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[Docket No. 950314073-5073-01]

RIN 0693-AB41

**Proposed Revision of Federal Information Processing Standard (FIPS) 161-1, Electronic Data Interchange (EDI)**

**AGENCY:** National Institute of Standards and Technology (NIST), Commerce.

**ACTION:** Notice; request for comments.

**SUMMARY:** A revision of Federal Information Processing Standard (FIPS) 161-1, Electronic Data Interchange, is being proposed. The revision reflects changes in the development of voluntary industry standards for Electronic Data Interchange (EDI), including the planned alignment of the X12 and UN/EDIFACT families of standards, and provides updated guidance to Federal agencies in the selection of EDI standards. The revision also establishes a Federal EDI Standards Management Committee to harmonize the development of EDI transaction set and message standards among Federal agencies, and the setting of government-wide implementation conventions for EDI applications used by Federal agencies.

The purpose of this notice is to solicit views from the public, manufacturers, and Federal, state, local government, and private users prior to submission of this proposed revision to the Secretary of Commerce for review and approval.

The proposed revision consists of the following announcement, which provides information concerning the applicability, implementation, and maintenance of the standard. Interested parties may obtain copies of documents defining the EDI standards from Data Interchange Standards Association, Inc. (DISA), 1800 Diagonal Road, Suite 200, Alexandria, VA 22314-2852, telephone (703) 548-7005.

**DATES:** Comments on this proposed revision must be received on or before July 3, 1995.

**ADDRESSES:** Written comments concerning the proposed revision should be sent to: Director, Computer Systems Laboratory, ATTN: Proposed Revision of FIPS 161-1, Technology Building, Room B-154, National Institute of Standards and Technology, Gaithersburg, MD 20899.

Written comments received in response to this notice will be made part

of the public record and will be made available for inspection and copying in the Central Reference and Records Inspection Facility, Room 6020, Herbert C. Hoover Building, 14th Street between Pennsylvania and Constitution Avenues, NW, Washington, DC 20230.

**FOR FURTHER INFORMATION CONTACT:** Mr. Roy Saltman, Computer Systems Laboratory, National Institute of Standards and Technology, Gaithersburg, MD 20899, telephone (301) 975-3376.

**EXECUTIVE ORDER 12866:** This FIPS notice has been determined to be "not significant" for purposes of E.O. 12866.

Dated: March 28, 1995.

**Samuel Kramer,**  
*Associate Director.*

**Proposed Federal Information Processing Standards Publication 161-2; Draft 1995 February 16; Draft Announcing the Standard for Electronic Data Interchange (EDI)**

Federal Information Processing Standards Publications (FIPS PUBS) are issued by the National Institute of Standards and Technology (NIST) after approval by the Secretary of Commerce pursuant to section 111(d) of the Federal Property and Administrative Services Act of 1949 as amended by the Computer Security Act of 1987, Pub. L. 100-235.

1. Name of Standard. Electronic Data Interchange (EDI) (FIPS PUB 161-2).

2. Category of Standard. Software Standard, Electronic Data Interchange.

3. Explanation. EDI is the computer-to-computer transmission of strictly formatted messages that represent documents; EDI is an essential component of electronic commerce (EC). EC is the use of documents in electronic form, rather than paper, for carrying out functions of business or government that require interchanges between organizations of information, obligations, or monetary value.

This publication adopts, as a Federal Information Processing Standard, recognized national and international standards for EDI. In EDI, data that would be traditionally conveyed on paper documents are transmitted or communicated electronically according to established rules and formats. The data that are associated with each type of functional document, such as a purchase order or invoice, are transmitted together as an electronic message. The formatted data may be transmitted from originator to recipient via telecommunications or physically transported on electronic storage media.

EDI typically implies a sequence of messages between two parties, for

example, buyer and seller, either of whom may serve as originator or recipient. Messages from buyer to seller could include, for example, the data necessary for request for quotation (RFQ), purchase order, receiving advice, and payment advice; messages from seller to buyer could include similarly the data for response to RFQ, purchase order acknowledgment, shipping notice, and invoice. EDI is being used also for an increasingly diverse set of concerns, for example, for interchanges between healthcare providers and insurers, and for governmental regulatory, tax, and statistical reporting.

Implementation of EDI requires the use of a family of interrelated standards. The family must include standards for types of messages (also called "transaction sets"), and for transmission envelopes, data elements, and short sequences of data elements called data segments. A message or transaction set standard defines the sequence of data segments that constitute that message or transaction set. The data segment directory lists all data segments, and defines the identifier and sequence of data elements constituting each. The data element directory (also called a "dictionary") provides specifications of all data elements. Transmission envelopes provide control information about the included messages to the carrying and receiving systems.

The standardization of message formats, and of data segments and elements within the messages, makes possible the assembling, disassembling, and processing of the messages by computer.

This FIPS PUB adopts, with specific conditions, the families of standards known as X12 and UN/EDIFACT. This FIPS PUB does not mandate the implementation of EDI systems within the Federal Government; rather it requires the use of X12 or UN/EDIFACT, subject to the conditions specified below, when Federal departments or agencies implement EDI systems. The X12 and UN/EDIFACT standards were originally developed respectively by Accredited Standards Committee X12 on Electronic Data Interchange (ASC X12), accredited by the American National Standards Institute (ANSI), and by the United Nations (UN) Economic Commission for Europe—Working Party (Four) on Facilitation of International Trade Procedures (UN/ECE/WP.4). Technical input from the United States in the development of UN/EDIFACT at the UN is through the Pan American EDIFACT Board (PAEB). The PAEB is separate from ASC X12, and it serves as the coordinating body for national

standards organizations of North, Central, and South America.

FIPS PUB 161-2 supersedes FIPS PUB 161-1 in its entirety. FIPS PUB 161-2 contains editorial changes, updated references to documents and organizations, and updated guidance to agencies on the selection of X12 and UN/EDIFACT standards and implementation conventions. This guidance is based on recent voluntary industry standards activities and on the Federal Government initiative that commenced with the Presidential Memorandum of October 26, 1993 entitled "Streamlining Procurement Through Electronic Commerce."

4. Approving Authority. Secretary of Commerce.

5. Maintenance Agency. U.S. Department of Commerce, National Institute of Standards and Technology (NIST), Computer Systems Laboratory.

6. Cross Index and Related Documents.

6.1. Cross Index.

- FIPS PUB 113, Computer Data Authentication, May 1985.
- FIPS PUB 46-2, Data Encryption Standard, December 1993.
- FIPS PUB 186, Digital Signature Standard (DSS), May 1994.
- FIPS PUB 146-2, Profiles for Open Systems Interworking Technologies, expected approval 1995.
- FIPS PUB 180-1, Secure Hash Standard, expected approval 1995.
- 6.2. Related Documents.
- NIST Special Publication 500-224, Stable Implementation Agreements for Open Systems Interconnection Protocols, Version 8, Edition 1, March 1995.
- NIST Special Publication 800-9, Good Security Practices for Electronic Commerce, Including Electronic Data Interchange, December 1993.
- ASC X12W/94-710, ASC X12 Plan for Technical Migration To And Administrative Alignment With UN/EDIFACT, approved by ASC X12 on January 13, 1995 and modified at the ASC X12 plenary meeting, February 6, 1995.
- NISTIR xxxx, Charter for Federal EDI Standards Management Committee, expected 1995.

6.3. Sources of Documents. For the source of cited NIST publications, including FIPS PUBS, see Section 13. For the source of X12 and UN/EDIFACT documents, see Subsection 10.1.

7. Objectives. The primary objectives of this standard are:

- a. To promote the achievement of the benefits of EDI: reduced paperwork, fewer transcription errors, faster

response time for procurement and customer needs, reduced inventory requirements, and more timely payment of vendors;

b. To ease the interchange of data sent via EDI by the use of standards for data formats and transmission envelopes;

c. To minimize the cost of EDI implementation by preventing duplication of effort.

8. Applicability.

8.1. Conditions of Application. EDI may be employed with any type of operational data representable as a sequence of data elements that is needed to be transmitted or received on a repetitive basis by a Federal agency in the course of its activities. This standard is applicable to the interchange of such data on a particular subject, between a Federal agency and another organization (which may be another Federal agency), if (1) the data are to be transmitted electronically using EDI, and (2) X12 transaction sets or UN/EDIFACT messages meeting the data requirements of the Federal agency for the subject of the interchange have been developed and approved, and are acceptable for use under the conditions set forth in this FIPS PUB.

8.2. Subject Matter. Examples of applications (not necessarily the subject of current standards) are:

a. Vendor search and selection: Price/sales catalogs, bids, proposals, requests for quotations, notices of contract solicitation, debarment data, trading partner profiles;

b. Contract award: Notices of award, purchase orders, purchase order acknowledgments, purchase order changes;

c. Product data: Specifications, manufacturing instructions, reports of test results, safety data;

d. Shipping, forwarding, and receiving: Shipping manifests, bills of lading, shipping status reports, receiving reports;

e. Customs: Release information; manifest update;

f. Payment information: Invoices, remittance advices, payment status inquiries, payment acknowledgments;

g. Inventory control: Stock level reports, resupply requests, warehouse activity reports;

h. Maintenance: Service schedules and activity, warranty data;

i. Tax-related data: Tax information and filings;

j. Insurance-related data: Health care claim; mortgage insurance application;

k. Other government activities: Communications license application; hazardous waste report; court conviction record.

9. Federal EDI Standards Development and Coordination.

9.1. Federal EDI Standards Management Committee. There is established a Federal EDI Standards Management Committee (FESMC). The goal of the FESMC is to assure a single Government face to industry, consistency among instances of an application across agencies, streamlined data, and coordinated Government representation at standards bodies. Functions of the committee include harmonization of development of EDI transaction set and message standards among Federal agencies, and the setting of Government-wide implementation conventions for each EDI application used by Federal agencies. Workgroups in subject areas such as finance, procurement, and transportation will be established under FESMC. Membership on the committee shall be from Federal agencies using or planning to use EDI; selection of the chair of the committee shall be approved by the Office of Management and Budget.

9.2. Agency Responsibilities.

9.2.1. Agencies already employing X12 or UN/EDIFACT standards or draft standards approved under this FIPS PUB shall submit their implementations to FESMC for coordination.

9.2.2. For the case in which X12 or UN/EDIFACT documents are available or under development for a needed subject area but do not meet agency requirements, agencies shall submit their requirements to FESMC to coordinate need changes, and shall submit their requirements to ASC X12 by following procedures specified in ASC X12 Standing Document (SD) 2, Operations Manual, and SD 6, Operations Manual (UN/EDIFACT Standards). These are available from Data Interchange Standards Association, Inc. (DISA) (see Subsection 10.1 for address and phone number).

9.2.3. For the case in which a subject area for which an agency wishes to use EDI has not yet been considered for standardization, agencies shall submit their requirements for standardization to FESMC and to ASC X12, as described in Subsection 9.2.2. Proposed implementations shall maximize use of existing X12 and/or UN/EDIFACT standards or draft standards to the extent possible. Use of already approved documents should minimize the administrative work involved in new development and in standards maintenance.

9.2.4. Agencies shall adopt the implementation conventions (ICs) established by FESMC. ICs shall be classified as Implementer's Agreements pursuant to this FIPS PUB, but are not themselves FIPS PUBS. Proposed ICs will be coordinated with industry. NIST

will publish ICs and maintain a registry of them.

10. Specifications. Documents are available that define the standard X12 transaction sets and UN/EDIFACT messages as well as the foundation standards for both families. Developments are continuing in both families of standards.

10.1 Source of Documents. Documents defining both the X12 and UN/EDIFACT families of standards, as well as ASC X12 and PAEB operational and procedural documents, are available from DISA or from a contractor named by DISA. DISA serves as the secretariat for ASC X12 and the PAEB: its address and phone number are: Address: Data Interchange Standards Association, Inc., 1800 Diagonal Road—Suite 200, Alexandria, VA 22314-2852, Phone: (703) 548-7005.

A list of available publications, as well as descriptive material, prices and ordering procedures, may be found in the most recent DISA Publications Catalog.

#### 10.2. ASC X12 Documents.

10.2.1. X12 standards are published periodically with revisions and updates, and standards included in a publication may have one of two possible statuses:

(1) Draft Standards for Trial Use (DSTUs); these are fully approved by ASC X12, and are typically published as "releases" at one-year intervals. DSTU Version 3, Release 4, identified as 003040, was published in December 1993; Version 3, Release 5, identified as 003050, was published in December 1994. Two interim subreleases also are published annually. The 1994 subreleases were identified as 003041 and 003042.

(2) American National Standards (ANSs); these are fully approved by ASC X12 and by ANSI, and are typically published as "versions" at intervals of three to five years. ANS Version 3, published in March 1992, is functionally equivalent to DSTU Version 2, Release 4. It is expected that ANS Version 4, planned for 1997, will be functionally equivalent to DSTU Version 3, Release 7, identified as 003070.

10.2.2. A particular X12 standard is one of three types; it may be a "control and foundation standard," it may be a "transaction set" (which uses X12 syntax), or it may be an EDIFACT-syntax "message."

10.2.3. Control and foundation standards currently include the following:

Data Element Dictionary X12.3  
Interchange Control Structure X12.5  
Application Control Structure X12.6

Segment Directory X12.22  
Interconnect Mailbag Control Structures X12.56  
Security Structures X12.58  
Implementation of EDI Structures—  
Semantic Impact X12.59  
Standards X12.5 and X12.6 define the X12 syntax.

10.2.4. DSTU Version 3 Release 5 includes 225 transaction set standards and two EDIFACT-syntax message standards.

#### 10.3 UN/EDIFACT Documents.

10.3.1. Un/EDIFACT standards are published periodically with revisions and updates, and standards included in a publication may have one of two possible statuses:

(1) Status 1, approved for trial use. A set of status 1 messages and directories is typically published yearly. The most recent set, identified as UN/EDIFACT Draft Messages and Directories, Version D94.B, was published in October 1994.

(2) Status 2, fully approved by UN/ECE/WP.4. These may be referred to as the UN Trade Data Interchange Directory (UNTDID).

Version S93.A was approved in March 1994, and Version S95.A is expected in September 1995.

10.3.2. The D94.B Status 1 Draft Messages and Directories include the following:

Uniform Rules of Conduct for  
Interchange of Trade Data by  
Teletransmission (UNCID);  
UN/EDIFACT Terminology;  
United National Rules for EDIFACT  
United National Directories for  
EDIFACT  
75 Messages of Status 1

The United Nations Rules for EDIFACT include sections on establishment of United Nations standard message types (UNSMs), syntax rules (see Subsection 10.3.4), syntax implementation guidelines, message design guidelines, and general introduction for UNSM descriptions. The United Nations Directories for EDIFACT include the standard message type directory, message, frameworks, segment directory, composite data element directory, data element directory, and code lists.

10.3.3. The S93.A Status 2 Messages and Directories (UNTDID) includes the same types of information provided in D94.B, excepting that approved messages of Status 2 instead of Status 1 are listed. Forty-two messages of Status 2 are specified.

10.3.4. A foundation standard used in UN/EDIFACT is approved by the International Organization for Standardization (ISO); it is entitled ISO 9735—UN/EDIFACT Application Level

Syntax Rules. There are several versions: Version 1 (1988), Version 2 (1990), and Version 3 (Version 2 with Amendment 1 of December, 1992). Version 3 is included in D94.B. Version 4 is expected in March, 1995.

#### 11. Implementation.

11.1 Schedule for Adoption. FIPS PUB 161 was effective on September 30, 1991. Federal agencies that are not using EDI for subject matter for which X12 or UN/EDIFACT standards have been approved and issued shall utilize only those standards in EDI systems that they procure or develop, subject to the qualifications of Subsections 11.3, 11.4 and 11.5. Agencies already using those standards continue to do so. Agencies that were using industry-specific standards for EDI on September 30, 1991 shall be governed by Subsection 11.6.

11.2. Acceptance of UN/EDIFACT. In January 1995, ASC X12, by a vote of its membership, approved the *ASC X12 Plan for Technical Migration To And Administrative Alignment with UN/EDIFACT*. This plan was modified at the February 1995 plenary meeting of ASC X12. Key features of the modified Alignment Plan are:

(1) Draft standards based on X12 syntax or on UN/EDIFACT syntax may be submitted by ASC X12 for processing as ANSs.

(2) X12 Release 003070 shall form the basis of Version 4 of draft proposed X12 American National Standards (ANSs).

(3) After the release of Version 4, ASC X12 shall continue for a period of time, in accordance with the plan, to develop, maintain, approve and publish X12-syntax transaction sets and supporting documents.

(4) An ASC X12 ballot shall be conducted in 1998 to determine if X12-syntax transaction set development should be terminated. If the ballot for termination is not approved, a three-year repeating cycle shall occur thereafter, until no new x12-syntax transaction sets are being developed.

11.3. Selection of X12 or UN/EDIFACT. X12 and UN/EDIFACT are separate although similar, families of standards. The existence of one does not preclude the other, and equivalent functionality may be obtained in either system. Software that assembles and disassembles messages and transaction sets called translation software, is available for both systems, often in the same package.

In selecting a family of standards, agencies should attempt to maximize economy and efficiency and to minimize the costs imposed on U.S. businesses.

11.3.1. For domestic interchanges, agencies may use, at this time, standards employing either X12 or UN/EDIFACT syntax or both. Selection of syntax for an interchange shall take into account the prevailing syntax used in the industry of the interchange partner. However, standards using UN/EDIFACT syntax shall be employed for new or significantly upgraded interchanges in the absence of demonstrably higher costs, or at the request of interchange partners providing a significant fraction of interchange traffic. Continued long-term use and maintenance of dual standards is unacceptably inefficient.

11.3.2. For internal interchanges, migration to standards using UN/EDIFACT syntax shall commence at this time if that syntax is not currently being used. A timetable for conversion to UN/EDIFACT of existing international implementations shall be set as applicable standards and software becomes available. New or significantly upgraded interchanges shall employ only standards using UN/EDIFACT syntax.

11.4. Use of Draft Standards. Both X12-syntax and EDIFACT-syntax standards approved and published by ASC X12, if not approved at a higher level are designated DSTUs for purposes of this FIPS PUB. Federal agencies shall use only the following two type of standards for EDI implementations: (1) Draft standards, i.e., UN/EDIFACT Status 1 standards or STUs from ASC X12, or (2) full standards, i.e., UN/EDIFACT Status 2 standards or ANS submitted by ASC X12. Industry practice is to use draft standards; these represent the latest consensus and are available sooner than the corresponding full standards. Consequently, draft standards are preferred for use over full standards.

11.5. Age-Limitations on Acceptable Standards. Agencies, in their agreements with interchange partners, may not use any version of an acceptable standard specified in Subsections 11.3 and 11.4 that is more than four years old, unless it is the most recent version. Any version of an ISO standard may be used, e.g., ISO 9735, subject to the same age-limitation.

11.6. Continued Use of EDI Industry Standards. Federal agencies using industry-specific EDI standards on September 30, 1991 may continue to use those standards for five years from that date. However, such agencies shall, without delay, submit their standardization requirements as indicated in Subsections 9.2.2 and 9.2.3. Industry-specific EDI standards may be used beyond five years only if no equivalent X12 or UN/EDIFACT

standards, as appropriate, have been approved and issued by September 30, 1995. If an equivalent X12 DSTU or UN/EDIFACT Status 1 standard, as appropriate, is approved and issued after September 30, 1995, Federal agencies using an industry-specific standard shall have one year to convert, following the first publication of the approved standard. Implementation shall be consistent with the requirements of Subsections 11.3 and 11.4.

11.7. Security and Authentication. Agencies shall employ risk management techniques to determine the appropriate mix of security controls needed to protect specific data and systems. The selection of controls shall take into account procedures required under applicable laws and regulations.

Optional tools and techniques for implementation of security and authentication may be provided by ASC X12 and UN/ECE/WP.4 for use in connection with their respective families of standards. Agencies may utilize these tools and techniques, and/or they may utilize other methods in systems supporting the EDI data interchange. Methods and procedures implemented shall be consistent with applicable FIPS PUBS and guidance documents issued by NIST.

12. Waivers. Under certain exceptional circumstances, the heads of Federal departments and agencies may approve waivers to Federal Information Processing Standards (FIPS). The head of such agency may redelegate such authority only to a senior official designated pursuant to section 3506(b) of Title 44, U.S.Code.

Waivers shall be granted only when:

a. Compliance with a standard would adversely affect the accomplishment of the mission of an operator of a Federal computer system, or

b. Cause a major adverse financial impact on the operator which is not offset by Governmentwide savings.

Agency heads may act upon a written waiver request containing the information detailed above. Agency heads may also act without a written waiver request when they determine that conditions for meeting the standard cannot be met. Agency heads may approve waivers only by a written decision which explains the basis on which the agency head made the required finding(s). A copy of each such decision, with procurement sensitive or classified portions clearly identified, shall be sent to: National Institute of Standards and Technology; Attn: FIPS Waiver Decisions, Technology Building, Room B-154; Gaithersburg, MD 20899.

In addition, notice of each waiver granted and each delegation of authority to approve waivers shall be sent promptly to the Committee on Government Reform and Oversight of the House of Representatives and the Committee on Governmental Affairs of the Senate and shall be published promptly in the **Federal Register**.

When the determination on a waiver applies to the procurement of equipment and/or services, a notice of the waiver determination must be published in the *Commerce Business Daily* as part of the notice of solicitation for officers of an acquisition or, if the waiver determination is made after that notice is published, by amendment to such notice.

A copy of the waiver, any supporting documents, the document approving the waiver and any supporting and accompanying documents, with such deletions as the agency is authorized and decides to make under 5 U.S.C. sec. 552(b), shall be part of the procurement documentation and retained by the agency.

13. Where to Obtain Copies of NIST Publications. Copies of this publication and NIST publications referenced in Section 6 are for sale by the National Technical Information Service (NTIS), U.S. Department of Commerce, Springfield, VA 22161; phone (703) 487-4650. When ordering this publication, refer to Federal Information Processing Standards Publication 161-2 (FIPSPUB161-2), the title. Payment may be made by check, money, or NTIS deposit account.

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## National Oceanic and Atmospheric Administration

[I.D. 032395B]

### Endangered Species; Permits

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Issuance of Amendment 1 to Permit 895 (P504D).

Notice is hereby given that on March 28, 1995, as authorized by the provisions of the Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531-1543) and the NMFS regulations governing listed fish and wildlife permits (50 CFR parts 217-222), NMFS issued Amendment 1 to Permit Number 895 held by the Army Corps of Engineers (P504D), to transport listed Snake River