

SECTION I — INTRODUCTION

Electronic Data Interchange (EDI) is the inter-organizational exchange of business documentation in structured, machine-processable format. It is the direct computer-to-computer exchange of standard formatted business transactions between one or more business partners, known as trading partners. EDI permits organizations to generate, receive, and process data without human intervention.

EDI is an important component of continuing initiatives within the Department of Housing and Urban Development (HUD) to improve the effectiveness and efficiency of government programs through the use of electronic information systems technology.

The EDI projects are conducted under the direction of HUD's Office of Information Technology (IT). The Office of Information Technology is responsible for providing policy direction and coordination for HUD's EDI effort.

The purpose of this Implementation Guide is to provide the information necessary to exchange business documents electronically with HUD.

How to Use This Guide

This Implementation Guide provides an overview of EDI, including definitions and standards; hardware, software, and communications requirements; and a step-by-step approach to implementing EDI technology. It is designed to introduce HUD trading partners to EDI, how EDI works at HUD, and the elements needed to successfully implement EDI in transacting business with HUD. Sections I to V cover the general concepts and elements of EDI. Section VI focuses on specific EDI transaction sets used to electronically exchange business documents and the tools helpful to implement each. The following tools are provided with Section VI and Appendices to aid in understanding and implementing EDI transaction set(s) in lieu of your current business transactions with HUD:

- Transaction Set Outline;
- Transmission Notes;
- Data Mapping Guide;
- Cross Reference Matrix (where applicable); and
- Adjunct Transaction Sets for your particular transaction set.

How This Guide Is Organized

This Guide is divided into six sections plus appendices, designed to answer a wide range of questions involving the business and operational considerations, and the technical requirements for implementing EDI within HUD.

Section I provides an introduction to EDI definitions and concepts, including the benefits of EDI, standards, and functional requirements.

Section II discusses the specifics of EDI use at HUD, including HUD's strategic plan for EDI implementation and the impact of EDI on HUD business processes.

Section III provides an introduction to the electronic form of HUD business documents (transaction sets) and the components of a transaction set.

Section IV specifies the technical requirements for implementing EDI, including hardware, software, and telecommunications specifications.

Section V provides the operational, procedural, and management details for implementing EDI in your organization, including Trading Partner Agreements, security and quality control issues, ongoing support, and the implementation time schedule.

Section VI provides specific information on electronic filing of Federal Housing Administration (FHA) EDI business documents. The section focuses on the mapping guides and business scenarios for conversion of the FHA business documents to an electronic format.

Appendix A contains HUD's address for the Internet.

Appendix B contains the forms required for implementing EDI with HUD.

Appendix C contains the specifications for the HUD communications envelope.

Appendix D contains the adjunct transaction sets that apply to all transaction sets.

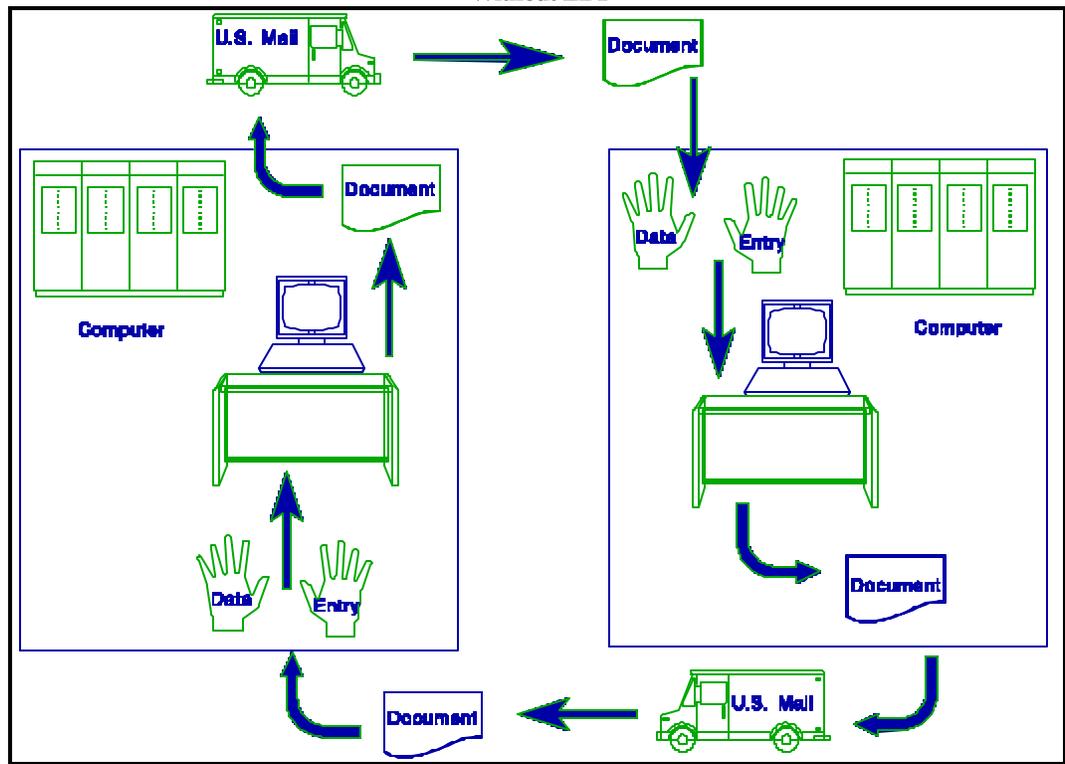
References and Glossary sections are also provided. The References section lists standards and other documents used in conjunction with EDI while the Glossary defines terms related to EDI.

Electronic Data Interchange

EDI is the direct computer-to-computer exchange of standard formatted business transactions between one or more mutually agreeable business partners. With EDI, standard business documents that were previously sent on paper through the mail can

be transmitted instantaneously using telecommunication capabilities. Because transmissions are sent in a standardized, computer-readable format, the time-consuming and error-prone re-keying of information into the receiver's computer system is unnecessary — the document goes directly from one information system to another. EDI is "paperless trading."

Figure I-1
Without EDI



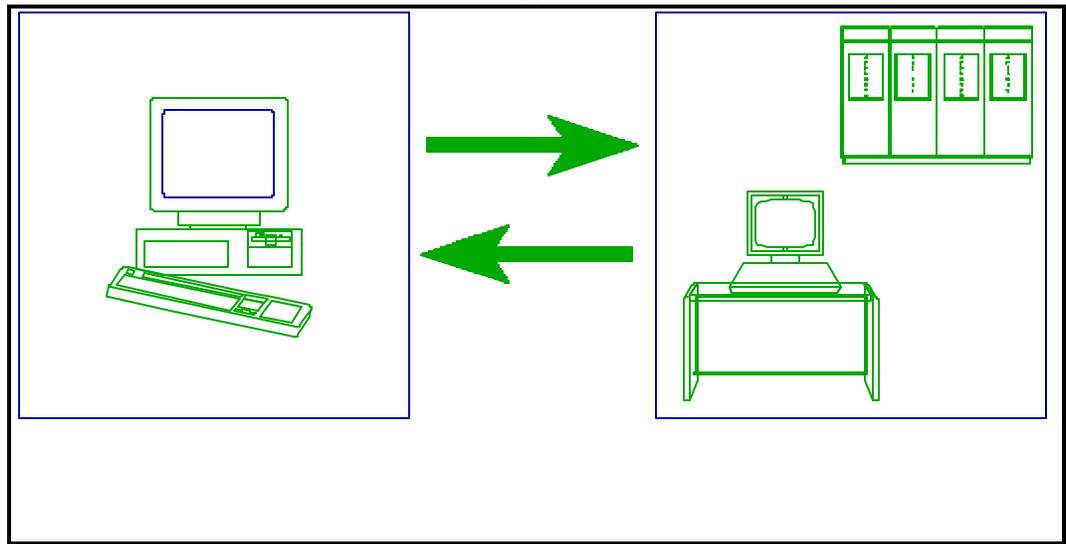
EDI includes the direct transmission of data between organizations (both sending and receiving) using an intermediary such as a value added communication network. EDI is *not* facsimile transmission of information *nor* is it electronic mail. Both of these transmission types are in free format (not standard format) and, therefore, generally require re-keying of data into a computer system.

The benefits of EDI include:

- Time savings and associated financial savings accrued from:
 - Reduced document processing and transmittal costs;
 - Elimination of keying of redundant information;
 - Reduction of manual reconciliation of information;
 - Correction of data entry errors;
 - Sorting, distribution, and filing of documents; and

- Document mailing or telephoning of information;
- Improved accuracy;
- Improved trading partner relationships and client interactions; and
- Improved reconciliation of transactions exchanged.

**Figure I-2
With EDI**



Definitions

To understand EDI, it is important to have a brief introduction to a variety of terms and acronyms that are used in any discussion of EDI.

Trading Partner — A trading partner is any company, government department, or commercial or noncommercial entity with whom an organization regularly exchanges documents of formatted data (not just letters or memos).

Trading Partner Agreement — This document outlines all the conditions that will allow electronic communication between trading partners. The agreement states that the parties intend to operate in the same manner as though they were exchanging hard copy paper documents, with the signature on the agreement serving as a substitute for signature of each paper-based business document previously submitted.

Mapping — The process of taking data from a company-specific format and fitting it

to the EDI standard format (transaction set).

Transaction Set — A standard format EDI business document.

Translation Software — Software used to take data from a flat file and into a standard EDI format.

Value Added Network (VAN) — A third party network performing services beyond the transmission of data. For example, VANs provide mailbox, data security, and data archiving services.

Van Interconnect — The connection between two third party networks that allows messages from one to be communicated to the other.

The glossary provided as a part of this guide contains a more comprehensive list of EDI terms and relevant acronyms.

Standards

EDI standards are agreements between users of EDI on how data is to be formatted and communicated. Standards are key to both the effectiveness and integrity of EDI. These standards are embodied in the electronic format of business documents known as transaction sets. The standards used by HUD are the ANSI ASC X12 standards, abbreviated herein as X12.

Standards provide a common syntax, set of rules, and procedures for their maintenance and enhancements. EDI standards presently define and support more than 200 business documents derived from industry and government working groups. They provide a framework from which new standards can be derived as well as a data base of elements to be used in the creation of new standards.

In general, EDI formatting standards address the following issues:

- What documents can be communicated electronically;
- What information is to be included;
- What sequence the information should follow;
- What form the information (i.e., numeric, ID codes, etc.) should use; and
- The meaning of the individual pieces of information.

To meet the emerging requirements for standard EDI protocols, the American National

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Standards Institute (ANSI) chartered Accredited Standards Committee (ASC) X12 to develop uniform standards for EDI. The X12 data structure is based on a proven methodology for adapting business forms for electronic transmission across telecommunication networks. A group of standards subcommittees are in place to advise, critique, and monitor the development of all X12 formats and make these formats available for business or government use.

The Data Interchange Standards Association (DISA) was formed in 1986 to encourage the use of X12 standards. This organization is the administrative secretariat for the X12 organization. It provides services such as printing, distribution, and storage of standards. Additionally, DISA participates in the international development of standards working with EDI for Administration, Commerce, and Trade (EDIFACT). EDIFACT is a family of standards sponsored by the United Nations. These standards are emerging as the medium for global electronic trade.

For the Federal Government, the National Institute of Standards and Technology (NIST), issued Federal Information Processing Standard (FIPS) 161, Electronic Data Interchange (EDI). FIPS 161 adopts the ASC X12 standards as mandatory for use by the Federal Government for any EDI initiative implemented after September 30, 1991. In compliance with this Federal standard, HUD is committed to using X12 standards in all Department initiatives involving EDI.