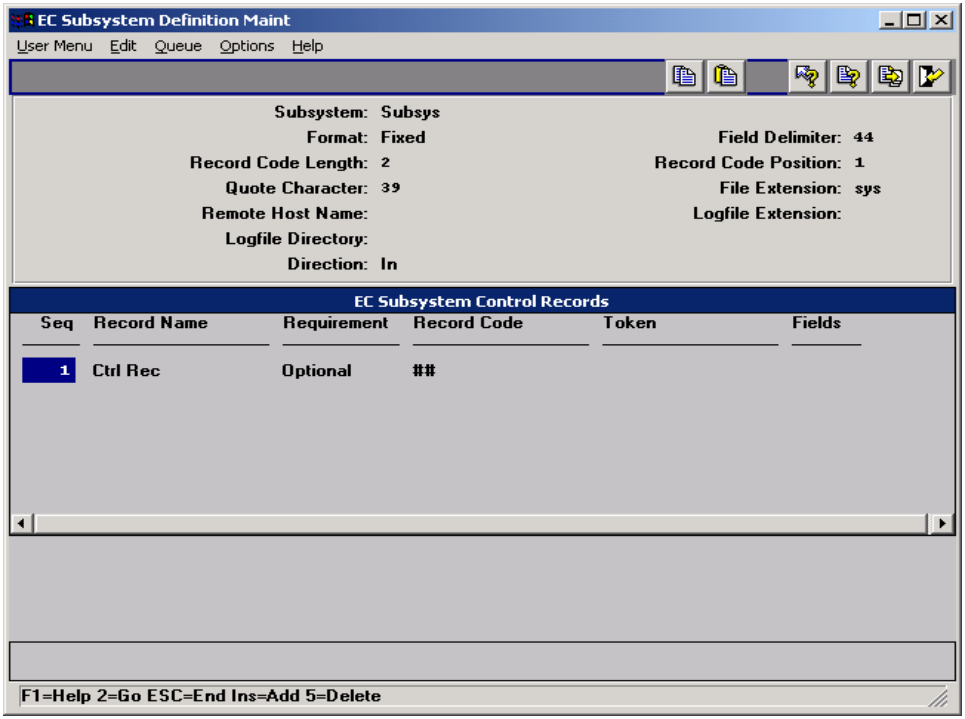
35.13.1 – EC Subsystem Definition Maintenance



eB-EDI-EC-SU-120

Use EC Subsystem Definition Maintenance to define the format and content of the control records exchanged between an EC subsystem and MFG/PRO. The values you enter must correspond to those used in the SNF file by the EC subsystem you are defining.

The program consists of three frames. Use the first frame to define basic EC subsystem data.

1 EC Subsystem Data

Create a separate EC Subsystem Definition Maintenance record for each direction—inbound and outbound. The combination of subsystem and direction is a unique identifier, so you can use the same subsystem name for both.

Subsystem

Enter up to 20 characters to identify an EC subsystem that exchanges data with MFG/PRO. Use any name that makes the subsystem easy to identify.

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Example If you use the same subsystem for both imports and exports, you might add the suffix *In* or *Out* to the end of the subsystem name.

Format

Specify whether the fields in the records used by the EC subsystem are fixed or variable lengths.

Field Delimiter

If you specify variable-length fields for this EC subsystem, enter the ASCII code for the character the EC subsystem uses to separate fields.

Record Code Length

Enter the number of characters the EC subsystem uses to indicate the type of record it is sending.

Record Code Position

- Enter the number of the character position where the record code begins
- Enter zero to indicate that the record code is in the last position in the document

Quote Character

Enter the ASCII code for the quote character used by the EC subsystem.

- If no quote character is required, enter zero

File Extension

Enter the three-character file extension that the EC subsystem uses to identify its inbound files.

For outbound files exported by MFG/PRO, the system appends this extension to identify the files to the EC subsystem.

- The file name is based on data defined in Transmission Group Maintenance 35.21.13.13

Remote Host Name

If this EC subsystem runs automated activities on a host computer, enter the name of that host computer. For example, you might run an E-mail program on this system to process messages containing exported files.

To specify the program to be run on the remote host, use the Processing Program field in the Transmission Group record for the transmission group that accesses this host.

Logfile Extension

If the computer specified in Remote Host Name creates a log file related to its processing activities, enter its file extension.

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Logfile Directory

If the computer specified in Remote Host Name creates a log file related to its processing activities, enter the directory that contains the log file.

Direction

Specify whether this EC subsystem definition is for inbound or outbound records.

- In EDI ECommerce, direction is always relative to MFG/PRO
  - Inbound for imports
  - Outbound for exports
- Each EC subsystem must have separate definitions for inbound and outbound records

2 Control Records

Use the second frame to define the control records for this EC subsystem.

Seq

Enter a sequence number identifying the order in which control records are received from or sent to the EC subsystem.

Record Name

Enter the name of this control record.

Requirement

- Specify whether this control record is mandatory or optional for the receiving system
  - MFG/PRO for inbound documents
  - EC subsystem for outbound documents
- If mandatory records are not included in a document being processed, an error is generated

Code

Enter the alphanumeric code the EC subsystem uses to define this type of record.

Fields

Enter Yes to enter or edit the fields contained in this record.

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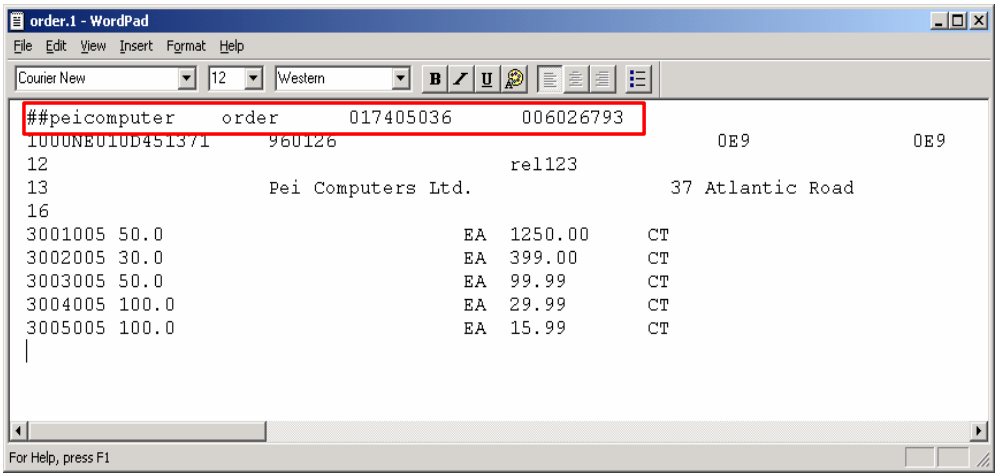
Flat File Information In Standards Neutral Format (SNF)



eB-EDI-EC-SU-130

Example of Flat File in Standards Neutral Format (SNF)

830 Inbound Document

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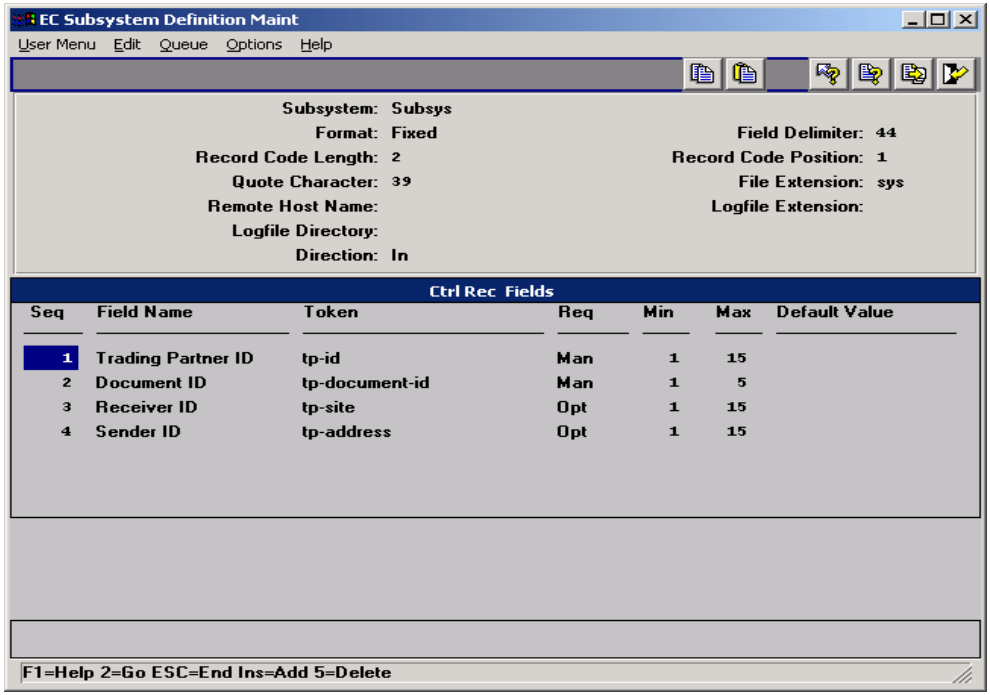
35.13.1 – EC Subsystem Definition Maintenance



eB-EDI-EC-SU-140

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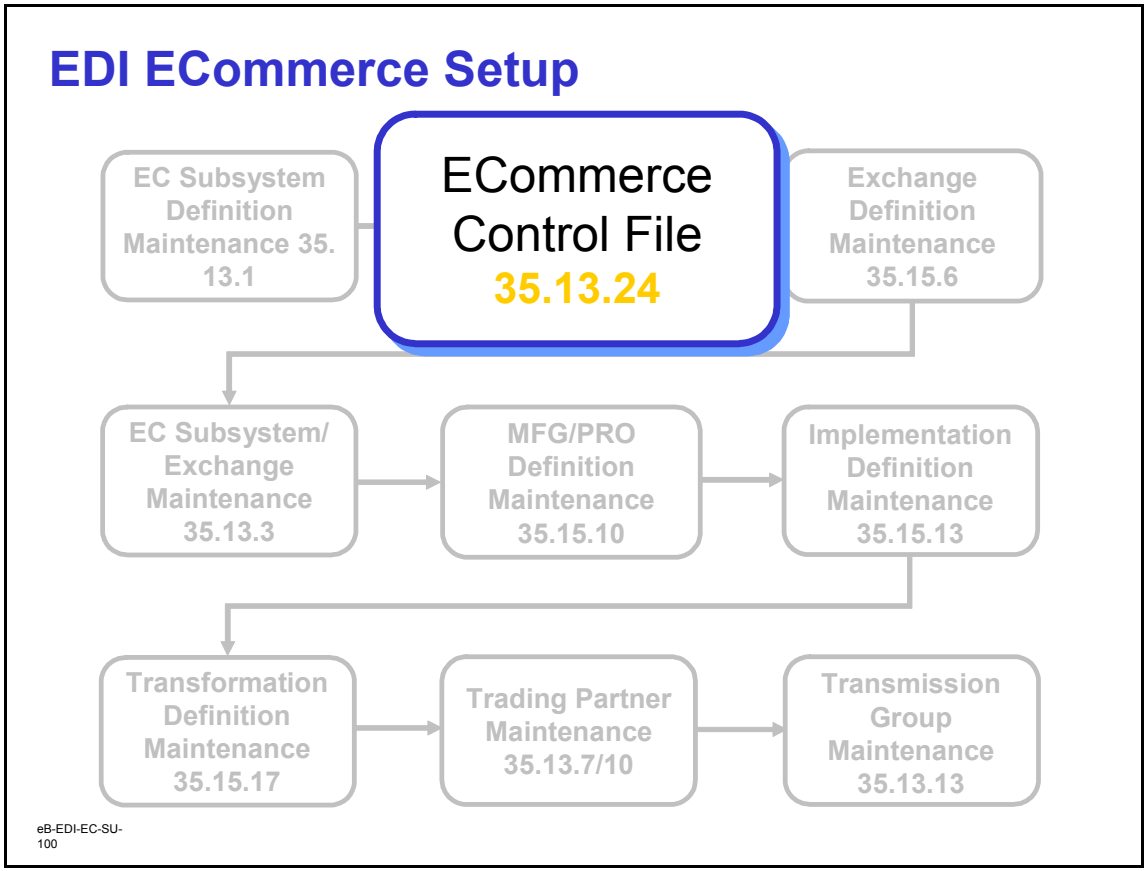

ECommerce Control File

Menu Number 35.13.24

Before setting up EDI ECommerce, the system administrator should set up a data directory for EDI ECommerce data files. Below that directory, there must be several sub-directories for the following types of data:

- Error files
- Inbound files for import into MFG/PRO
- Archive files, which are inbound flat files that have completed processing
- Function definition files (including user-defined functions used for transformation processing)

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All but the outbound directories are specified in the ECommerce Control File. Outbound directories are used in Transmission Group Maintenance 35.13.13 to specify where exported document files should be stored for a trading partner.

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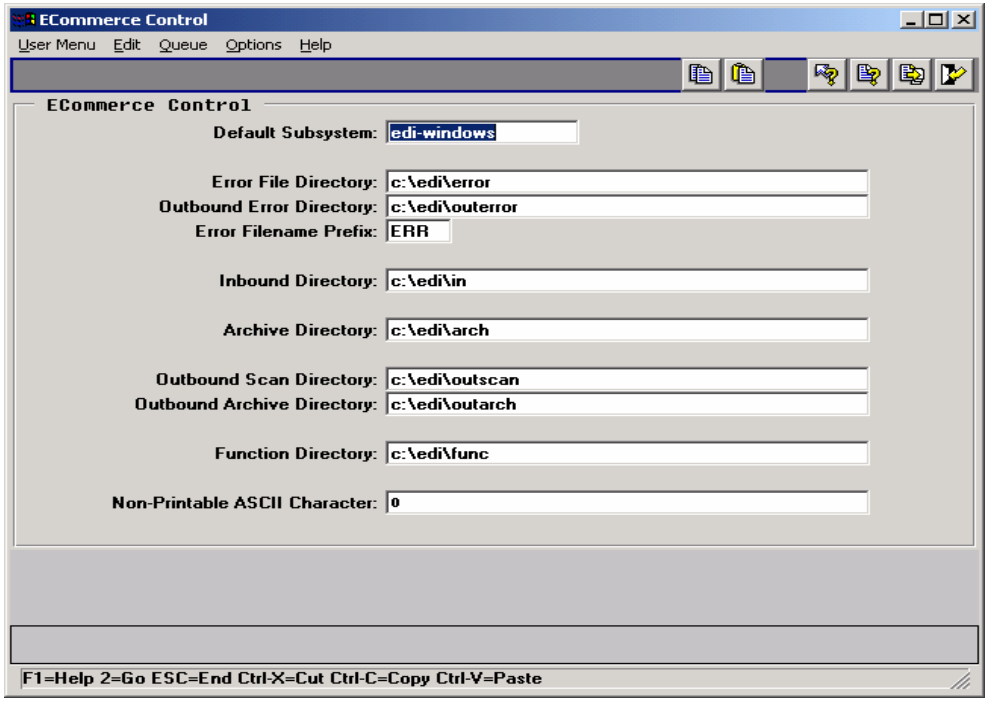
35.13.24 – ECommerce Control File



eB-EDI-EC-SU-090

The ECommerce Control File sets the default values for EDI ECommerce processing.

Default Subsystem

Enter the name of the EC subsystem to be used when documents being processed do not identify the originating subsystem.

- This subsystem must be defined in EC Subsystem Definition Maintenance 35.13.1 before you can enter it in this field

Error File Directory

Enter the directory where error files containing documents that fail during load or unload are stored. Reporting and reprocessing functions use this directory for input.

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Error Filename Prefix

Enter a three-character prefix to be added to the names of files containing documents that encounter errors during load or unload.

- The system places these files in the location specified in Error File Directory
- Reporting and reprocessing functions use this prefix to identify target files

Inbound Directory

Enter the directory where the EC subsystem places files for import into MFG/PRO.

The system uses this directory as the source for imported files.

(Outbound directories are specified in the Destination field in Transmission Group Maintenance 35.13.13.)

Archive Directory

Enter the directory where the system places the original SNF files when processing begins.

Function Directory

Enter the directory where user-defined functions used during transformation processing are stored.

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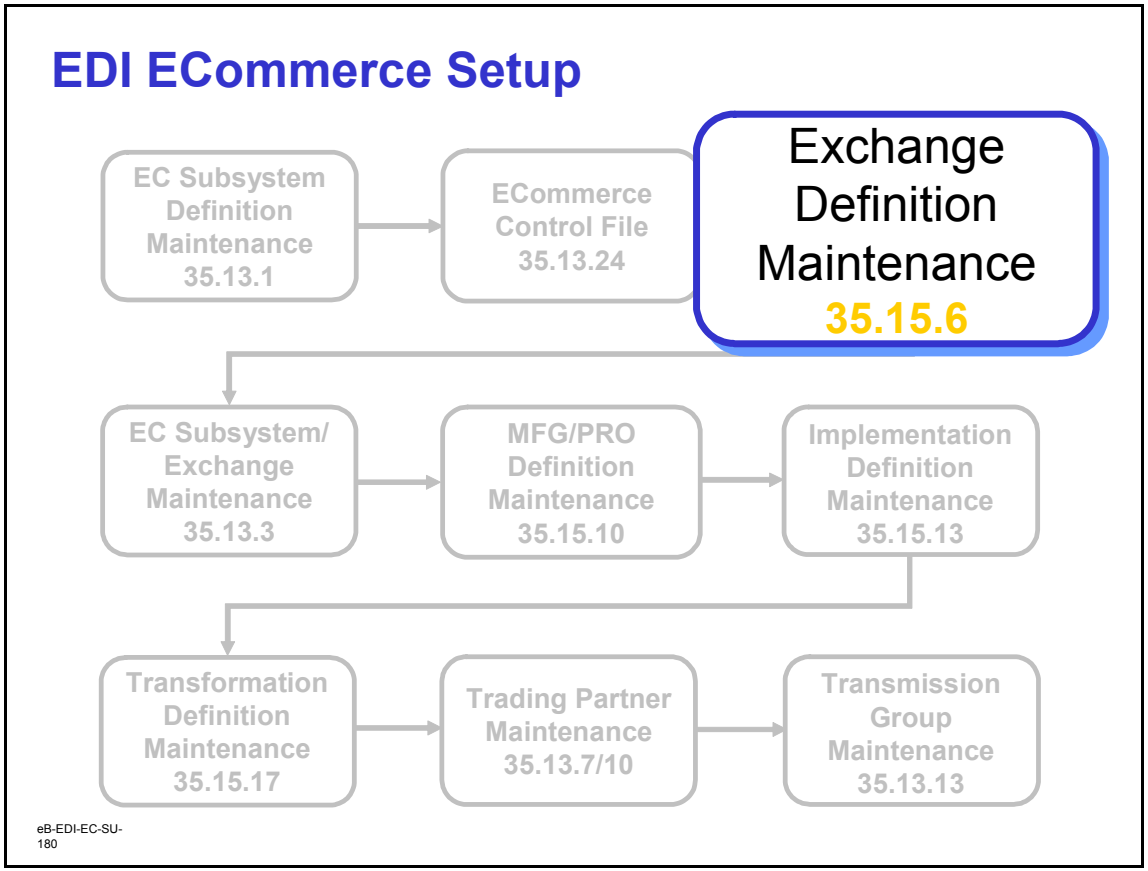

Exchange Definition Maintenance

Menu Number 35.15.6

An exchange file defines the documents communicated between MFG/PRO and the EC subsystem. It includes data record structures that match the definition of the SNF communicated with the EC subsystem.

Use this program to modify an exchange file definition you have created yourself, or one based on a copy of a QAD-developed template definition.

However, the system does not allow you to modify a QAD-developed definition. Use Exchange Definition Copy 35.21.15.1 to copy a definition before modifying it.

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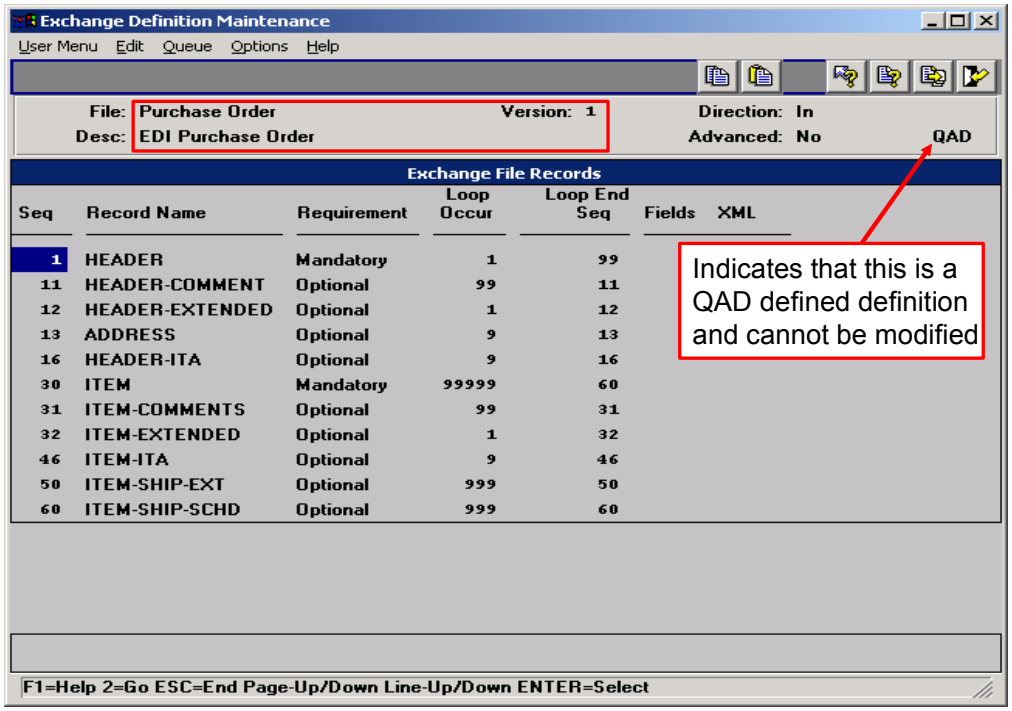
35.15.6 – Exchange Definition Maintenance



eB-EDI-EC-SU-190

Use Exchange Definition Maintenance to define layout and content of exchange file documents. You must create a different exchange file definition for each type of document.

Name

Enter a name for the exchange file definition.

Version

Enter a version number.

- Use the same name for more than one definition, then use a different version number to differentiate among multiple definitions with the same name
- Use Direction to distinguish between multiple definitions with the same name and version

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Direction

- Enter the direction of the file transfer that will use this exchange file definition
- Specify the direction relative to MFG/PRO
  - Documents imported into MFG/PRO are inbound
  - Documents exported from MFG/PRO are outbound

Desc

Optionally enter a text description of this exchange file definition (for reference only).

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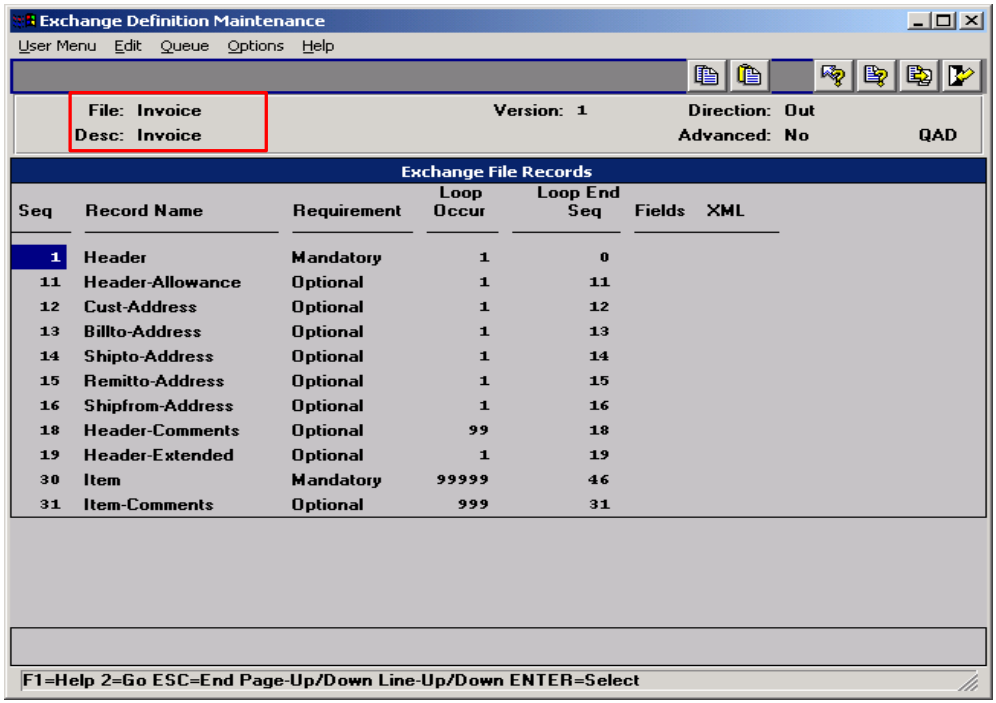
35.15.6 – Exchange Definition Maintenance



eB-EDI-EC-SU-230

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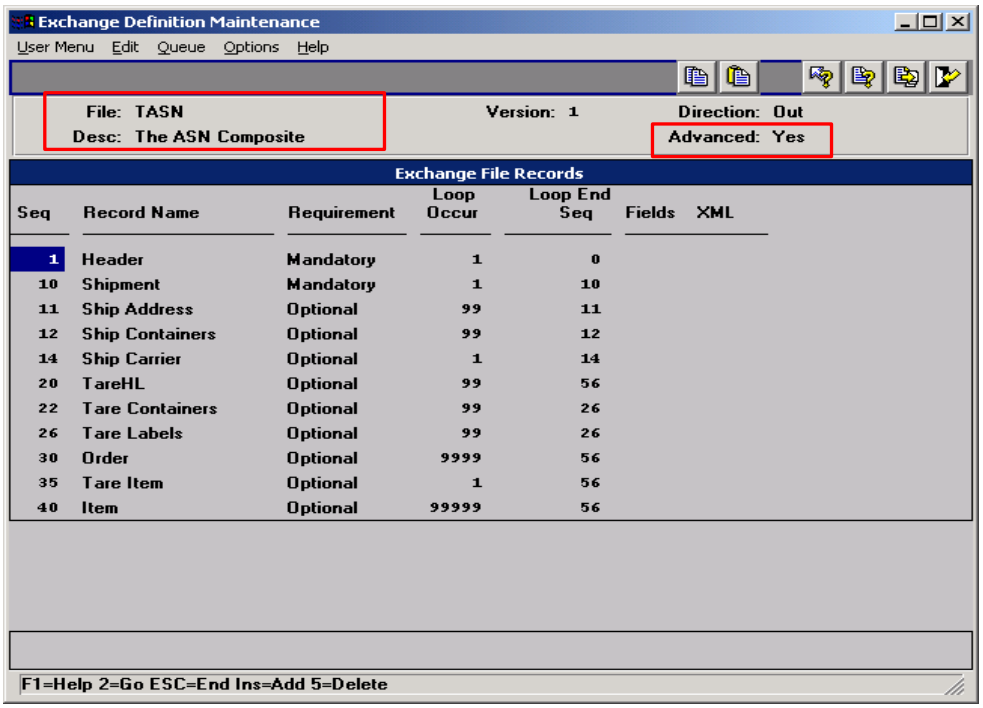
35.15.6 – Exchange Definition Maintenance



eB-EDI-EC-SU-250

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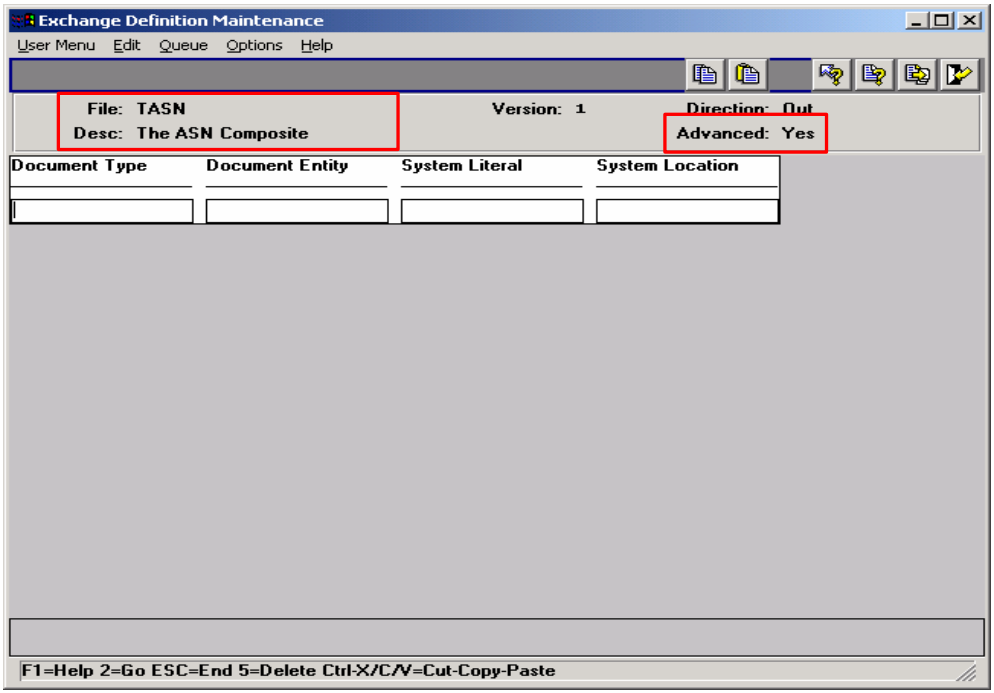
35.15.6 – Exchange Definition Maintenance – XML Setup



eB-EDI-EC-SU-270

This frame displays only if Fields = Yes in the previous frame for the selected record.

Seq

The sequence number of this field in the record.

Press Insert to add a new field. The system automatically assigns the next available number. You can modify the number as needed or navigate to the blank fields at the bottom of the frame and assign numbers.

It is recommended that you number the fields sequentially, beginning with 1. When you do this, a total of 99 fields are available for each record. Although the system accepts non-sequential numbers, their use is not recommended.

Press Tab or use the arrow keys to move from line to line.

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Name

Enter the name of the field. The name must be unique in the record.

Reqd

Enter Mandatory to indicate that this field is required during the load process or Optional to indicate that it is not. When the system cannot find mandatory fields to load, it generates an error message and does not process the associated record.

Type

Enter a code representing the type of data stored in this field. Valid entries are:

- AN: Alphanumeric
- D: Date
- I: Integer
- L: Logical
- R: Real number

Min

Enter the minimum number of characters to be included in this field. The system validates that required or optional data is greater than or equal to the minimum required value for the field.

Max

Enter the maximum number of characters to be included in this field.

- If the field lengths are variable and separated by the delimiter specified in EC Subsystem Definition Maintenance, the system validates that the field length is between the Min and Max values.
- If the field lengths are fixed, the system uses this value to calculate where each field starts and ends.

Token

If applicable, enter the name of the token associated with this field.

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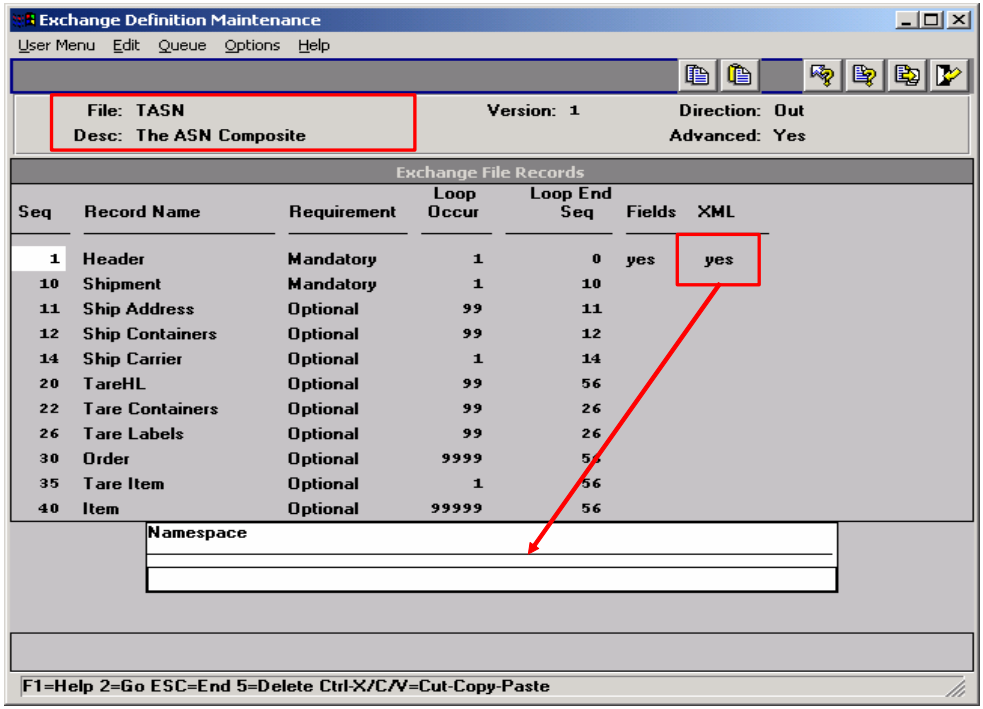
35.15.6 – Exchange Definition Maintenance – XML Setup



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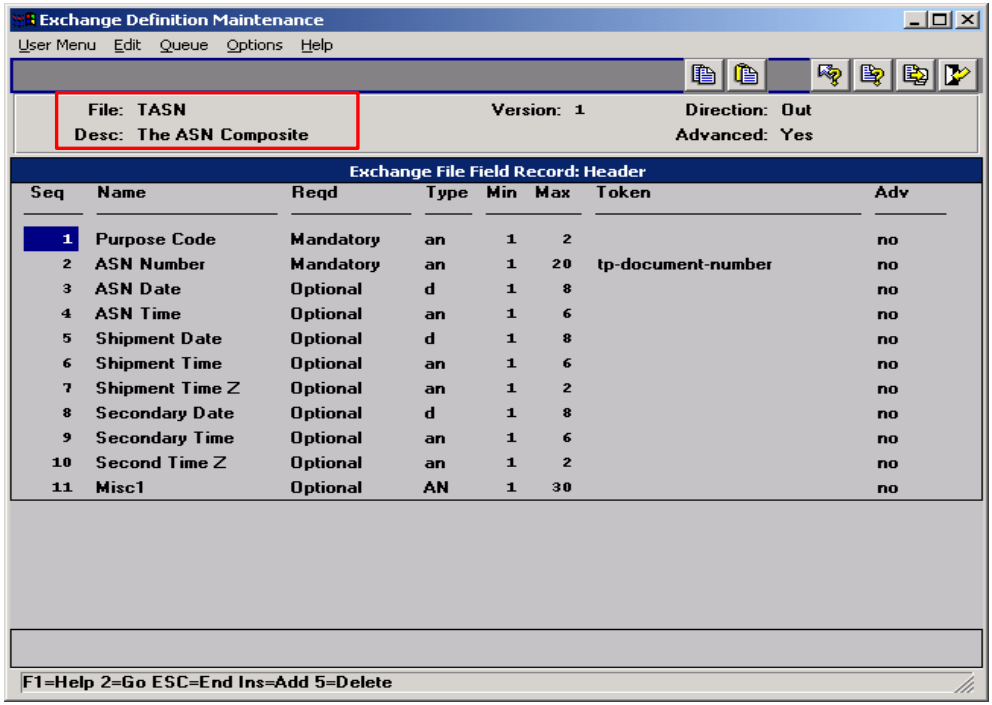
35.15.6 – Exchange Definition Maintenance



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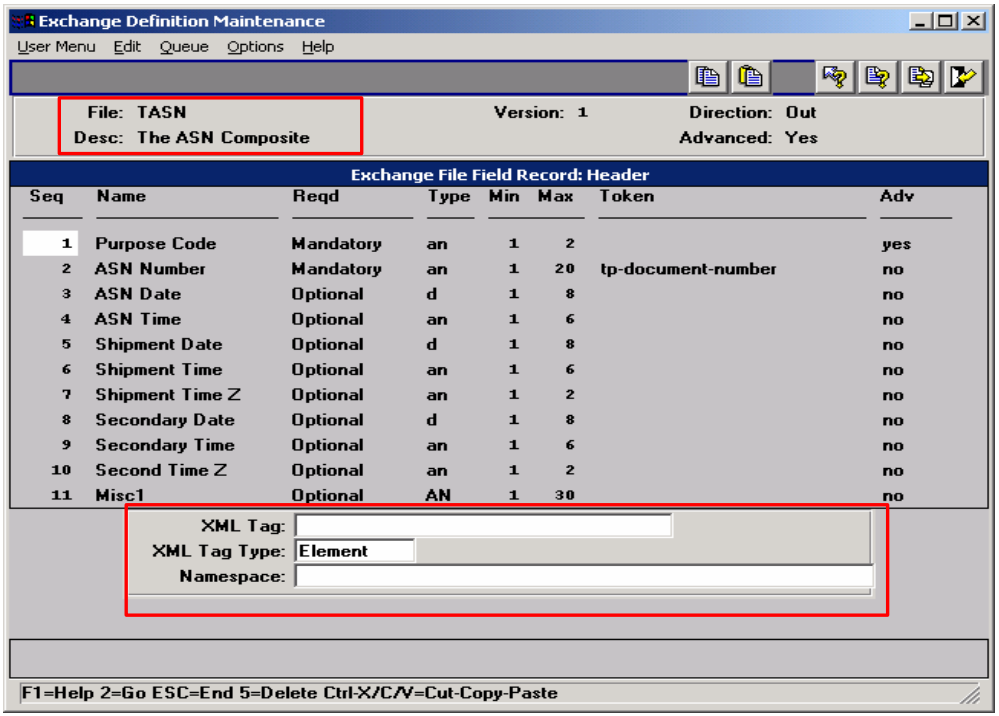
35.15.6 – Exchange Definition Maintenance – XML Setup



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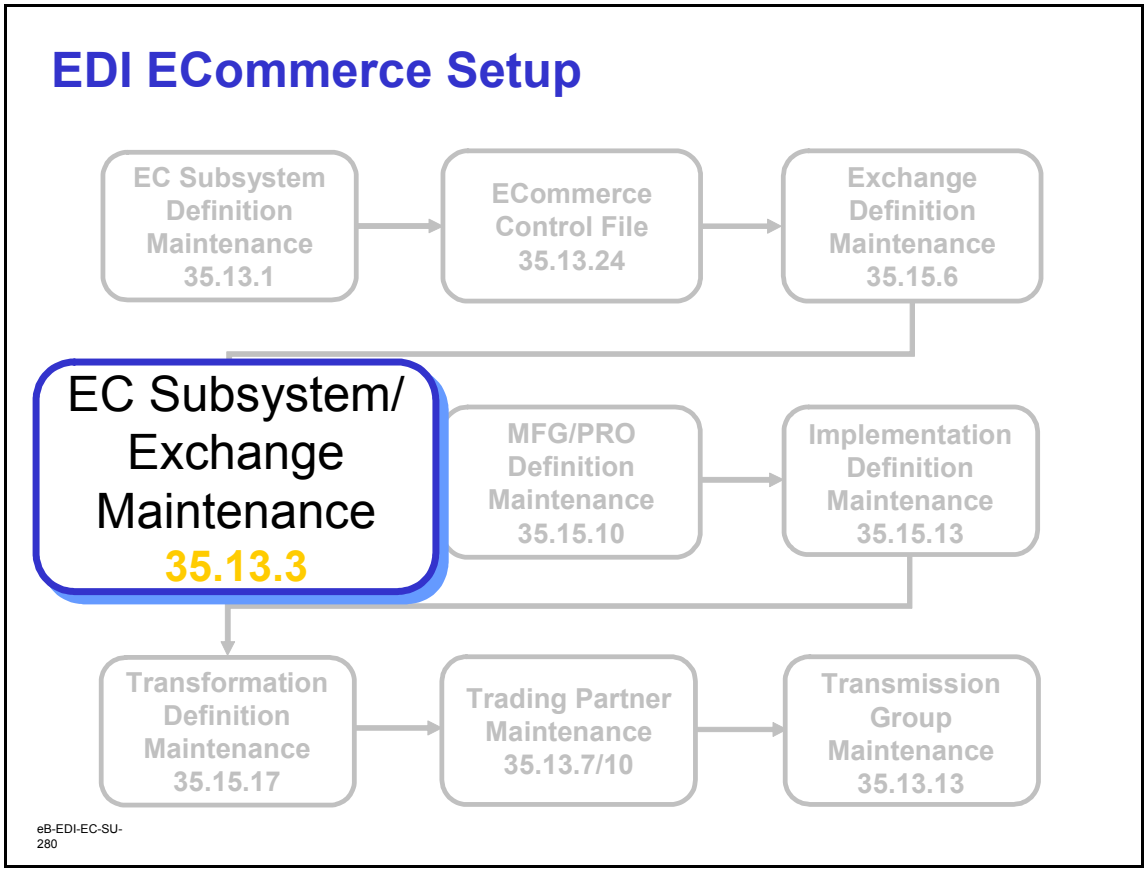

EC Subsystem/Exchange Maintenance

Menu Number 35.13.4

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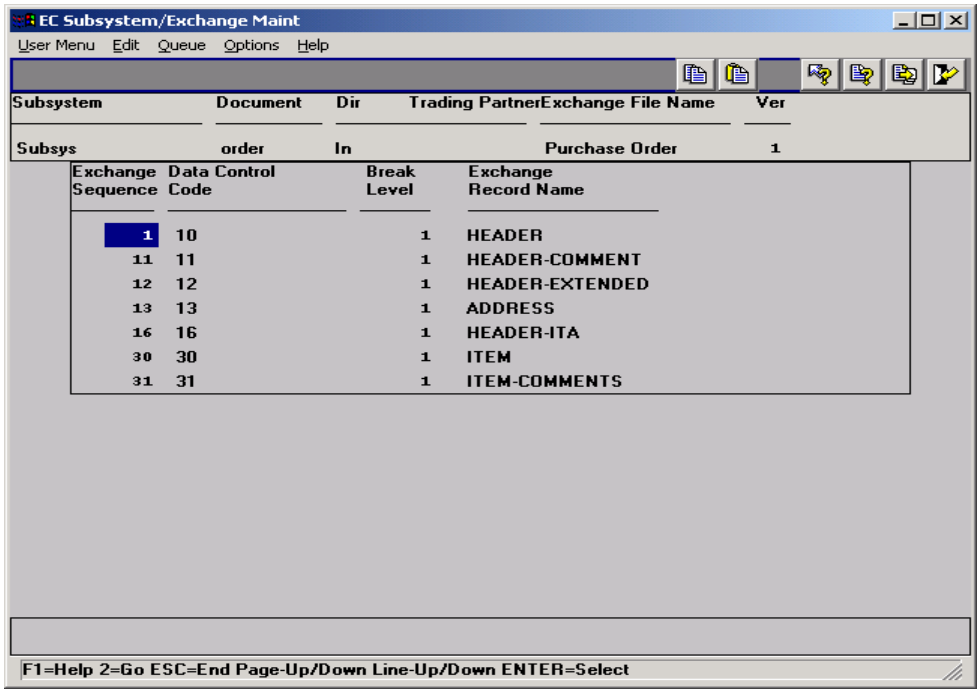
35.13.3 – EC Subsystem/Exchange Maintenance



eB-EDI-EC-SU-290

Use EC Subsystem/Exchange Maintenance to correlate:

- Structure of the data records in the standards neutral format (SNF) file received from the EC subsystem
- Exchange file definition

This lets the system place data properly in the data repository before beginning transformation processing.

Subsystem

Enter the name of an EC subsystem previously defined in EC Subsystem Definition Maintenance 35.13.1.

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Flat File Information In Standards Neutral Format (SNF)

order.1 - WordPad

File Edit View Insert Format Help

Courier New 12 Western

```
##peicomputer    order      017405036      006026793
1000NE010D451371     960126                                  0E9              0E9
12                                      rel123
13                   Pei Computers Ltd.                 37 Atlantic Road
16
3001005 50.0                          EA  1250.00     CT
3002005 30.0                          EA  399.00      CT
3003005 50.0                          EA  99.99       CT
3004005 100.0                         EA  29.99       CT
3005005 100.0                         EA  15.99       CT
```

For Help, press F1

eB-EDI-EC-SU-320

Flat File Information in Standards Neutral Format (SNF)

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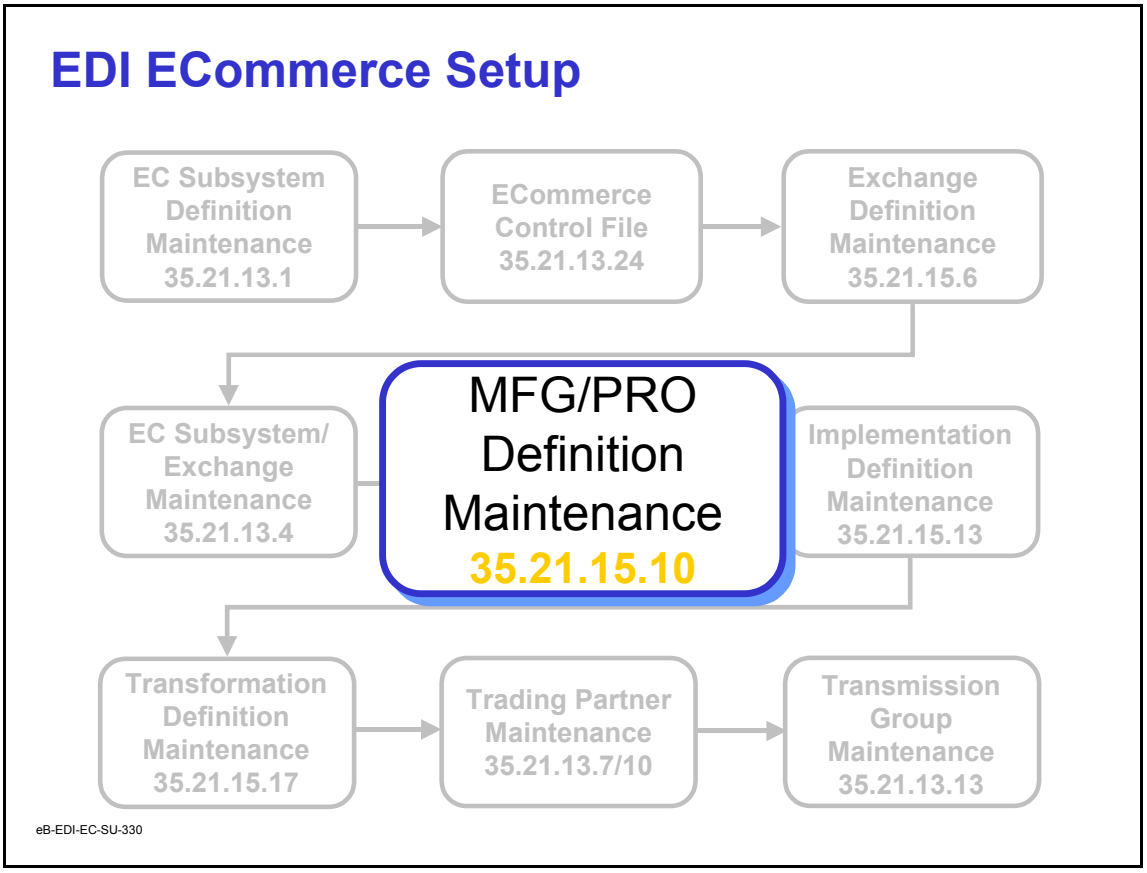

MFG/PRO Definition Maintenance

Menu Number 35.15.10

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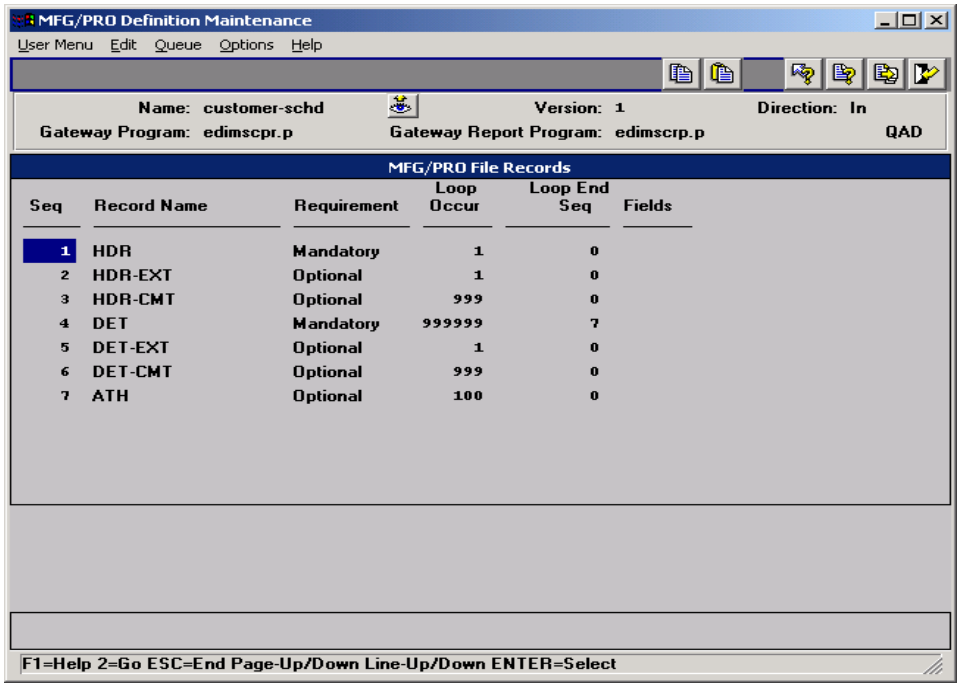
35.15.10 – MFG/PRO Definition Maintenance



eB-EDI-EC-SU-340

QAD provides a number of standard definitions for the layout and contents of MFG/PRO documents to be used as templates for defining specific implementations. To set up individual MFG/PRO templates, use MFG/PRO Definition Maintenance. You can define formats at both the record and field levels.

You can use this program to create new MFG/PRO definitions or to modify any definitions you have created yourself. However, you cannot modify the QAD-developed MFG/PRO definitions that were provided with EDI ECommerce. Instead, copy an existing definition with MFG/PRO Definition Copy 35.21.15.2 and then modify the copy.

Name

Enter a name for the MFG/PRO document, or use the arrow keys to scroll through the list of existing documents.

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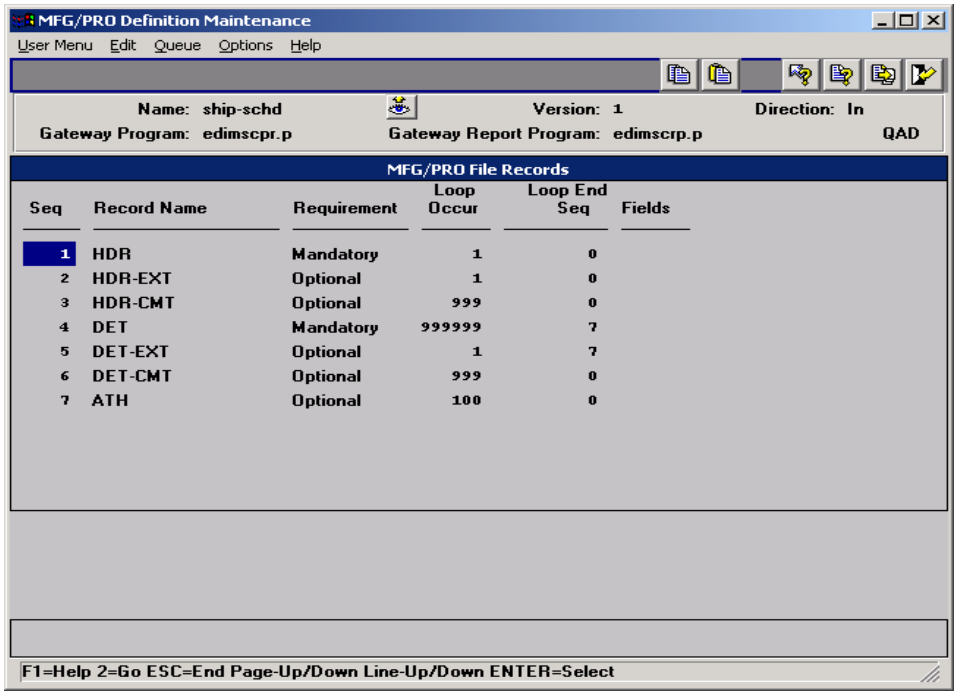
35.15.10 – MFG/PRO Definition Maintenance



eB-EDI-EC-SU-350

Version

Enter a version number. You can use the same name for more than one MFG/PRO document, then use a different version number to differentiate among multiple document definitions with the same name.

Additionally, you can use Direction—inbound or outbound—to distinguish between multiple documents with the same name.

Direction

Enter the direction of the file transfer that uses this MFG/PRO document definition. Always specify the direction relative to MFG/PRO—documents imported into MFG/PRO are inbound, while those exported from MFG/PRO are outbound.

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Gtwy Prgm

Enter the name of the PROGRESS gateway program used to transfer this document. If this definition is based on a QAD-developed definition, the value defaults. If you are creating your own, this is the name of a custom-developed PROGRESS program.

Gtwy Rpt Prgm

Enter the name of the PROGRESS program used to generate reports related to document transfers

Seq

The sequence number of this record. Press Insert to add a new record. The system automatically assigns the next number, but you can change it to any number. Organize the records in a logical numerical hierarchy.

In all cases, the first record created must be sequence number 1. For example, you cannot use a sequence of 10, 20, 30, 40. Instead, use 1, 10, 20, 30, 40.

Record Name

Enter a name for this record. Each record name must be unique in an MFG/PRO document definition. This record name is used as a record variable by the transformation process, independent of the sequence number.

Requirement

Enter Mandatory to indicate that this record is required during the transfer process, Optional to indicate that it is not. If the system cannot find mandatory records while transferring records, it generates an error message and does not process the associated document.

Loop Occurs

Enter the number of times the processing logic should loop through the records during transformation.

Loop Ends Seq

Enter a defined record sequence number to indicate where the loop ends. For example, enter a Loop Ends Seq value of 2 on sequence number 2 to indicate that the entire loop sequence takes place on a single record. Or, enter an end sequence of 4 on sequence number 3 to indicate a loop that starts at 3 and ends at 4.

To specify a loop structure that includes all records, enter zero or a number higher than the last record sequence defined.

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Fields

Enter Yes to access an additional frame that lets you display, enter, or edit the fields contained in this record.

You cannot access the fields for a record if Fields is No.

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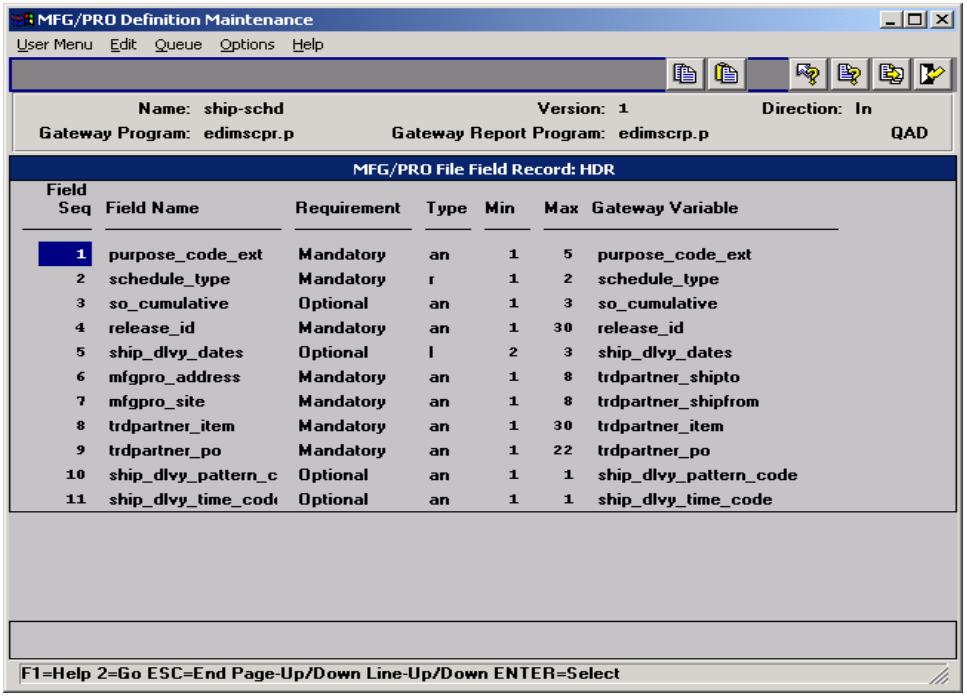
35.15.10 – MFG/PRO Definition Maintenance



Field Seq	Field Name	Requirement	Type	Min	Max	Gateway Variable
1	purpose_code_ext	Mandatory	an	1	5	purpose_code_ext
2	schedule_type	Mandatory	r	1	2	schedule_type
3	so_cumulative	Optional	an	1	3	so_cumulative
4	release_id	Mandatory	an	1	30	release_id
5	ship_dlvy_dates	Optional	l	2	3	ship_dlvy_dates
6	mfgpro_address	Mandatory	an	1	8	trdpartner_shipto
7	mfgpro_site	Mandatory	an	1	8	trdpartner_shipfrom
8	trdpartner_item	Mandatory	an	1	30	trdpartner_item
9	trdpartner_po	Mandatory	an	1	22	trdpartner_po
10	ship_dlvy_pattern_c	Optional	an	1	1	ship_dlvy_pattern_code
11	ship_dlvy_time_cod	Optional	an	1	1	ship_dlvy_time_code

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Field Seq

The sequence number of this field in the record. Press Insert to add a new field. The system automatically assigns the next available number. You can modify the number as needed or navigate to the blank fields at the bottom of the frame and assign numbers.

It is recommended that you number the fields sequentially, beginning with 1. If you do this, a total of 100 fields are available for each record. Although the system accepts non-sequential numbers, their use is not recommended.

Field Name

Enter the name of the field. This must be unique in the record.

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Requirement

Enter Mandatory to indicate that this field is required during the load process, Optional to indicate that it is not. If the system cannot locate mandatory fields, it generates an error message and does not process the associated record.

Type

Enter the type of data that will be included in this field. Valid entries are:

- AN (Alphanumeric)
- D (Date)
- I (Integer)
- L (Logical)
- R (Real number)

Min

Enter the minimum number of characters required in this field. The system validates that required or optional data is greater than or equal to the minimum required value for the field.

Max

Enter the maximum number of characters allowed in this field.

- If the field lengths are variable and separated by the delimiter specified in EC Subsystem Definition Maintenance, the system validates that the field length is between the Min and Max values.
- If the field lengths are fixed, the system uses this value to calculate where each field starts and ends.

Gateway Variable

Enter the name of the MFG/PRO gateway variable associated with this field. These variables determine the specific way data is transformed between MFG/PRO and EDI ECommerce. If this MFG/PRO definition was copied from a QAD-provided template, the gateway variable is copied from that file. If not, the variable must be defined in the program specified in the Gtwy Prgm field.

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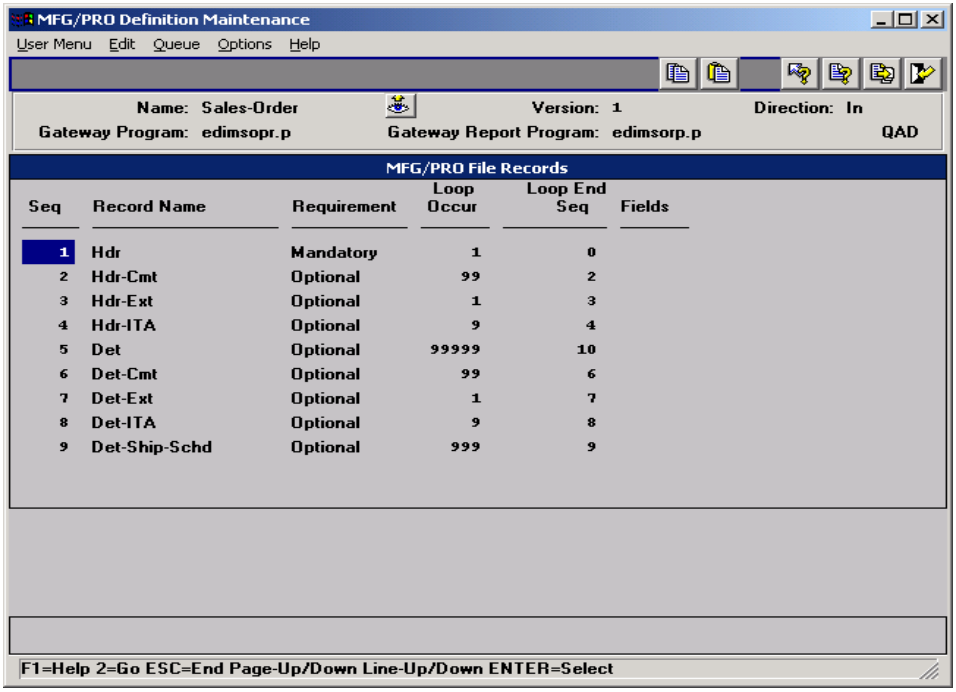
35.15.10 – MFG/PRO Definition Maintenance



eB-EDI-EC-SU-370

Seq

The sequence number of this record. Press Insert to add a new record. The system automatically assigns the next number, but you can change it to any number. Organize the records in a logical numerical hierarchy.

In all cases, the first record created must be sequence number 1. For example, you cannot use a sequence of 10, 20, 30, 40. Instead, use 1, 10, 20, 30, 40.

Record Name

Enter a name for this record. Each record name must be unique in an MFG/PRO document definition. This record name is used as a record variable by the transformation process, independent of the sequence number.

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Requirement

Enter Mandatory to indicate that this record is required during the transfer process, Optional to indicate that it is not. If the system cannot find mandatory records while transferring records, it generates an error message and does not process the associated document.

Loop Occurs

Enter the number of times the processing logic should loop through the records during transformation.

Loop Ends Seq

Enter a defined record sequence number to indicate where the loop ends. For example, enter a Loop Ends Seq value of 2 on sequence number 2 to indicate that the entire loop sequence takes place on a single record. Or, enter an end sequence of 4 on sequence number 3 to indicate a loop that starts at 3 and ends at 4.

Fields

Enter Yes to access an additional frame that lets you display, enter, or edit the fields contained in this record.

You cannot access the fields for a record if Fields is No.

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35.15.10 – MFG/PRO Definition Maintenance

MFG/PRO Definition Maintenance

User Menu Edit Queue Options Help

Name: Invoice Version: 2 Direction: Out

Gateway Program: edomivpr.p Gateway Report Program: edomivrp.p QAD

MFG/PRO File Records

Seq	Record Name	Requirement	Loop Occur	Loop End Seq	Fields
1	HDR	Mandatory	1	0	
20	HDR-EXT	Optional	1	20	
30	HDR-CMT	Optional	99	30	
40	ORDER	Mandatory	999	80	
41	ORDER-ADDL	Optional	1	41	
50	DET	Mandatory	9999	80	
51	DET-ADDL-1	Optional	1	51	
52	DET-ADDL-2	Optional	1	52	
60	DET-EXT	Optional	1	60	
70	DET-CMT	Optional	99	70	
80	DET-ITA	Optional	9	80	

F1=Help 2=Go ESC=End Page-Up/Down Line-Up/Down ENTER=Select

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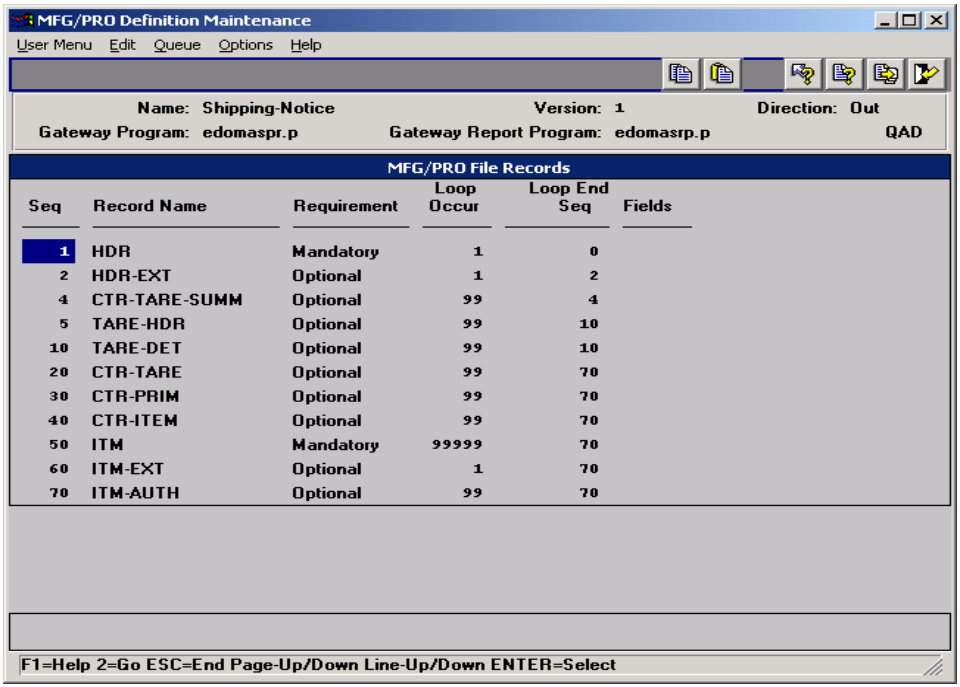
35.15.10 – MFG/PRO Definition Maintenance



Seq	Record Name	Requirement	Loop Occur	Loop End Seq	Fields
1	HDR	Mandatory	1	0	
2	HDR-EXT	Optional	1	2	
4	CTR-TARE-SUMM	Optional	99	4	
5	TARE-HDR	Optional	99	10	
10	TARE-DET	Optional	99	10	
20	CTR-TARE	Optional	99	70	
30	CTR-PRIM	Optional	99	70	
40	CTR-ITEM	Optional	99	70	
50	ITM	Mandatory	99999	70	
60	ITM-EXT	Optional	1	70	
70	ITM-AUTH	Optional	99	70	

eB-EDI-EC-SU-390

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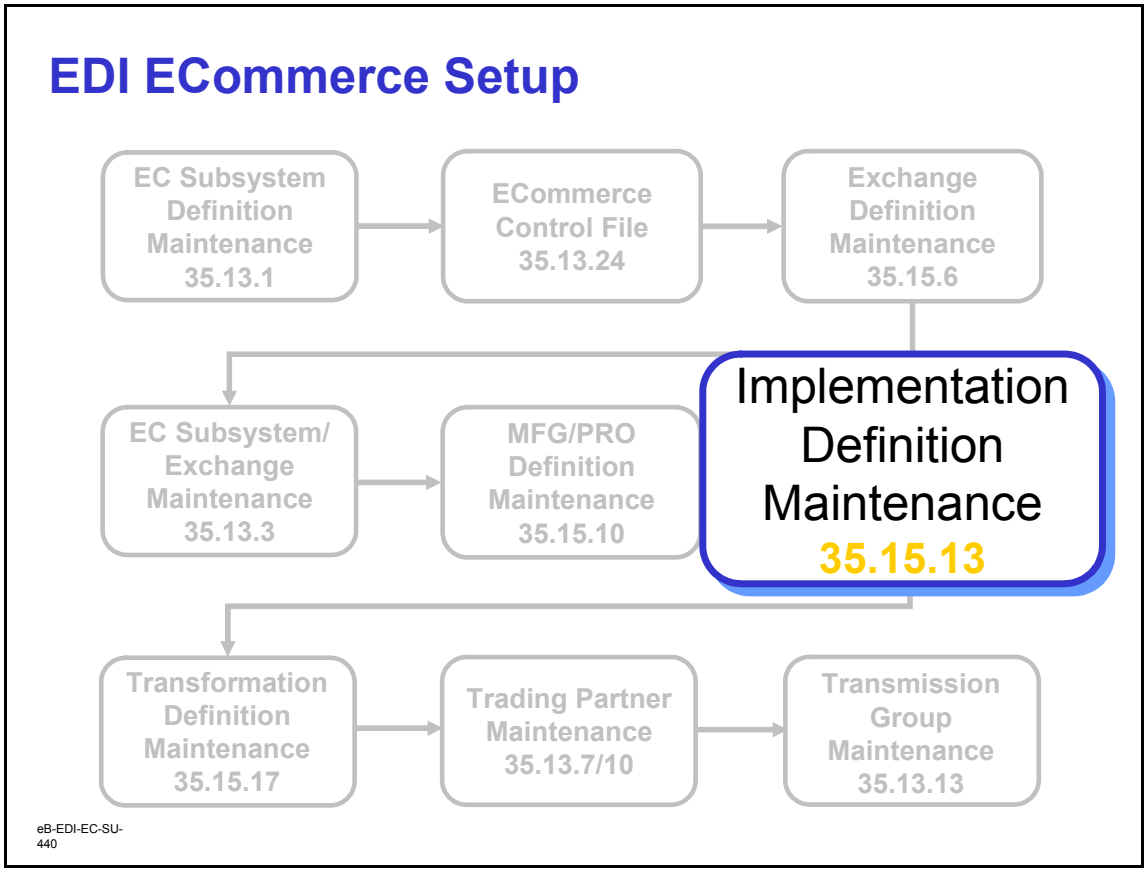

Implementation Definition Maintenance

Menu Number 35.15.13

Implementation Definition Maintenance is very similar to MFG/PRO Definition Maintenance 35.15.10. The major difference is that the:

- Implementation definition contains the variables, such as turnaround

Use Implementation Definition Maintenance to define the data exchange requirements for a specific trading-partner implementation. The program includes three primary frames. Two optional frames display when you are defining turnaround data or fields to be edited during document export.

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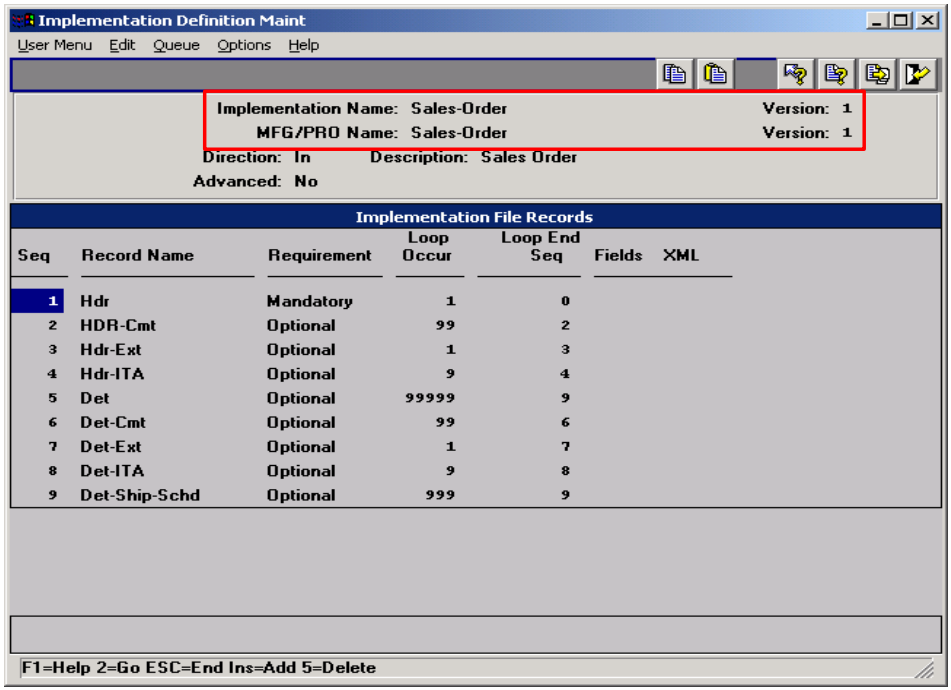
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-450

Implementation Name

Enter an alphanumeric name for this implementation.

Ver

Enter a version number for this implementation. You can use the same name for more than one implementation, then use a different version number to distinguish between them.

MFG/PRO Name

Enter the name of an MFG/PRO document definition to be copied to create this implementation definition. This can be one you created or one supplied by QAD.

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Ver

Enter the version number of the MFG/PRO document definition you are using as a template for this implementation document.

Direction

Enter the direction—inbound or outbound—of the MFG/PRO document definition you are using as a template for this implementation definition. Direction is relative to MFG/PRO—imported files are inbound and exported documents are outbound.

Multiple MFG/PRO document definitions can have the same name and version number and be distinguished only by direction. Be sure to use the right version.

Desc

Optionally enter a text description of this implementation. This description is for reference only.

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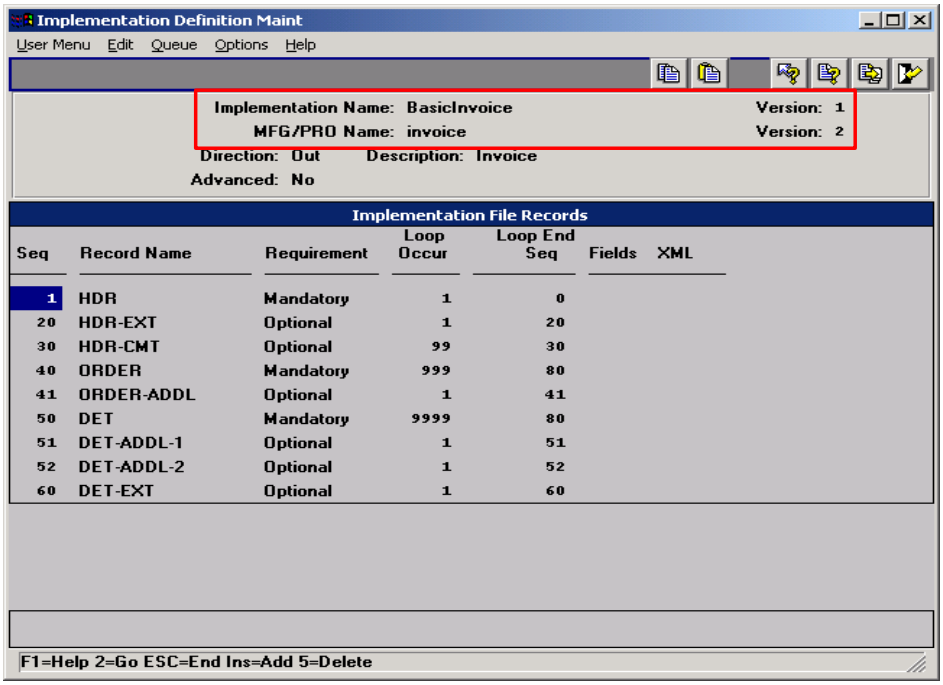
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-460

Use the second frame to edit an existing record structure or add new records. To add or modify fields in a record, set Fields to Yes for that record line and press Enter.

Seq

The sequence number of this record. Press Insert to add a new record. The system automatically assigns the next number. You can modify sequence numbers as needed. Press Enter to modify an existing record.

In all cases, the first record in a document added to the repository must be sequence number 1. Other records can be numbered as you choose.

The following table shows examples of valid and invalid record sequences:

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Valid	Invalid
1, 2, 3, 4, 5	2, 3, 4, 5
1, 10, 20, 22, 30	10, 20, 22, 30

After you have used an implementation definition in a transformation definition, you cannot change record sequences in the implementation definition without deleting and reentering the entire transformation definition.

Record Name

Enter a name for this record. Each record name must be unique in an implementation definition.

The transformation process uses this as the first part of the record variable, independent of the sequence number.

Naming conventions apply to the record names used in MFG/PRO document definitions and implementation definitions.When you create new definitions, you must use these names.

Document Type	Record Name	Description
Sales Order	HDR	Header
	HDR-EXT	Header Extended
	HDR-CMT	Header Comment
	DET	Detail
	DET-EXT	Detail Extended
	DET-CMT	Detail Comments
	DET-SOB	SO Configuration Bill
Customer Schedule	HDR	Header
	HDR-EXT	Header Extended
	DET	Detail
	DET-EXT	Detail Extended
	ATH	Authorizations
Invoice	HDR	Header
	HDR-EXT	Header Extended
	HDR-CMT	Header Comment
	DET	Detail
	DET-EXT	Detail Extended
	DET-CMT	Detail Comments
	ADDR	Address

QAD

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Document Type	Record Name	Description
ASN	HDR	Header
	HDR-EXT	Header Extended
	CTR-TARE-SUMM	Container Tare Summary
	TARE-HDR	Tare Header
	TARE-DET	Tare Detail
	CTR-TARE	Container Tare
	CTR-PRIM	Container Primary
	CTR-ITEM	Container Item
	ITM	Item
	ITM-EXT	Item Extended
	ITM-AUTH	Item Authorizations

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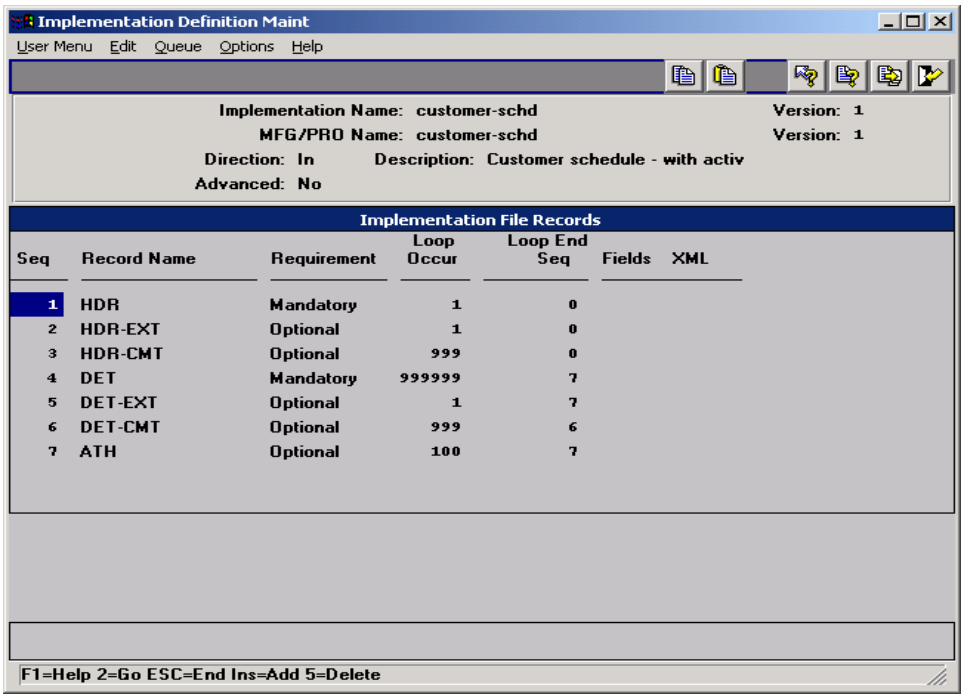
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-480

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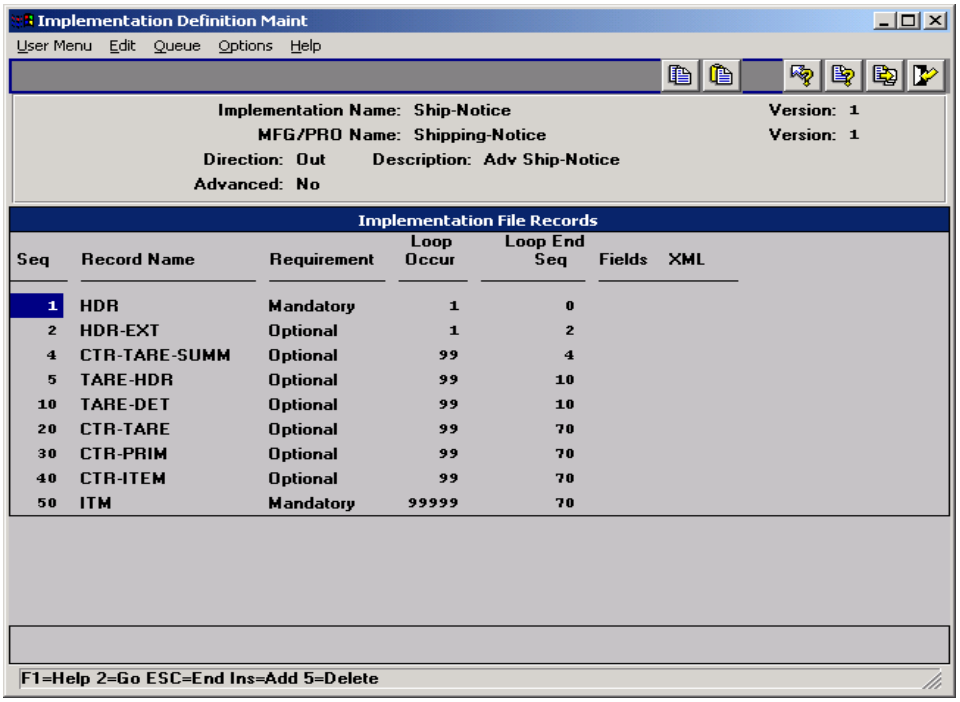
35.15.13 – Implementation Definition Maintenance



Seq	Record Name	Requirement	Loop Occur	Loop End Seq	Fields	XML
1	HDR	Mandatory	1	0		
2	HDR-EXT	Optional	1	2		
4	CTR-TARE-SUMM	Optional	99	4		
5	TARE-HDR	Optional	99	10		
10	TARE-DET	Optional	99	10		
20	CTR-TARE	Optional	99	70		
30	CTR-PRIM	Optional	99	70		
40	CTR-ITEM	Optional	99	70		
50	ITM	Mandatory	99999	70		

eB-EDI-EC-SU-482

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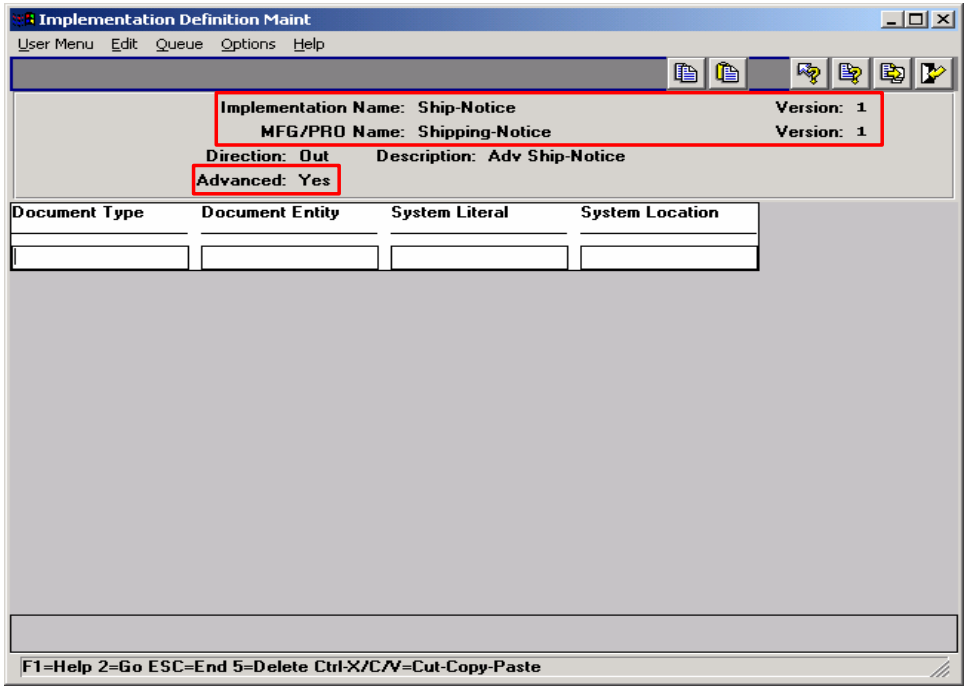
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-484

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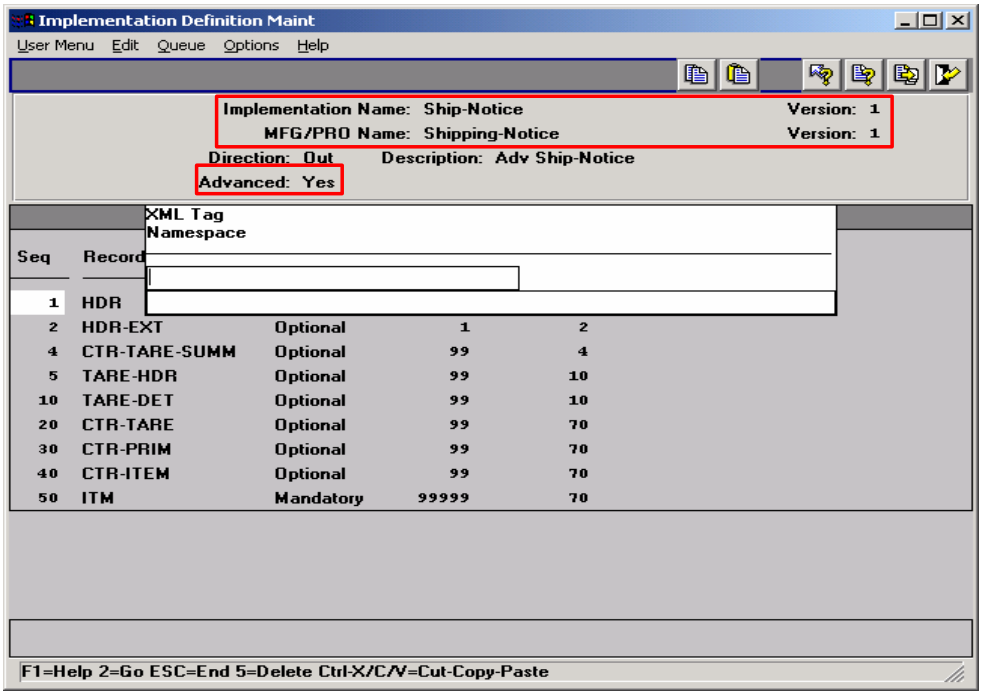
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-486

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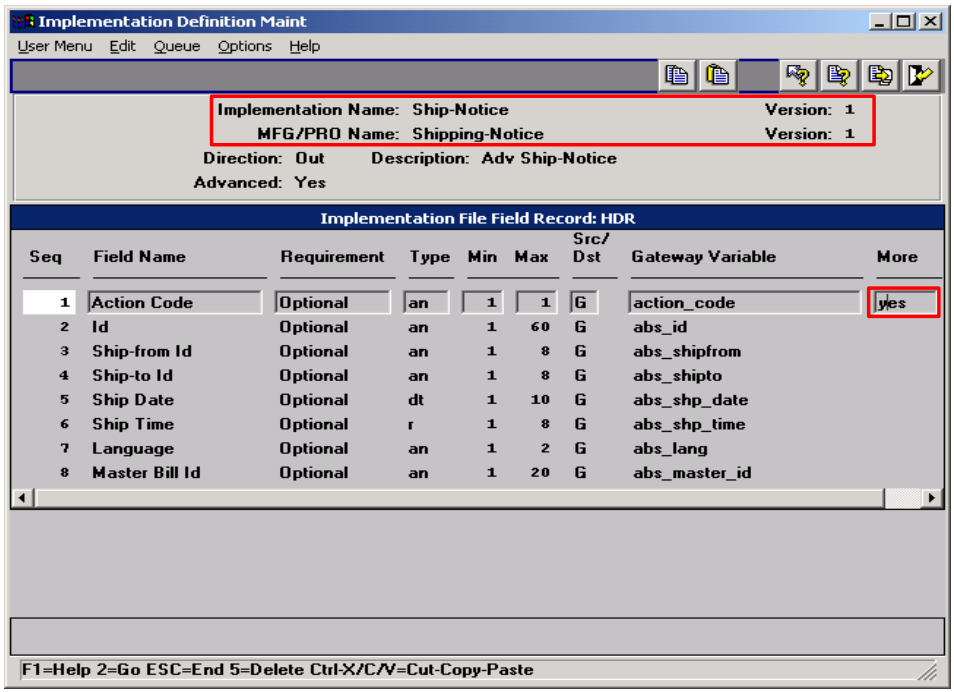
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-490

Seq

The sequence number of this field in the record. Press Insert to add a new field. The system automatically assigns the next number. You can modify the number as needed or navigate to the blank fields at the bottom of the frame and assign numbers.

It is recommended that you number the fields sequentially, beginning with 1. Provided you do this, a total of 99 fields are available for each record. Although the system will accept non-sequential numbers, their use is not recommended.

Press Tab or use the arrow keys to move from line to line.

Press Enter to edit an existing field record.

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Field Name

Enter or modify the name of the field. This value is used with the record name, formatted as `recordname.fieldname`, during transformation.

Requirement

Enter Mandatory to indicate that this field is required during the load or unload process or Optional to indicate that it is not. If the system cannot find mandatory fields while loading records, it generates an error message and does not process the associated record.

Type

Enter the type of data stored in this field. Valid entries are:

- AN: Alphanumeric
- D: Date
- I: Integer
- L: Logical
- R: Real number

Min

Enter the minimum length of this field. The system validates that required or optional data is greater than or equal to the minimum required value for the field.

Max

Enter the maximum length of this field.

- If the field lengths are variable and separated by the delimiter specified in EC Subsystem Definition Maintenance, the system validates that the field length is between the Min and Max values
- If the field lengths are fixed, the system uses this value to calculate where each field starts and ends

Src/Dst

Enter the type of variable associated with this field. Valid choices include:

- G: Gateway. This variable type is used by the gateway during the transfer process
- T: Turnaround. This variable type represents imported data that is stored in the turnaround data table, indexed, and later associated with an exported document
- D: Data entry. The operator adds this data during processing. This function is not currently implemented

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Variable

Enter the name of the variable associated with this field. The gateway program uses this variable to move data into the application. The default variable is copied from the associated MFG/PRO definition.

More

Leave this field set to No to skip the next frame. Enter Yes to display another frame that you can use to set up fields to be edited during document export.

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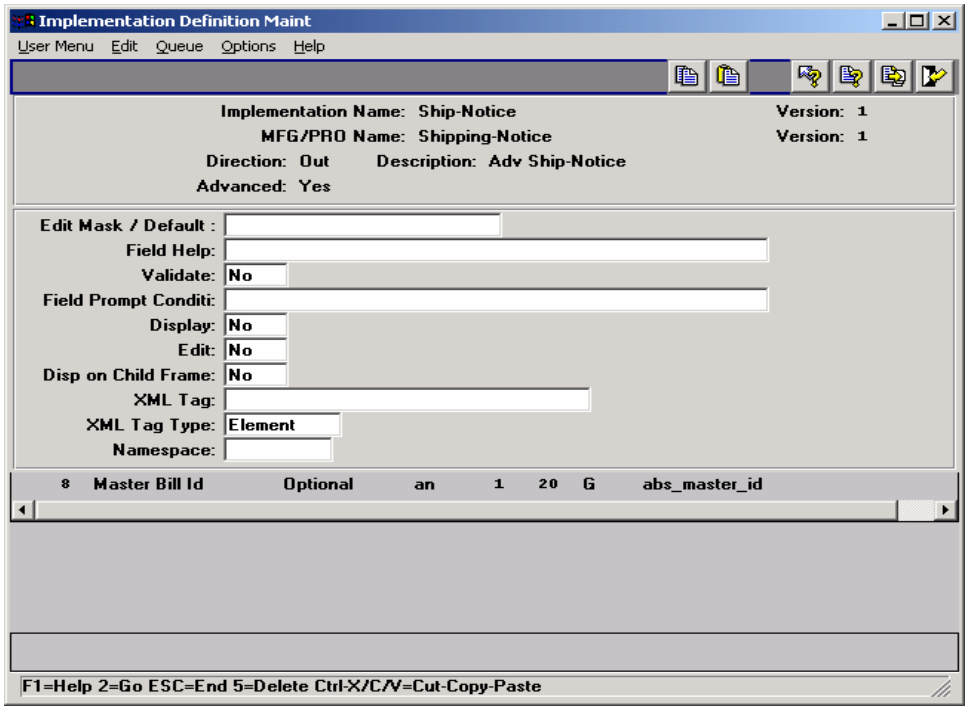
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-495

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35.15.13 – Implementation Definition Maintenance

Implementation Definition Maint

User Menu Edit Queue Options Help

Implementation Name: Sales-Order Ver: 1
MFG/PRO Name: Sales-Order Ver: 1
Direction: In Desc: Sales Order

Implementation File Field Record: Hdr-Ext

Seq	Field Name	Requirement	Type	Min	Max	Src/ Dst	Variable	More
12	DepartmentNo	Optional	AN	1	12	T	department_no	no
13	BuyerName	Optional	AN	1	35	G	buyer_name	
14	BuyerPhone	Optional	AN	1	14	G	buyer_phone	
15	TransModeCode	Optional	AN	1	4	G	trans_mode_code	
16	TransControlNo	Optional	AN	1	35	T	trans_control_no	
17	PromotnOrdStar	Optional	AN	1	30	T	promotn_ord_start	
18	CommodityCode	Optional	AN	1	30	T	commodity_code	
19	Misc3	Optional	AN	1	30	G	misc3	

F1=Help F2=Go ESC=End F5=Delete Ctrl-X/C/V=Cut-Copy-Paste

eB-EDI-EC-SU-525

Storing Turnaround Data From an Inbound Document

Select the Implementation Definition that is being used for the inbound document. The Turnaround data fields by convention are defined in the “ext” record definitions. Most Implementation Definitions will contain “ext” records at both the header and detail levels of the document.

Turnaround data may be stored at any level depending on what field value(s) are selected for the Turnaround data index or key. In the example above we use the Sales-Order Implementation Definition and the Hdr-Ext record. In our example above the DepartmentNo field data is to be stored as Turnaround data.

The first step is to set the “Src/Dst” position to “T” in the Implementation Definition data field. This indicates that the field is to be stored as Turnaround data.

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Once the “Src/Dst” column has been set to “T” the below prompt will display at the end of the entry line. This is the Turnaround Data Storage Index prompt.

- Table Name
  - Any value (constant) may be entered here and it becomes part of the index. By convention a table name is used to make logical reference to the data.
- Index Name
  - A valid variable name must be entered here. This is the variable name that will contain the data that you wish to store (index) the DepartmentNo data on. Multiple data variables may be entered using a comma (without any spaces) as separators.

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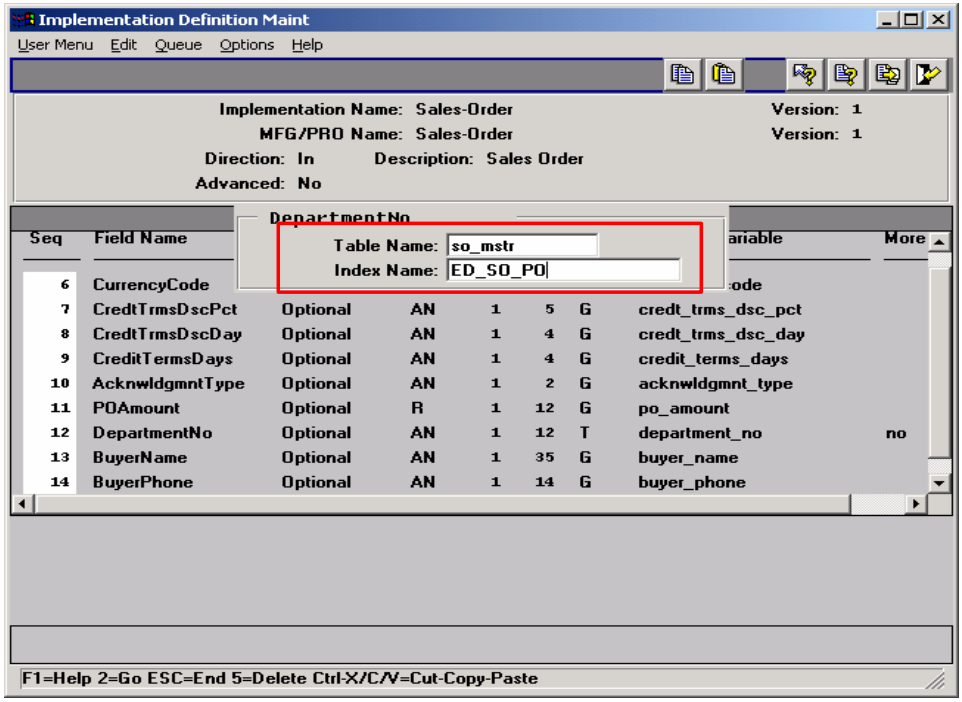
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-526

In the example above, we are specifying that the DepartmentNo is to be stored using the ED_SO_PO variable as the index. This variable will contain the Purchase Order number.

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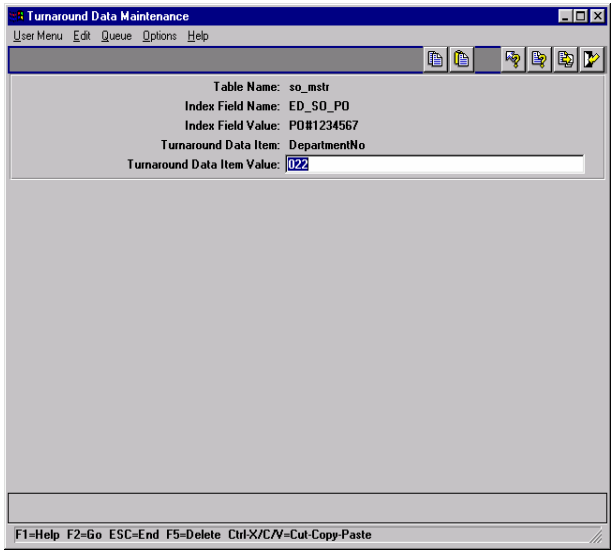
35.9.17 – Turnaround Data Maintenance

- **Definition**
  - Turnaround data is data that has no home within the MFG/PRO database but needs to be sent back to the trading partner
- **Storage & Retrieval**
  - Stored against any values the user decides
  - Retrieved by functions (User Defined or QAD defined)
- **Real Life Examples**
  - Dock Codes
  - Line Feeds
  - Engineering Changes
- **Benefits….**
  - Business Rules Determined by Customers
  - BarCoding Usage



eB-EDI-EC-SU-527

Turnaround Data Maintenance

Menu Number 35.9.17

- This is the result of our example. The data 022 has been stored using the index:
  - so_mstr , ED_SO_PO , PO#1234567 , DepartmentNo

Notes:

Careful thought and planning must be used to select the proper indexes for Turnaround data.

Valid variable names must be used. Select from the variable names in the Implementation Definition being used. You must insure that the variable(s) used for the index contain data (the

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record containing the data must precede the data item being stored). To further explain: you cannot use a data variable from a detail record as an index to store Turnaround data at the header level.

It is also important to select an index that the data for the index retrieval will be available.

Another consideration is the uniqueness of the index. You must insure that subsequent records do not overwrite data that you wish to retain. It you make the index too unique it makes it more difficult to retrieve.

You may also use the value of a primary table index in MFG/PRO as the index value to store Turnaround data. For the SO-MSTR it would be so_nbr etc. These are documented in the

MFG/PRO Data Definitions manual.

If the incoming Turnaround field value is blank a record will not be written.

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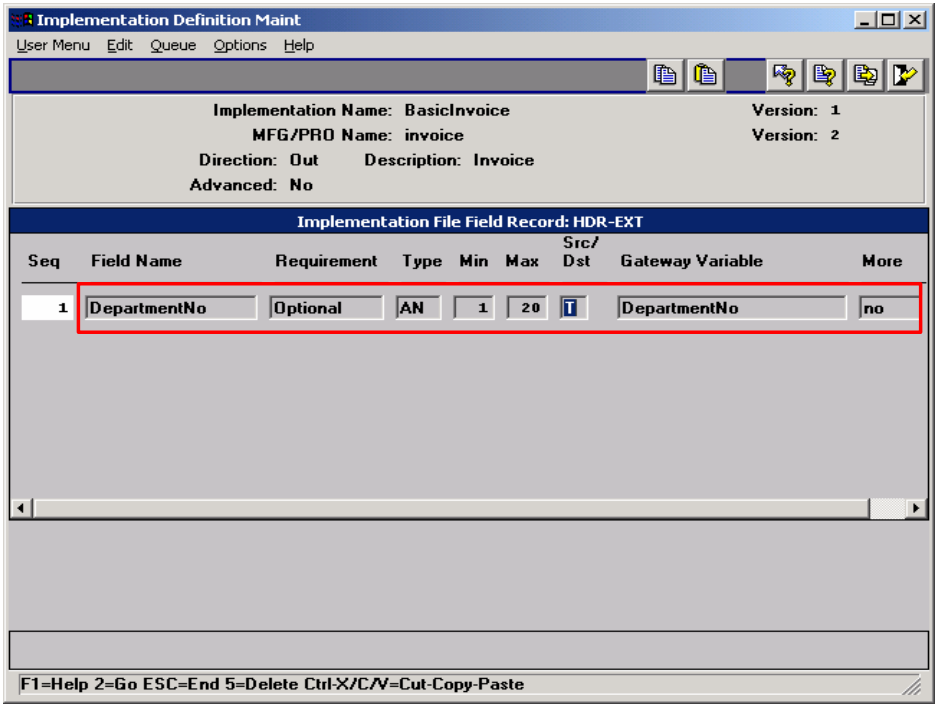
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-528

Retrieving Turnaround Data During Document Export

Select the Implementation Definition that is being used for the outbound document. The Turnaround data fields by convention are defined in the “ext” record definitions. Most Implementation Definitions will contain “ext” records at both the header and detail levels of the document. Turnaround data is retrieved by first specifying on the Implementation Definition that the field source is Turnaround data and then specifying the index or key.

In the example above, we use the Invoice Implementation Definition and the HDR-EXT record. The DepartmentNo field data is to be retrieved from Turnaround data.

The first step is to set the “Src/Dst” position to “T” for the Implementation Definition data field to indicate that the field is to be retrieved from Turnaround data.

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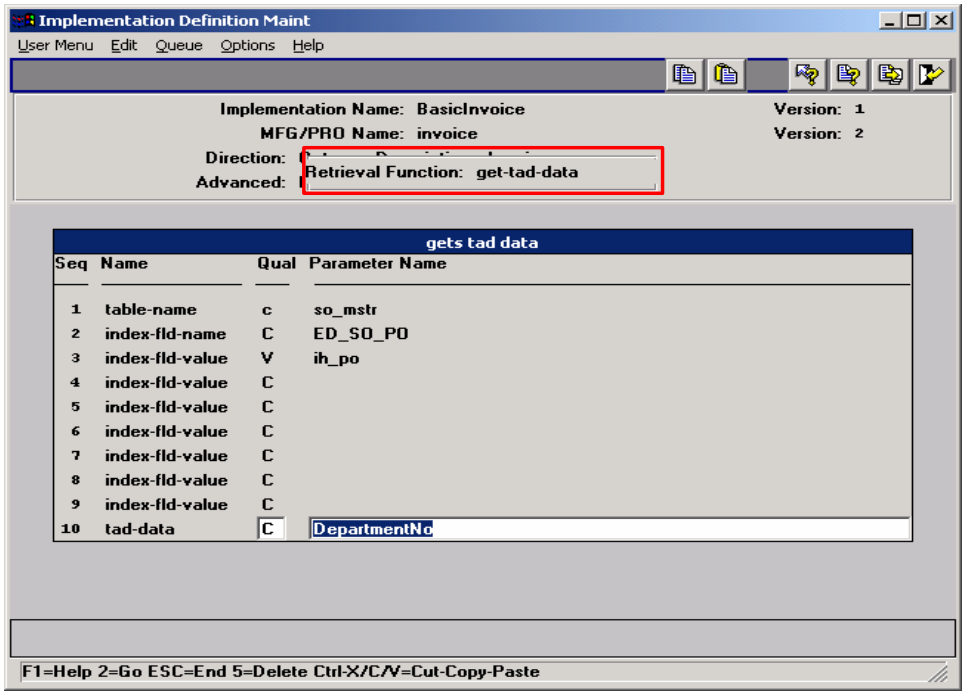
35.15.13 – Implementation Definition Maintenance



eB-EDI-EC-SU-529

Next, the retrieval method must be specified.

- Retrieval Function
  - Enter the name of the function to use for retrieving the turnaround data

Get-tad-data is a generic function which will need any Turnaround data from the parameters given

The example above would be the setup to retrieve the DepartmentNo field from the Turnaround data table using the ih_po (the po number in the HDR record from invoice history). This data would then be placed in the MFG/PRO repository HDR-EXT record DepartmentNo field.

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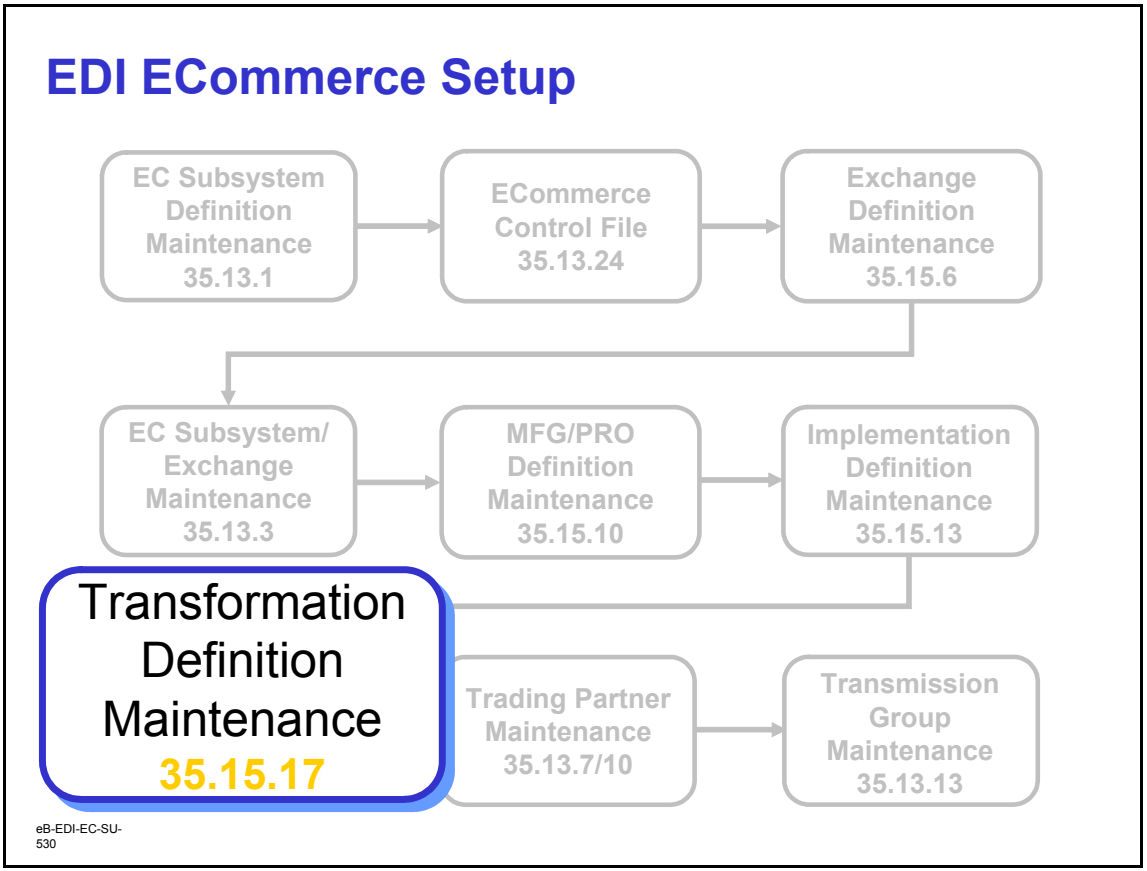

Transformation Definition Maintenance

Menu Number 35.15.17

The system uses a transformation map in combination with an exchange file definition and an implementation file definition to exchange data between MFG/PRO and an external EC subsystem. The resulting output meets the specific data structure and format requirements of both systems.

Note To use a QAD-developed transformation definition as the basis for a new definition, use Transformation Definition Copy 35.13.1 to copy a definition before modifying it.

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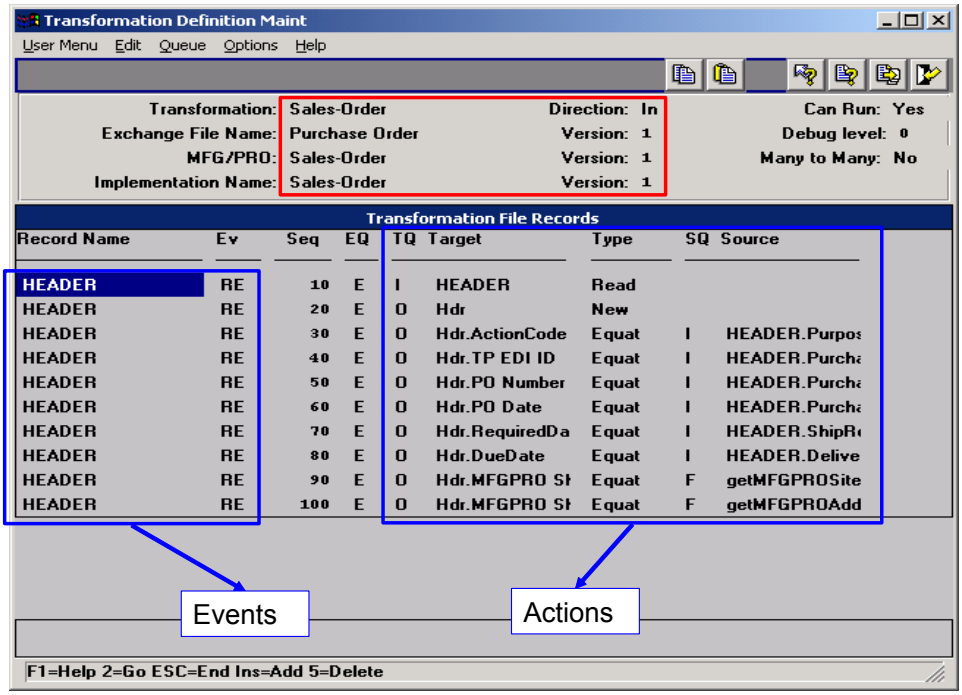
35.15.17 – Transformation Definition Maintenance



eB-EDI-EC-SU-535

Use Transformation Definition Maintenance 35.15.17 to define a transformation map.

This program consists of four frames. Use the first frame to name the implementation.

- Identify the existing combination of exchange file definition, MFG/PRO document definition, and specific implementation that uses this transformation map
- Set up two fields for testing the transformation map. Can Run and Debug Level provide options that can be especially valuable when you are testing a new implementation for a new trading partner or document

Transformation

Enter a name for this transformation definition.

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Direction

Specify the direction—inbound or outbound—of the documents to be transformed using this definition. Documents imported into MFG/PRO are inbound, while those exported from MFG/PRO are outbound.

Two transformation definitions can have the same name and be distinguished only by direction.

Exchange File and Version

Enter the name and version of the exchange file definition used in this transformation.

MFG/PRO and Version

Enter the name and version of the MFG/PRO document definition used in this transformation. This can be a QAD-supplied definition or one you created.

Implementation and Version

Enter the implementation definition and version used in this transformation.

Can Run

Set to Yes to make this transformation map completely operational.

During testing, you can set this field to No. The system then runs the entire transformation process, but backs the data out of the MFG/PRO repository instead of storing it. You can identify transformation mapping problems and correct them before changing the field to Yes, letting the data be saved in the MFG/PRO data repository.

Debug Level

Specify a value between 0 and 9 to indicate the level of detail reported in the activity file created when this transformation is run. Lower levels provide less detail. For example, you can set this to 9 during testing to get a complete record of what happens during transformation processing.

Leaving this field set to a high value can produce very large files and can lead to disk space problems.

The system names these activity files using the convention MMDDYYYY.DBG, where MMDDYYYY is the date the transformation map is used. A new file is created when the first session is run each day. A record of each transformation operation that occurs during that day is appended to this file.

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Many to Many

Set to Yes to combine multiple input documents and treat them as one document. This lets the system back out multiple files or create a single output from several inputs.

If No, the system always maps one input document to one or many output documents, depending on how many times the transformation definition indicates a new header should be written.

Before displaying the second frame, the system creates variables from the exchange file and the implementation associated with this transformation definition. Only these and user-defined variables can be used during transformation, along with the following automatically assigned variables:

- tp-id
- tp-document-id
- tp-message-nbr
- tp-func-grp-nbr
- tp-interchange-nbr
- tp-document-nbr
- tp-doc-dir
- tp-site
- tp-address
- MFG/PRO-site
- MFG/PRO-address

The trading partner variables correspond to tokens. The system uses MFG/PRO-site and

MFG/PRO-address to determine the customer address and the MFG/PRO site code automatically, based on the cross-reference defined in Trading Partner Maintenance 35.13.7. You can also assign these values as an event that takes place during transformation.

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Transformation Engine

- **Transformation Definition**
  - **Events**
    - Loop-Exit, Loop-Entry, Record-Entry, Record Exit
  - **Actions**
    - Record Level
      - » Read, Write, Clear, New, Repeat-EndRepeat, Loop-Loopend (with “sort” capability)
    - Field Level
      - » If-else-endif, equate
  - **Solves customization at the gateway level**
    - *Many to Many capabilities*
    - *Functions - User and QAD designed*

eB-EDI-EC-SU-536

EDI ECommerce Engine

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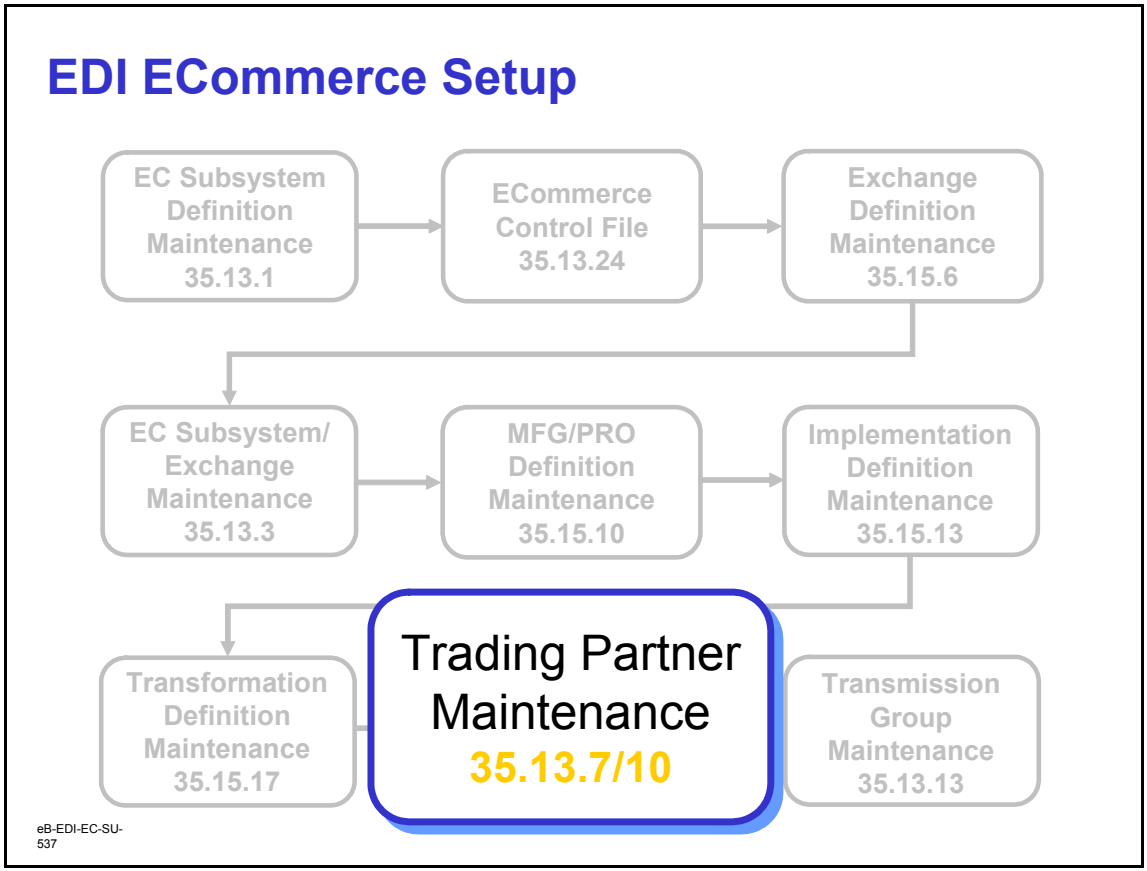

Trading Partner Maintenance

Menu Number 35.13.7 and 35.13.10

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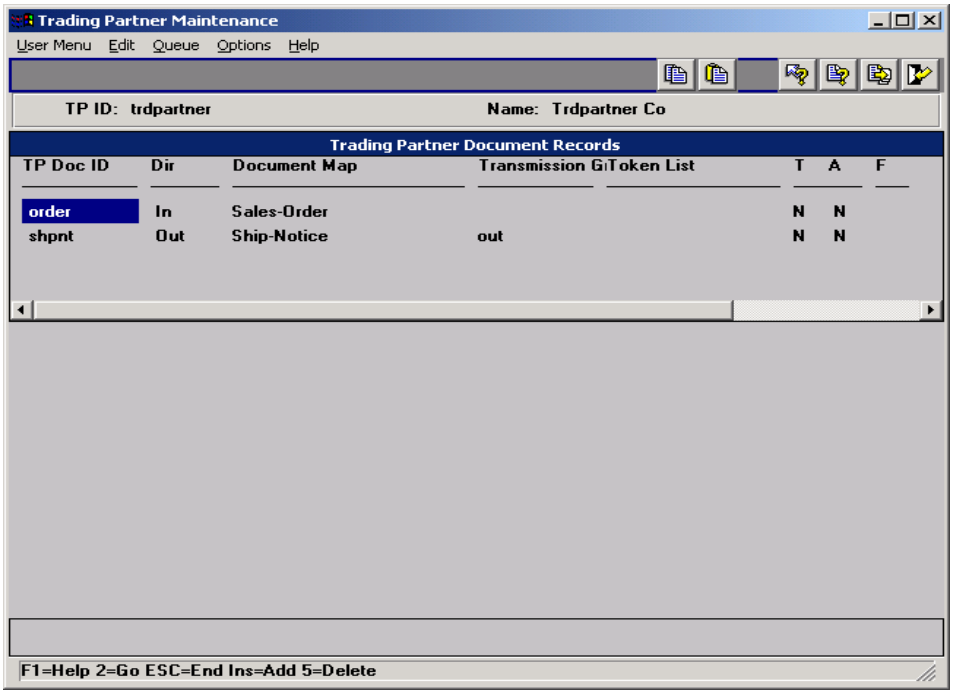
35.13.7 –Trading Partner Maintenance



eB-EDI-EC-SU-540

Use Trading Partner Maintenance to:

- Identify the document types that are exchanged with each trading partner
- Set up cross-references between trading partner documents and MFG/PRO
- Cross-reference the trading partner's site and address codes to the codes used in MFG/PRO

TP ID

Alphanumeric identification code for this trading partner.

- Must be the same as the code used in the EC subsystem control record for the tp-id token

Name

Identifier for this trading partner (for reference only).

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Doc Type

Document type.

- This might be 810 to indicate an invoice exported in the ANSI X12 810 format
- Must be the same as the code used in the EC subsystem control record for the tp-document-id token

Dir

Inbound or outbound.

Document Map

Name of the transformation map to be used in converting the data in this record for this combination of:

- Trading partner
- Document type
- Direction

Note This map must already be defined in Transformation Definition Maintenance 35.15.17

Transmission Group

Name of transmission group associated with this trading partner for this document type.

- Group must already be defined in Transmission Group Maintenance 35.13.13
- Field is mandatory for outbound documents

Fields

Fields = Yes to enter or edit trading partner cross-reference information.

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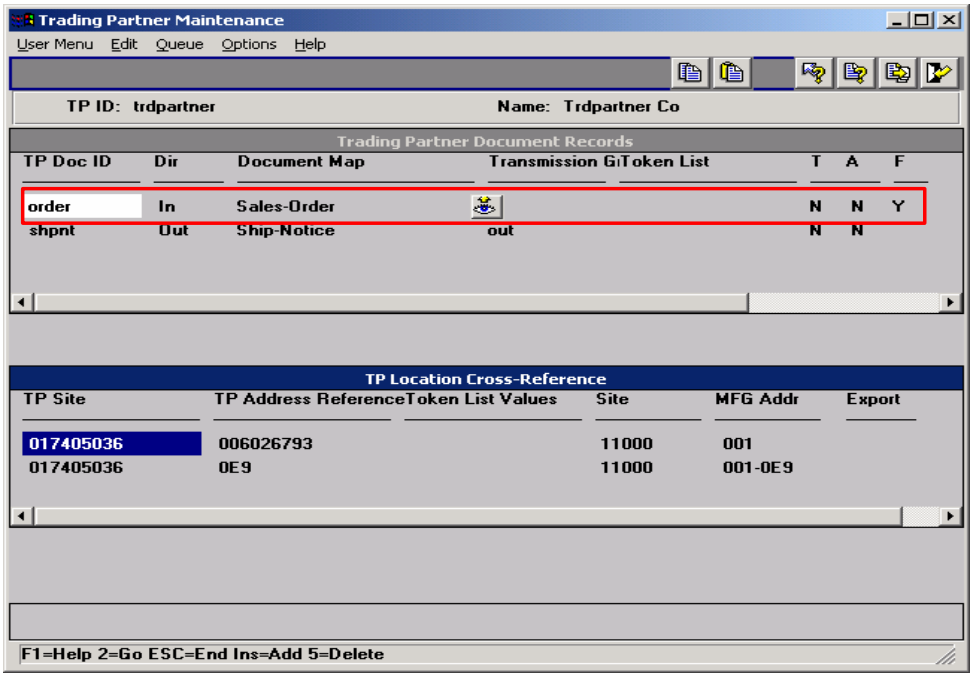
35.13.7 –Trading Partner Maintenance



eB-EDI-EC-SU-550

Site and TP Addr

Enter the site and address codes used by the trading partner. Several different site and address combinations can exist at this level. For example, one cross-reference may be for the trading partner (sold-to) and the others for the ship-to addresses.

- For inbound documents, the combination of trading partner site and address provides a cross-reference to the MFG/PRO site and address

The MFG/PRO site and the MFG/PRO address are not validated in this maintenance program. This allows entry of new addresses to be first used here and the address master records entered afterwards.

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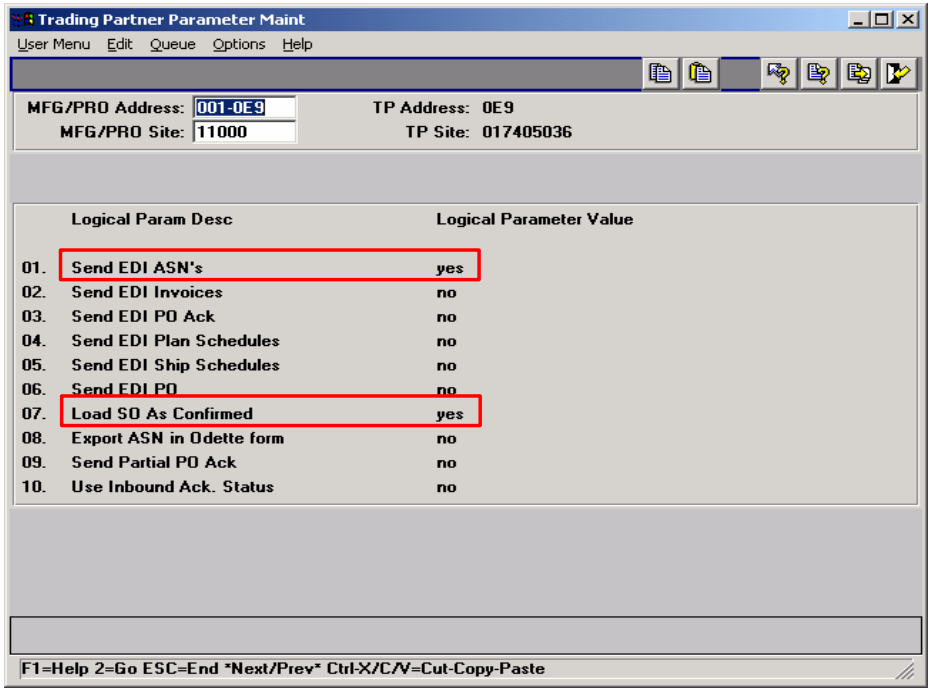
35.13.10 – Trading Partner Parameter Maintenance



eB-EDI-EC-SU-560

Trading Partner Parameter Maintenance

Menu Number 35.13.10

Use Trading Partner Parameter Maintenance to assign parameters and values to a variety of trading-partner-specific processing actions. (This is not the same program as Trading Partner Parameters Maintenance 35.1, which is used in MFG/PRO's standard EDI functionality.)

The system creates a parameter record for each unique combination of trading partner address and site specified in Trading Partner Maintenance 35.13.7. If you delete an address and site combination in Trading Partner Maintenance, the parameter record for that combination is also deleted.

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System-generated default values for some standard parameters are created at the same time the record is generated. Several of these are used to specify values required by the import and export gateway programs. For example:

- Logical flags for a trading partner determine which types of documents you exchange with that partner
- Another logical flag specifies whether purchase orders imported from this trading partner should be entered as confirmed sales orders
- Character and integer parameters provide the gateway programs with the names and version numbers of the MFG/PRO definition documents used in processing

Important These parameters are used only by EDI ECommerce. If you are using standard EDI, the processing programs use the trading partner records set up in EDI Trading Partner Parameters Maintenance 35.2.

For example, in the Export Document Control frame of 35.2, you specify EDI default values for the EDI PO, EDI Schedule, and EDI PO Ack fields in PO Maintenance, Scheduled Order Maintenance, and Sales Order Maintenance, respectively.

However, similar fields in EDI ECommerce Trading Partner Parameter Maintenance 35.13.10 enable EDI ECommerce processing for the appropriate documents for the trading partner. They are not used as default values in the three order maintenance programs.

The program consists of five frames. In the first you select the combination of trading partner address and site for which you want to define or modify parameters. In the bottom part of the frame, you can define up to 20 logical parameters. The first frame displays 10 lines. Press Go to access 10 more.

MFG Addr and MFG Site

Enter the MFG/PRO address and site codes of the trading partner whose parameters are defined in this record.

The system displays the corresponding trading partner address and site cross-references, defined in Trading Partner Maintenance, in the TP Addr and TP Site fields.

Logical Param Desc

Enter an alphanumeric description of the logical parameter defined in Logical Param Value.

Logical Param Value

Enter Yes or No to define the logical value of this parameter.

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Continue to press Go to display input screens where you can enter up to 20 descriptions and values for the following types of parameters.

- Character parameters. These consist of up to 40 alphanumeric characters
- Date parameters. Enter a date in MM/DD/YYYY format. The system validates this entry
- Integer parameters. These are positive or negative whole numbers of up to 9 digits
- Decimal parameters. These are positive or negative decimal numbers. The system accepts up to eight characters to the left of the decimal point and two characters to the right

Trading Partner Parameters

Export ASN in Odette form:

When set to Yes, this option will export the shipment record with a record structure with the item at the top level suitable for exporting an Odette AVIEXP.

Combine like items level:

This option is under the Integer parameters and will accept a value of 0 through 5. The purpose is to combine shipment lines based on different criteria as described below. Often, especially when shipments are created by bar code scanning, many different shipment lines are created for the same item making the shipment structure not suitable for ASN creation.

0 No combine like items logic.

1 Combine shipment lines with same item number.

2 Combine shipment lines with the same item number and the same item reference number.

3 Combine shipment lines with the same item number, same ref number, and the same item container.

4 Combine shipment lines with the same item number, same ref number, same item container, and the same primary level container.

5 Combine shipment lines with the same item number, same ref number, same item container, same primary container, and the same tare level container.

Combine Like Items level should be set up in Trading Partner Parameter Maintenance 35.13.10. The “Integer Param Desc” value should be “Combine Like Items Level” and the “Integer Param Value” can be any value from 0-5.

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The following table describes the different levels and the checklist that is used to determine when the combine logic will occur:

Level	Combine Checklist				
	CTR-TARE	CTR-PRIM	CTR-ITEM	ITEM	ITEM
	Item-No	Item No	Item No	Item No	Reference
	0	No combining will occur			
	1	**X**			
	2	**X**	**X**		
	3	**X**	**X**	**X**	
	4	**X**	**X**	**X**	**X**
	5	**X**	**X**	**X**	**XX**

The important thing to remember is that this flag does not control WHAT is to be combined, rather it controls WHEN things are to be combined. If the criteria are met, then the following fields WILL BE combined:

- Quantity
- Net Weight
- Gross Weight

These fields will be combined on the following records:

- CTR-TARE
- CTR PRIM
- CTR-ITEM
- ITEM

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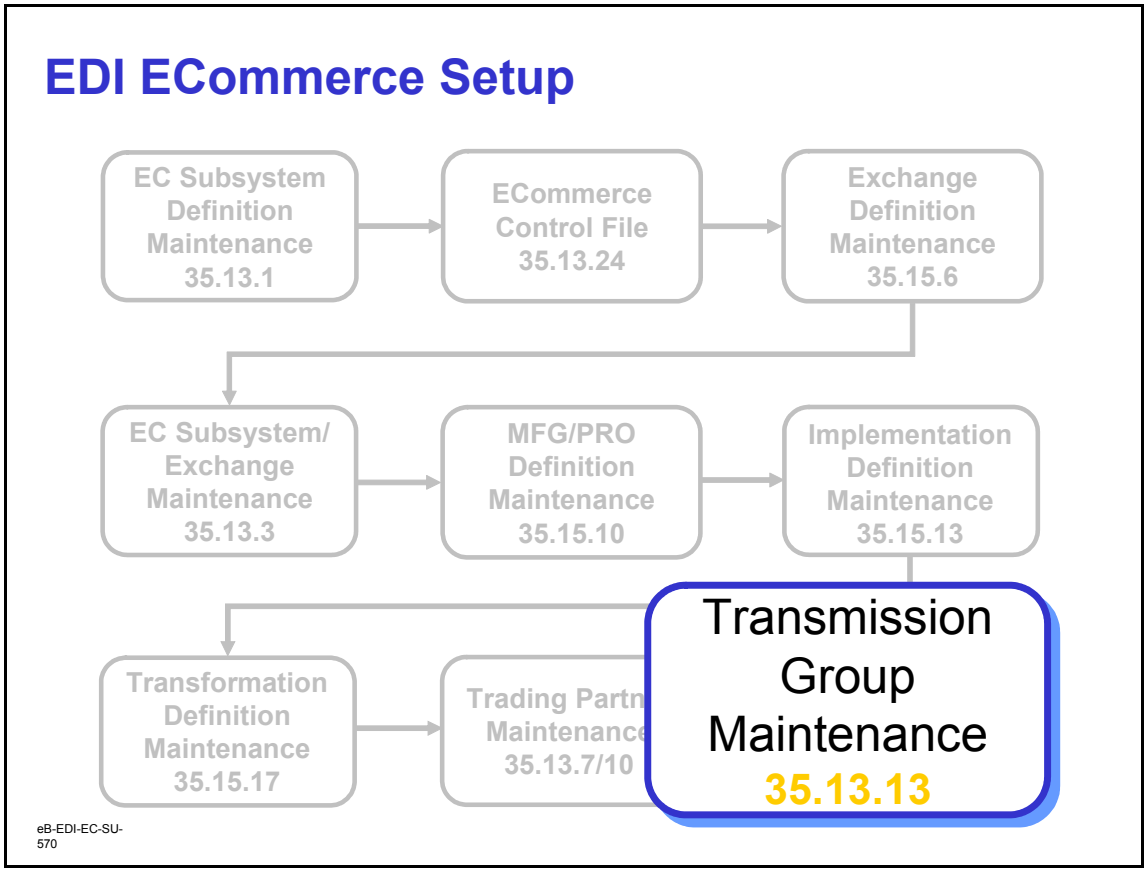

Transmission Group Maintenance

Menu Number 35.13.13

Transmission groups consolidate multiple trading partners by network location so that outbound documents can be batched appropriately. For example, you can create a transmission group for all the trading partners on one value-added network (VAN).

When you set up trading partners who will receive documents exported from MFG/PRO, you assign them to a transmission group. This relationship indicates such information as where the system should place outbound files for the trading partner.

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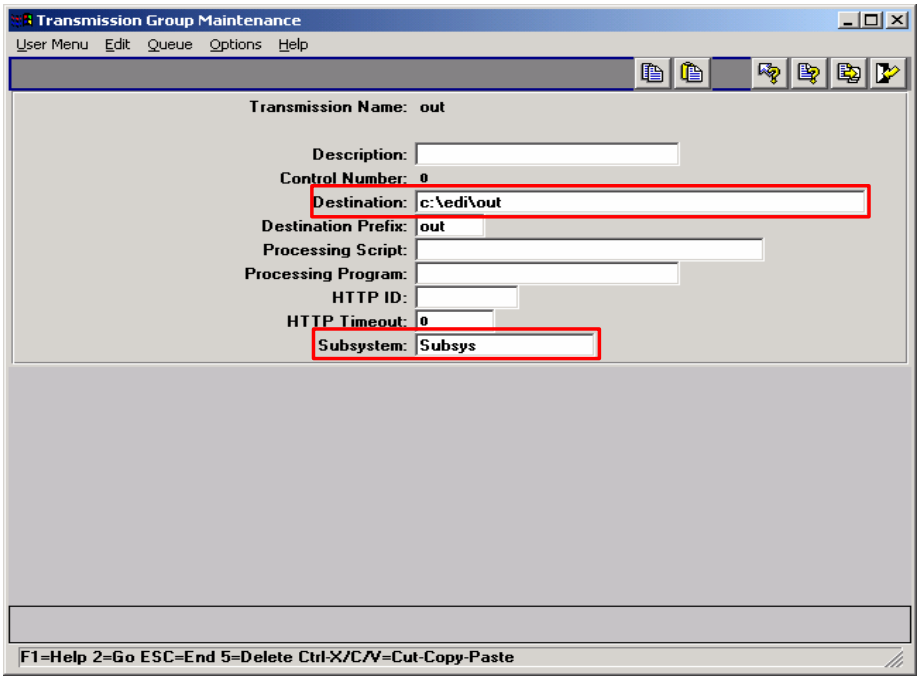
35.13.13 – Transmission Group Maintenance



eB-EDI-EC-SU-580

Transmission Name

Enter a name for the transmission group or use the arrow keys to scroll through the existing records and press Enter to select one.

Description

Enter a description of the transmission group, such as a company name.

Control Number

Displays the system-assigned control number for transmissions involving this group. This number is combined with the value in Destination Prefix and the file extension specified in EC Subsystem Definition Maintenance 35.13.1 to create a unique transmission file name.

This number starts at zero and automatically increments after each transmission. You cannot edit this field.

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Destination

Enter the directory where exported SNF files associated with this group will be written.

This field determines the file extension used for the SNF files sent to trading partners assigned to this transmission group.

Destination Prefix

Enter a prefix to be added to the control number and the extension assigned in EC Subsystem Definition Maintenance to create a unique file name.

Processing Script

Optionally enter the file name of a custom script to be run after a group of documents is created. For example, this could be a script that invokes an E-mail program to transmit the exported files to the trading partner.

Processing Program

Enter the path name to an executable program file to be run when a file is exported to this transmission group. For example, this might be an E-mail program that transmits the file to a trading partner.

To specify a processing program on a different computer, use the Remote Host Name field in the EC Subsystem Definition Maintenance record for the EC subsystem associated with this transmission group.

Subsystem

Enter the EC subsystem associated with this transmission group. This subsystem must already be defined in EC Subsystem Definition Maintenance 35.21.13.1.

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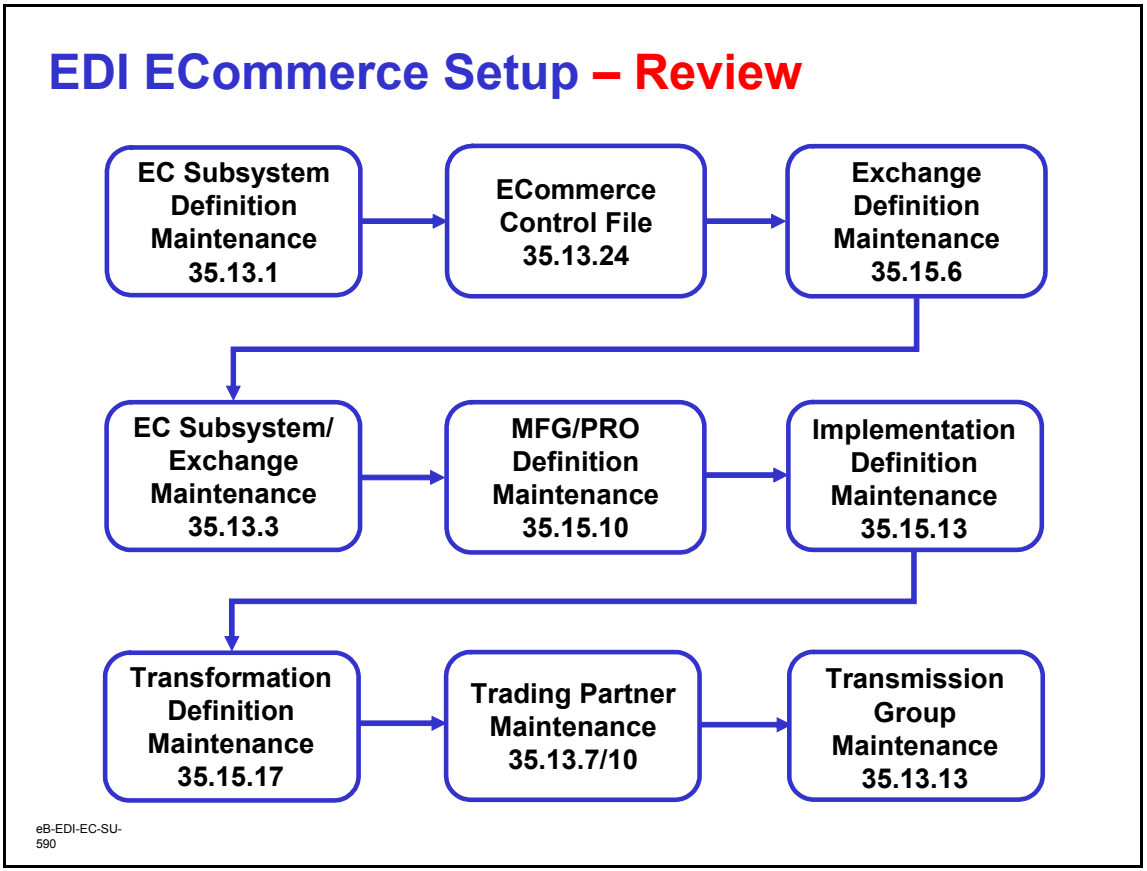

EDI ECommerce Setup – Review

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Activities

eB-EDI-EC-SU-600

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Course Overview

- ✓ Introduction to EDI ECommerce
- ✓ Business Considerations
- ✓ Set up EDI ECommerce
- ♦ Process EDI ECommerce

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CHAPTER 4

EDI ECommerce Processing

Process EDI ECommerce

In this section you learn how to:

- ✓ Identify some key business considerations before setting up EDI ECommerce in MFG/PRO eB2
- ✓ Set up EDI ECommerce in MFG/PRO eB2
- ✓ **Process EDI ECommerce in MFG/PRO eB2**

eB-EC-PR-010

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Importing and Exporting Documents

Follow Four Steps:

1. Use import/export program to select documents
2. Review reports to determine if errors exist
3. Correct conditions that created errors
4. Reprocess documents

eB-EC-PR-020

Importing and Exporting Documents

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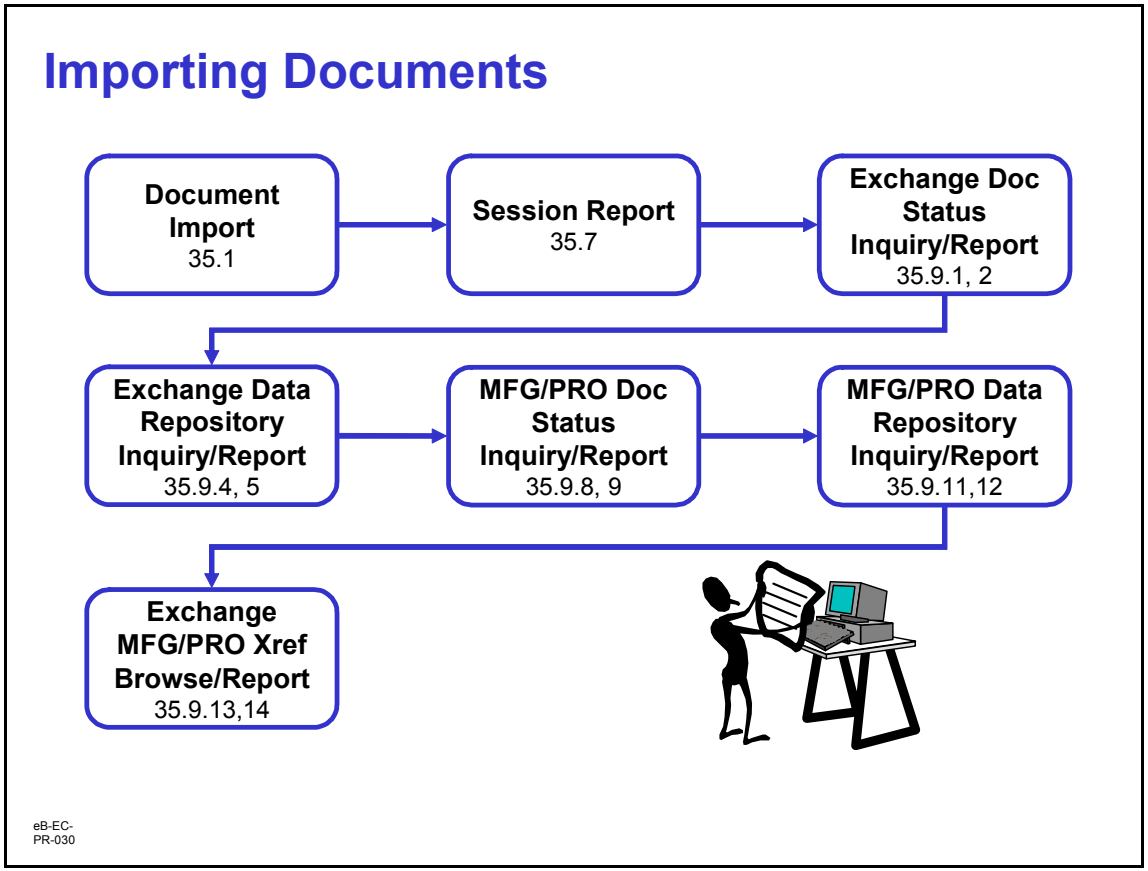

Importing Documents

This illustration is a suggested processing sequence for importing documents with ECommerce Gateway.

Warning Do not run multiple concurrent inbound ECommerce sessions. ECommerce does not prevent multiple inbound sessions from processing the same file.

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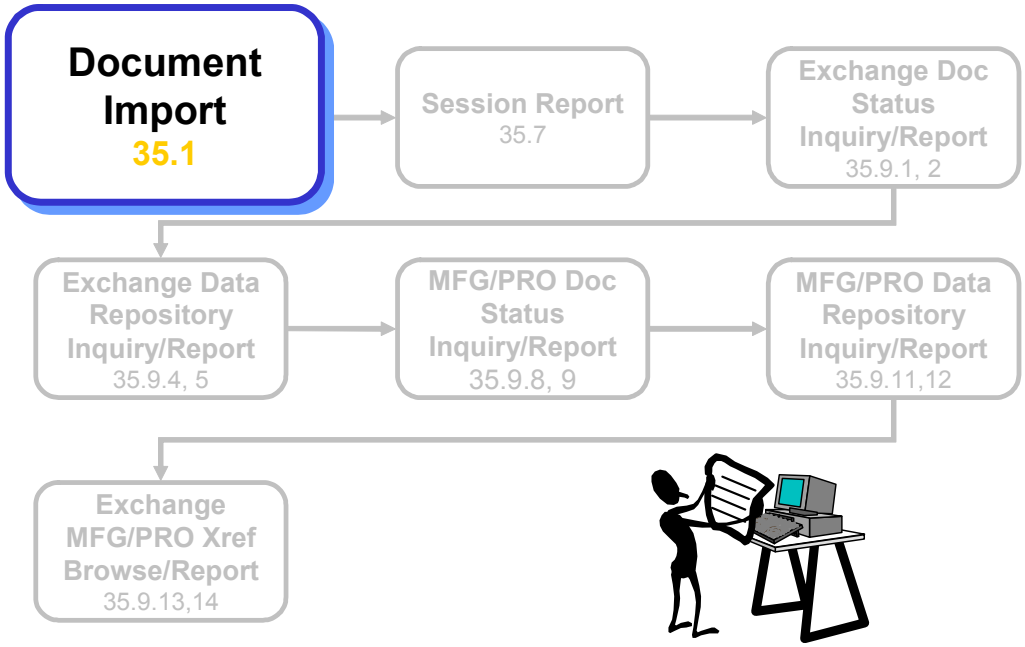
Importing Documents



eB-EC-PR-040

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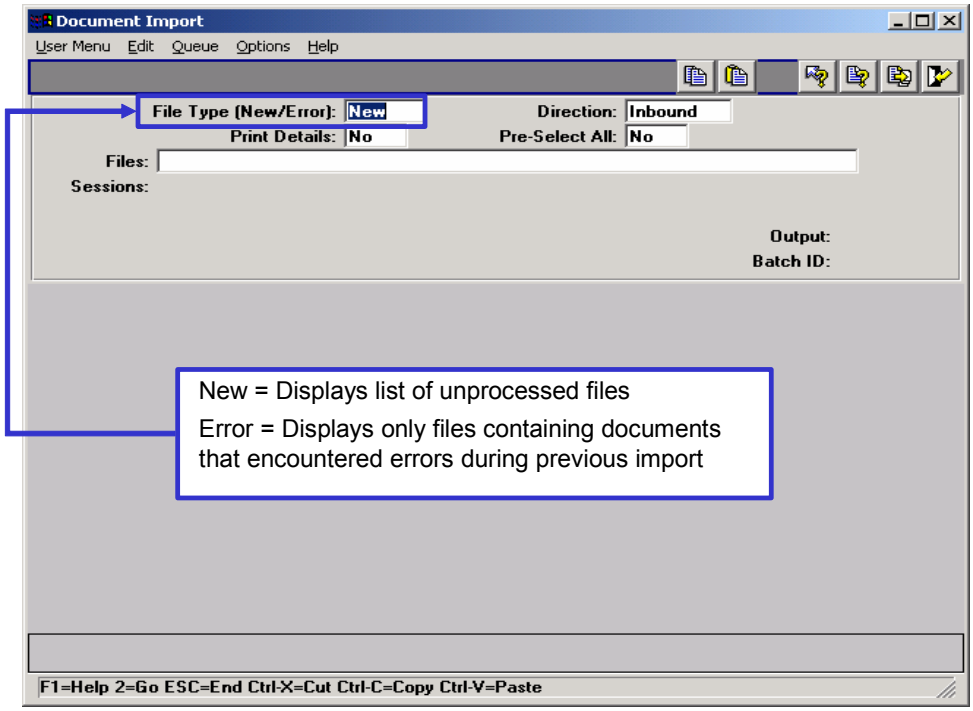
35.1 – Document Import



eB-EC-PR-050

Menu Number 35.1

Use Document Import to start the process of loading SNF files from the EC subsystem, transforming them into formats usable by MFG/PRO, and transferring them into the MFG/PRO database using a gateway program.

The system generates a report on imported files to the device specified in Output. You can choose to run this process later using the Batch ID field.

File Type (New/Error)

Type of files to be listed in the Select File(s) frame.

- New = select from a list of new, unprocessed files in the import directory
  - Specified in the ECommerce Control File 35.13.24

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- Error = display only files containing documents that encountered load errors during previous import
  - Stored in the error directory specified in the ECommerce Control File

Print Details

- Yes = error and warning messages on the report generated when this program executes
- No = report is limited to higher-level summary information

Pre-Select All

- Yes = all files selected when displayed on the Select File(s) list
- No = files still display, but none are initially selected

Files

Names of the files to be imported, including extensions.

- Separate multiple file names with commas
- System validates the input

Sessions

- System-assigned numbers group all the files imported during a particular session
  - Track the status of the documents imported
  - Identify any errors that occurred during processing
- The system assigns a sequence number to each file selected
  - Use to group the documents within the file
- If documents cannot be loaded, the system writes them to an error file
  - Uses the process session number as a file name

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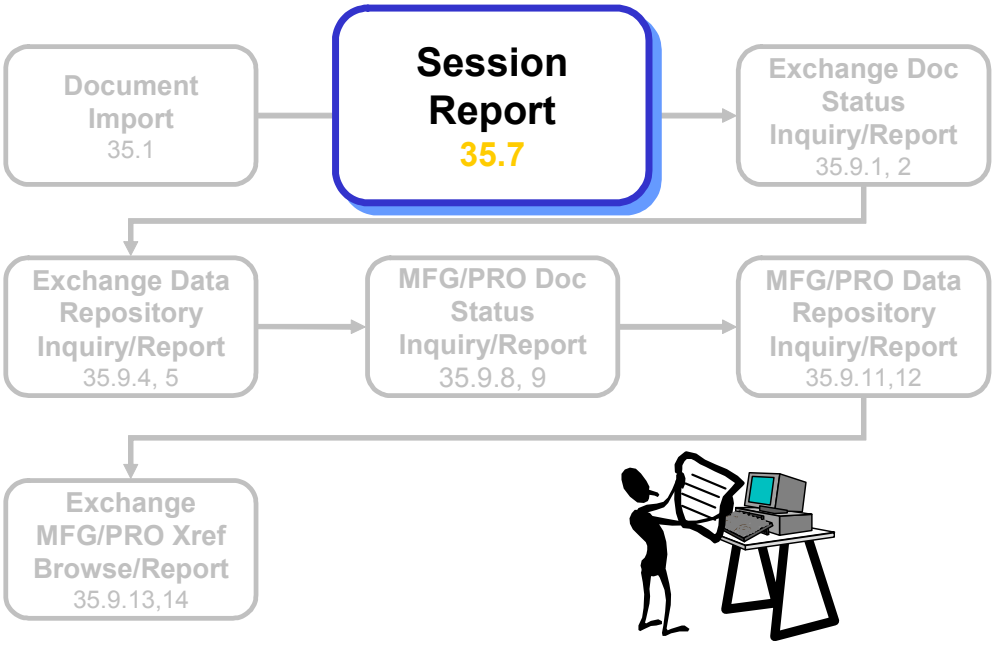
Importing Documents



eB-EC-PR-060

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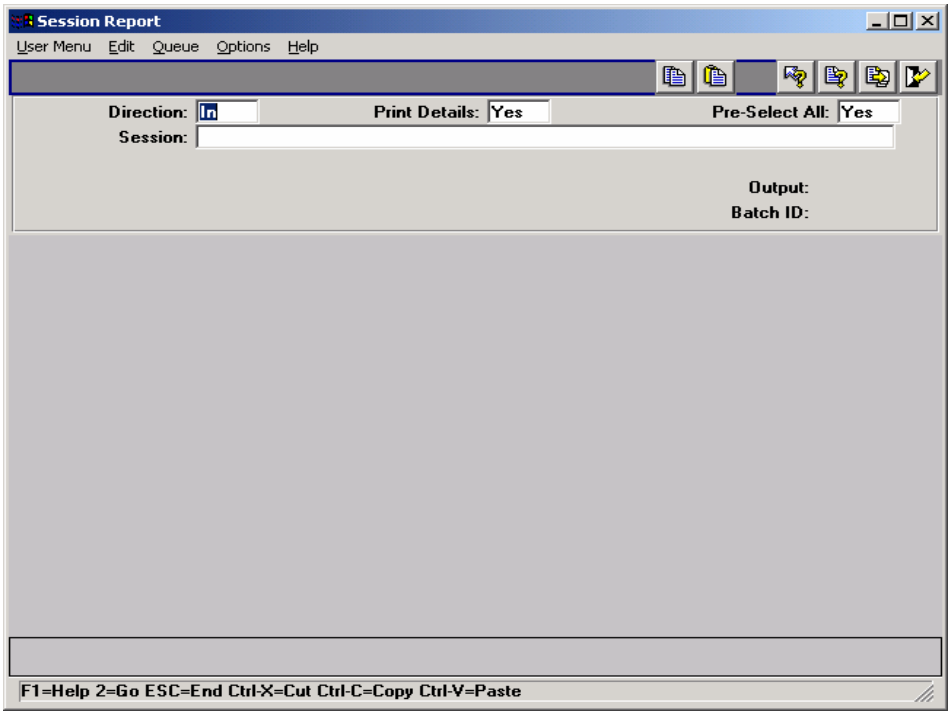
35.7 – Session Report – Select Session Numbers



eB-EC-PR-070

Session Report

Menu Number 35.7

- The Session Report shows the status of document imports or exports at each processing step
- Use the report to analyze where problems occurred, then resolve the problems either at the source or in the data repository

Direction

Direction of the document transfers to be included in this report.

Print Details

- Yes = include error messages on the report

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- No = report includes only the status code for each document processed during the session

Pre-Select All

- Yes = all sessions selected when displayed in the selection list
- No = sessions still display, but none are initially selected

Session

Session numbers of the process sessions to be included in this report.

- Separate multiple entries with commas
- Selected sessions are marked with an asterisk (*)

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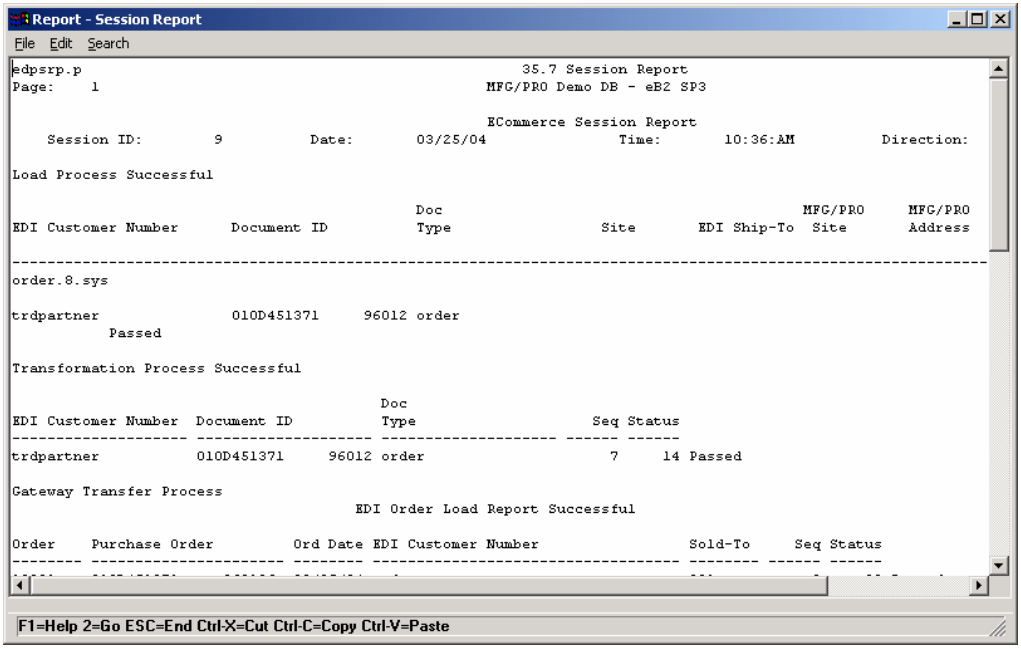
35.7 – Session Report – Print Report



eB-EC-PR-080

Sample Session Report

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Document Processing Status Codes

Code	Direction	Status
11	Inbound	Load process failed. Could indicate problem in SNF file or with trading partner or document definition.
12	Inbound	Exchange file load successful.
13	Inbound	Exchange File transformation errors.
14	Inbound	Exchange file transformation successful.
21	Inbound	MFG/PRO document created, but has not moved to transfer process. May indicate a problem with gateway processing.
22	Inbound	MFG/PRO document transfer errors.
23	Inbound	MFG/PRO document transfer successful.
31	Outbound	MFG/PRO document transfer errors. Correct in MFG/PRO, then treat as new export.
32	Outbound	MFG/PRO document transfer successful.
33	Outbound	MFG/PRO do9cument transformation errors.
34	Outbound	MFG/PRO document transformation successful.
41	Outbound	Exchange file created, but has not moved to unload process. May indicate a problem with gateway processing.
42	Outbound	Exchange file unload errors.
43	Outbound	Exchange file unload successful.

eB-EC-PR-85

Document Processing Status Codes

The system assigns a status code to each document at each step of the process:

Once you know the status of the document, which tells you where in the process any errors occurred, you can use one of the document repository inquiry or report programs to display the error messages and identify the causes of specific problems.

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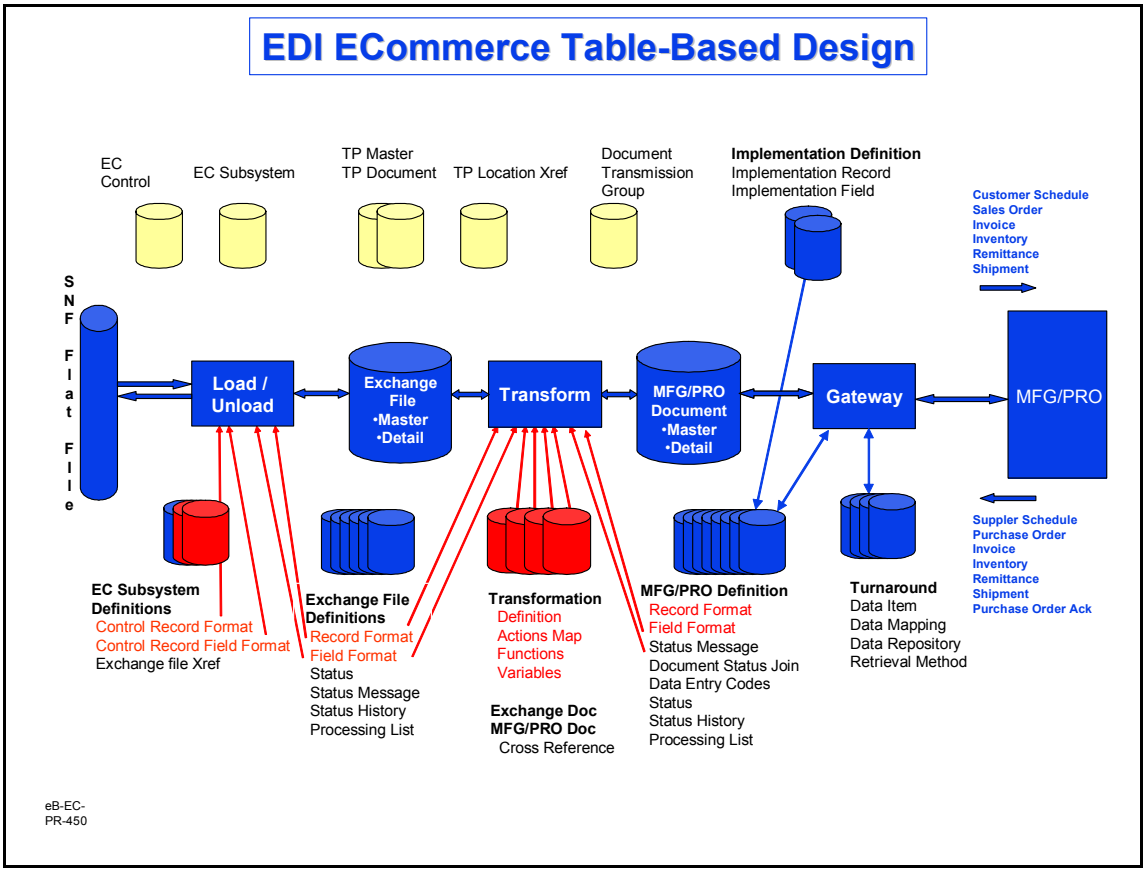

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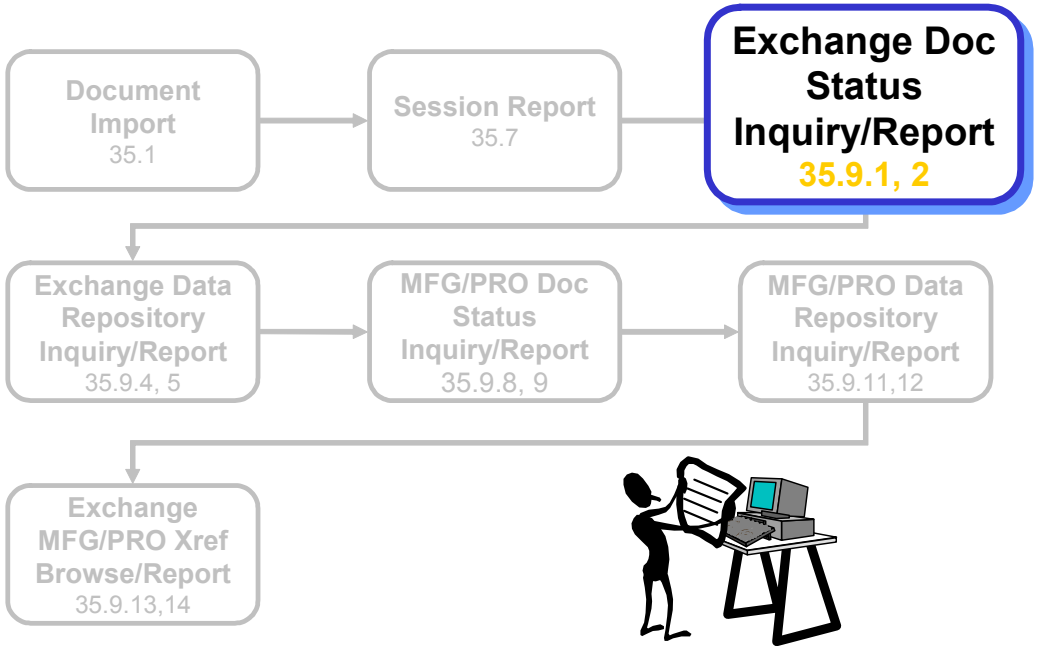
Importing Documents



eB-EC-PR-090

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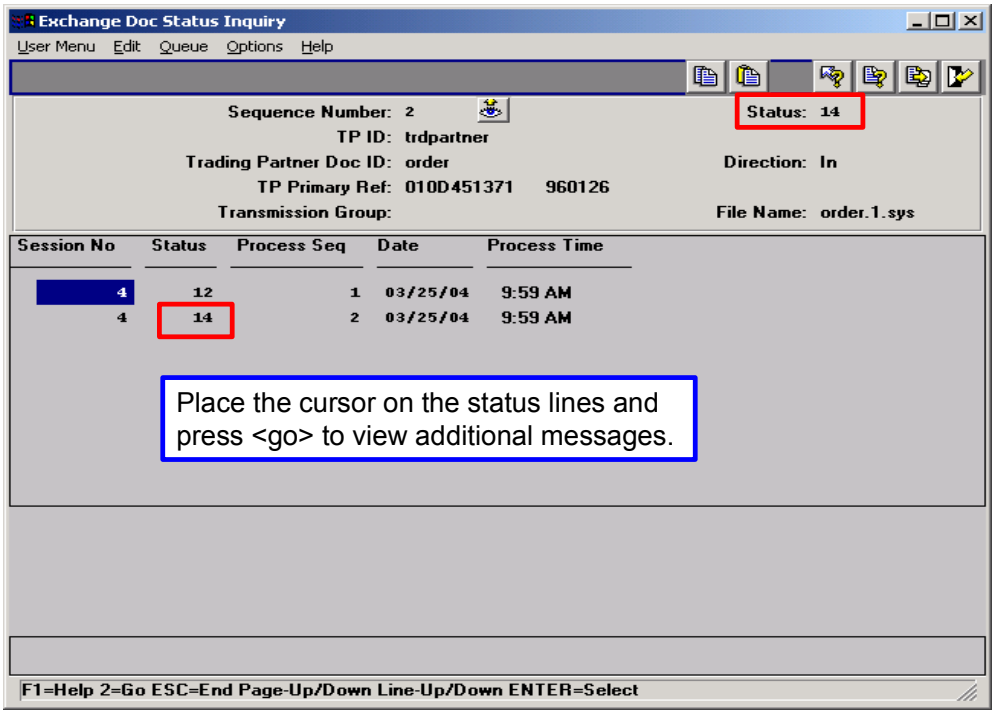
35.9.1 – Exchange Doc Status Inquiry



eB-EC-PR-100

Exchange Doc Status Inquiry

Menu Number 35.9.1

Once you know the status of the document, which tells you where in the process any errors occurred, use one of the document repository inquiry or report programs to:

- Display the error messages
- Identify causes of specific problems

Enter the sequence number of a document.

- The first frame displays reference information
- Display list of sessions associated with that sequence number

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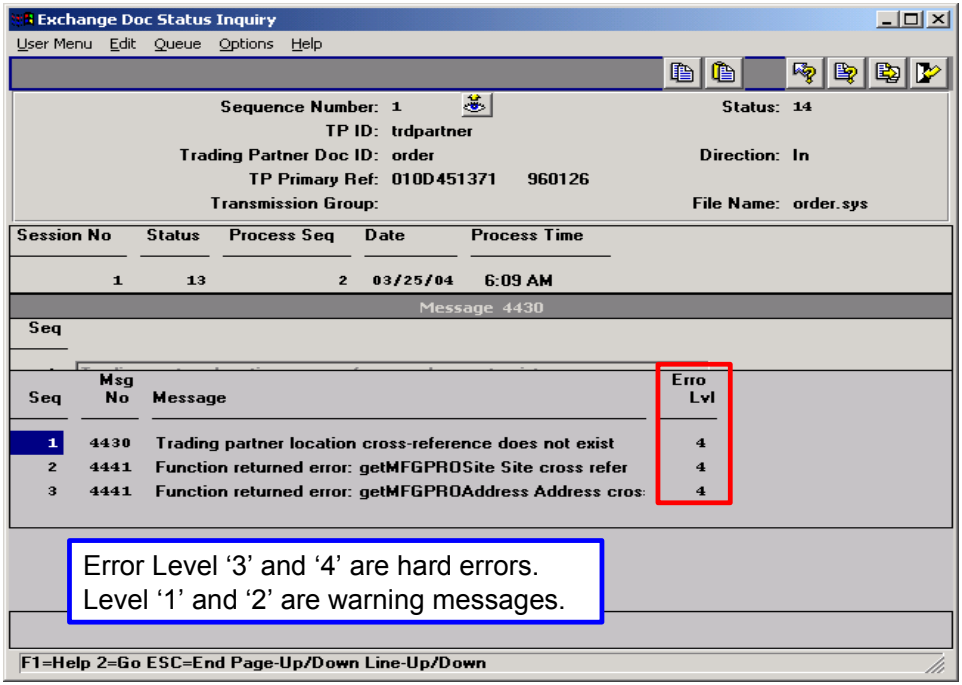
35.9.1 – Exchange Doc Status Inquiry



eB-EC-PR-110

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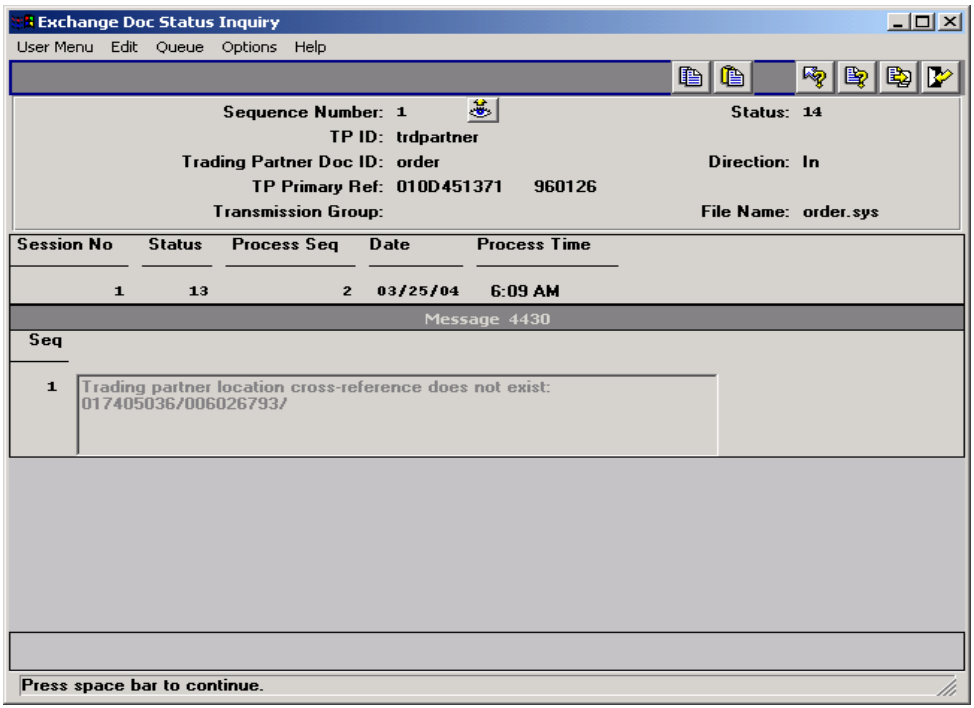
35.9.1 – Exchange Doc Status Inquiry



eB-EC-PR-120

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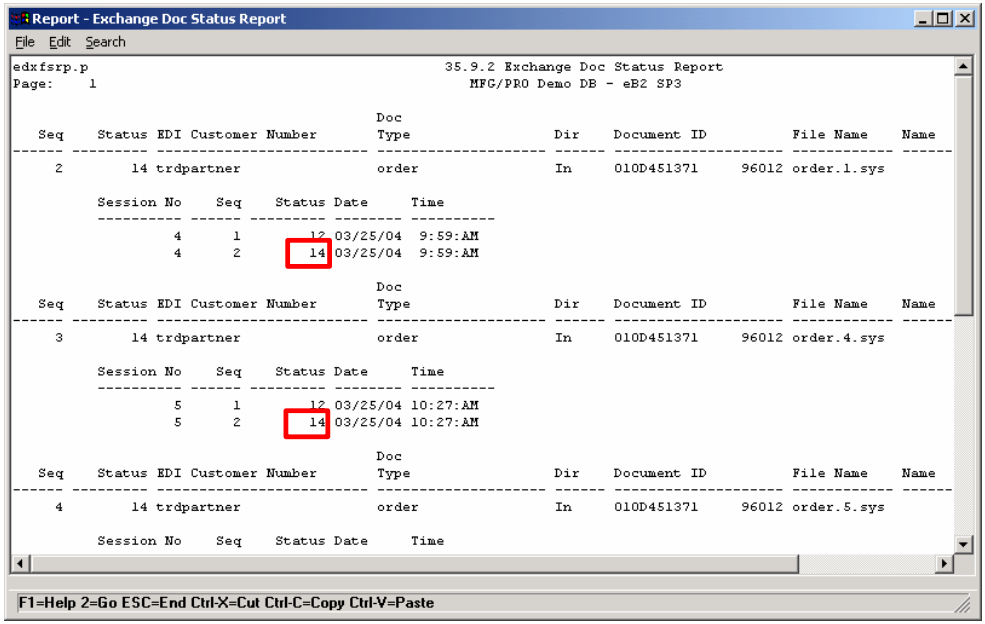
35.9.2 – Exchange Doc Status Report



eB-EC-PR-130

Exchange Doc Status Report

Menu Number 35.9.2

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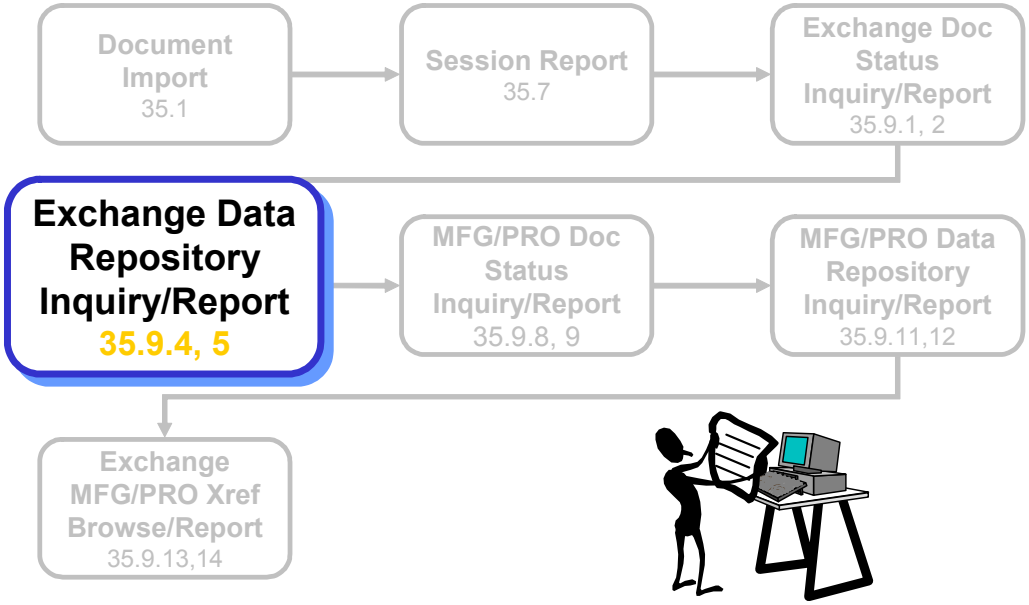
Importing Documents



eB-EC-PR-140

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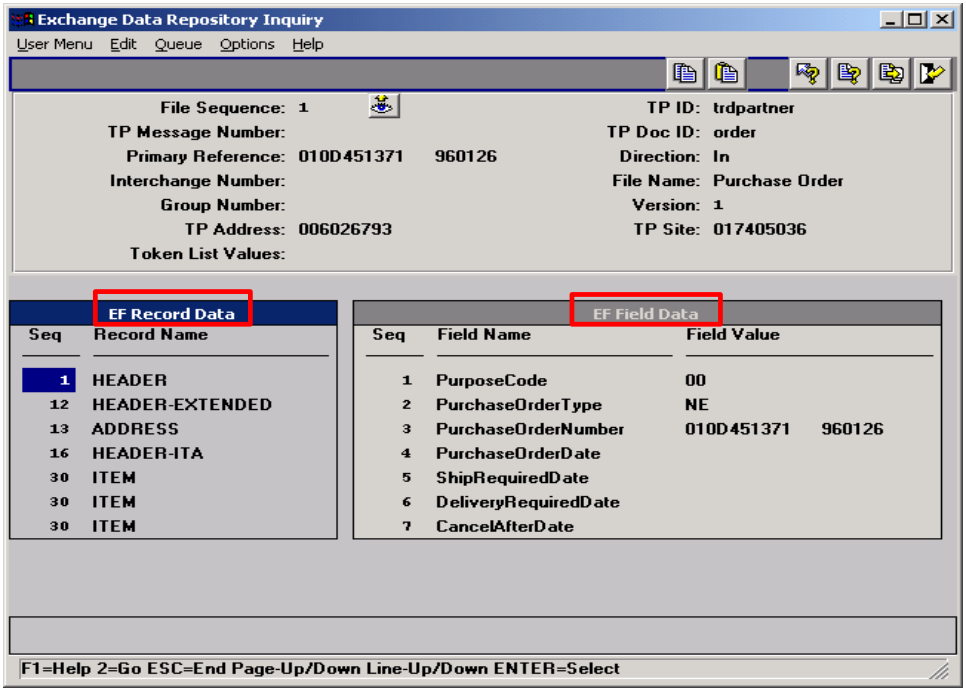
35.9.4 – Exchange Data Repository Inquiry



eB-EC-PR-150

Exchange Data Repository Inquiry

Menu Number 35.9.4

Includes two types of data

- Inbound exchange files that have been loaded from the EC subsystem SNF files
  - Have not been transformed for transfer into MFG/PRO
- Outbound exchange files consisting of transformed MFG/PRO data
  - Has not been unloaded to the EC subsystem

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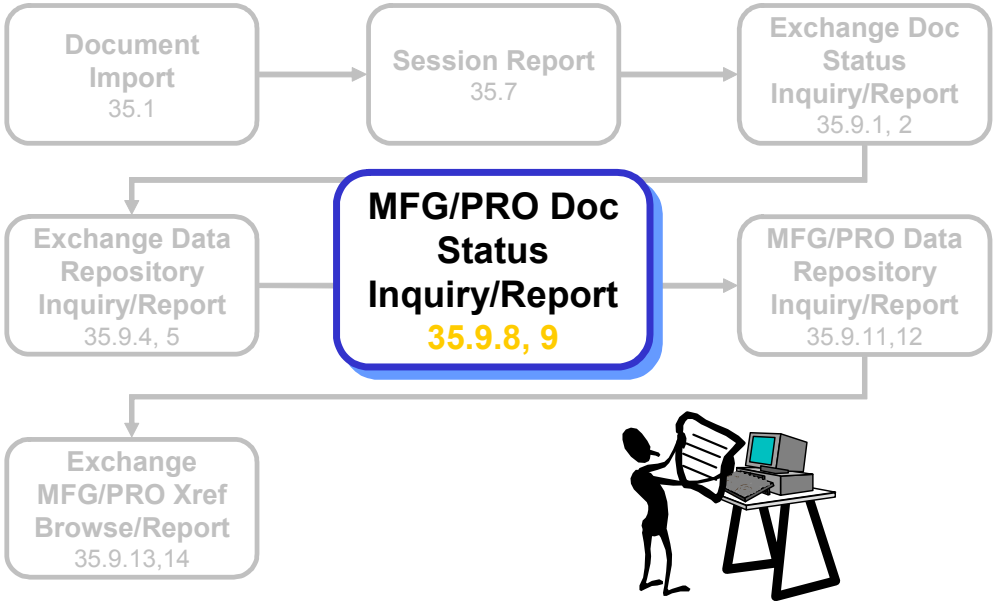
Importing Documents



eB-EC-PR-160

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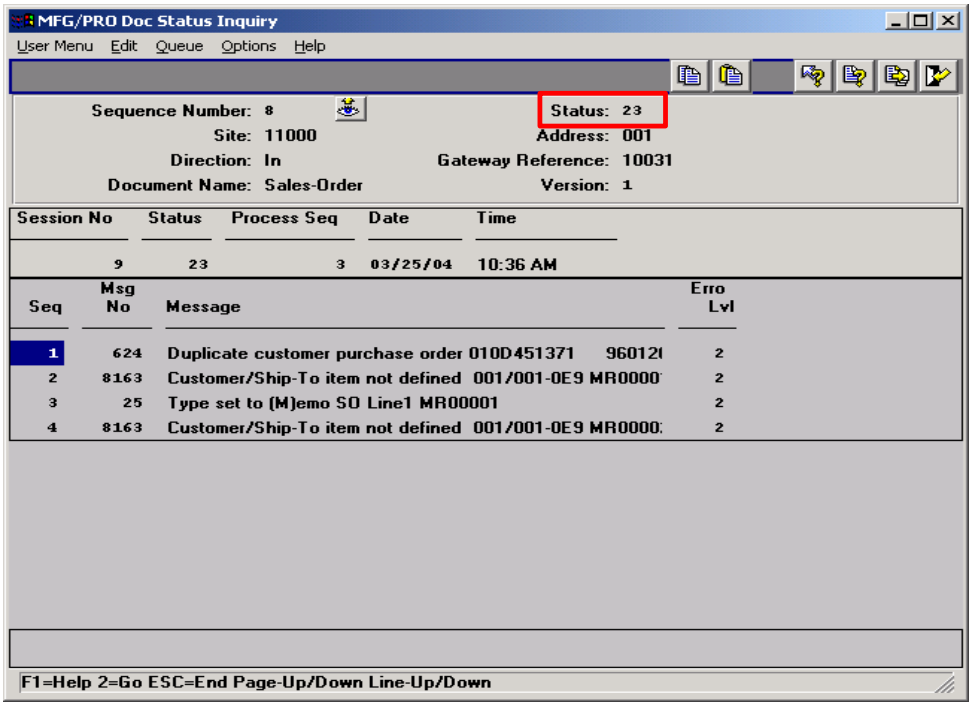
35.9.8 – MFG/PRO Doc Status Inquiry



eB-EC-PR-170

MFG/PRO Doc Status Inquiry

Menu Number 35.9.8

Displays error/warning messages that identify causes of specific problems. An Err Lvl of 2 or lower is identified as a warning message and can pass to the next stage. An Err Lvl of 3 or higher will not let the document pass to the next stage and an Error message appears.

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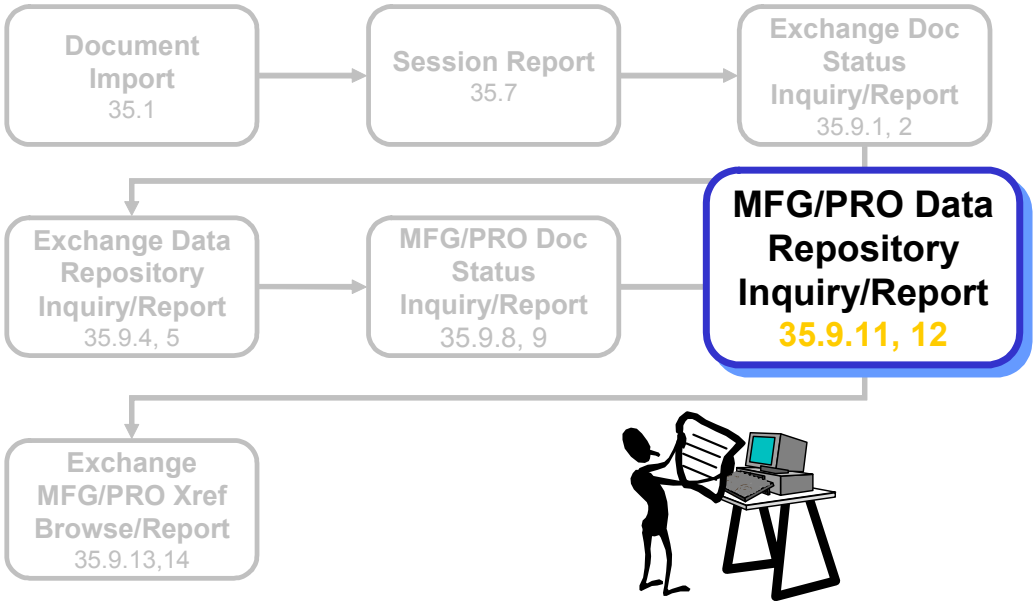
Importing Documents



eB-EC-PR-180

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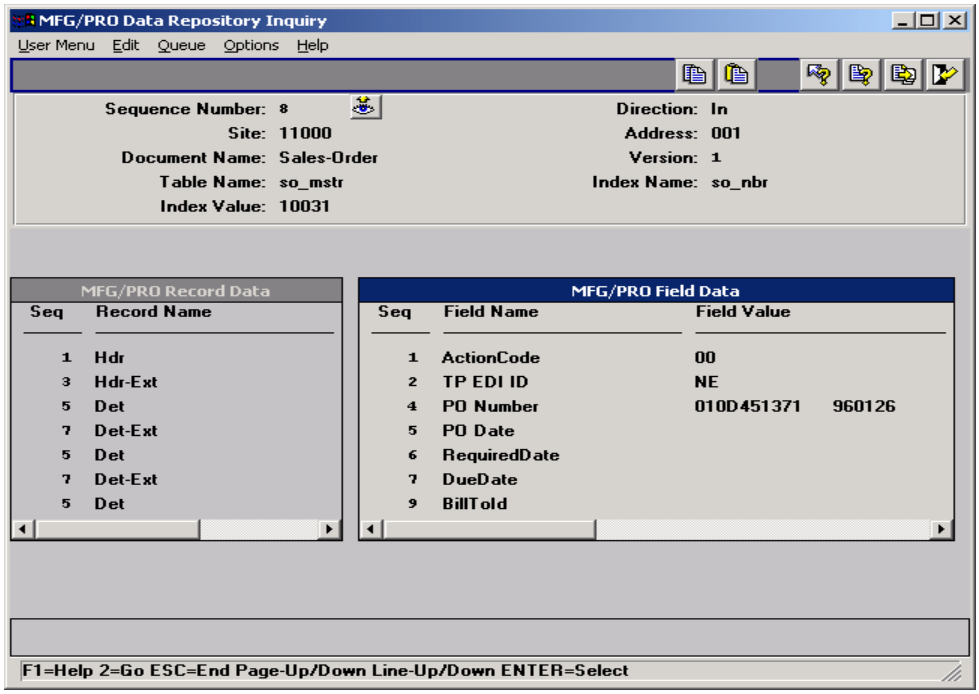
35.9.11 – MFG/PRO Data Repository Inquiry



eB-EC-PR-190

MFG/PRO Data Repository Inquiry

Menu Number 35.9.11

This repository includes two types of data.

- Outbound MFG/PRO documents that have been transferred from the MFG/PRO database with an export gateway
  - Have not been transformed into an exchange file format
- Inbound MFG/PRO documents consisting of transformed MFG/PRO data
  - Has not been transferred by a gateway program to the MFG/PRO database

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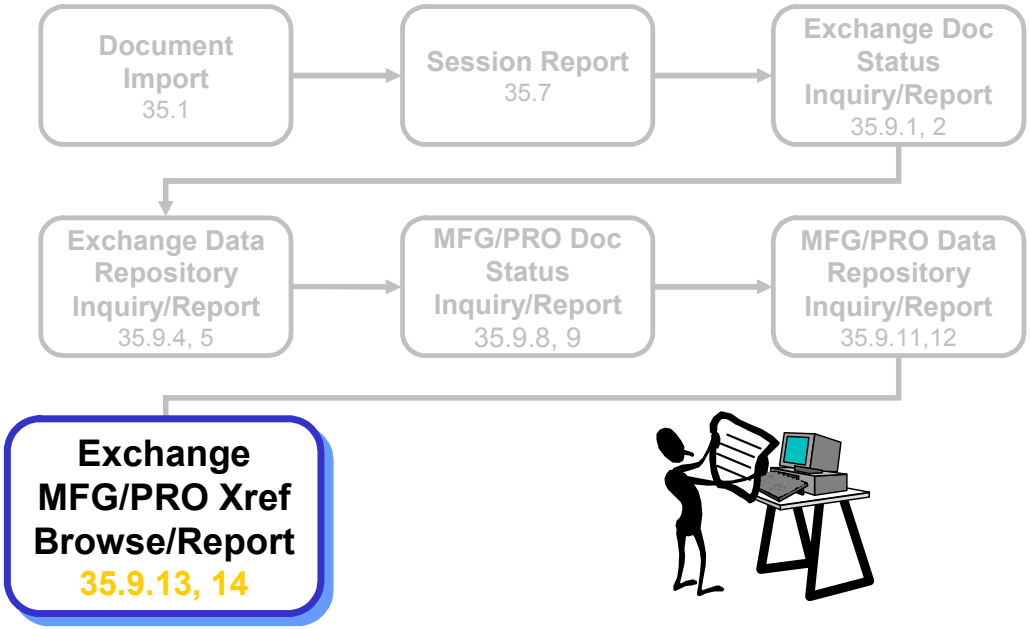
Importing Documents



eB-EC-PR-200

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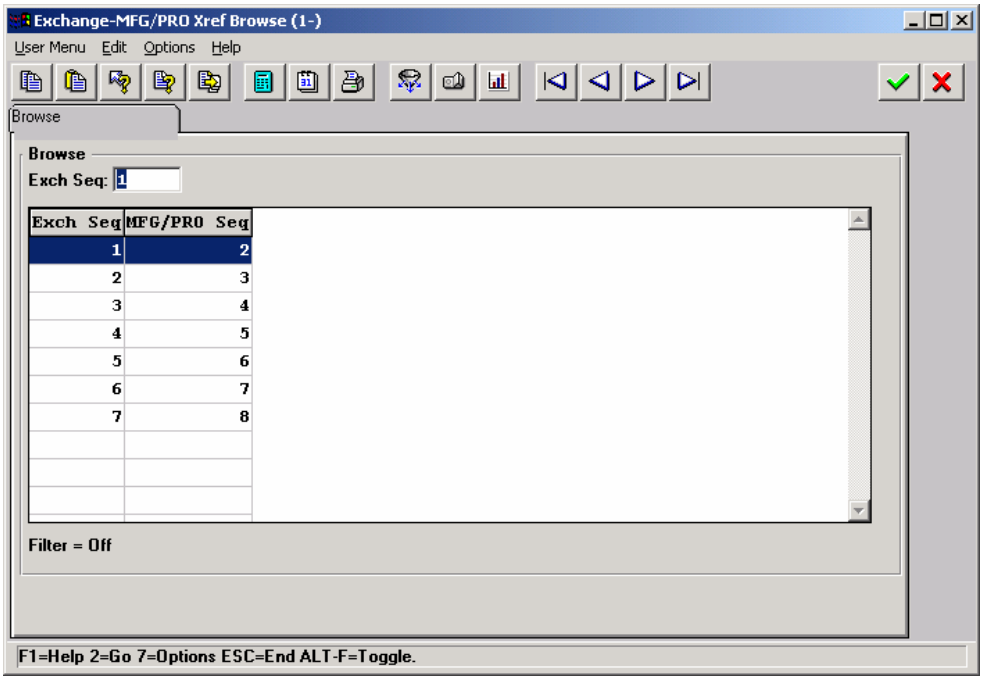
35.9.13 – Exchange-MFG/PRO Xref Browse



eB-EC-PR-210

Exchange-MFG/PRO Xref Browse

Menu Number 35.9.13

Use Exchange-MFG/PRO Xref Browse to view exchange file sequence numbers and their corresponding MFG/PRO document sequence numbers.

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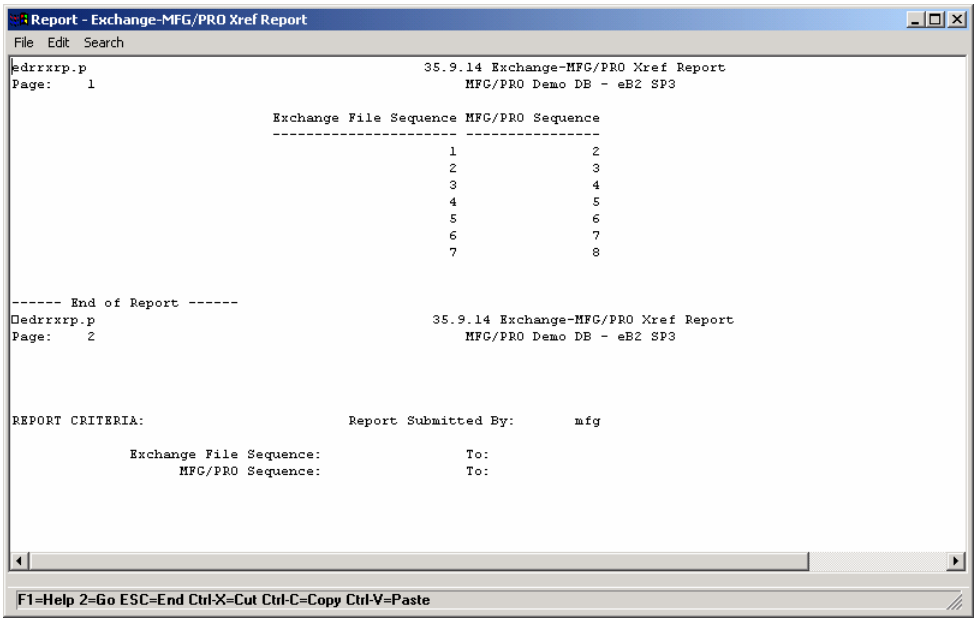
35.9.14 – Exchange-MFG/PRO Xref Report



eB-EC-PR-220

Exchange-MFG/PRO Xref Report

Menu Number 35.9.14

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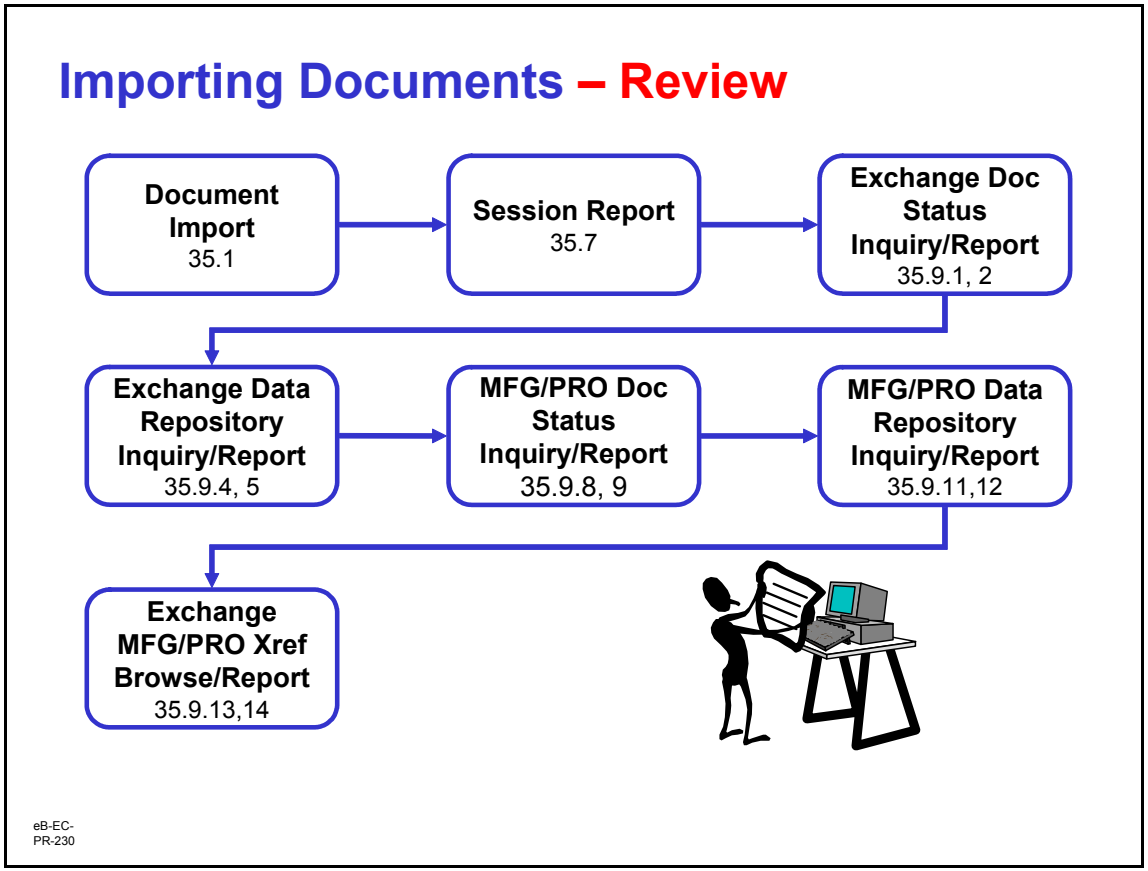

Importing Documents – Review

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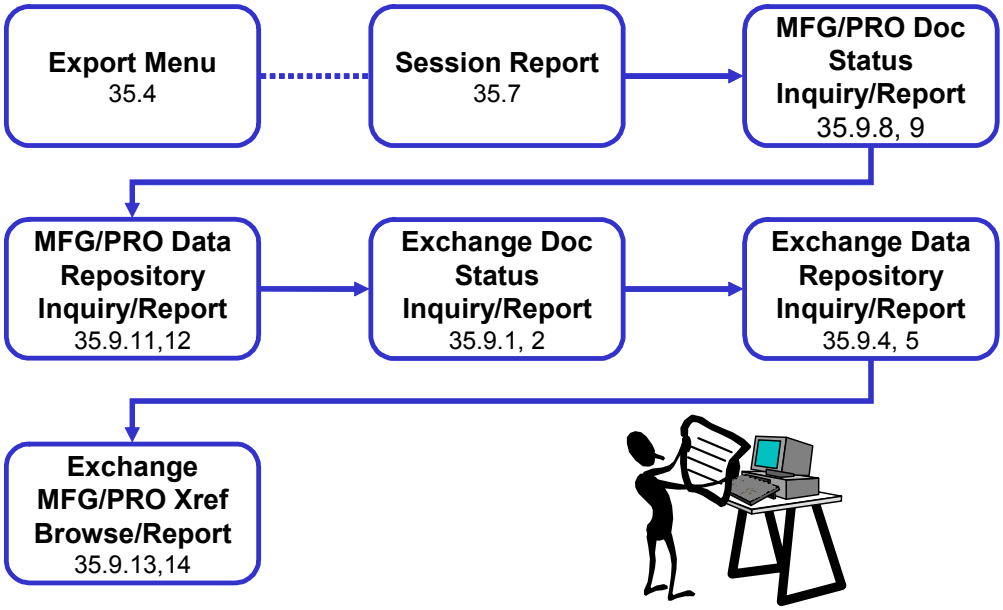
Exporting Documents



eB-EC-PR-235

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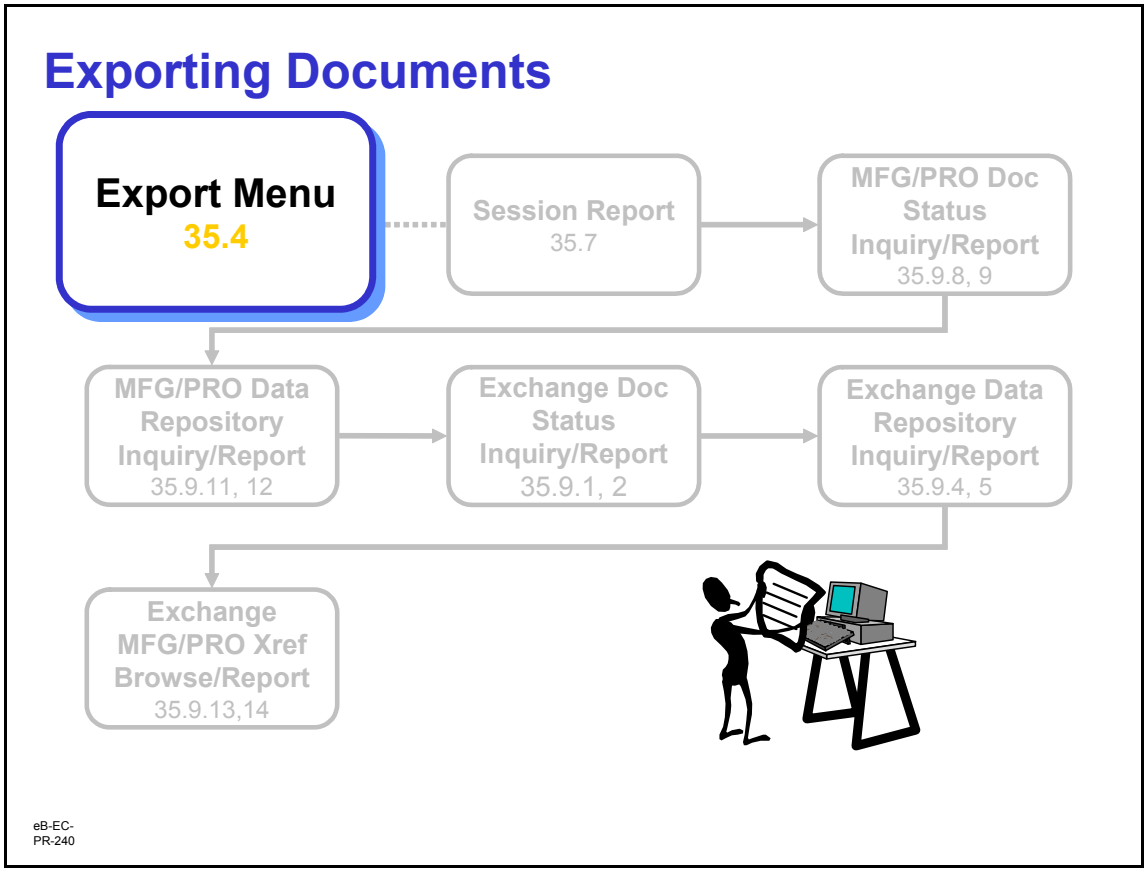

Exporting Documents

This illustration is a suggested processing sequence for exporting documents with EDI ECommerce Gateway.

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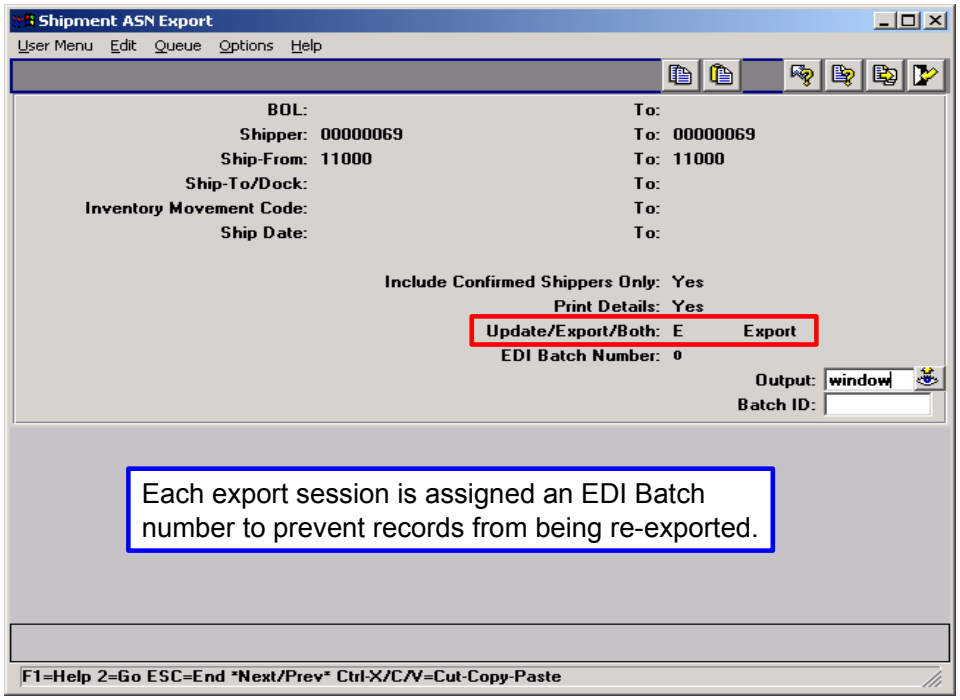
35.4.1 – Shipment ASN Export



eB-EC-PR-260

Menu Number 35.4.1

In Shipment ASN Export, enter selection criteria to indicate which shipments should have ASNs sent. The system uses these criteria to:

- Execute the appropriate gateway program
- Select the appropriate trading partner information
- Transform outbound MFG/PRO data to the format required by receiving party's EC subsystem

Shipper, Ship-From, Ship-To/Dock, Inventory Movement Code, Ship Date

Specify ranges of selection criteria for the system to use in selecting ASNs for export.

Include Confirmed Shippers Only

Enter Yes to include only confirmed shippers in the selection.

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Print Details

- Yes = error and warning message detail on the report generated when this program executes
- No = report is limited to higher-level summary information

Update/Export

When this option is set to Export, then the normal export procedure is processed.

When this option is set to Update, the MFG/PRO Implementation Definition document is retrieved for the Trading Partner and any field definitions that have specified Edit = Yes will be displayed and prompted for operator input. The data entered will be stored and retrieved during the export process. This allows for data to be entered and/or modified for the electronic shipment notice prior to exporting.

EDI Batch No.

To re-export a group of documents, enter the batch number assigned to the group.

- When exporting a new group of documents, leave this field set to zero
- The system assigns a new batch number to each group of exported documents

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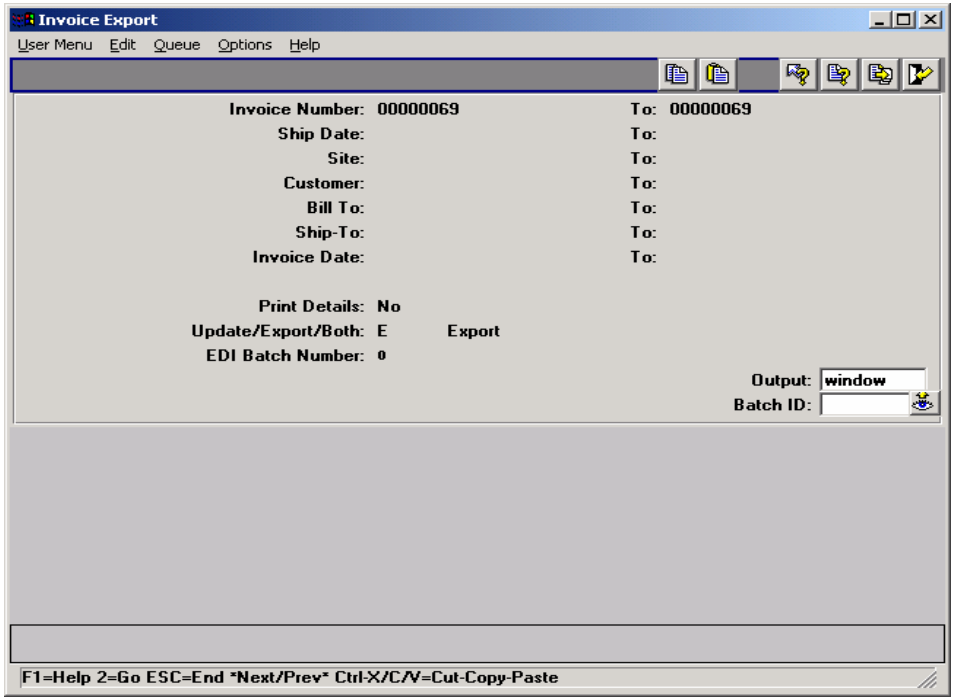
35.4.3 – Invoice Export



eB-EC-PR-280

Invoice Export

Menu Number 35.4.3

Use Invoice Export to export individual, multiple, or cumulative invoices to a customer.

Enter ranges of selection criteria for invoice number, sales order number, and so on as required to select invoices for export.

- System uses these criteria to execute the appropriate gateway program
- Select the appropriate trading partner information
- Transform outbound MFG/PRO data to the format required by receiving party's EC subsystem
- The Update/Export functions the same as in the Shipment ASN Export

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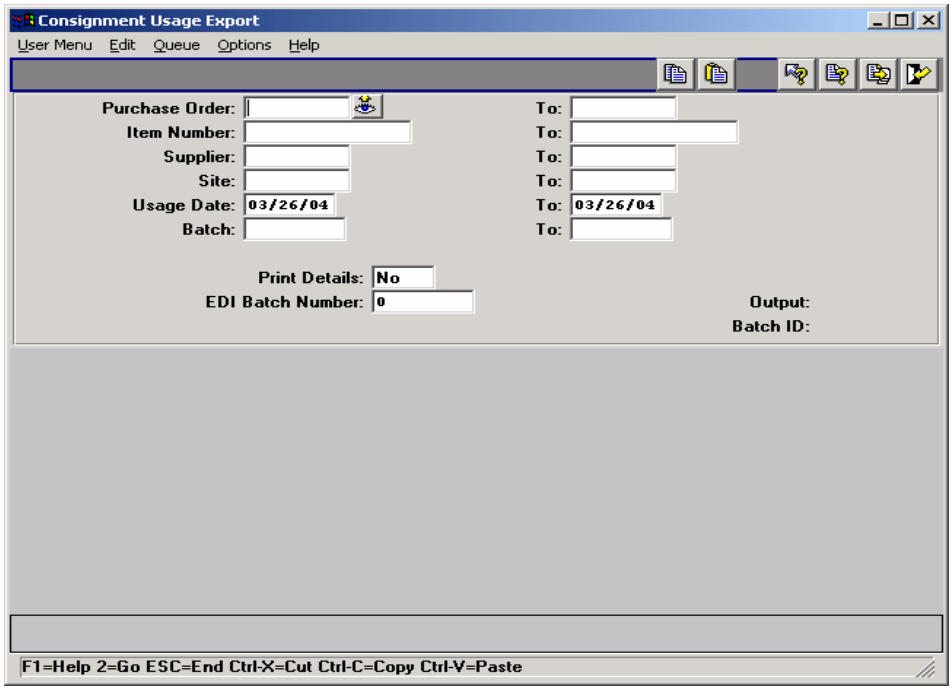
35.4.2 – Consignment Usage Export



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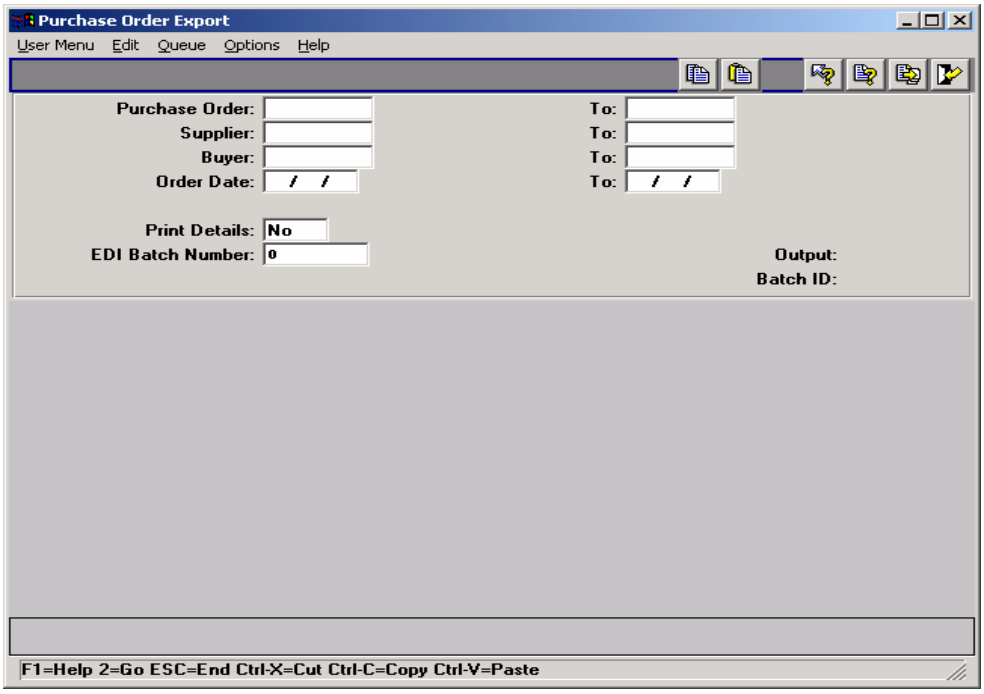
35.4.9 – Purchase Order Export



eB-EC-PR-280

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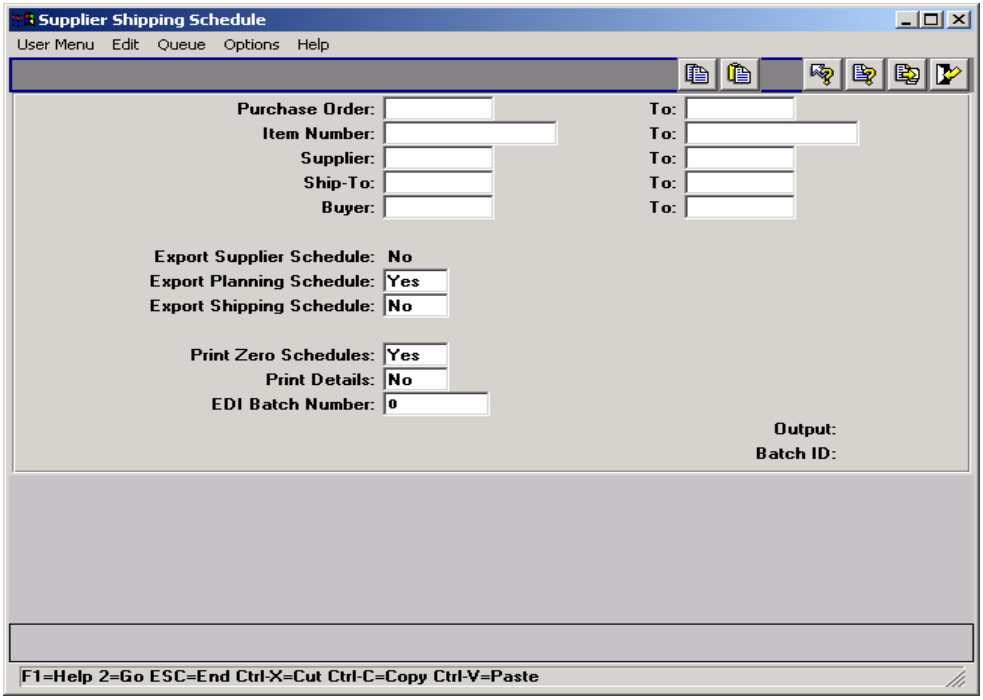
35.4.8 – Supplier Shipping Schedule



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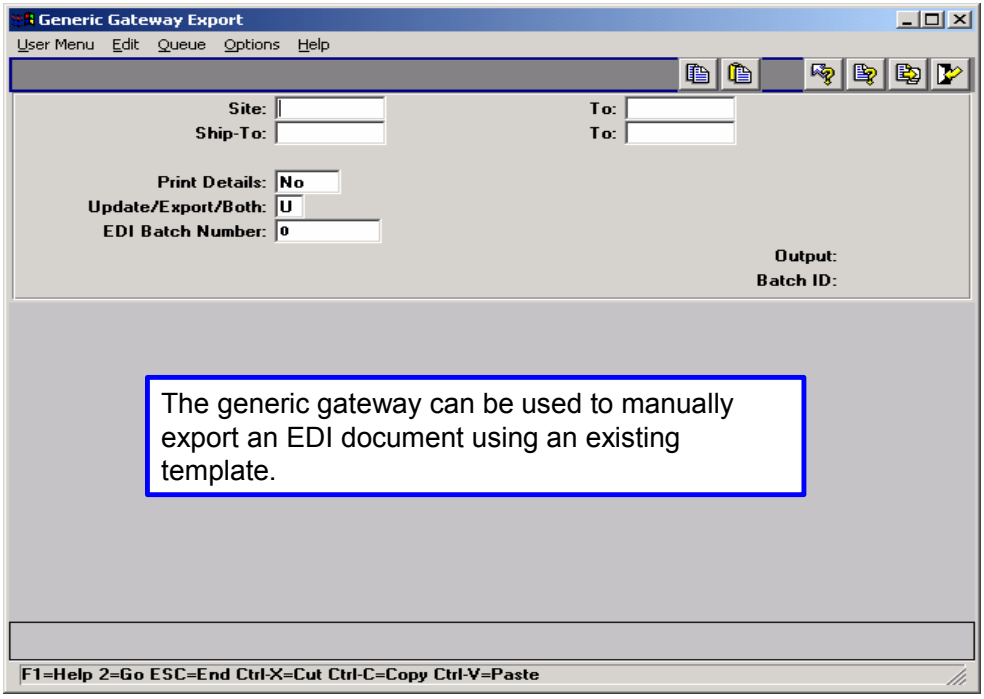
35.4.20 – Generic Gateway Export



eB-EC-PR-280

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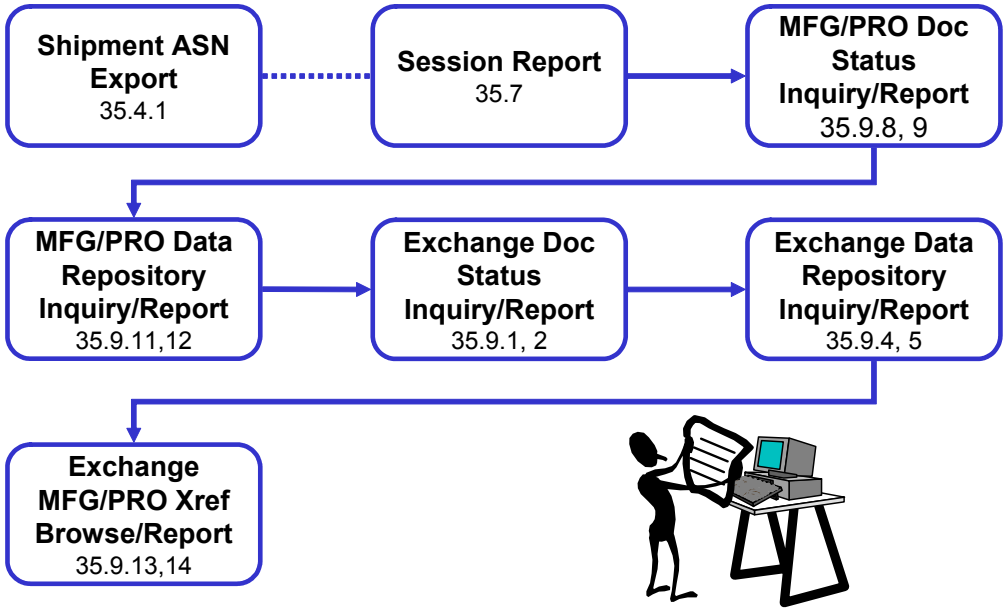
Exporting Documents – Review



eB-EC-PR-232

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Exporting Documents

Turnaround Data Maintenance
35.9.17

Export/Import Controller
35.17.5

eB-EC-PR-242

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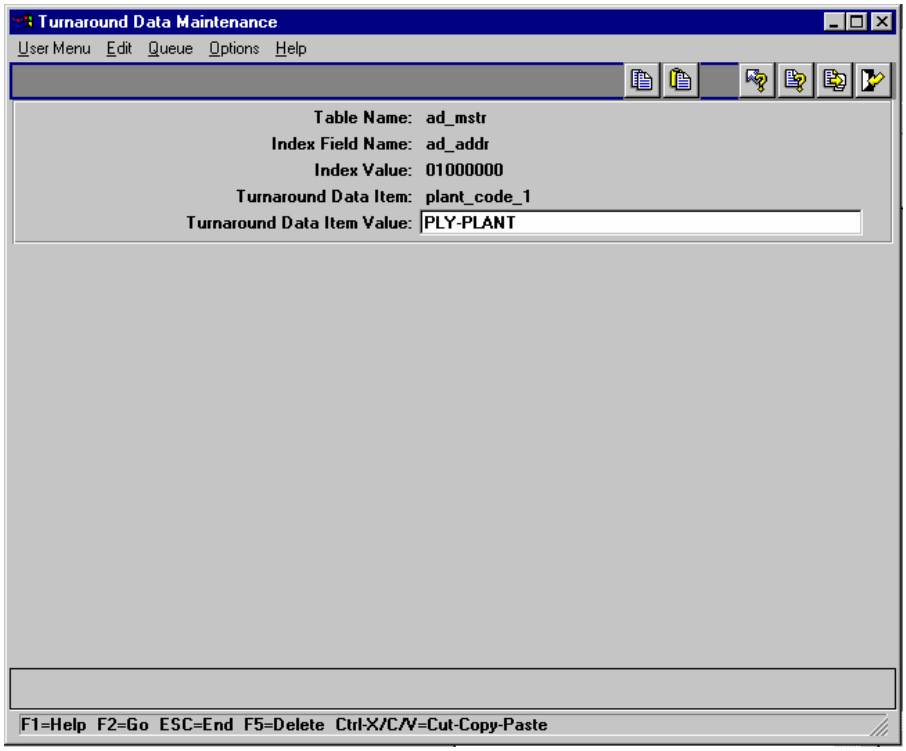
35.9.17 – Turnaround Data Maintenance



eB-EC-PR-262

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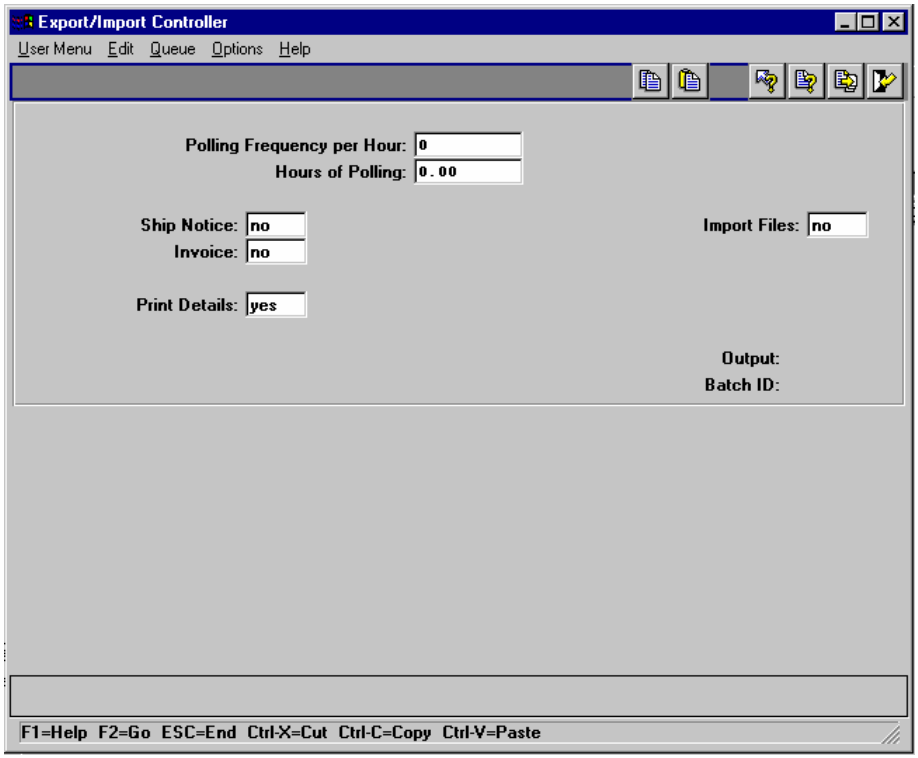
35.17.5 – Export/Import Controller



eB-EC-PR-320

Export/Import Controller

Menu Number 35.17.5

Use Export/Import Controller to export and import files on a regular schedule.

Based on the frequency and number of hours specified, the system searches the MFG/PRO database for confirmed shippers or invoices that have not been exported. When it finds a document, ECommerce begins processing automatically.

- If import = Yes, the system polls the import directory defined in the ECommerce Control File

Note Outbound directories are specified in the destination field in Transmission Group Maintenance 35.13.13.

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Polling Frequency per Hour

Number of times per hour the process should check for files to import or documents to export. Logical flags allow polling for various combinations of import and export functions.

Hours of Polling

Number of hours the process should check for files to import or documents to export.

- If zero, the process keeps checking for available items until manually interrupted

Ship Notice

Yes = system automatically

- Searches for and processes confirmed shippers in the MFG/PRO database
- Generate ASNs

Import Files

Yes = system automatically searches for and processes files in the inbound directory.

- Specified in the ECommerce Control File 35.21.13.24

Invoice

Yes = system automatically searches for and processes invoices in the MFG/PRO database.

Print Details

- Yes = error and warning message detail appears on report that is output when program executes
- No = report is limited to higher-level summary information

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Reprocessing Documents

Import Reprocessing
35.9.21

Export Reprocessing
35.9.22

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Reprocessing Documents

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Reprocessing Documents

Import Reprocessing
35.9.21

Export Reprocessing
35.9.22

eB-EC-PR-330

Import Reprocessing

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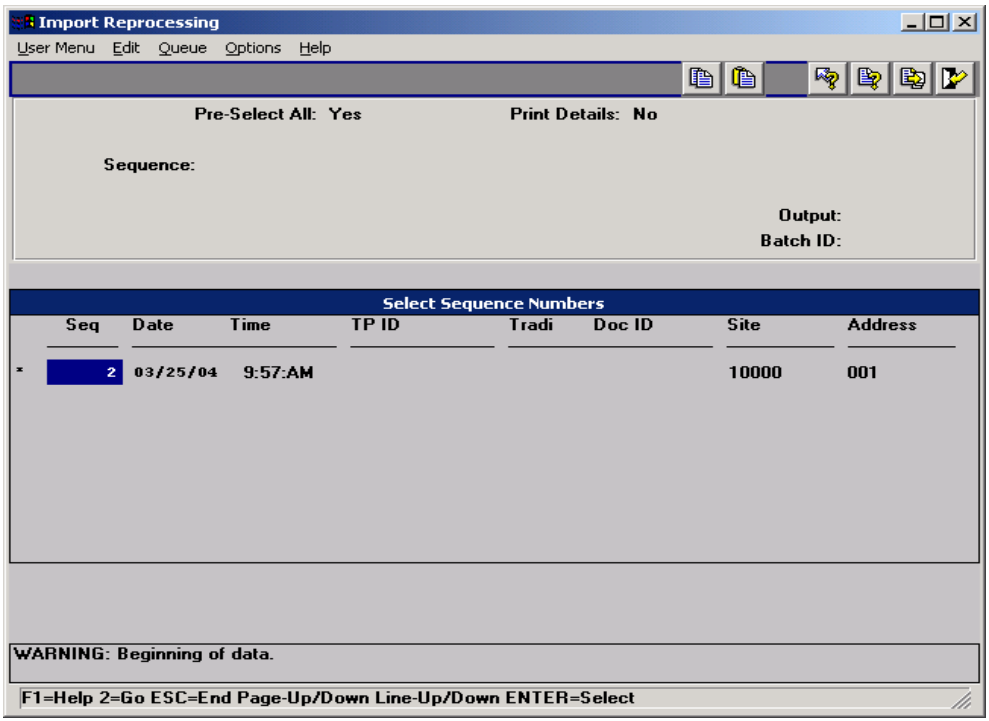
35.9.21 – Import Reprocessing



eB-EC-PR-340

Menu Number 35.9.21

After resolving a problem with import or export processing, use the appropriate program to repeat processing for selected process sequence numbers.

The system generates a report on the reprocessed files to the device specified in Output.

Pre-Select All

- Yes = all documents selected when displayed on the selection list
- No = the documents still display, but none are initially selected

Print Details

- Yes = include detailed information on the report that is output when this program is executed
- No = report includes only summary information

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Sequence

Each document is automatically assigned a sequence number during processing.

- Enter the sequence numbers to be reprocessed
  - Separate multiple entries with commas
  - The system validates the entries

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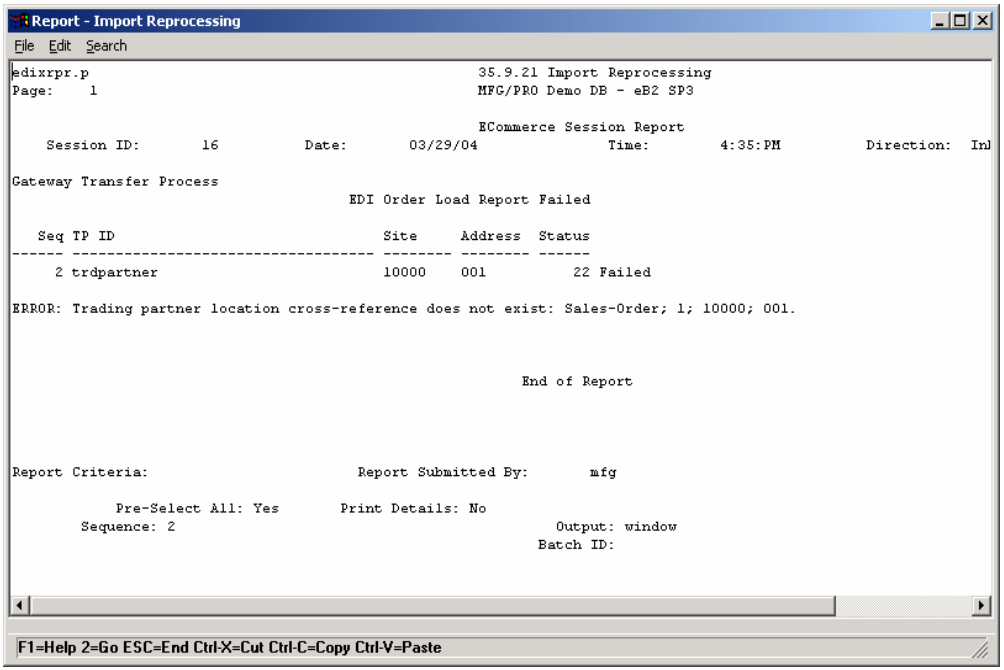
35.9.21 – Import Reprocessing Report



eB-EC-PR-350

Import Reprocessing Report

Menu Number 35.9.21

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Reprocessing Documents

Import Reprocessing
35.9.21

Export Reprocessing
35.9.22

eB-EC-PR-360

Export Reprocessing

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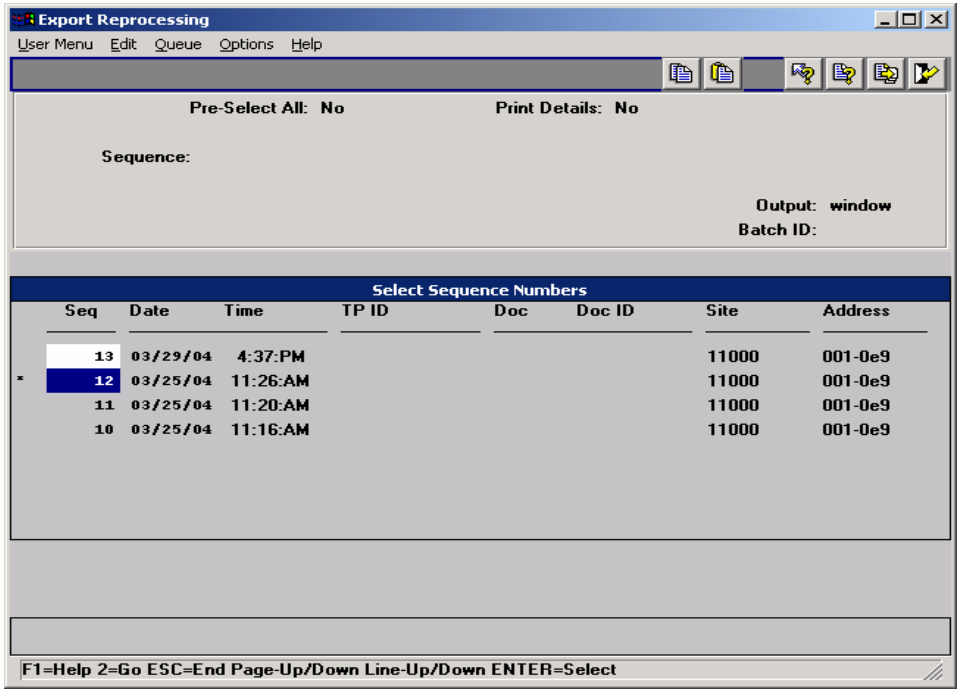
35.9.22 – Export Reprocessing



eB-EC-PR-370

Menu Number 35.9.22

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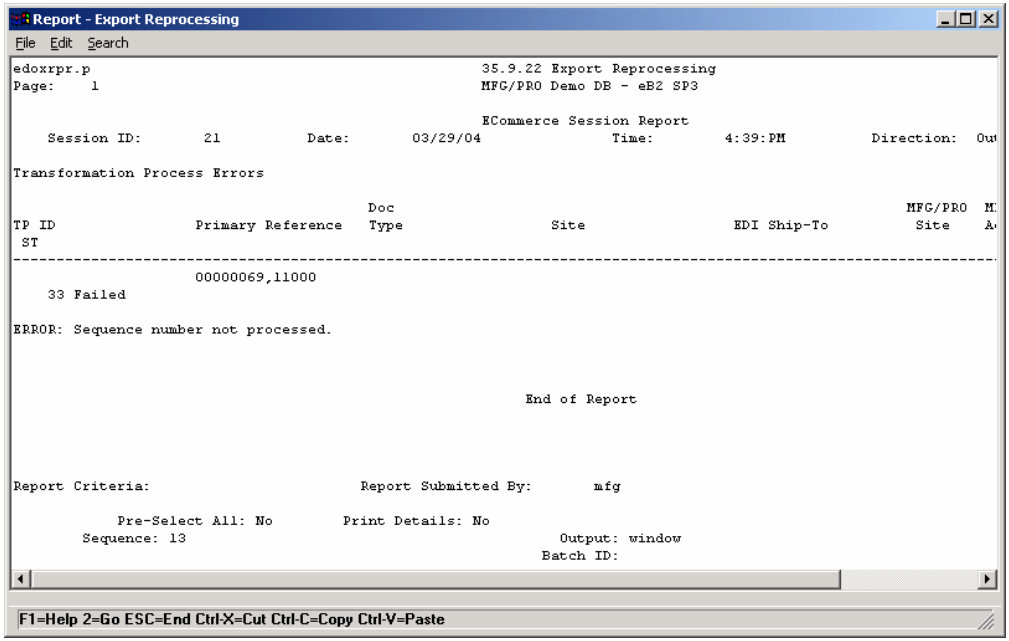
35.9.22 – Export Reprocessing Report



eB-EC-PR-382

Export Reprocessing Report

Menu Number 35.9.22

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Reprocessing Documents – Review

Import Reprocessing
35.9.21

Export Reprocessing
35.9.22

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Reprocessing Documents – Review

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Document Tracking

Document Tracking Maintenance
35.9.16.1

Document Tracking Inquiry
35.9.16.3

Document Tracking Archive/Delete
35.9.16.13

eB-EC-PR-380b

Document Tracking

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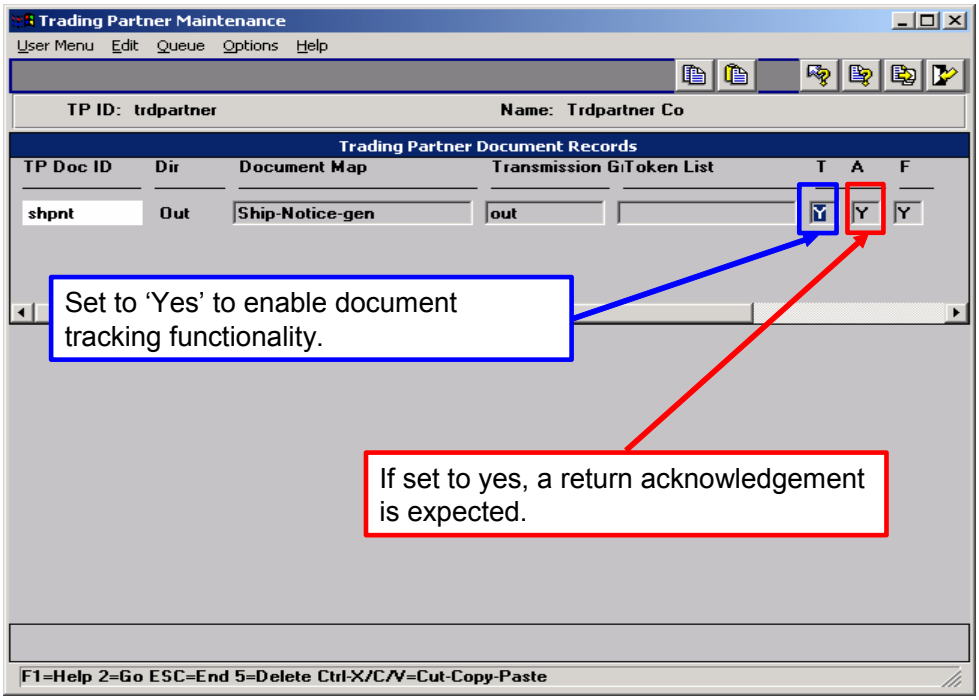
QAD

35.13.7 – Trading Partner Maintenance



eB-EC-
PR-382b

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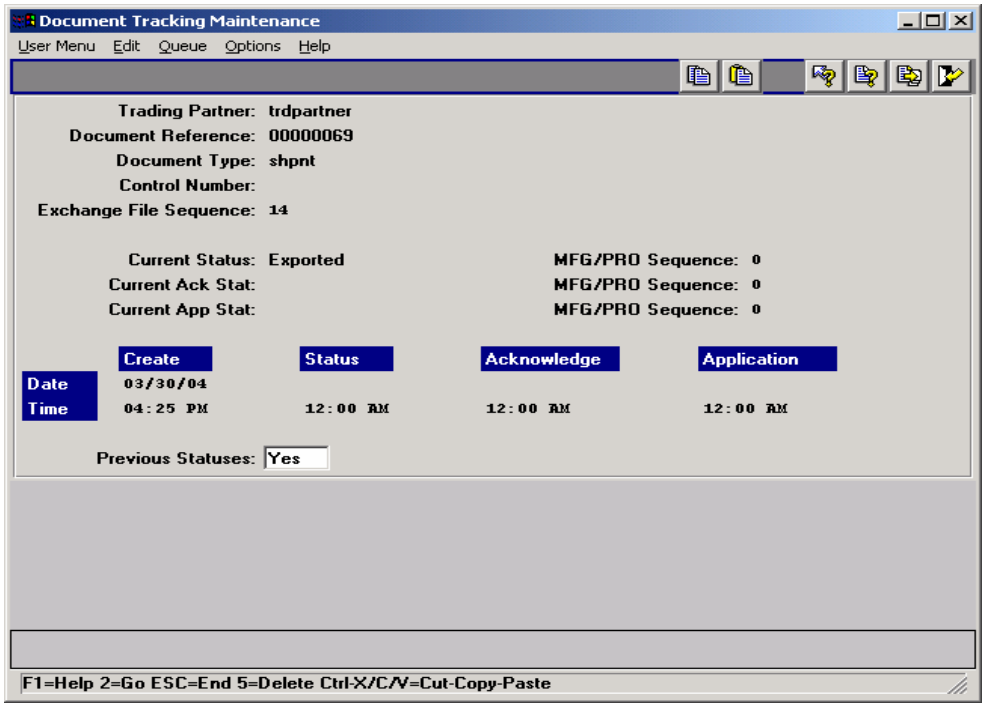
35.9.16.1 – Document Tracking Maintenance



eB-EC-PR-384b

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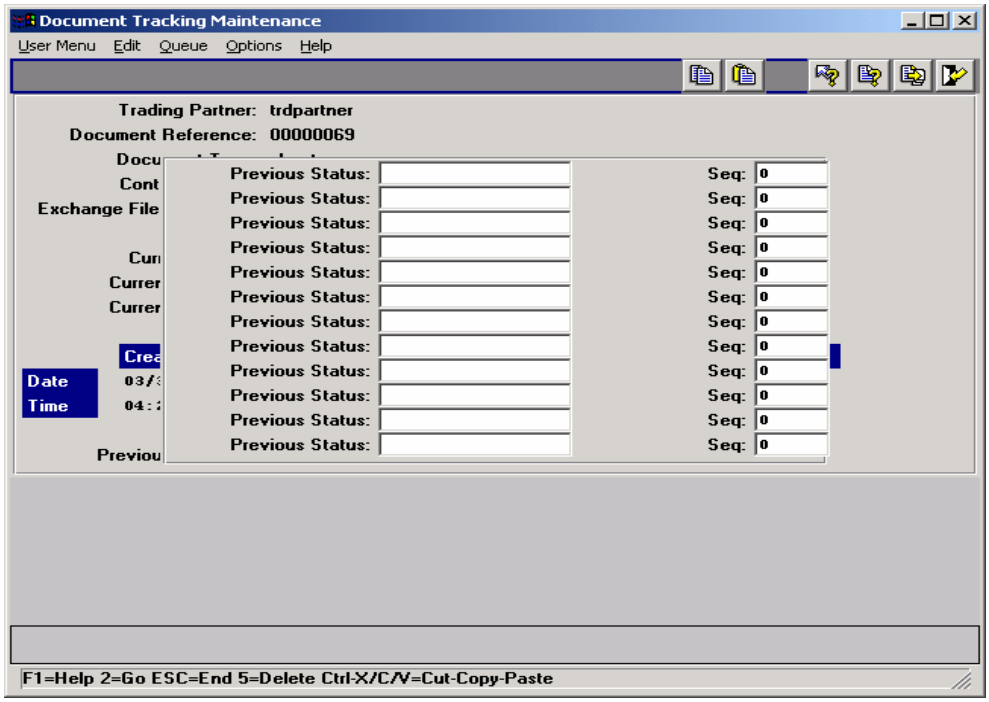
35.9.16.1 – Document Tracking Maintenance



eB-EC-PR-386b

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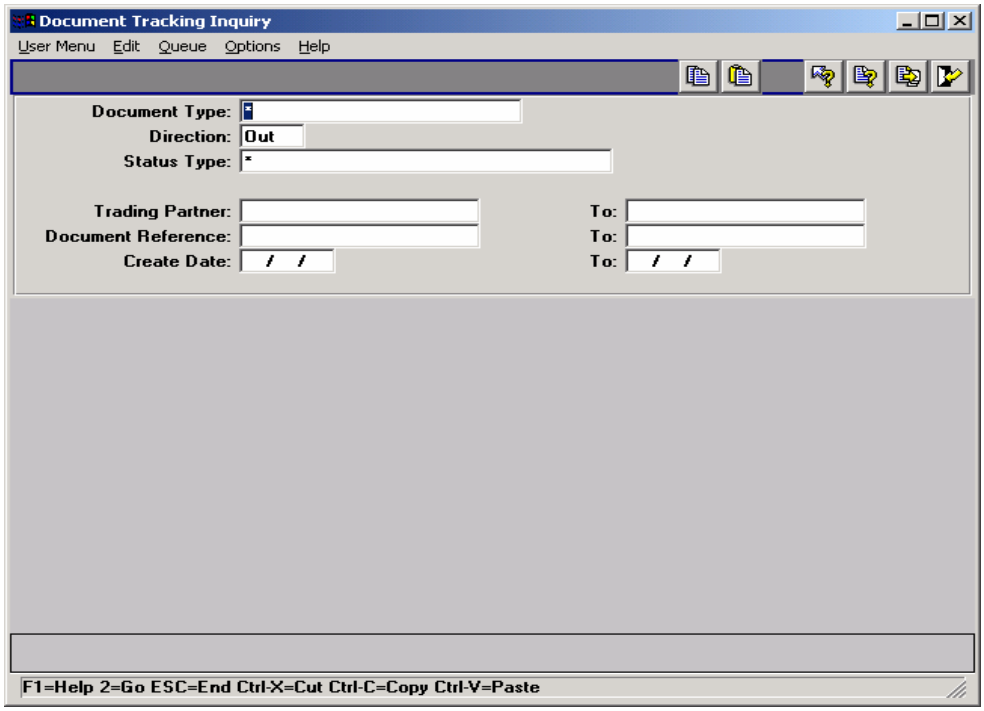
35.9.16.3 – Document Tracking Inquiry



eB-EC-
PR-388b

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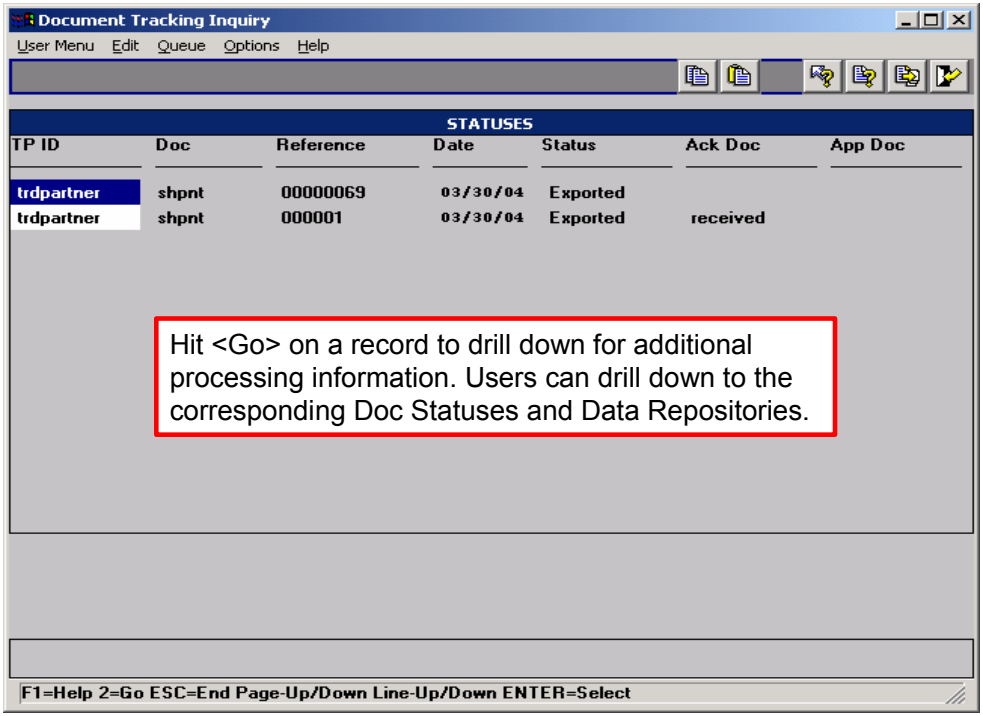
35.9.16.3 – Document Tracking Inquiry



eB-EC-PR-390b

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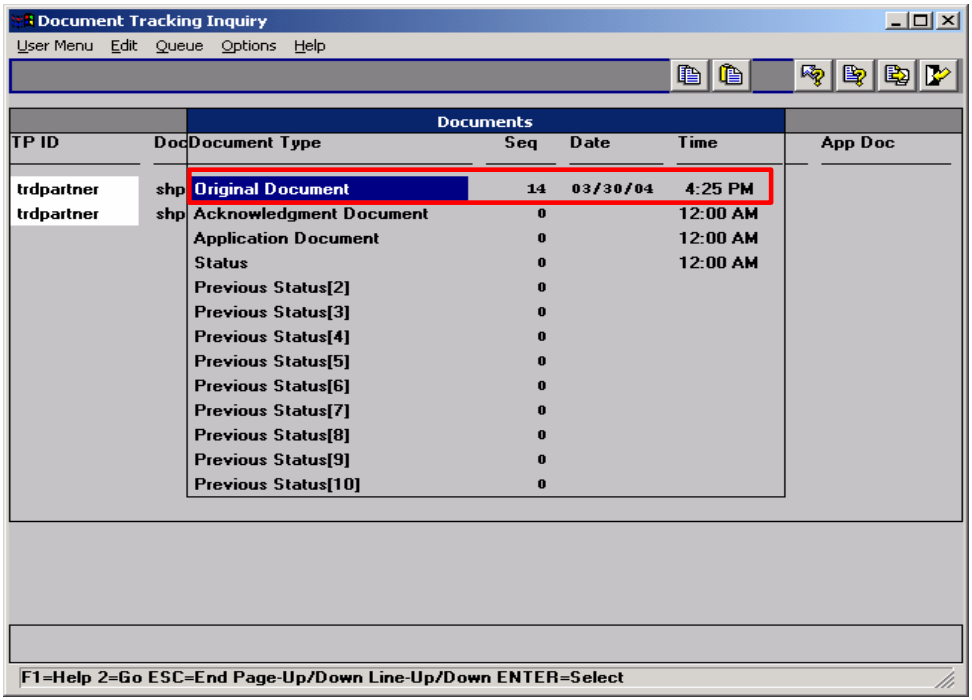
35.9.16.3 – Document Tracking Inquiry



eB-EC-PR-392b

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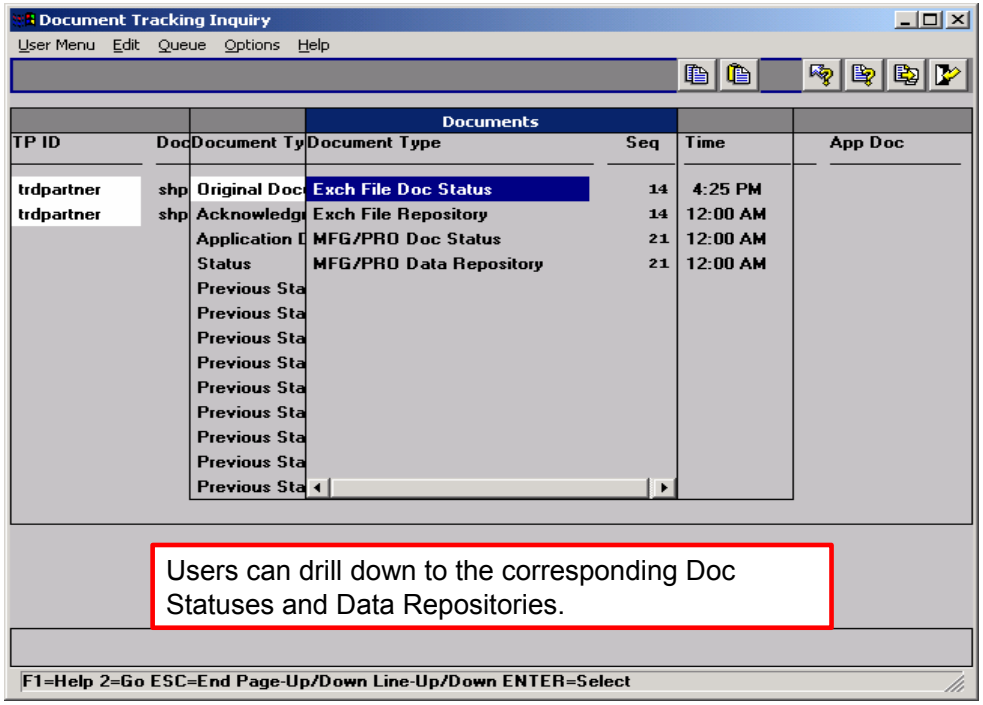
35.9.16.3 – Document Tracking Inquiry



Users can drill down to the corresponding Doc Statuses and Data Repositories.

eB-EC-PR-394b

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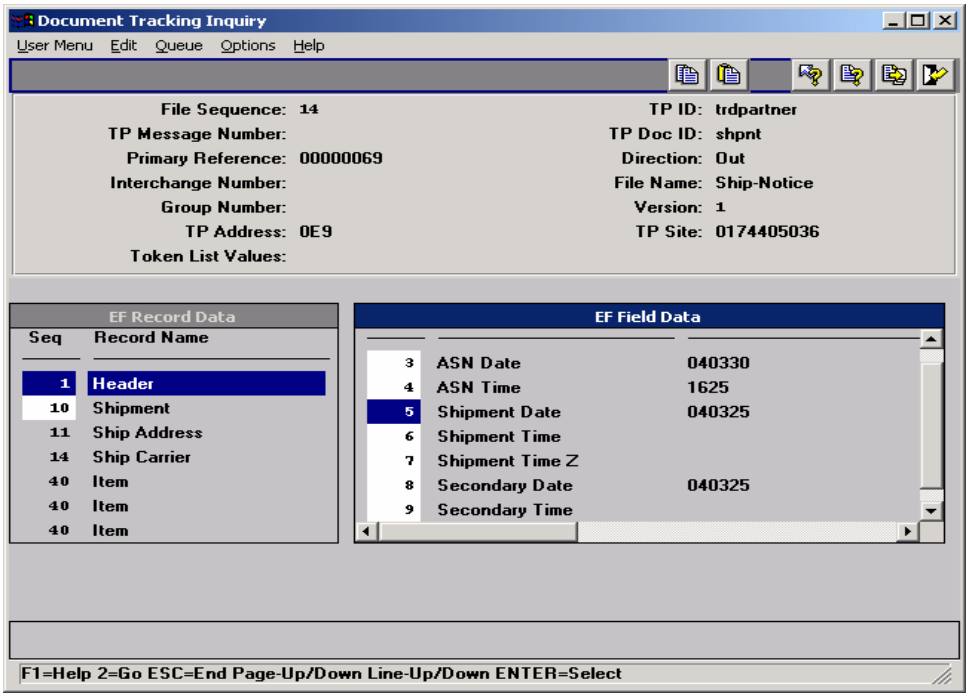
35.9.16.3 – Document Tracking Inquiry



eB-EC-
PR-396b

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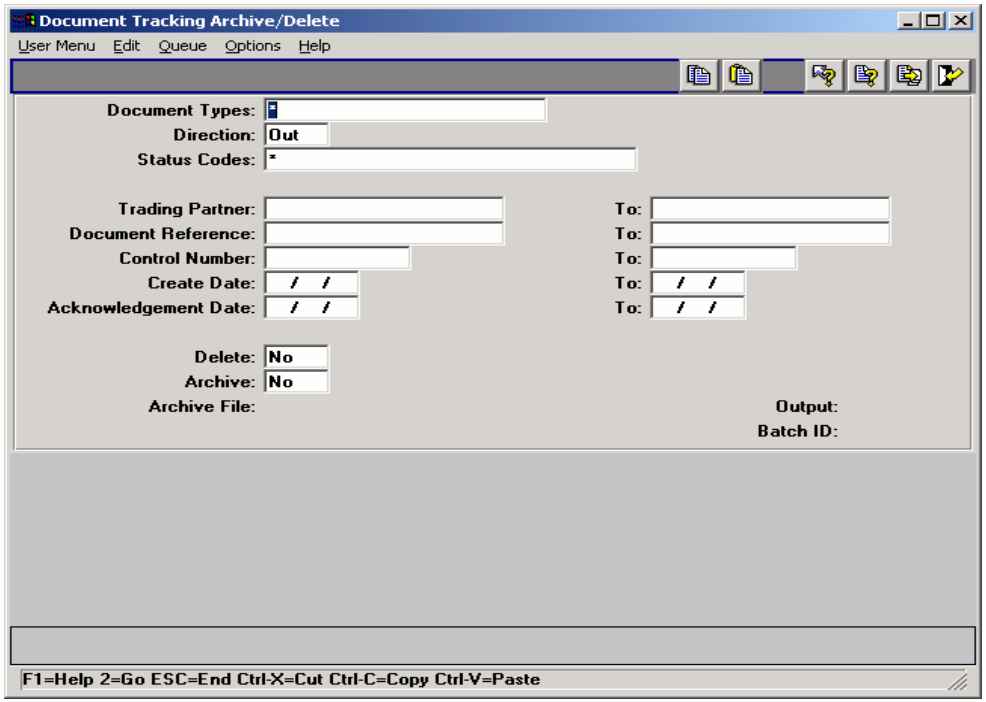
35.9.16.13 – Document Tracking Archive/Delete



eB-EC-
PR-398b

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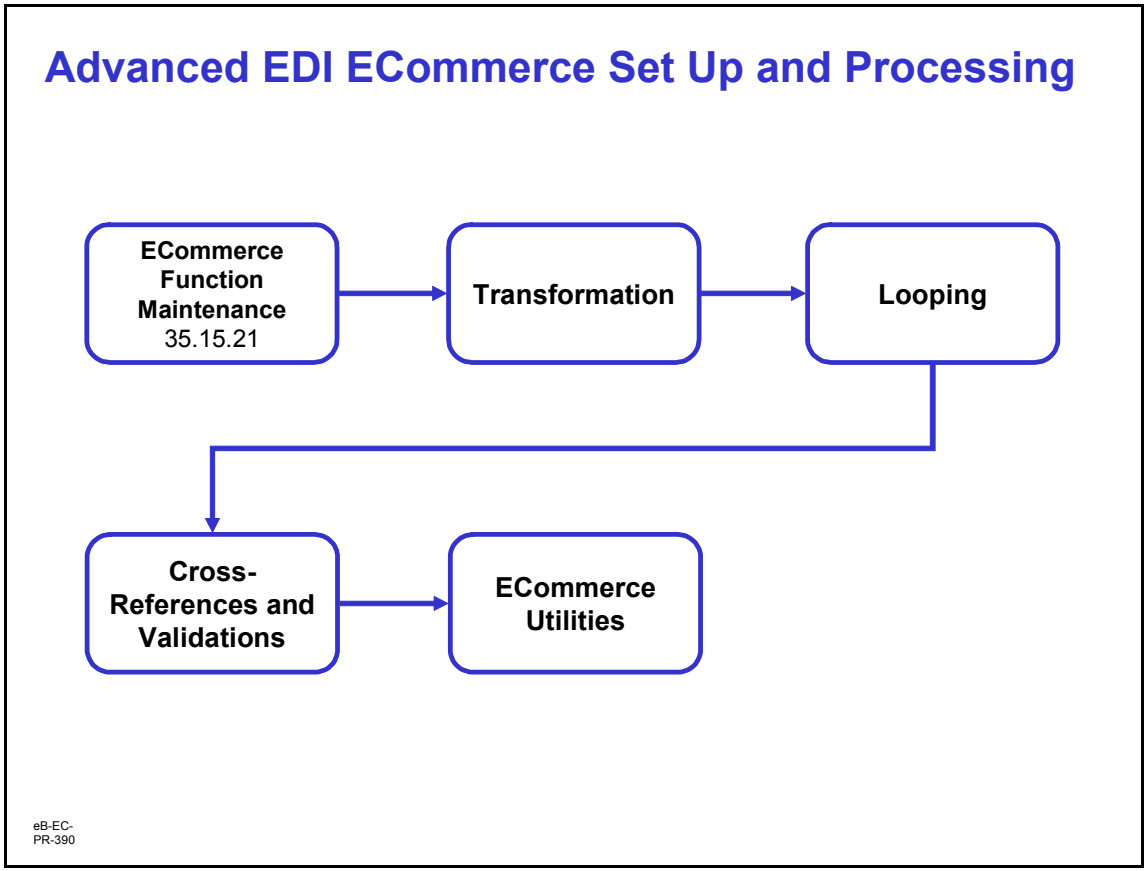

Advanced EDI ECommerce Set Up and Processing

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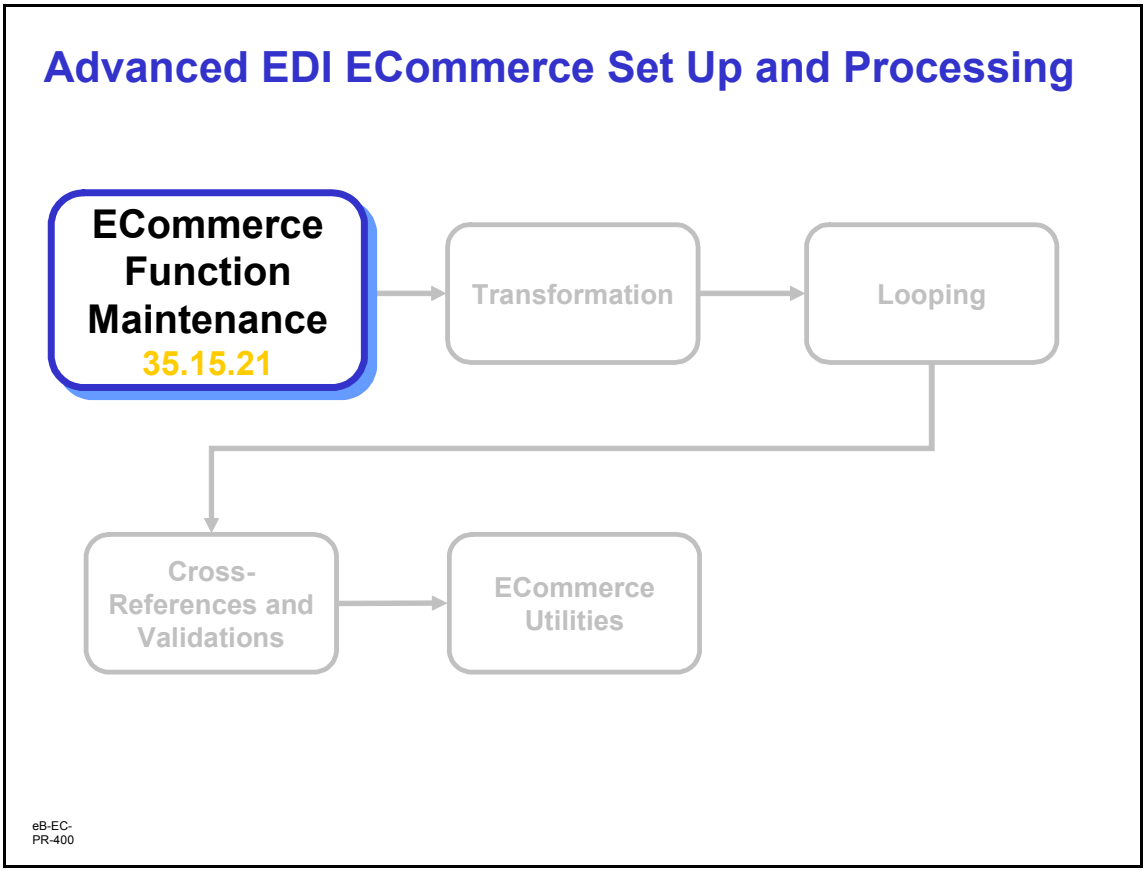

ECommerce Function Maintenance

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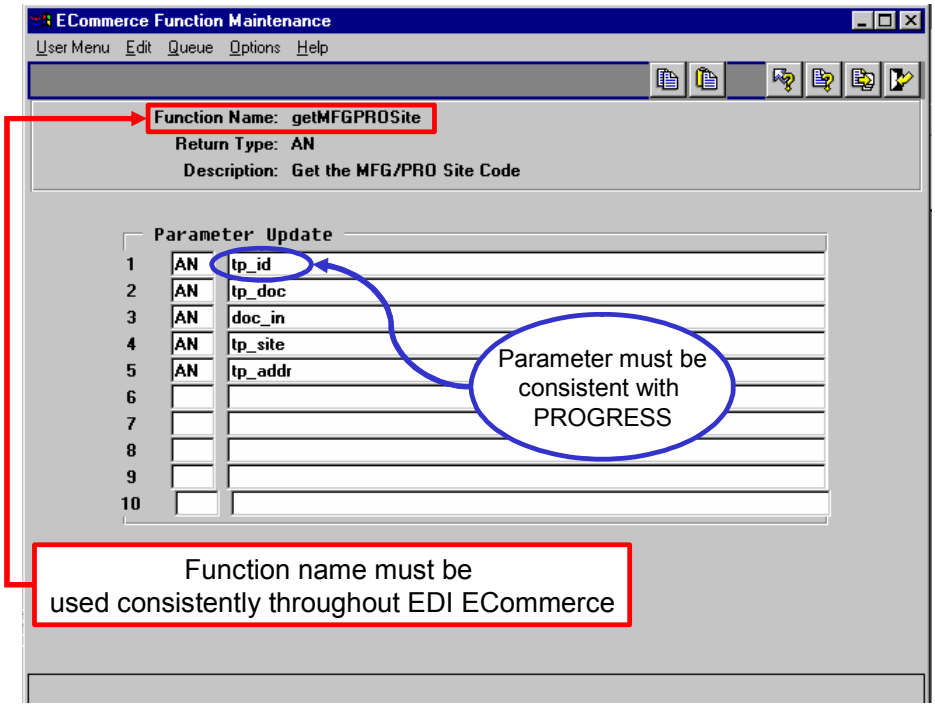
35.15.21 – ECommerce Function Maintenance



eB-EC-PR-410

Menu Number 35.15.21

Use ECommerce Function Maintenance to create user-defined functions, if needed.

Define the type of return required—alphanumeric, integer, real number, date, or logical—as well as the names and types of the parameters passed by the function.

- The program uses input to create a PROGRESS program template
- After saving the template to disk, use an editor to open the file and complete the code

The system saves user-defined functions in the directory specified in the ECommerce Control File 35.13.24 with the file name of the function.

Function Name

Alphanumeric name for this function.

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Description

Optionally describe what this function does.

Return Type

Type of value returned as output when this function is performed:

- AN: Alphanumeric
- R: Real number
- I: Integer
- L: Logical
- D: Date

Type

Type of value represented by this variable.

Name

Name of the variable that will be created inside the program.

Important Do not use PROGRESS keywords or special characters as the variable name. Doing so will cause the function to fail. Also, you can compile these programs if you want to see if they will compile.

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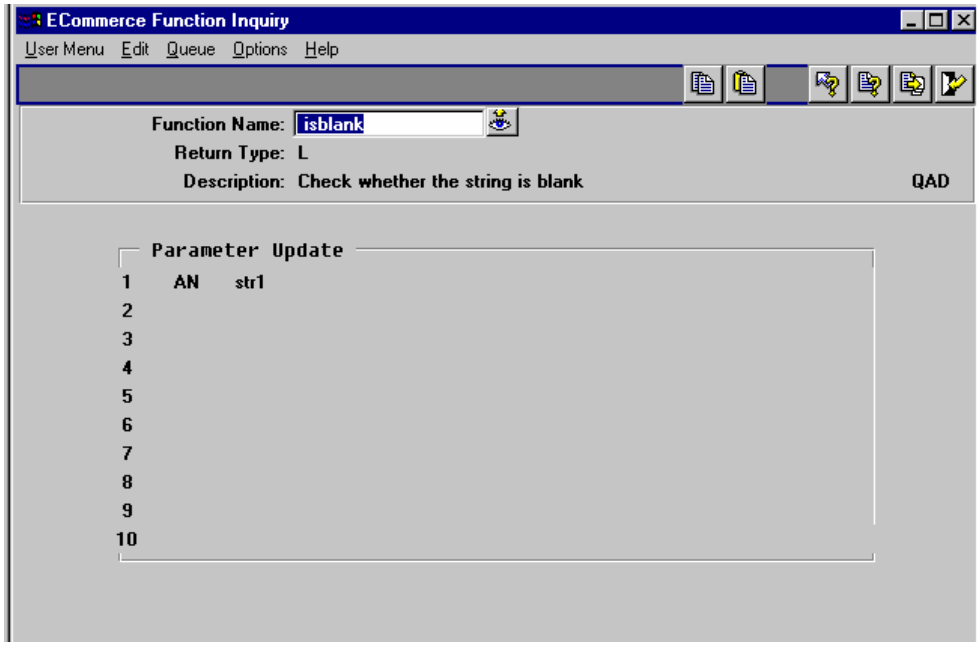
35.15.22 – ECommerce Function Inquiry



eB-EC-PR-420

ECommerce Function Inquiry

Menu Number 35.15.22

Scroll through summary information on functions.

ECommerce Function Report

Menu Number 35.15.23

Generate a complete report on a selected range of functions.

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List of QAD Defined Functions

getCumShipped	create-addr-mstr	getTPAddress	get_pod_field	Raise-Error
get_po_no	Date-Offset	getTPSite	get_shipto_TA	Round
Isblank	DateToString	getXrefValue	get_sod_det	Saturn-Kanban
SysDate	DetailHash	get_abs_field	get_sod_field	SetXrefValue
Add	Divide	get_addr_mstr	get_so_field	Substring
Check-Hash	get-release-id	get_comm_code	get_so_nbr	Subtract
CheckHashOut	get-schd-po	get_custpart	Isgreater	Systime
Comment	get-val-chkhash	get_custpart_field	Modulo	ToDate
compare	GetBatchNo	get_mfgpart	Multiply	Truncate
ComparePairs	getMFGPROAddress	get_partshipto_TA	Progress	get_part_mstr
Concat	getMFGPROSite	get_part_field	put-val-chkhash	CnvtTime

eB-EC-PR-421

List of QAD Defined Functions

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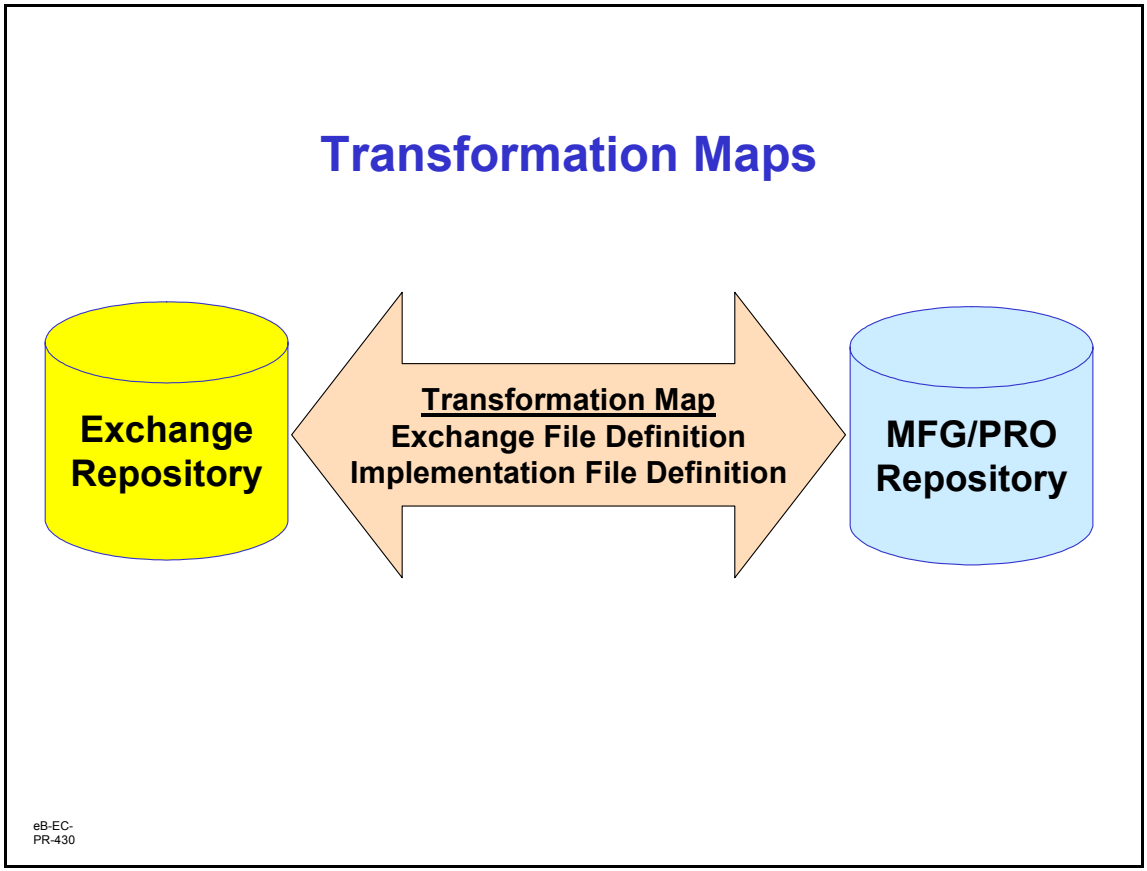

Transformation Maps

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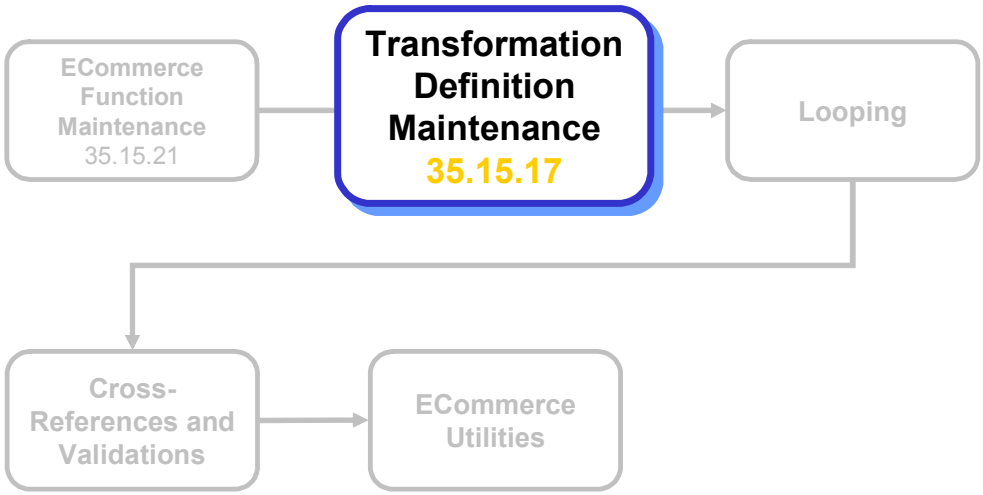
Advanced EDI ECommerce Set Up and Processing



eB-EC-PR-440

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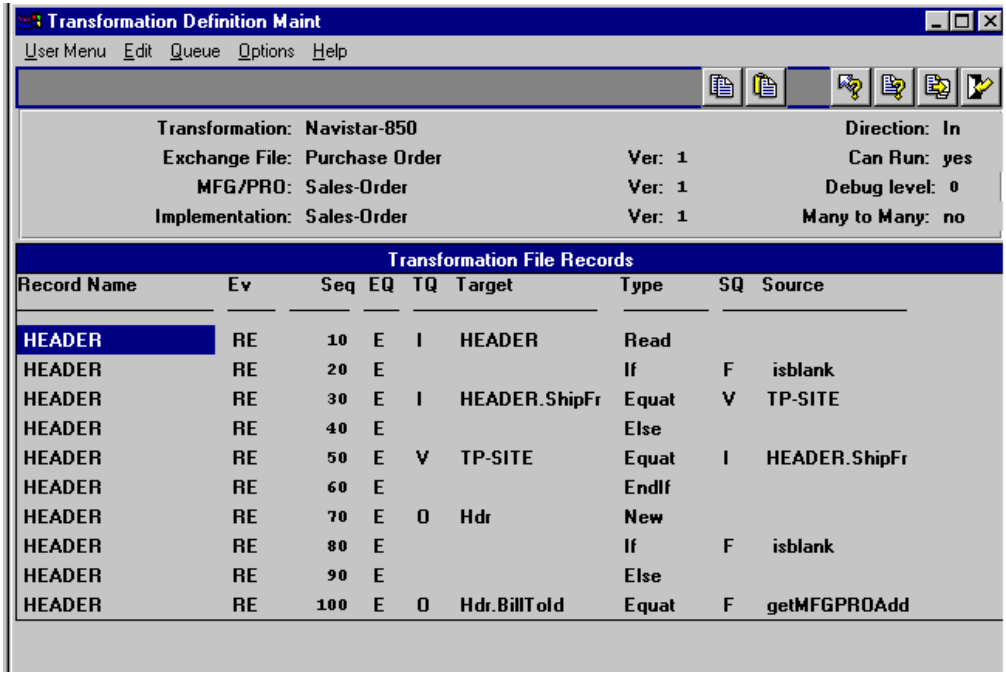
35.15.17 – Transformation Definition Maint – Records



eB-EC-PR-460

Transformation Definition Maintenance

Menu Number 35.15.17

Transformation

Name for this transformation definition.

Direction

Direction of the documents to be transformed using this map.

Exchange File, Ver

Name and version of the exchange file definition used in this transformation.

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MFG/PRO, Ver

Name and version of the MFG/PRO document definition used in this transformation.

Implementation, Ver

Implementation definition and version used in this transformation.

Can Run

Yes = makes this transformation map completely operational.

Important During testing, set this field to No. The system then runs the entire transformation process, but backs the data out of the MFG/PRO repository instead of storing it. Identify mapping problems and correct them before changing this field to Yes.

Debug Level

- Value between 0 and 9
- Level of detail reported in the activity file created when this transformation is run
  - Lower levels provide less detail, with zero providing none
  - It produces a file in your current home directory and appends sessions in file names <MMDDYYYY.DBG>

Note You can set this to 9 during testing to get a complete record of what happens during transformation processing.

Warning Leaving this field set to a high value can produce very large files and lead to disk space problems.

Many to Many

- Yes = combine multiple input documents and treat them as one or more documents
  - Allows the system back out multiple files or create a single output from several inputs
- No = the system always maps one input document to one or many output documents
  - Depends on how many times the transformation definition indicates a new header should be written

Before displaying the second frame, the system creates variables from the exchange file and the implementation associated with this transformation definition.

- Only these and user-defined variables can be used during transformation, along with the following automatically assigned tokens:
  - TP-ID

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- TP-DOCUMENT-ID
- TP-MESSAGE-NBR
- TP-FUNC-GRP-NBR
- TP-INTERCHANGE-NBR
- TP-DOCUMENT-NBR
- TP-DOC-DIR
- TP-SITE
- TP-ADDRESS
- MFG/PRO-SITE
- MFG/PRO-ADDRESS
- MAP-NAME
- MAP-EXF-NAME
- MAP-EXF-VERS
- MAP-IMP-NAME
- MAP-IMP-VERS
- MAP-MFG-NAME
- MAP-MFG-VERS
- MAP-MANY-TO-MANY
- MAP-DEBUG-LEVEL
- MAP-CAN-RUN
- CURRENT-EXF-SEQ
- CURRENT-MFG-SEQ
- CONDITIONAL-REC-FLUSHED

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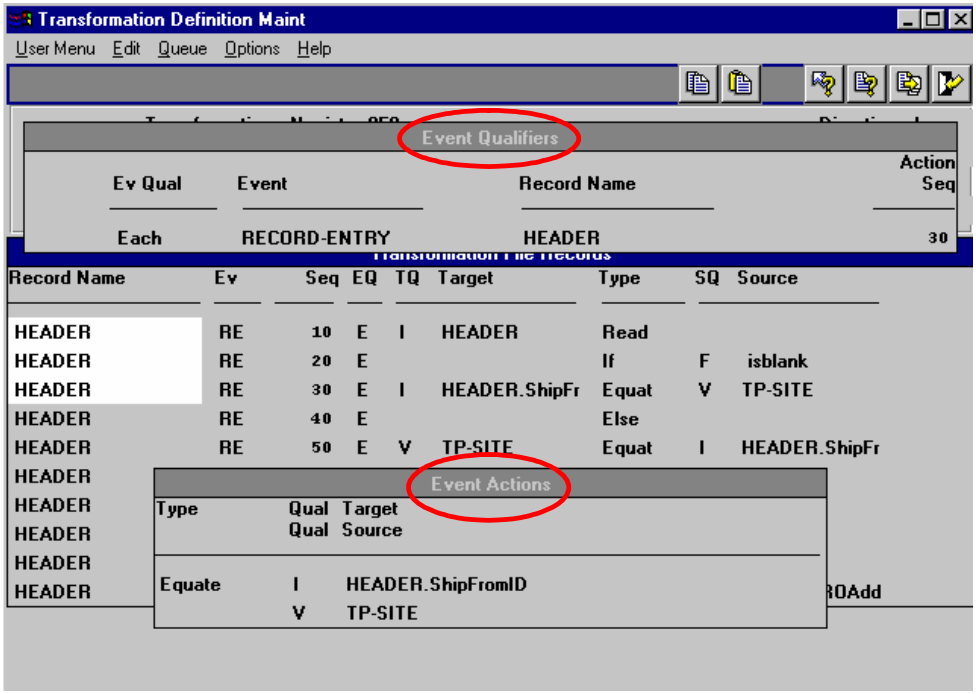
35.15.17 – Transformation Definition Maint – Events



eB-EC-PR-470

In the Event Qualifiers frame, begin identifying a new event by specifying a combination of:

- Event qualifier
- Event
- Record name
- Action sequence

Ev Qual

An event qualifier.

Note The current version of ECommerce uses only the Each option.

Event

Type of event.

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- Loop-Exit
- Record-Entry
- Record-Exit
- Loop-Entry

Record Name

Name of the record that has the event occurring.

Action Seq

A number to represent the sequence in which this event occurs. When setting up event qualifiers, consider using increments of 10 so that intermediate sequence numbers can be inserted later.

Type

Type of action to be performed.

Field Level:

- **Equate:** Set the target equal to the source
- **If:** Conditional logic based on source and source qualifier
  - The If statement must return a value of True or Yes
  - Allows the use of Else and Endif
- **Endif:** End of an If statement
  - Does not require a source or target
- **Else:** Logical branch between If and Endif statements
  - Does not require a source or target

Record Level:

- **Read:** Read the target record fields into memory
  - Can be used only with an input record
- **Clear:** Remove the target record fields from memory
- **Write:** Write the target record to the database
  - You can only write an output record
  - Must write a header record before another record can be written
  - Write can be used optionally with the QAD-provided check-hash function, which determines the header for which the detail will be written
- **New:** Logical place holder for creating outbound transactions

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- **Loop:** Loop through the records already read into memory
- **LoopEnd:** End a loop
  - Does not require a source or target

Qual (target)

Form of data to be specified as the target for this event:

- I: Input data
- O: Output data
- V: Variable

Target

- Inbound record or field
- Outbound record or field
- Variable that is the target of the action specified in Type

Qual (source)

Form of data to be specified as the source for this event:

- I: Input data
- O: Output data
- V: Variable
- C: Constant
- F: Function

Note If you specify a function and enter its name in Source, another frame lets you modify it as needed for this specific instance. You can also define your own functions with ECommerce Function Maintenance 35.15.21. Use ECommerce Function Copy/Delete 35.17.2 to copy an existing function before modifying it as required.

Source

- Inbound record or field based on qualifier
- Outbound record or field based on qualifier
- Variable
- Constant
- Function that is the source of the action specified in Type
  - Modify the qualifiers and parameters as needed for this specific instance

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Qual

A code indicating the structure of the data passed in this parameter.

- I: Input data
- O: Output data
- V: Variable
- C: Constant

Parameter

- Name of the input, output, or variable
- If Qual is C, you can enter a constant
- If a value entered is not already defined, the system prompts to define the data type:
  - AN: Alphanumeric
  - D: Date
  - I: Integer
  - L: Logical
  - R: Real number

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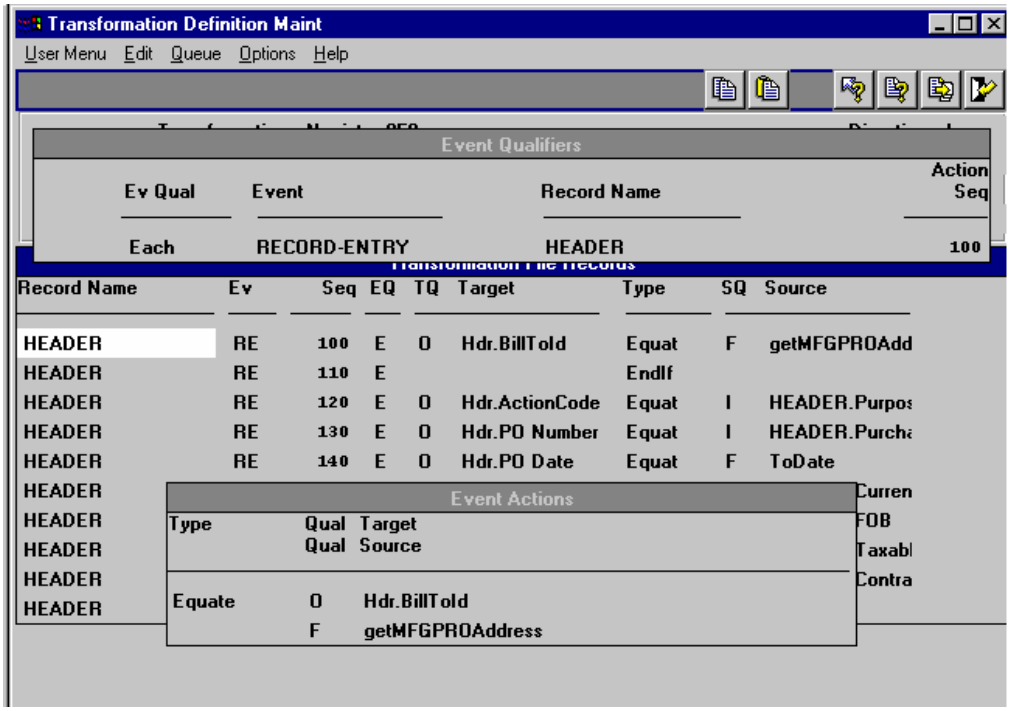
35.15.17 – Transformation Definition Maint – Events



eB-EDI-
EC-PR-

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35.15.17 – Transformation Definition Maint – Events

Transformation Definition Maint

User Menu Edit Queue Options Help

Event Qualifiers

Ev Qual	Event	Record Name	Action Seq
Each	RECORD-ENTRY	HEADER	30

Record Name	Ev	Seq	EQ	TQ	Target	Type	SQ	Source
HEADER	RE	30	E	I	HEADER.ShipFr	Equat	V	TP-SITE
HEADER	RE	40	E			Else		
HEADER	RE	50	E	V	TP-SITE	Equat	I	HEADER.ShipFr
HEADER	RE	60	E			EndIf		
HEADER	RE	70	E	O	Hdr	New		
HEADER								
HEADER								
HEADER								
HEADER								
HEADER								

Event Actions

Type	Qual	Target / Source
Equate	I	HEADER.ShipFromID
	V	TP-SITE

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EC-PR-

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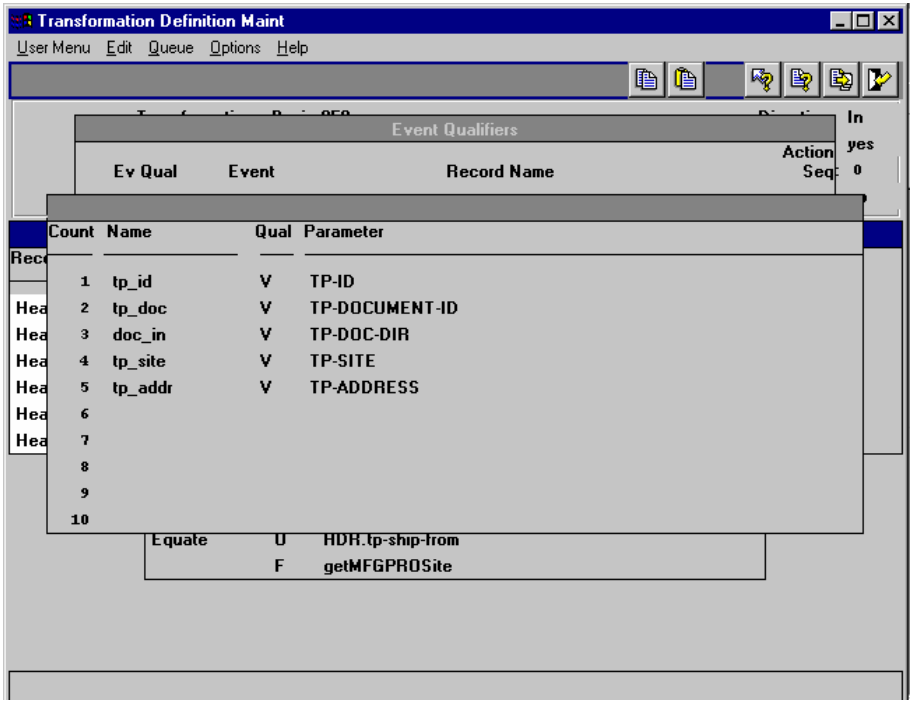
35.15.17 – Transformation Definition Maint – Events



eB-EDI-
EC-PR-

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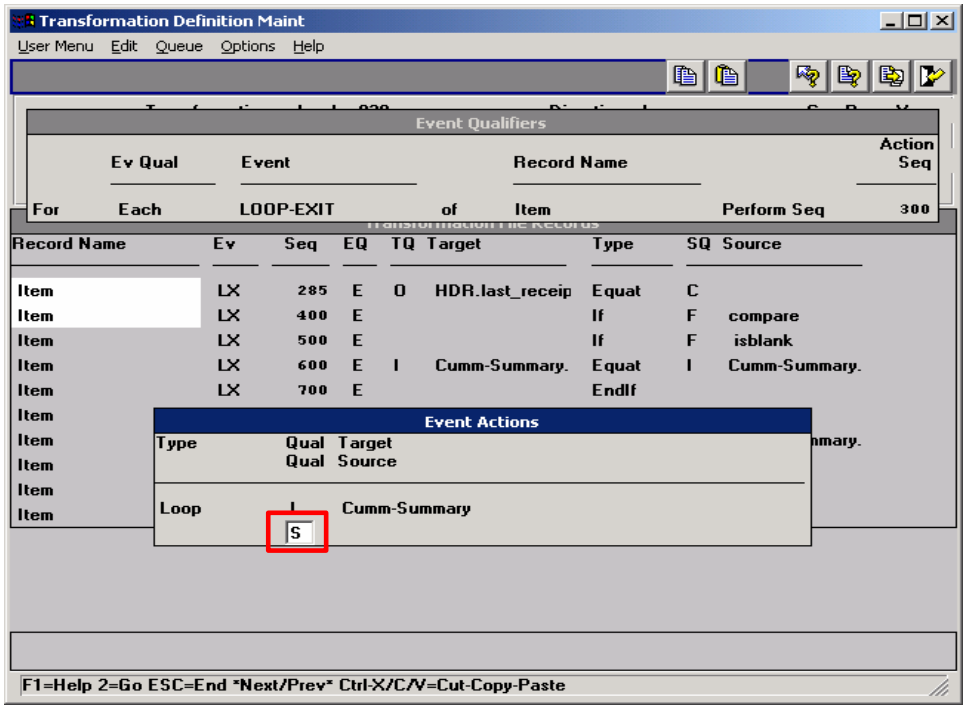
35.15.17 – Transformation Definition Maint – Record Sort Capability



eB-EDI-
EC-PR-

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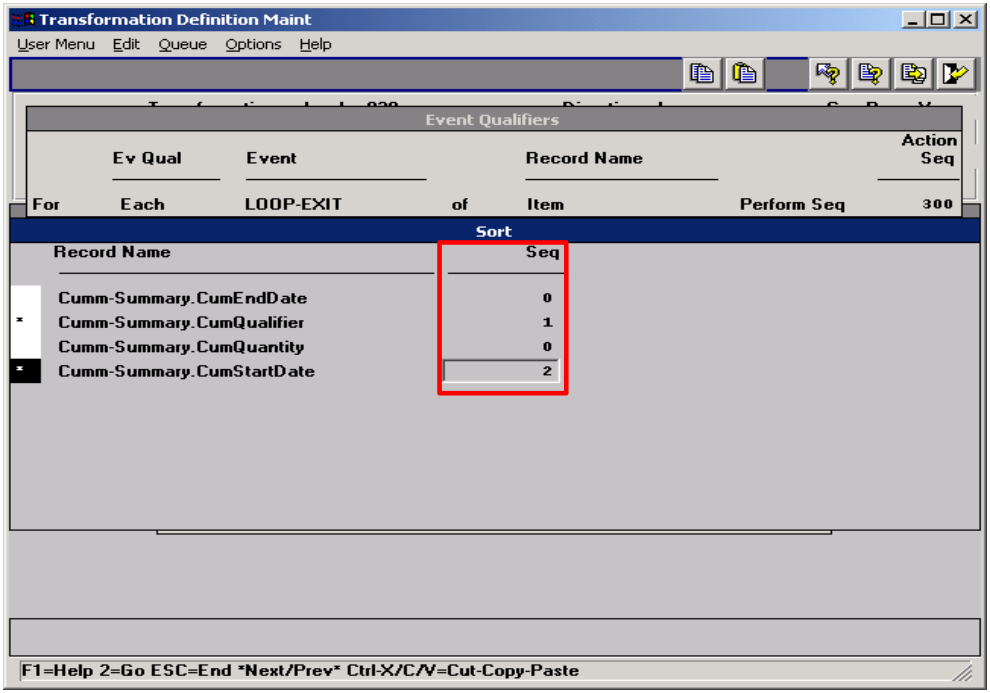
35.15.17 – Transformation Definition Maint – Record Sort Capability



eB-EDI-
EC-PR-

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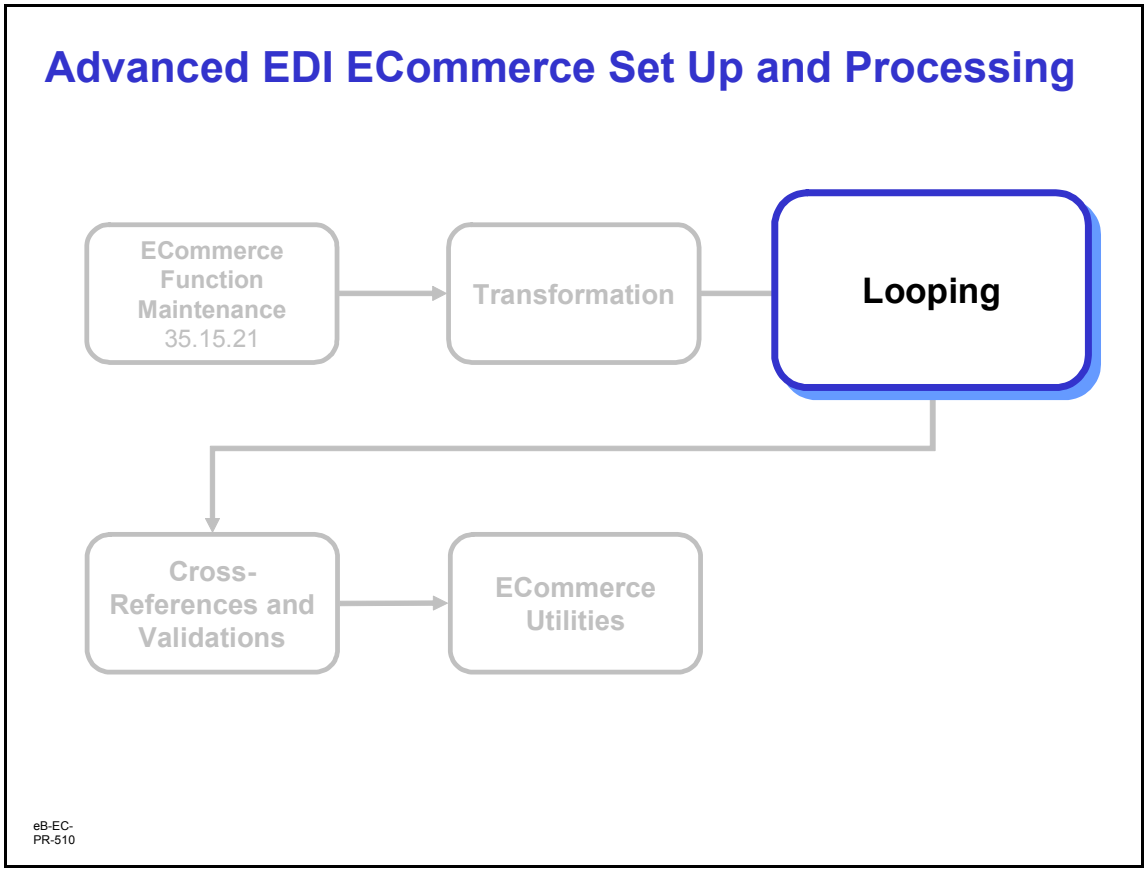

Looping

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Example of Loop Occurs

Sequence		Loop Occurs	Loop End
1	Header	1	0 or 6
2	Header-Comm	9999	2
3	Header-Ext	1	3
4	Item	9999	6
5	Item-Comm	9999	5
6	Item-Ext	1	6

eB-EC-PR-520

Example of Loop Occurs

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Example of Looping

	Record Exit	Loop Exit	Loop Entry	Record Entry
Header			Header	Header
Header-Comm	Header		Header-Comm	Header-Comm
Header-Ext	Header-Comm	Header-Comm		Header-Ext
Item	Header-Ext		Item	Item
Item-Comm	Item		Item-Comm	Item-Comm
Item-Ext	Item-Comm	Item-Comm Item		Item-Ext
*End of File	Item-Ext	Header		

eB-EC-PR-530

Example of Looping

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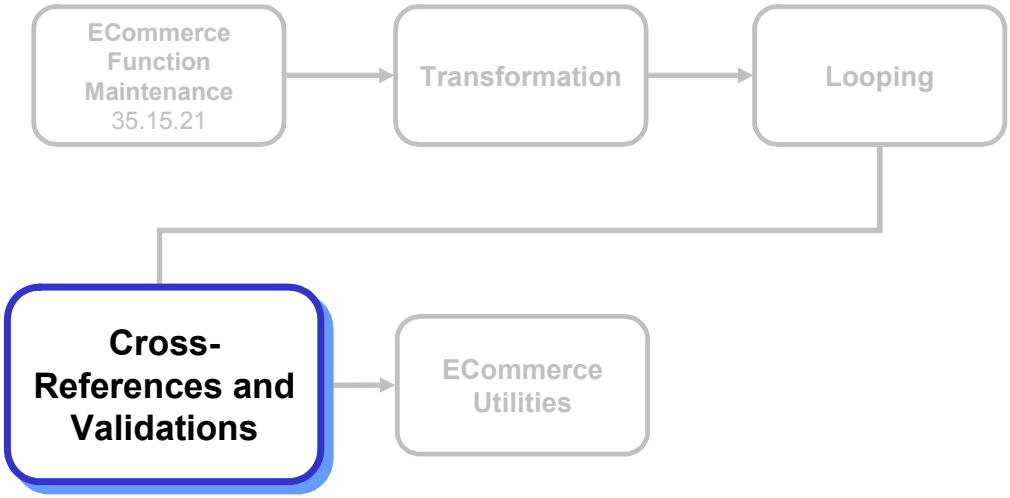

eB-EC-PR-535

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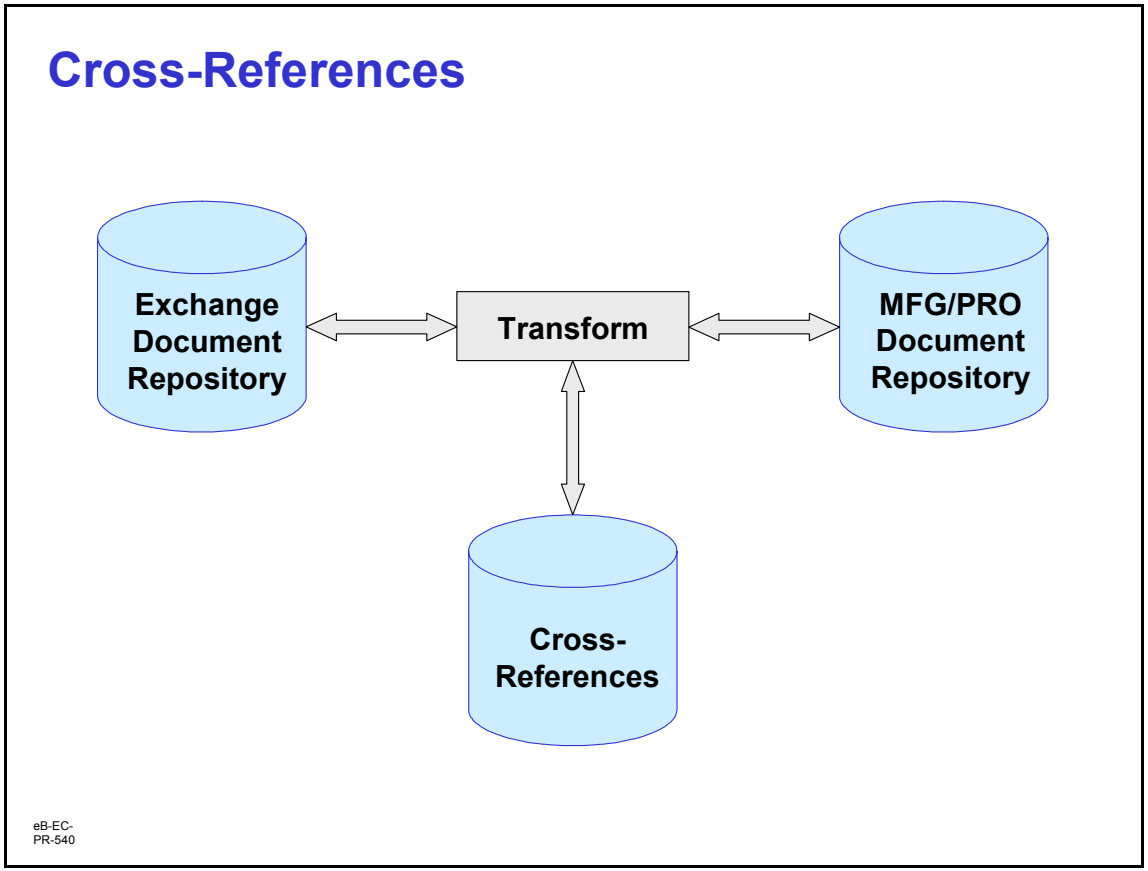

Cross-References

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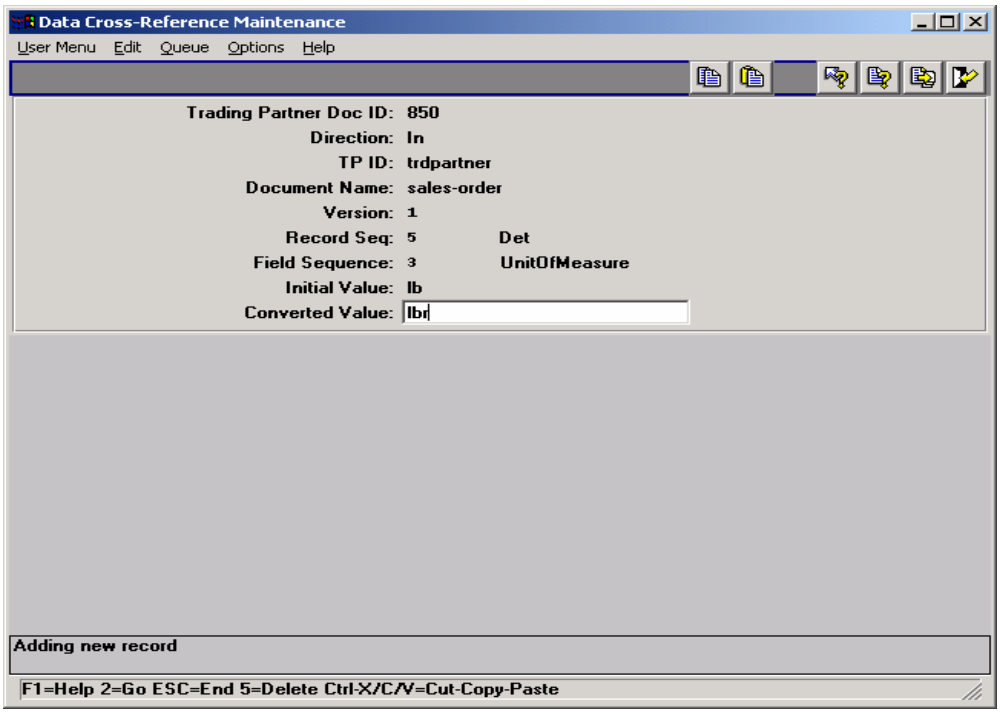
35.13.16 – Data Cross-Reference Maintenance



eB-EC-PR-560

Data Cross-Reference Maintenance

Menu Number 35.13.16

Use Data Cross-Reference Maintenance to set up automatic conversions from one specified value to another in inbound or outbound documents during the transformation process. For example, use this function to perform unit-of-measure conversions between an incoming trading partner document and the target MFG/PRO document.

Use Data Cross-Reference Browse 35.13.17 or Data Cross-Reference Report 35.13.18 to view existing cross-references.

TP Doc ID

Trading partner document to which this conversion applies.

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Direction

Direction of the documents to which this conversion applies.

TP ID

A valid ID code of a trading partner defined in Trading Partner Maintenance 35.13.7.

- This conversion will apply only to documents involving this trading partner

MFG/PRO Doc Name and Version

MFG/PRO document and version to which this conversion applies.

Record Seq

Sequence number of the record to be modified during the conversion.

Field Seq

Sequence number of the field to be modified during the conversion.

Initial Value

Target value to be converted, indicating how the field reads before conversion.

Converted Value

New value, indicating how the field will read after conversion.

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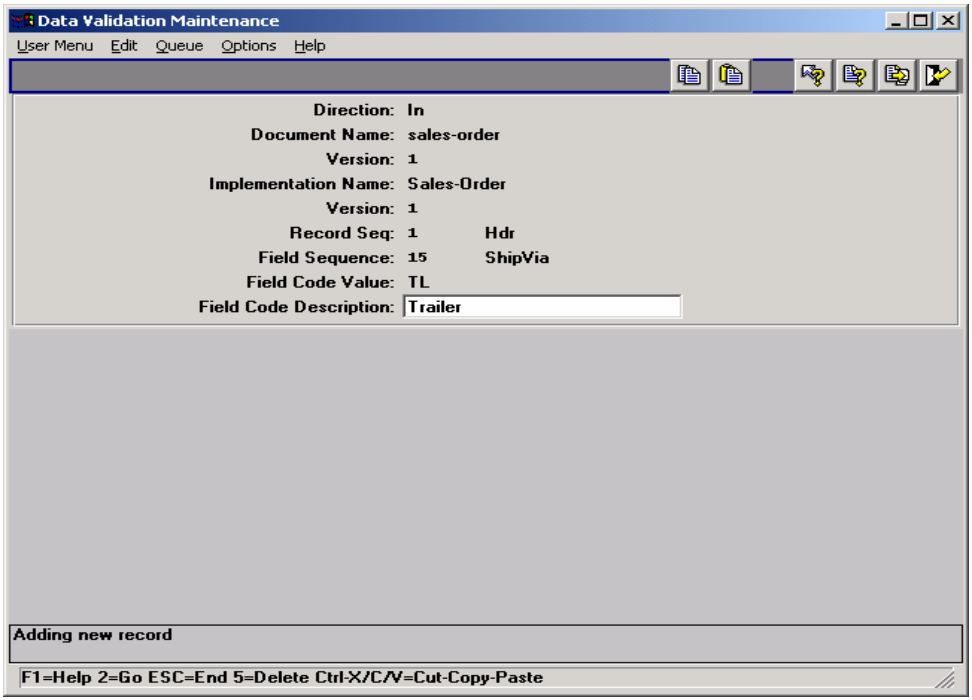
35.13.21 – Data Validation Maintenance



eB-EC-PR-570

Data Validation Maintenance

Menu Number 35.13.21

Use Data Validation Maintenance to define values that will automatically be validated in inbound or outbound documents during the transformation process. Fields are validated in transformation (IN) during writes to MFG/PRO, or (OUT) when reading the field.

Note If the data cannot be validated against the specified value during transformation, the system generates an error.

Direction

Direction of the documents that will have the field value validated.

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MFG/PRO Name and Version

Name and version of the MFG/PRO document that contains the field to be validated.

Implementation Name and Version

Name and version of the implementation associated with the document to be validated.

Implementation Record Seq

Sequence number of the record containing the field to be validated.

Implementation Field Seq

Sequence number of the field containing the value to be validated.

Field Value

Value against which the field will be validated.

Field Desc

System displays the description from the field definition.

Use Data Validation Browse 35.13.22 or Data Validation Report 35.13.23 to view existing data codes.

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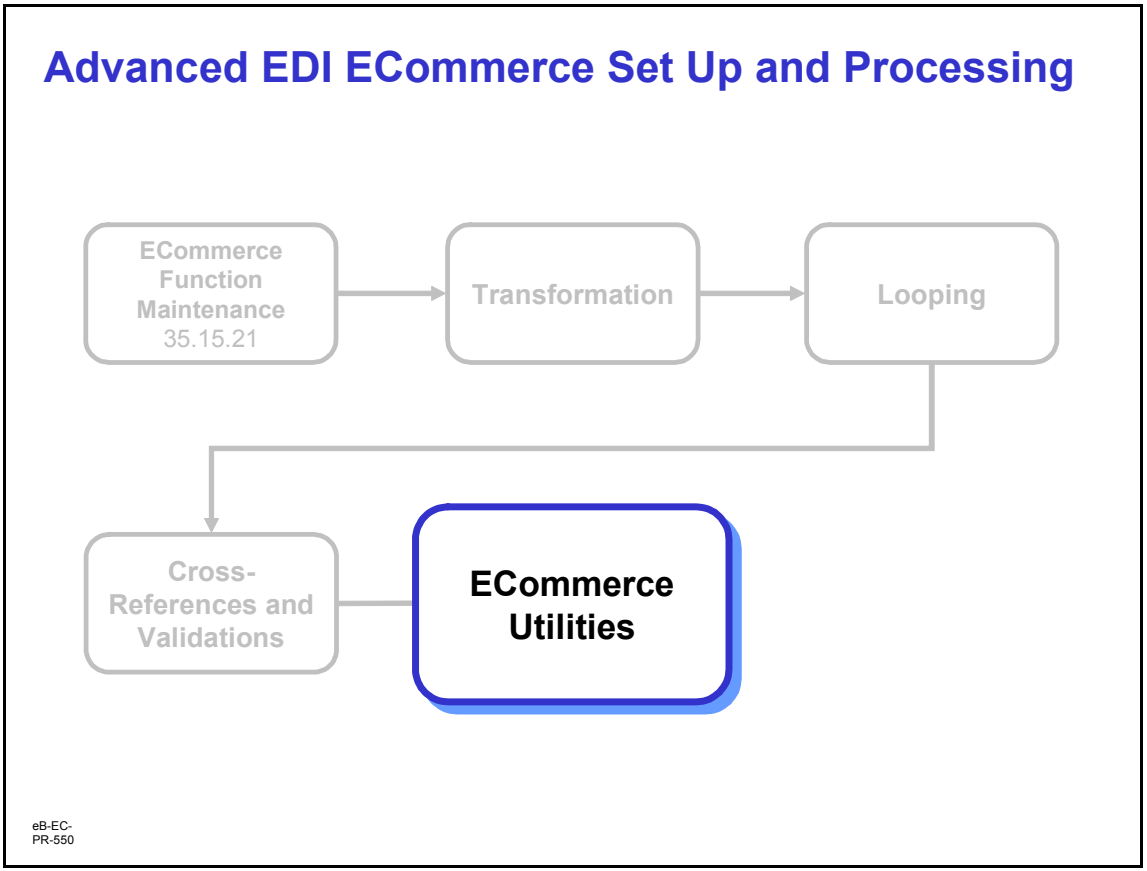

ECommerce Utilities

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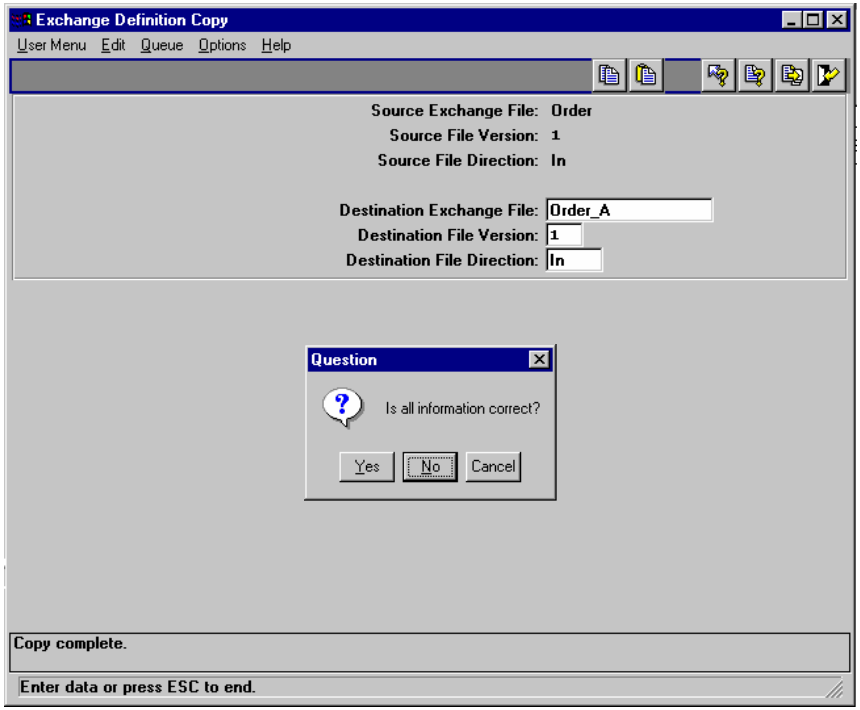
35.15.1 – Exchange Definition Copy



eB-EC-PR-580

Exchange Definition Copy

Menu Number 35.15.1

UseExchange Definition Copy to copy an exchange file definition from an existing definition.

- Use Exchange Definition Maintenance 35.15.6 to modify the copy as needed

Source Exchange File, Version, and Direction

Exchange file definition to be copied.

Destination Exchange File, Version, and Direction

Unique combination of file name, version, and direction.

- Direction does not have to be the same for the source and destination file
  - An outbound definition copy can be based on an inbound source definition

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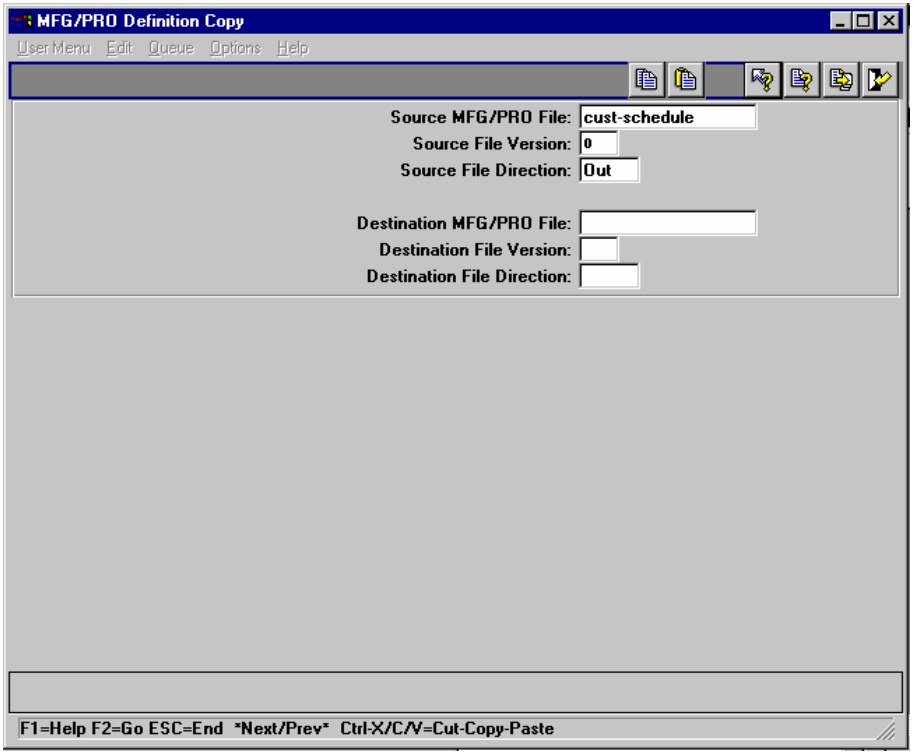
35.15.2 – MFG/PRO Definition Copy



eB-EC-PR-590

MFG/PRO Definition Copy

Menu Number 35.15.2

Use MFG/PRO Definition Copy to copy an MFG/PRO document definition from an existing definition.

- Use MFG/PRO Definition Maintenance 35.15.10 to modify the copy as needed

Source MFG/PRO File, Version, and Direction

The MFG/PRO document definition to be copied.

Destination MFG/PRO File, Version, and Direction

Unique combination of file name, version, and direction to identify the new MFG/PRO definition.

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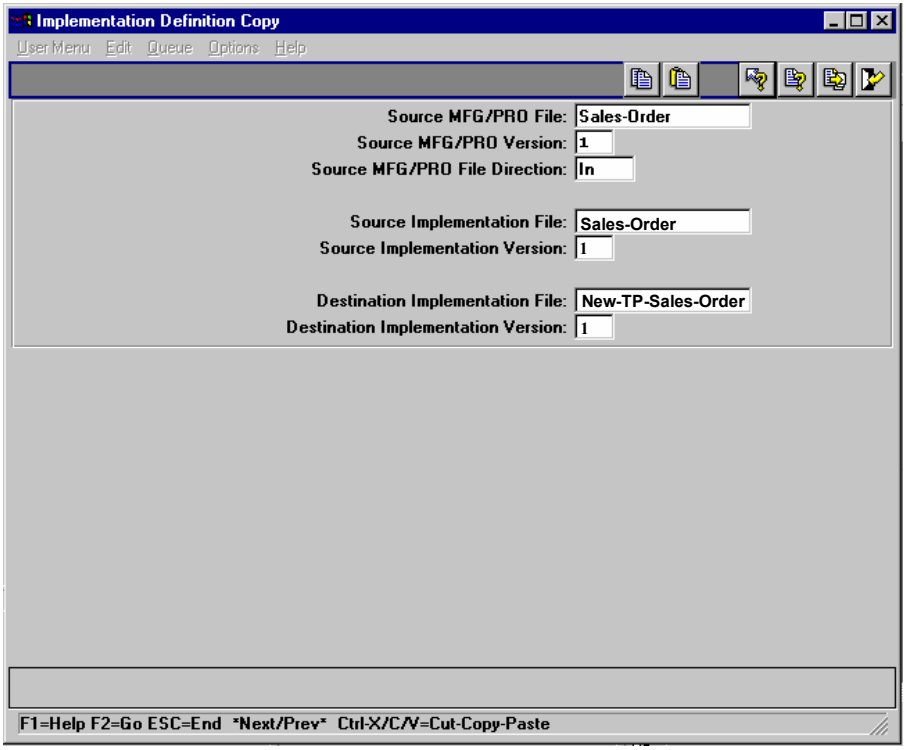
35.15.3 – Implementation Definition Copy



eB-EC-PR-600

Implementation Definition Copy

Menu Number 35.15.3

Use Implementation Definition Copy to copy an implementation definition from an existing definition.

- Use Implementation Definition Maint 35.15.13 to modify the copy as needed

Source MFG/PRO File, Version, and Direction

MFG/PRO document definition associated with the implementation definition to be copied.

Source Implementation File and Version

MFG/PRO document definition associated with the implementation file to be copied.

Destination Implementation File and Version

Unique combination of file name and version to identify the new implementation definition.

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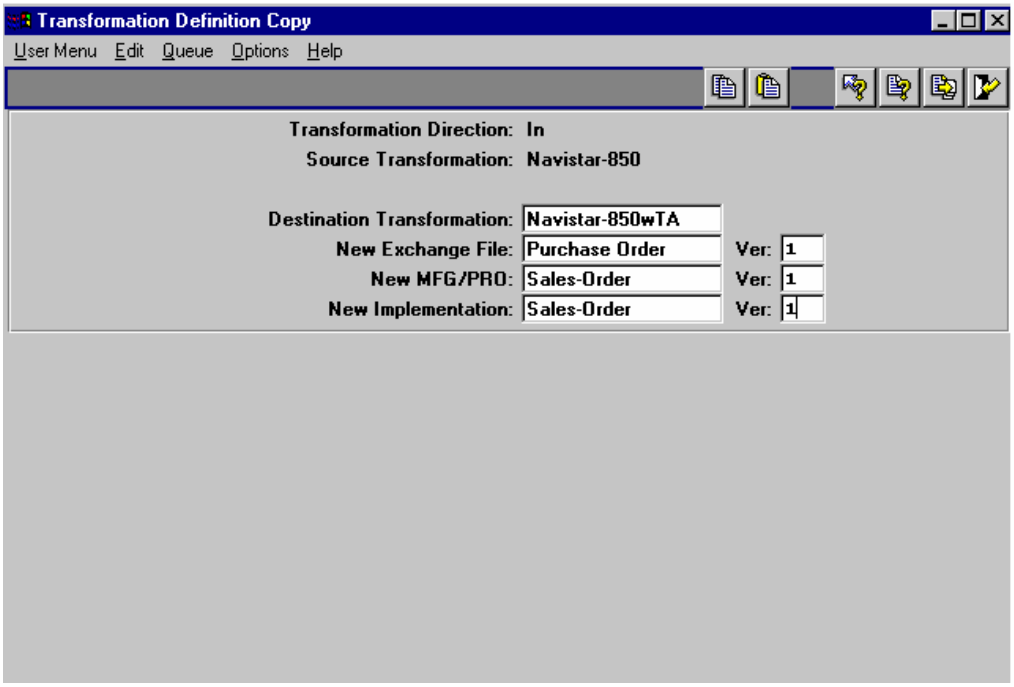
35.17.1 – Transformation Definition Copy



eB-EC-PR-610

Transformation Definition Copy

Menu Number 35.17.1

Use Transformation Definition Copy to copy an existing transformation definition to a new file.

- Use Transformation Definition Maint 35.15.17 to modify the mapping data in the new definition file as needed

Transformation Direction

Direction of the transformation definition to be copied.

- Determines the records that will be available for copying in the Source Transformation field

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Source Transformation

Name of the transformation definition to be copied.

Destination Transformation

Name of the new transformation definition.

Note The transformation definition will be the same direction for the destination definition.

The following fields will default to the file definition names and versions used by the source transformations:

New Exchange File and Version

Optionally enter a new Exchange File Definition name and version.

New MFG/PRO and Version

Optionally enter a new MFG/PRO Document Definition name and version.

New Implementation and Version

Optionally enter a new MFG/PRO Implementation Definition name and version.

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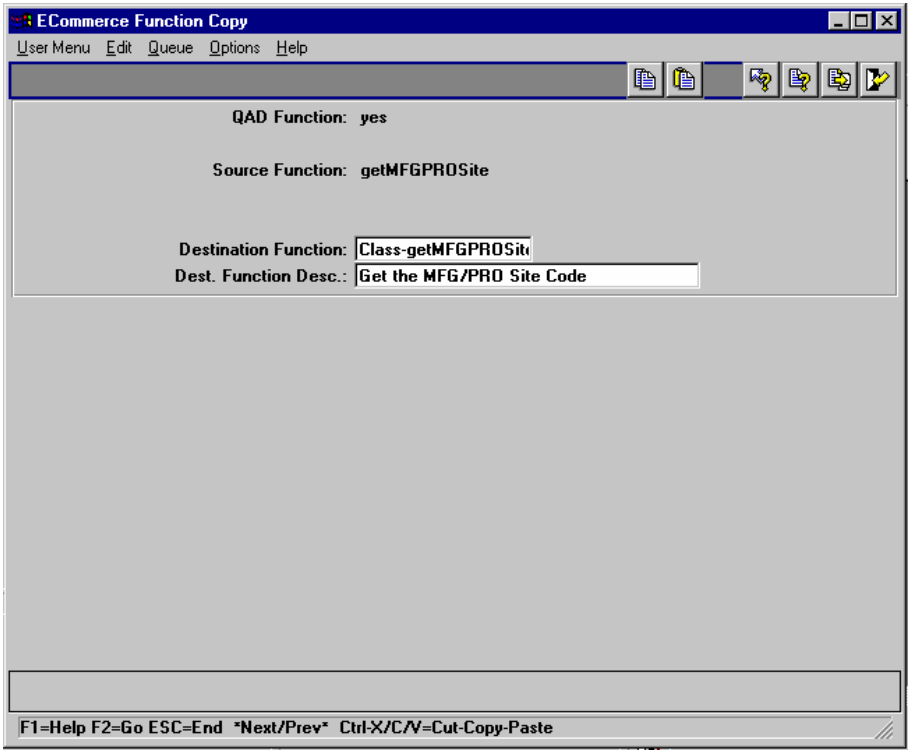
35.17.2 – ECommerce Function Copy



eB-EC-PR-620

ECommerce Function Copy

Menu Number 35.17.2

Use ECommerce Function Copy to:

- Copy an existing transformation function to a new function name

QAD Function

- Yes = the function to be copied is one provided as part of ECommerce
- No = the function is user-defined

Source Function

Name of the existing function to be copied or deleted.

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Destination Function

Name for the new function.

- New file saved in the function directory specified in the ECommerce Control File 35.13.24 with the file name `<DestinationFunction>`

Important Use function names that follow the naming conventions of the operating system.

Dest. Function Desc.

An optional description for the new function.

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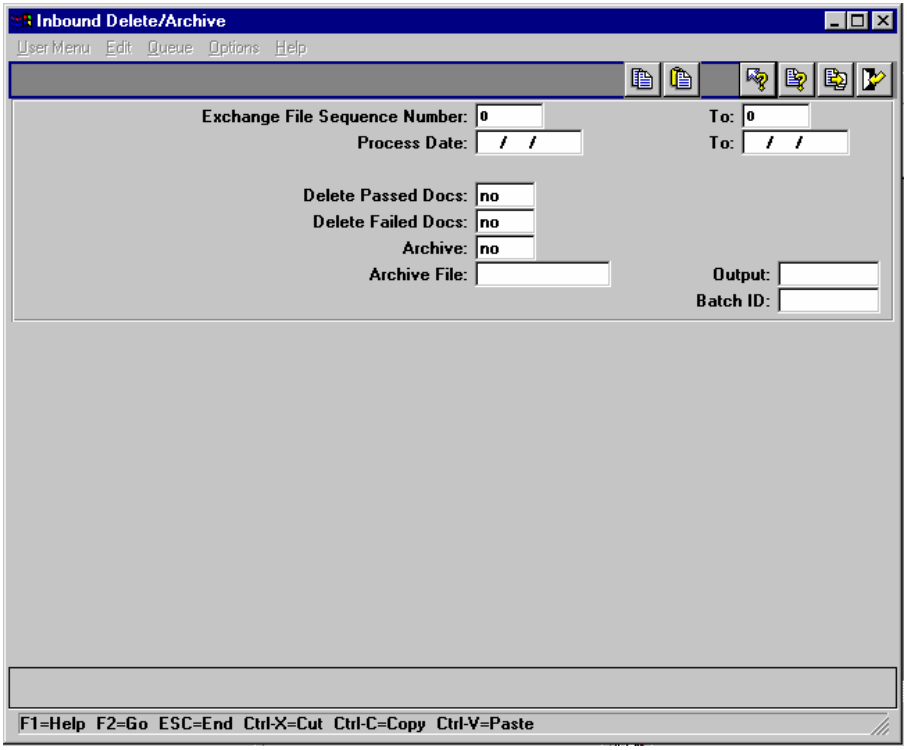
35.17.13 – Inbound Delete/Archive



eB-EC-

Inbound Delete/Archive

Menu Number 35.17.13

Use Inbound Delete/Archive to delete and archive imported documents from the exchange file and MFG/PRO document repositories.

An MFG/PRO archive program is usually run twice.

- First, run the program with all Delete flags set to No and review the report
- Then, run it again with the appropriate flag or flags set to Yes

When Archive is set to Yes, MFG/PRO stores deleted data in a file named `xxyymmdd.dat`, where `xx` is `ob` for outbound documents and `ib` for inbound documents, and `yymmdd` is the date you ran the archive function.You can restore this file to the system using Archive File Reload 36.16.5.

Warning Deleted data that is not archived cannot be recovered.

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Sequence Number, Process Date

Ranges of selection criteria for the system to use in determining files to be archived and deleted.

Delete Passed Docs

- Yes = delete documents that successfully completed processing
- To delete documents regardless of their processing status, set both this field and Delete Failed Docs = Yes

Delete Failed Docs

- Yes = delete documents that did not complete processing
- To delete documents regardless of their processing status, set both this field and Delete Passed Docs = Yes

Archive

Yes = copy deleted data to an ASCII file.

Archive File

System-generated name of the file where the selected documents will be archived.

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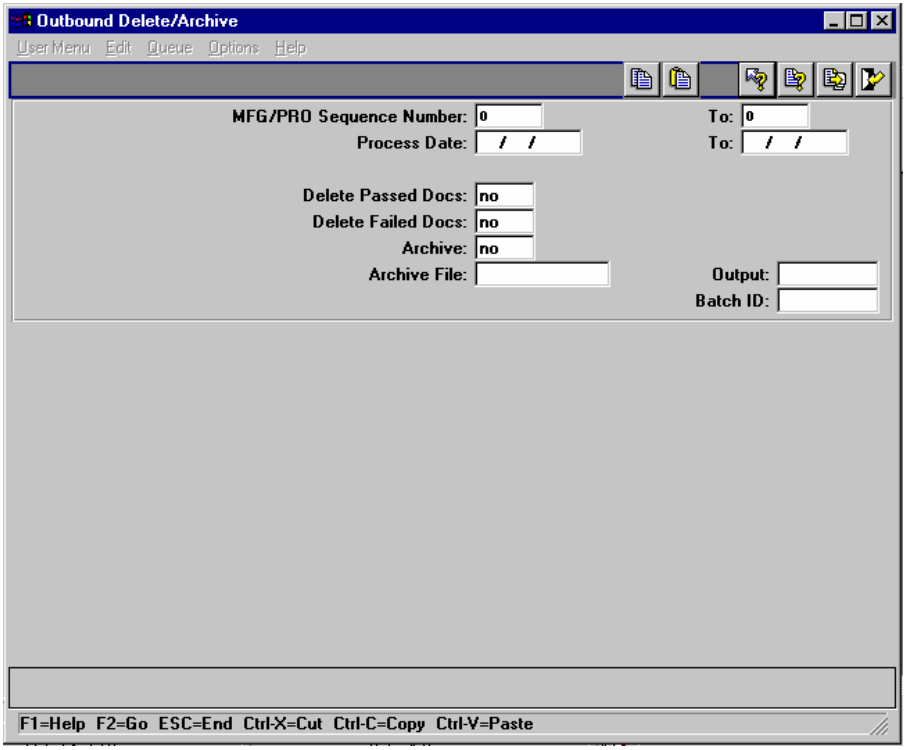
35.17.14 – Outbound Delete/Archive



eB-EC-PR-640

Outbound Delete/Archive

Menu Number 35.17.14

Use Outbound Delete/Archive to delete and archive exported documents from repositories.

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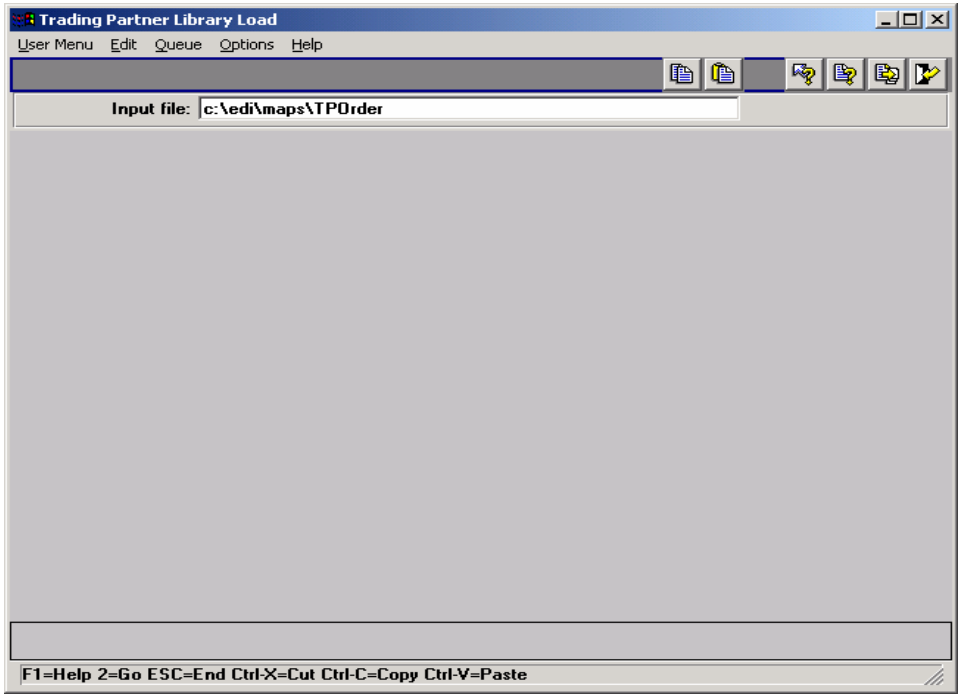
35.17.7 – Trading Partner Library Load



eB-EC-PR-650

Trading Partner Library Load

Menu Number 35.17.7

Use Trading Partner Library Load to add QAD-furnished files with updates to trading partner library data. These files include:

- Definitions for exchange files
- MFG/PRO documents
- Implementation documents
- Transformation maps
- Functions, but not the actual function code. It must be given with a new edfncwrp.

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Although a set of trading partner data for a single trading partner includes several files, each with a different extension, you only have to run the program once for each trading partner. Enter just the root file name, without an extension.

Before loading data, the program uses an index file, `<filename.idx>`, to search for duplicate records. If it finds identical record names, the system displays a warning message to prevent you from accidentally overwriting needed files.

Input File

Name of the QAD-provided trading partner data.

A typical library entry includes several files with the same root file name and different extensions for the various types of data files. Enter only the root file name to begin the load process.

Note Adding a file extension will cause the system to display an error message.

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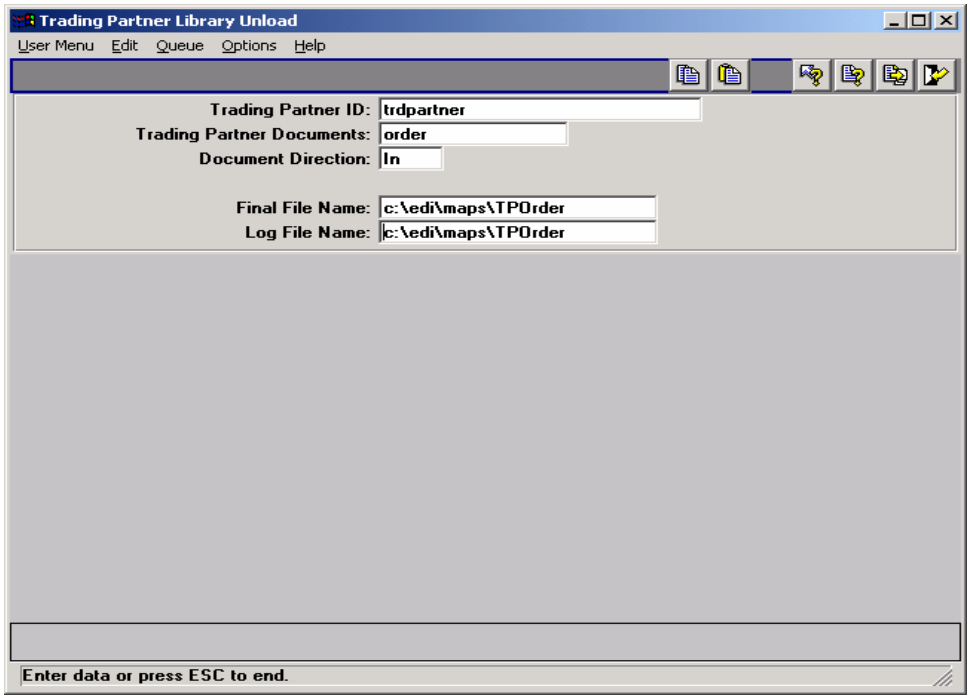
35.17.8 – Trading Partner Library Unload



eB-EC-
PR-660

Trading Partner Library Unload

Menu Number 35.17.8

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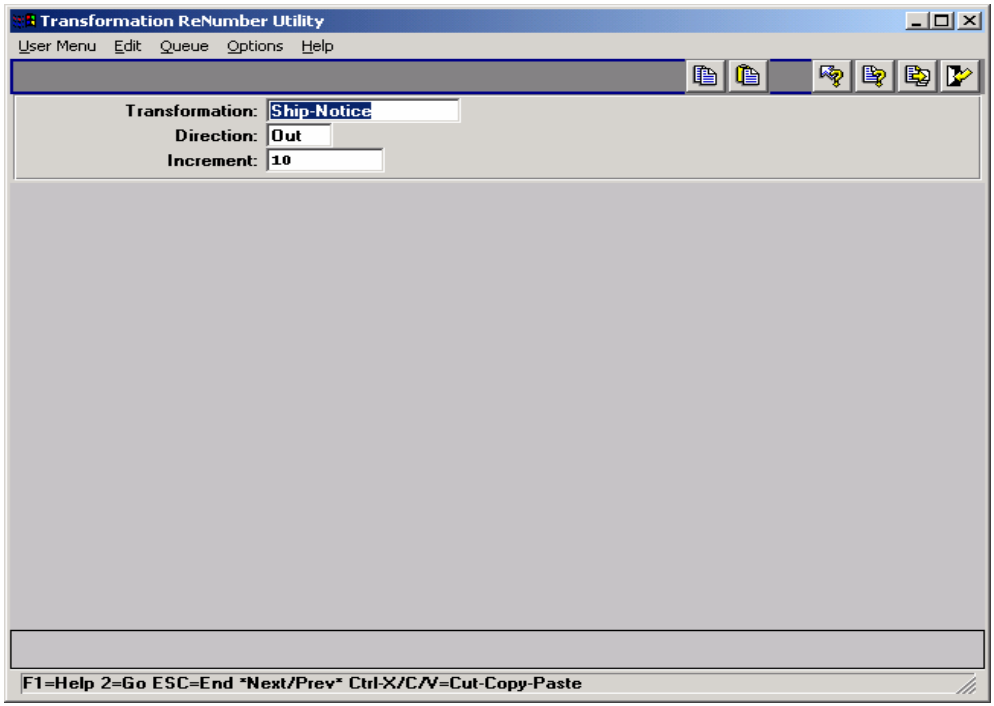
35.17.3 – Transformation ReNumber Utility



eB-EC-PR-661

Gateway Variables

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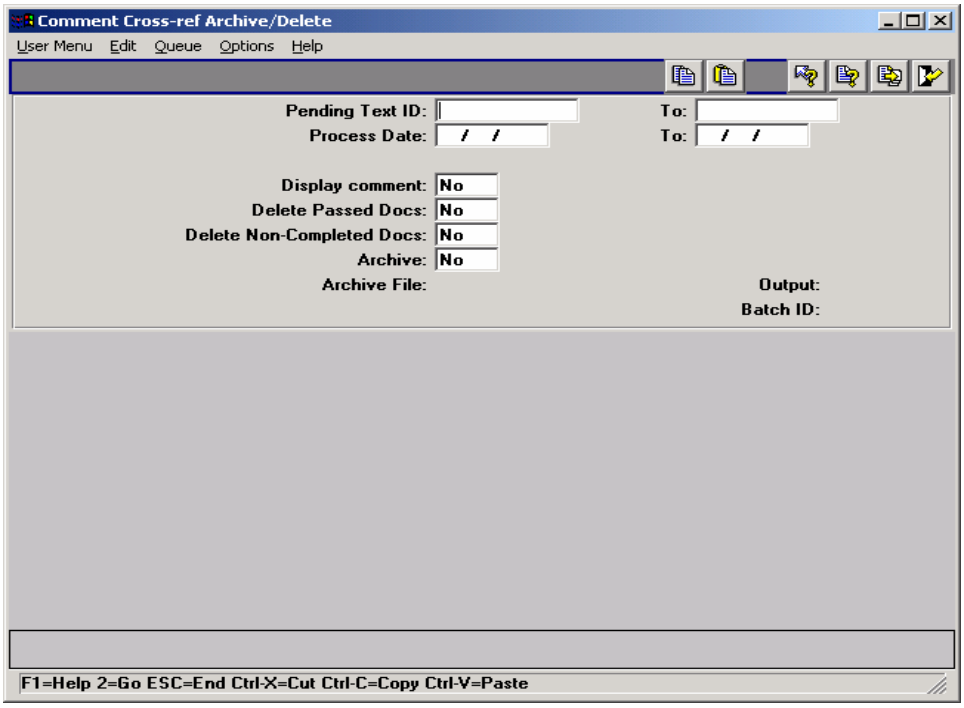
35.17.15 – Comment Cross-ref Archive/Delete



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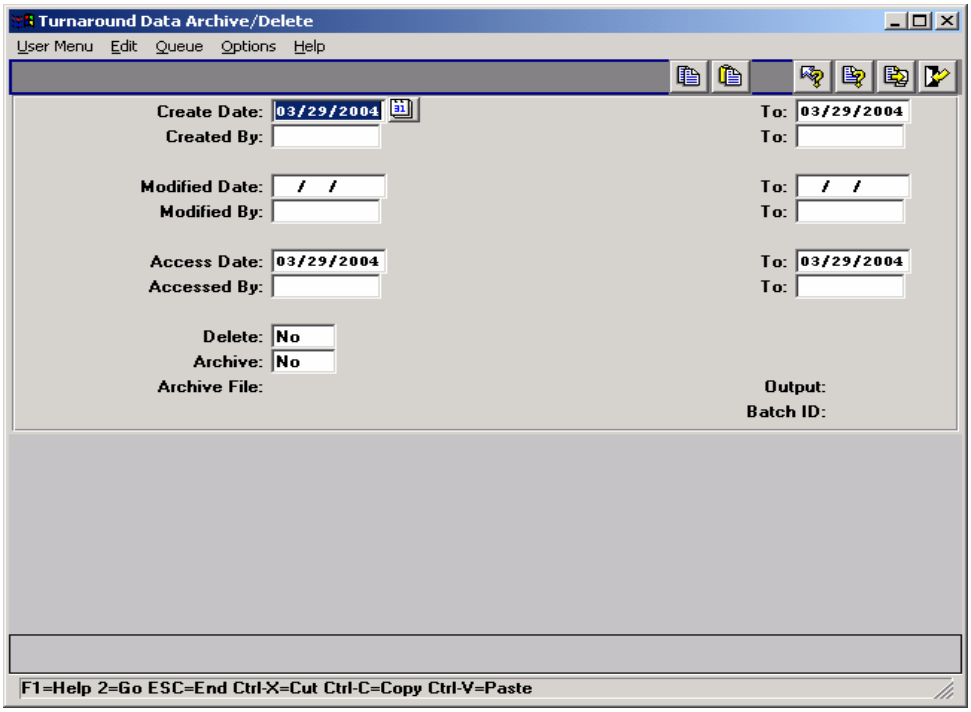
35.17.16 – Turnaround Data Archive/Delete



eB-EC-PR-663

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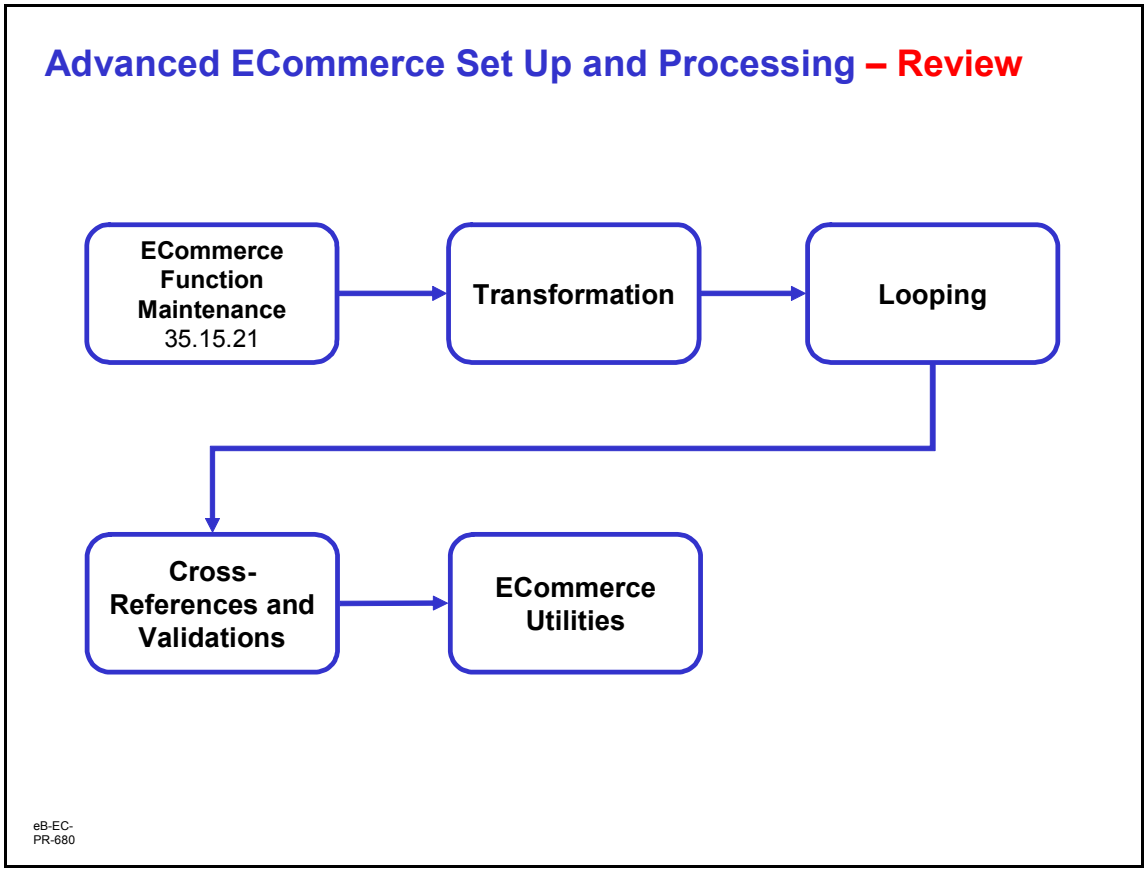

Advanced EDI ECommerce – Review

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Activities

eB-EC-
PR-690

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Course Overview

- ✓ Introduction to EDI ECommerce
- ✓ Business Considerations
- ✓ Set up EDI ECommerce
- ✓ Process EDI ECommerce

eB-EC-
PR-700

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APPENDIX A

EDI ECommerce Error Messages

This chapter describes EDI ECommerce-specific error messages. It explains the conditions that cause the errors and suggests solutions.

Note Many EDI ECommerce messages are self-explanatory. Such messages are not included in this chapter.

No.	Message	Cause	Solution
4400	*<directory>* listed in control file does not exist	• Control file was not initially set up or the specified path is incorrect. • Directory was removed after control file setup.	• Use ECommerce Control File (35.13.24) to add or correct the directory name or path. • Contact the system administrator to have the directory created.
4401	User does not have write privileges to *<directory>*	Directory was created by user other than system administrator. or System administrator did not grant read, write, create, modify, and delete rights to all users for the specified directory.	Contact the system administrator. Users must have read, write, create, modify, and delete rights to the specified directory. or Change the directory location. • For an inbound document, use ECommerce Control File (35.13.24). • For an outbound document, use Transmission Group Maintenance (35.13.13).
4402	Mandatory exchange file data record is missing: *<subsystem>; <record name>; <exchange file name>; <version>; <filename>; <error file>* **Note:** *<filename>* and *<error file>* are not applicable on outbound documents.	• The trading partner did not send the data record specified, or the SNF file *<filename>* was not complete. • *<record name>* has been defined as mandatory in the document definition for this combination of *<exchange file name>*, *<version>*, and document direction when it should be defined as optional.	• Have the trading partner correct the problem and resend the document. • If this is a recurring error for this *<exchange file name>*, *<version>*, and direction, use Exchange Definition Maintenance (35.15.6) to select the appropriate combination of exchange file name, version, and direction, go to *<record name>*, and set Requirement to Optional.

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No.	Message	Cause	Solution
4403	No matching quote found in record. <*record*> (first 5 characters); <*file name*>; <*error file*>	The EC subsystem is defined as variable-format with a quote character surrounding alphanumeric data. A beginning quote character was found without a matching closing quote.	Have the trading partner correct the problem and resend the document. or Open the error file in a text editor and locate the subject record. Insert the closing quote character at the end of the data field. Then, use Document Import (35.21.1) to import the error file.
4404	Duplicate <*record code*> records: <*subsystem*>; <*filename*>; <*error file*>	A control or data record is repeated within the document without the data information. A control record can only appear once for a document. Data records are expected to follow the control records and come before the next document's control record.	Have the trading partner correct the problem and resend the document. or Open the error file in a text editor and locate the duplicate control records. Verify that the data within the records are the same. If they are the same, remove one of the control records and use Document Import (35.21.1) to import the error file.
4405	Mandatory control record is missing in input file: <*record code*>; <*subsystem*>; <*direction*>; <*filename*>; <*error file*>	• The trading partner did not send the data record specified or the SNF file <*filename*> was not complete. • The control record identified in <*record code*> has been defined as mandatory in the definition for this EC subsystem and direction when it should be defined as optional.	• Have the trading partner correct the problem and resend the document. • If this is a recurring error for this EC subsystem and direction, then use EC Subsystem Definition Maint (35.13.1) to select the EC Subsystem and direction, go to the <*record code*>, and set Requirement to Optional.

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No.	Message	Cause	Solution
4406	Unknown or blank record code: *<record code>*; *<subsystem>*; *<file name>*; *<error file>*	The EC subsystem sent a record code that has not been defined as a control code or a data control code.	Open the error file in a text editor and determine if this code is for a data segment or a control segment. Then, define the segment as required. • For a data segment, use EC Subsystem/Exchange Maint (35.13.3) to define the data control code. • For a control segment, use EC Subsystem Definition Maint (35.13.1) to define the control code.
4407	Control field length outside boundaries: *<subsystem>*; *<record sequence>*; *<field name>*; *<field length>*; *<file name>*; *<error file>*	The EC subsystem is defined as using variable-format control field lengths. The number of characters *<field length>* is not within the minimum and maximum values specified for the field.	Using EC Subsystem Definition Maint (35.13.1), locate the specified sequence number *<record sequence>*. Select the field name for the appropriate record sequence and adjust the minimum and maximum values.
4408	Mandatory control field has not been set: *<subsystem>*; *<record sequence>*; *<field name>*; *<file name>*; *<error file>*	• The trading partner did not send the data specified. The SNF file *<filename>* was not complete. • The control record field *<field name>* for the *<record sequence>* has been defined as mandatory in the definition for EC Subsystem *<subsystem>* and direction when it should be defined as optional.	• Have the trading partner correct the problem and resend the document. • If this is a recurring error for this EC subsystem and direction, then use EC Subsystem Definition Maint (35.13.1) to select the EC subsystem and direction, go to the *<record sequence>*, locate the *<field name>*, and set the requirement to optional.

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No.	Message	Cause	Solution
4409	Mandatory data field has not been set: <*subsystem*>; <*exchange file name*>; <*version*>; <*record sequence*>; <*field name*>; <*file name*>; <*error file*> **Note:** <*filename*> and <*error file*> are not applicable on outbound documents.	• The trading partner did not send the data specified, or the SNF file <*filename*> was not complete. • The data record field <*field name*> for the <*record sequence*> has been defined as mandatory in the exchange file document definition for the <*exchange file name*>, <*version*>, and direction when it should be defined as optional.	• Have the trading partner correct the problem and resend the document. • If this is a recurring error for this exchange file name, version, and direction, then use Exchange Definition Maintenance (35.15.6) to select the appropriate exchange file document definition, go to the <*record sequence*>, locate the <*field name*>, and set Requirement to Optional.
4410	Data field length outside boundaries: <*subsystem*>; <*exchange file name*>; <*version*>; <*record sequence*>; <*field name*>; <*field length*>; <*file name*>; <*error file*> **Note:** <*filename*> and <*error file*> are not applicable on outbound documents.	EC subsystem is defined as using variable-length fields. The number of characters <*field length*> is not within the minimum and maximum values specified for the field.	Use Exchange Definition Maintenance (35.15.6) to locate the specified sequence number <*record sequence*> for the specified EC subsystem <*subsystem*>, <*exchange file name*>, <*version*>, and direction. Locate the field name <*field name*> for the record sequence and adjust the minimum and maximum values.
4411	EC Subsystem does not exist: <*subsystem*>; <*file name*>; <*error file*>	The specified EC subsystem <*subsystem*> has not been defined.	• Use EC Subsystem Definition Maint (35.13.1) to define the subsystem and its control codes. • Use EC Subsystem/ Exchange Maint (35.13.4) to create the data control codes.
4412	Unknown file format: <*file name*>; <*error file*>	The file extension is used to identify the subsystem name and file format. If a subsystem cannot be identified by the extension, then the system attempts to locate the subsystem definition of the default subsystem defined in the control file.	• Use EC Subsystem Definition Maint (35.13.1) to define the subsystem and its control codes. • Use EC Subsystem/ Exchange Maint (35.13.4) to create the data control codes.

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No.	Message	Cause	Solution
4413	Input control record is not in sequence: *<sequence number>*	The SNF file was not complete.	Have the trading partner correct the problem and resend the document.
4414	Exchange file record table record does not exist: *<exchange file name>*; *<version>*; *<record sequence number>*	The record was deleted from the exchange file document definition after the EC subsystem/exchange cross-reference was defined.	Use Exchange Definition Maintenance (35.15.6) to redefine the record sequence for the specified exchange file name and version.
4415	Current record sequence has exceeded its loop occurrence: *<exchange file name>*; *<version>*; *<record sequence>*	There are more occurrences of the record type within the data than allowed by the exchange file document definition.	Use Exchange Definition Maintenance (35.21.15.6) to locate the record sequence for the specified exchange file name and version. Increase the loop occurrences allowed for the record.
4416	Invalid document transmission group name: *<transmission group name>*	The specified transmission group has not been defined.	Use Transmission Group Maintenance (35.13.13) to define the transmission group.
4418	Exchange file repository master record not found	Database corruption.	Contact database administrator.
4419	EC Subsystem control record does not exist: *<subsystem>*; *<transmission group name>*	Control record codes have not been defined for the subsystem.	• Use EC Subsystem Definition Maint (35.13.1) to define the subsystem and its control codes. • Use EC Subsystem/ Exchange Maint (35.13.4) to create the data control codes.
4420	Repository detail record does not exist for sequence	Database corruption.	Contact database administrator.
4421	EC Subsystem cross-reference record not available for: *<subsystem>*; *<document type>*; *<record sequence number>*	Cross-reference was not set up completely, or a record sequence was added to the exchange file document definition after the cross-reference was set up.	Use EC Subsystem/Exchange Maint (35.13.4) to create the data control code.
4422	Record code is blank for data records: *<subsystem>*; *<document type>*; *<record sequence number>*	Cross-reference was not set up completely, or a record sequence was added to the exchange file document definition after the cross-reference was set up.	Use EC Subsystem/Exchange Maint (35.13.4) to create the data control code.

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No.	Message	Cause	Solution
4423	Unable to create directory *<directory>* for transmission group: *<transmission group name>*	Directory was created by user other than system administrator. or System administrator did not grant read, write, create, modify, and delete rights to all users for the specified directory.	Contact the system administrator. Users must have read, write, create, modify, and delete rights to the specified directory. or Change the directory location. • For an inbound document, use ECommerce Control File (35.17.24). • For an outbound document, use Transmission Group Maintenance (35.13.13).
4424	Unable to create directory: *<directory>*	Directory was created by user other than system administrator. or System administrator did not grant read, write, create, modify, and delete rights to all users for the specified directory.	Contact the system administrator. Users must have read, write, create, modify, and delete rights to the specified directory. or Change the directory location. • For an inbound document, use ECommerce Control File (35.17.24). • For an outbound document, use Transmission Group Maintenance (35.13.13).
4425	Mandatory control token limits are not met: *<subsystem>*; *<record sequence>*; *<field name>*; *<token>*; *<field length>*	EC subsystem is defined as using variable-length fields. The number of characters *<field length>* is not within the range of minimum and maximum values specified for the field.	Use EC Subsystem Definition Maint (35.13.1) to locate the specified sequence number *<record sequence>* for the specified EC subsystem *<subsystem>*. Locate the field name *<field name>* for the record sequence and adjust the minimum and maximum values.
4426	Optional control token limits are not met: *<subsystem>*; *<record sequence>*; *<field name>*; *<token>*; *<field length>*	EC subsystem is defined as using variable-length fields. The number of characters *<field length>* is not within the range of minimum and maximum values specified for the field.	Use EC Subsystem Definition Maint (35.13.1) to locate the specified sequence number *<record sequence>* for the specified EC Subsystem *<subsystem>*. Locate the field name *<field name>* for the record sequence and adjust the minimum and maximum values.

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No.	Message	Cause	Solution
4427	EC Subsystem control field records not found: *<subsystem>*; *<exchange file sequence number>*	An outbound subsystem has not been defined.	Use EC Subsystem Definition Maint (35.13.1) to define the subsystem and its control codes.
4428	MFG/PRO document status record does not exist:	Database corruption.	Contact database administrator.
4429	Invoice history header record does not exist: *<invoice number>*; *<sales order number>*	Database corruption. or Data may have been archived.	Contact database administrator.
4430	Trading partner location cross-reference does not exist: *<document name>*; *<version>*; *<site>*; *<address>*	Trading partner has not been set up properly.	• Use Trading Partner Report (35.13.9) to print a list of all trading partners. • Locate a trading partner ID on the report where the MFG/PRO Site = *<site>* and the MFG/PRO Address = *<address>*. • With the trading partner ID retrieved from the report, use Trading Partner Maintenance (35.13.7) to create a cross-reference record.
4431	MFG/PRO implementation record does not exist: *<document name>*; *<doc vers>*; *<imp name>*; *<imp vers>*; *<record sequence or record name>*	Setup of implementation definition not complete. or The specified record has been deleted.	Use Implementation Definition Maint (35.15.13) to create the required record.
4432	MFG/PRO repository master record does not exist:	Database corruption.	Contact database administrator.
4434	Variable not found while obtaining variable name *<variable name>* *<variable type>*	Variable defined for transformation is no longer available to transformation process.	Verify definitions exist in the exchange or implementation definition records. If they exist, delete them and recreate them. If they do not exist, create them in the exchange or implementation definition records, then delete them.

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No.	Message	Cause	Solution
4435	Variable not available to be set: *<recid of variable>*	Variable defined for transformation is no longer available. Possibly, it was deleted prior to loading the transformation definitions.	Restart the transformation. If it still does not work, contact database administrator to report possible data corruption.
4436	Variable not available while obtaining variable value: *<recid of variable>*	Variable defined for transformation is no longer available. Possibly, it was deleted prior to loading the transformation definitions.	Restart the transformation. If it still does not work, contact database administrator to report possible data corruption.
4437	Variable has not been assigned a value: *<variable name> <variable qualifier>*	Variable within transformation has not been assigned a value or initialized.	Verify that the variable *<variable name>* has been assigned a value before using it as a source for another target variable.
4438	Function or variable is not available: *<variable/function name> <variable qualifier>*	Value for function or variable did not return a valid value.	Correct the returning value from the function program or verify that the function program compiled properly.
4439	Value not available for variable: *<variable/function name> <variable qualifier>*	Value for function or variable did not return a valid value.	Transformation definition is requesting a value from a variable, but variable has not yet been assigned a value. Assign the variable as a target before using it as a source.
4440	Function not found: *<function name>*	Function defined within the transformation definitions does not exist within function definitions.	Check function definitions for the function requested from the transformation definition map. If the record exists, contact database administrator. Otherwise, create the record being requested. **Note:** If the function has been saved to disk already and the function definition has been removed, do not reprocess it to the disk. This will overwrite the program currently on the disk.

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No.	Message	Cause	Solution
4441	Function returned error: *<returned value set by function>*	Function did not perform correctly and was not able to return a value.	• Check that the function on disk compiles correctly. • Check the parameter values being sent to the function for correct data type matching. • If the function is user-defined, look at the function program to see the error message and why it occurs.
4442	Illegal target qualifier found: *<target qualifier that is illegal>*	An invalid target qualifier was mistakenly entered or allowed in transformation definitions.	Change the target qualifier to a valid target qualifier (I, O, or V). All others are considered illegal.
4443	Sequence number not processed *<sequence number>*	Either no repository exists, no trading partner information exists, or no map exists.	• Verify that the repository has been created. If not, then load or unload the file again. • If the repository is being created, verify that the trading partner information has been set up for the information found on the repository master records. • If the trading partner information is missing, create the missing information again. If the information is not missing, confirm that the trading partner map definition is pointing to a valid and existing map.

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No.	Message	Cause	Solution
4444	Function has not been processed to disk: *<function name>*; *<internal function name*).	Transformation process tried to run the function from the disk and the program was not found.	• Verify that the program resides in the function directory specified in the ECommerce Control File (35.13.24). If it does not, it to the correct directory. • If the program does not exist, use ECommerce Function Maintenance (35.15.21) to create a program shell and then modify the program as required.
4449	Sequence number not set from conditional write function	The conditional write function *check-hash* did not return a valid sequence number. **Note:** The check-hash function is used only to write master records; for example, a new MFG/PRO<compressed> <nocap>eB document such as an order header or schedule header. This function is not used for lower data record writes. Use IF logic to perform lower-level conditional writes.	• Verify that the parameters are being sent to the function. • If so, and this error still occurs, call QAD support.
4450	Invoice history detail record does not exist: *<invoice number>*; *<sales order number>*	Database corruption. or Data may have been archived.	Contact database administrator.
4456	Positive/negative integer expected from check-hash function: *<returned value>*	The write function was called with a function that returned an invalid sequence number.	Verify that the conditional write is on a record defined as sequence number 1. Also verify that the function being used is the check-hash function.
4469	No matching else or endif within record seq *<record sequence>* and action type *<event type>*	An If statement used in transformation did not have an Else or closing Endif statement within the record sequence and event type.	Use Transformation Definition Maint (35.15.17) to change the transformation definitions to include a closing Else or Endif within the same record and event type.

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No.	Message	Cause	Solution
4470	Else with no matching if within record seq *<record sequence>* and action type *<action type>*	An Else statement used in transformation did not have an If beginning statement within the record sequence and event type.	Use Transformation Definition Maint (35.15.17) to change the transformation definitions to include a beginning If within the same record and event type.
4471	No closing endif within record seq *<record sequence>* and action type *<action type>*	An If or Else statement in the transformation definitions is not closed by an Endif statement within the record sequence and event type.	Use Transformation Definition Maint (35.15.17) to change the transformation definitions to include a closing Endif within the same record and event type.
4475	A seq in a many-to-many list failed. All sequences were deleted: *<list of bad sequences>*	A map defined as many-to-many had either a single or multiple document sequence fail, which caused all of the related input documents to fail.	Correct the error in the failed document, then reprocess the files as a group.
4728	Record code is blank for control record: *<subsystem>*; *<direction>*; *<record sequence number>*	The specified EC subsystem *<subsystem>* has not been defined.	• Use EC Subsystem Definition Maint (35.13.1) to define the subsystem and its control codes. • Use EC Subsystem/ Exchange Maint (35.13.4) to create the data control codes.
4729	MFG/PRO mandatory data record is missing: *<document name>*; *<document version>*; *<implementation name>*; *<implementation version>*; *<record name>*	• The trading partner did not send the data specified, or the SNF file *<filename>* was not complete. • The data record field noted *<field name>* for the *<record sequence>* has been defined as mandatory in the exchange file document definition for the *<exchange file name>*, *<version>* and direction when it should be defined as optional.	• Have the trading partner correct the problem and resend the document. • If this is a recurring error for this *<exchange file name>*, *<version>* and direction, use Exchange Definition Maintenance (35.15.6) to select the appropriate combination of exchange file name, version, and direction. Then, select the *<record sequence>*, locate the *<field name>*, and set Requirement to Optional.
4743	Transformation definition *<transformation definition>* flagged as nonrunnable	The transformation definition record has the Can Run field set to No.	In Transformation Definition Maint (35.15.17), change the transformation definition by setting Can Run to Yes.

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APPENDIX B

Reports, Inquiries, Browses

Initial MFG/PRO Setup Inquiries

Menu	Inquiry	Function / Purpose
1.1.6	Item Status Code Browse/ Inquiry	Displays all status codes on the database and their description.
1.1.14	Site Browse/Inquiry	Displays all sites on the database. Information shown includes description, entity, default inventory status, automatic location, database, current and General Ledger (GL) cost set.
1.1.19	Location Browse/Inquiry	Displays locations by site. Location information shown includes description, inventory status, date created, if it is a permanent location, type, and if it is a single item location.
1.14	Unit of Measure Browse/ Inquiry	Displays all unit of measure (UM) codes on the database. Information shown includes alternate UM, conversion factor, item number, description.
1.2.2	Product Line Browse/ Inquiry	Displays the GL account information for a specific product line.
1.4.2	Item Master Browse/Inquiry	Displays item record information for a specific item number. Shown is the general, inventory, shipping, planning, and cost data.
1.4.4	Item Data Browse/Inquiry	Displays the item general data for a specific item number.
1.4.6	Item-Site Inventory Data Browse/Inquiry	Displays information by item number/site. Information shown is the item's inventory and shipping data.
1.4.8	Item-Site Planning Browse/ Inquiry	Displays information by item number/site. Information shown is the item's planning data.
1.4.10	Item-Site Cost Browse/ Inquiry	Displays information by item number/site. Information shown is the item's price, GL cost, and current cost data.
1.4.11	Item-Site Master Browse/ Inquiry	Displays information by item number/site. Information shown is the item's general, inventory, shipping, planning, and cost data.
1.6	Item Browse/Inquiry	Displays item general data for all the item numbers on the database. Information shown includes description, UM, product line, revision, drawing number, item type, status, and group.
2.7.2	Employee Browse/Inquiry	Displays all employees. Information shown includes name, employment status, department, address and telephone (home and business), date employed, birth date, social security number, and date terminated.
26.5	Exchange Rate Browse/ Inquiry	Displays all the currencies set up on the database. Information shown includes currency code, description, rounding method, define rate, purchase gain/loss account, and cost center.

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Initial MFG/PRO Setup Inquiries

Menu	Inquiry	Function / Purpose
26.14	Bank Browse/Inquiry	Displays all banks set up on the database. Information shown includes description, entity, cash account, cash cost center, next check, and currency.
36.2.14	Generalized Codes Browse/ Inquiry	Displays all field names set up on the database with generalized codes. Information shown includes value and comments.
36.4.12	User Function Browse/ Inquiry	Displays user IDs set up with user function menus. Information shown includes function key, sequence, menu, selection, execution file, and label.
36.4.22	Window Help Browse/ Inquiry	Displays field names set up with windows. Information shown includes calling procedure, procedure to execute, description, lines in window, x-coordinate, and window starts.

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APPENDIX C

Transformation Definition Information

Transformation Definition

Tokens

tp-id	Mandatory data token
tp-document-id	Mandatory data token
tp-site	Optional data token
tp-address	Optional data token
tp-message-nbr	Optional data token
tp-func-grp-nbr	Optional data token
tp-interchange-nbr	Optional data token
tp-document-nbr	Optional data token
tp-doc-dir	Optional data token
MFG/PRO-site	Optional data token
MFG/PRO-address	Optional data token
map-name	Transformation state token
map-exf-name	Transformation state token
map-exf-vers	Transformation state token
map-imp-name	Transformation state token
map-imp-vers	Transformation state token
map-mfg-name	Transformation state token
map-mfg-vers	Transformation state token
map-many-to-many	Transformation state token
map-debug-level	Transformation state token
map-can-run	Transformation state token
current-exf-seq	Transformation state token
current-mfg-seq	Transformation state token
conditional-rec-flushed	Transformation state token

Field Types

AN	Alphanumeric
D	Date
I	Integer
L	Logical
R	Real number

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Associated Variable Types

G	Gateway	This variable is used by the gateway during the transform process (variables are defined in the gateway variable definition include file).
T	Turnaround	This variable type represents imported data that is stored in the turnaround data table, indexed, and later associated with an exported document.
D	Data Entry	The operator adds this data during processing. This function is not currently implemented.

Event Qualifier

Each	First and last to be implemented later

Events

RE	Record Entry
RX	Record Exit
LE	Loop Entry
LX	Loop Exit

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Event Actions

Action Type	Internal Action	Level	Description
Equate	=	Field	Set the target equal to the source.
If	if	Field	Conditional logic based on source and source qualifier. The if statement must return a value of True or Yes. It allows the use of Else and EndIf and does not require a source or target.
EndIf	endif	Field	End of an If statement. EndIf does not require a source or target.
Else	Else	Field	Logical branch between If and EndIf statements. Else does not require a source or target.
Read	put	Record	Read the source record files into memory (only input).
Clear	free	Record	Remove the source(input)/target(output) record file from memory.
Write	flush	Record	Write the target record to the database (only output). You must write a header record before another record can be written. Write can be used optionally with the check hash function, which determines the header against which the detail will be written.
Loop	loop	Record	Loop through the records already read into memory.
LoopEnd	end	Record	End a loop. Does not require a source or target.
New	new	Record	Just for documentation purposes (a kind of separator).

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Qualifier

Depends on the document direction!

- **I** means input to transformation
- **O** means output from transformation

I	Input Data	Source
O	Output Data	Target
V	Variable	Source and Target
F	Function	Source only
C	Constant	Source only

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APPENDIX D

QAD Functions Available

QAD Functions Available

Function Name	Description	Parameters	Return Value	Name
getCumShipped	Get cumulative qty shipped for SO line.	1 AN ShipFromSite 2 AN ShipToAddr 3 AN MfgProItem 4 AN PurchaseOrder	R	edfct032.i
get_po_no	Get PO Number	1 AN i_tad_itm 2 AN i_po_no	AN	edfct024.i
isblank	Check whether the string is blank	1 AN str1	L	edfct031.i
SysDate	Returns the system date	None	D	edfct033.i
Add	Add to values (integer or decimal)	1 R val1 2 R val2	R	edfct032.i
Check-Hash	Check Hash table to write new record used for inbound record processing. Check hash on the MFG/PRO Repository.	1 an PARAM1 2 an PARAM2 3 an PARAM3 4 an PARAM4 5 an PARAM5 6 an PARAM6 7 an PARAM7 8 an PARAM8 9 an PARAM9 10 an PARAM10	R	edfct017.i
CheckHashOut	Check Hash table to write new record used for outbound processing. Check hash on the Exchange Repository.	1 an PARAM1 2 an PARAM2 3 an PARAM3 4 an PARAM4 5 an PARAM5 6 an PARAM6 7 an PARAM7 8 an PARAM8 9 an PARAM9 10 an PARAM10	R	edfct067.i

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Function Name	Description	Parameters	Return Value	Name
Comment	Func to add Comment line between maps	1 AN line-1 2 AN line-2 3 AN line-3 4 AN line-4 5 AN line-5 6 AN line-6 7 AN line-7 8 AN line-8 9 AN line-9 10 AN line-10	AN	edfct050.i
compare	Compares equality of two passed params	1 an param1 2 an param2	L	edfct022.i
ComparePairs	Compares equality of pairs of data passed as sets of params. Five pairs are maximum. param1 = param2 param3 = param4 param5 = param6 param7 = param8 param9 = param10	1 an param1 2 an param2 3 an param3 4 an param4 5 an param5 6 an param6 7 an param7 8 an param8 9 an param9 10 an param10	L	edfct064.i
Concat	Concatenates two strings together	1 AN str1 2 AN str2	AN	edfct001.i
create-addr-mstr	Creates a customer address record in MFG/PRO 3 an addr-name 4 an addr-line1 5 an addr-line2 6 an addr-line3 7 an addr-city 8 an addr-state 9 an addr-zip 10 an tax-status	1 an cust-id 2 an shipto-id	AN	edfct057.i

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Function Name	Description	Parameters	Return Value	Name
Date-Offset	Modifies input date by the number of days specified in i-days either positive or negative.	1 d i-date 2 i i-days	AN	edfct053.i
DateToString	Converts date into MMDDYY, etc., formats	1 d InputDate 2 an OutputFormat	AN	edfct035.i
DetailHash	This functions the same as the Check-hash function except it checks at the inbound MFG/PRO repository detail level.	1 an Identifier 2 an param1 3 an param2 4 an param3 5 an param4 6 an param5 7 an param6 8 an param7 9 an param8 10 an param9	R	edfct063.i
Divide	Divides two values val1/val2	1 r val1 2 r val2	R	edfct006.i
get-release-id	Get Release ID from Planning Schedule	1 i schd-type 2 an ship-from 3 an ship-to 4 an part-number 5 an po-number	AN	edfct037.i
get-schd-po	Get PO from Schedule	1 i chd-type 2 an ship-from 3 an ship-to 4 an part-number 5 an model-year	AN	edfct036.i

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Function Name	Description	Parameters	Return Value	Name
get-val-chkhash	This function is the complement of the put-val-chkhash function. It retrieves a value from the outbound hash table (exchange repository) that has been stored with the put-val-chkhash function	1 an param1 2 an param2 3 an param3 4 an param4 5 an param5 6 an param6 7 an param7 8 an param8 9 an param9	AN	edfct055.i
GetBatchNo	Retrieves the batch number controlling the current session.	1 i order-type 2 an supplier-addr 3 an shipto-site 4 an part-number 5 an po-number	an	edfct068.i
getMFGPROAddress	Get the MFG/PRO Address	1 AN tp_id 2 AN tp_doc 3 L doc_in 4 AN tp_site 5 AN tp_addr	AN	edfct008.i
getMFGPROSite	Get the MFG/PRO Site Code	1 AN tp_id 2 AN tp_doc 3 L doc_in 4 AN tp_site 5 AN tp_addr	AN	edfct009.i
getTPAddress	Get the TP Address 2 an tp_doc 3 L doc_in 4 an mfg_site 5 an mfg_addr	1 an tp_id	AN	edfct041.i

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Function Name	Description	Parameters	Return Value	Name
getTPSite	Get the TP Site Code	1 an tp_id 2 an tp_doc 3 L doc_in 4 an mfg_site 5 an mfg_addr	AN	edfct042.i
getXrefValue	Get the Cross-Reference Value	1 AN tp_id 2 AN tp_doc 3 L doc_in 4 AN mfd_name 5 I mfd_vers 6 I mfd_rec_seq 7 I mfd_fld_seq 8 AN init_value	AN	edfct010.i
get_abs_field	Get shipment file abs_mstr field value	1 an shipfrom 2 an shipper 3 an field-name	AN	edfct066.i
get_addr_mstr	Get Address Master Turnaround Data	1 an i_tad_item 2 an i_ad_addr	AN	edfct016.i
get_comm_code	Get Commodity Code based on Part Number	1 an part-number	AN	edfct049.i
get_custpart	Get the Customer's Part Number	1 an mfg_addr 2 an mfg_item_no	AN	edfct040.i
get_custpart_field	Get any field from Customer/Part Master	1 an field-name 2 an cust-no 3 an cust-part	AN	edfct048.i
get_mfgpart	Get the internal MFG/PRO part number	1 an mfg_addr 2 an cust_part_no	AN	edfct046.i
get_partshipto_TA	Get TurnAround data using Part# & ShipTo from cp_mstr	1 an TA_data_item 2 an part_number 3 an ship_to	AN	edfct039.i

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Function Name	Description	Parameters	Return Value	Name
get_part_field	To Get any field Value from Part Master	1 an field-name 2 an part-number	AN	edfct045.i
get_pod_field	To Get any field value from Purchase order detail file	1 an order-type 2 an supplier-addr 3 an shipto-site 4 an part-number 5 an po-number 6 an field-name	AN	edfct056.i
get_shipto_TA	Get TurnAround data using the ShipTo	1 an TA_Data_Item 2 an ship_to	AN	edfct047.i
get_sod_det	Get Sales Order Detail Turnaround data	1 AN i_tad_item 2 AN i_sod_no 3 AN i_sod_line	AN	edfct015.i
get_sod_field	Get any field value from the Sales Order detail file.	1 an Order_Number 2 I Line_Number 3 an Field_Name	AN	edfct060.i
get_so_field	Get any field value from the Sales Order file	1 an Order_Number 2 an Field_Name	AN	edfct065.i
get_so_nbr	Get Sales Order Header Turnaround Data	1 AN i_tad_item 2 AN i_so_nbr	AN	edfct014.i
isgreater	Checks to see if 1st param is > the 2nd	1 r first_value 2 r second_value	L	edfct038.i
Modulo	Takes the modulo of val1 and val2	1 I val1 2 I val2	L	edfct011.i
Multiply	Multiplies two values	1 R val1 2 R val2	R	edfct005.i
Progress	Calls any Progress function	1 an Function_Name 2 -10 an param1…9	R	edfct061.i

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Function Name	Description	Parameters	Return Value	Name
put-val-chkhash	Stores a passed value into the outbound hash table associated with the exchange repository using the parameters 1-9 specified as a key. The value to be stored is passed as the 10th parameter.	1 an param1 2 an param2 3 an param3 4 an param4 5 an param5 6 an param6 7 an param7 8 an param8 9 an param9 10 an Value-to-store	R	edfct054.i
Raise-Error	Raise an ERROR or WARNING flag	1 an E_or_W 2 an i_Text	AN	edfct051.i
Round	Rounds a decimal value	1 r dec_value 2 i precision	R	edfct043.i
Saturn-Kanban	Generates kanban sequence numbers where only a starting number is given.	1 i MFG-PRO-Req-Seq 2 an Starting	AN	edfct058.i
SetXrefValue	Stores a record in the EDI ECommerce cross-reference table.	1 an tp-id 2 an tp-doc 3 an doc-in 4 an mfd-name 5 i mfd-vers 6 i mfd-rec-seq 7 i mfd-fld-seq 8 an init-value 9 an conv-value	R	edfct059.i
Substring	Returns a portion of a string	1 an src_text 2 i start_pos 3 i total_len	AN	edfct007.i
Subtract	Subtract two values	1 R val1 2 R val2	R	edfct004.i

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Function Name	Description	Parameters	Return Value	Name
Systime	Get system time	None	AN	edfct034.i
ToDate	Converts to Progress Date from Character	1 AN i-date 2 ANi-format	D	edfct003.i
Truncate	Truncates a decimal value	1 r dec_value 2 i precision	R	edfct044.i

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User Functions Available from the TP Library

Function Name	Description	Parameters	Return Value	Name
capitalize	Capitalize any passed parameter	1 an i_caps_param	AN	
chk-nte-seg	This is a special function that was written to search the NTE note segment inbound data in the comments record and comparing against previously received NTE data that had been stored as TurnAround data. It issues warning error if the data has changed. This was done for a Ford requirement.	1 an part-number		
get-addr-field	Get Address field from Address master table	1 an addr-number 2 an field-name	AN	
get-cust-field	Get any field from Customer master table	1 an cust-id 2 an field-name		
get-tad-data	Generic retrieval program to retrieve any data from the TurnAround data table. This will become a QAD function in eB service pack 1	1 an table-name 2 an index-fld-name 3 an index-fld-value 4 an index-fld-value 5 an index-fld-value 6 an index-fld-value 7 an index-fld-value 8 an index-fld-value 9 an index-fld-value 10 an tad-item		
is-part-available	Check to see if item master record exists	1 an part-number		

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Function Name	Description	Parameters	Return Value	Name
rm-prev-untseg	Deletes previous UNT segments. EDIFACT looping issue.			
CnvtTime				
cnv_from_decimal				
conv-frm-vda-date				

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APPENDIX E

Repository Error Codes

Inbound Repository Error Codes

11	Inbound Exchange File Status	Load process failed. Could indicate problem in SNF file or with trading partner or document definition.
12	Inbound Exchange File Status	Exchange file load successful.
13	Inbound Exchange File Status	Exchange file transformation errors.
14	Inbound Exchange File Status	Exchange file transformation successful.
21	Inbound MFG/PRO File Status	MFG/PRO repository data created but has not initiated the gateway process. Indicates a problem with gateway processing.
22	Inbound MFG/PRO File Status	MFG/PRO gateway process errors.
23	Inbound MFG/PRO File Status	MFG/PRO gateway process successful.

Outbound Repository Error Codes

30	Outbound MFG/PRO File Status	MFG/PRO gateway didn't run.
31	Outbound MFG/PRO File Status	MFG/PRO gateway process errors. Correct in MFG/PRO, then re-export.
32	Outbound MFG/PRO File Status	MFG/PRO gateway process successful.
33	Outbound MFG/PRO File Status	MFG/PRO document transformation errors.
34	Outbound MFG/PRO File Status	MFG/PRO document transformation successful.
41	Outbound Exchange File Status	Exchange repository data created, but has not moved to unload process. Indicates a problem with unload processing.
42	Outbound MFG/PRO File Status	Exchange file unload errors.
43	Outbound MFG/PRO File Status	Exchange file unload successful.

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Training Guide: EDI ECommerce
Item number: 70-2909A

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