



*The Leader in Electronic Trading*

# NEIS Flat File

# Data Specification

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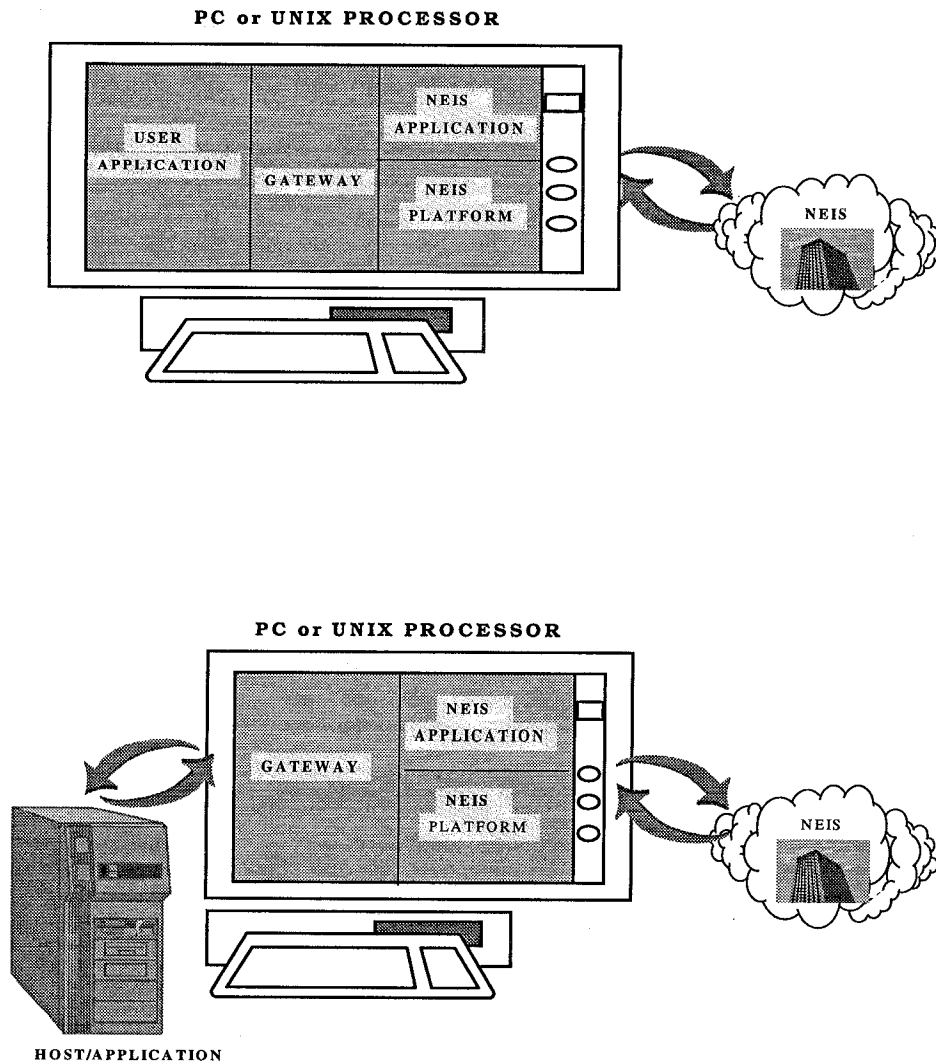
## 1. Overview

The NEIS EDI Gateway Interface allows non-NEIS applications to interface to users of the NEIS EDI Service.

If the application, for example Purchasing System or Sales Order Entry System, resides on a PC running DOS, a PC running UNIX or a UNIX processor, the NEIS Gateway can be installed on the same machine so that internal file transfers can take place.

However, usually the application resides on a different computer to that used for the EDI processing and a computer to computer file transfer mechanism of the customer's choice is used.

These two scenarios are shown in the following diagrams:



This NEIS Data Specification is designed specifically for NEIS EDI Gateway users. The sequence of data (records) outlined in this specification must be followed.

## 2. The EDI Gateway

### 2.1 The Standalone EDI Gateway

The configuration used for the stand-alone EDI Gateway System varies depending on the volume of documents being processed. A recommended minimum EDI Gateway system would be a 486 based PC running the MS DOS operating system. The system should include a printer, a tape back-up unit, and a minimum of 2MB RAM and 100MB available on the hard disc. If the EDI Gateway is required to support other functions, then memory, disc and communications capabilities should be increased as required.

UNIX versions of the EDI Gateway are also available.

The communication connection between the host system and the EDI Gateway varies depending on the software in use on the host. The main requirement is for a file transfer mechanism which enables ASCII files to be transferred between the Host system and the EDI Gateway. The EDI Gateway allows a number of asynchronous protocols including ZMODEM, KERMIT and UUCP, and many other protocols which have been adopted by users. Synchronous protocols are allowed by the EDI Gateway, provided suitable software and hardware products are available for the selected EDI Gateway system. The choice of protocol is left to the client.

1. The flow between the Host system and the Gateway for outgoing documents is as follows:
  - i. The Host system creates files for transfer in the specified format. These formats are discussed later in this document. The timing and method used to create the transfer files will be applications dependent.
  - ii. A connection is made between the Host and the EDI Gateway. Using the appropriate protocol and method, a file transfer session is established between the EDI Gateway and the Host system.
  - iii. The files which have been transferred from the host to the Gateway must then be marked as having been collected.
  - iv. The files are processed by the EDI Gateway and sent to the NEIS network.
2. The flow between the EDI Gateway and the Host system for incoming documents is as follows:
  - i. The files received by the EDI Gateway from the NEIS network are processed and translated to the specified format.
  - ii. A connection is made between the EDI Gateway and the Host. Using the appropriate protocol and method, a file transfer session is established between the EDI Gateway and the Host system.
  - iii. The files are transferred to the Host system.

The physical link between the EDI Gateway and the Host system is easiest with a local connection. Naturally greater distances can be covered using standard communications techniques. Volumes of data and geographic location will dictate the type and speed of connection.

The flow or process can be automated using the EDI Gateway's *Auto Operator* facility on MS DOS or *cron* on UNIX. Both can be configured to initiate various tasks at predetermined times of the day.

## **2.2 The Host based EDI Gateway**

With the Host based EDI Gateway, all processes run on the Host system. There is no separate hardware system between the Host and the NEIS Gateway system.

Naturally for a Host based EDI Gateway to be viable, both the host application and the EDI software need to be available for the chosen hardware and operating system. NEIS currently provides its standard EDI Gateway, Platform and Applications on MSDOS/PCDOS and SCO UNIX. Other choices of hardware and operating system, especially versions of UNIX can be accommodated by porting the appropriate EDI software products.

Check with your NEIS representative for more up to date information on the availability of software ports to other environments and for the costs of special porting exercises.

With the Host based EDI Gateway the processing steps are the same as the stand-alone system except the transfer of data is within the system rather than via external communication links.

## **3 Standard Transfer File Formats**

### **3.1 Overview**

Section 4 of this document presents the Data Specifications for each document used by the NEIS EDI Gateway and network.

There is a separate Data Specification for each document type. Each Data Specification lists the data records detailing the size, type, structure and content of each record and field.

As a first step the Data Specification should be compared to those fields which the Host application can supply, and determine whether any problems of size, format, or content exist. All mandatory fields must be supplied.

Similarly, if data is to be received into the Host any incompatibilities need to be resolved.

Once this process has been completed, issues should be discussed with your NEIS Project Manager who will assist in resolving any questions of data availability, formats, or conversions. The remainder of this section details the layout of each document file.

Also attached to this Data Specification is a list of UN/EDIFACT International Codes.

### **3.2 File Format**

Each document file is divided into 2 parts, being the Document Identification Record (Header Record) and the Document Content.

All characters within a file must be in ASCII. Records that are not required should be omitted entirely (unless mandatory).

Records within a DOS environment must be terminated by Carriage Return Line Feed (CR/LF). Records within a UNIX environment must be terminated by a Line Feed (LF) only.

#### **3.2.1 Document Identification Record**

Every document passing through the Gateway must have a Document Identification Record (Header Record) at the very beginning of the file to identify the document that follows. Only one document is allowed per file, hence only one Header Record occurs in a file.

The Header Record is required by the NEIS Gateway and the NEIS Platform for addressing, alias code translation, document identification and error checking. The information in the Header Record is utilised in the X.400 envelope, while the information in the document is converted to an EDIFACT (or X12) message.



The Header Record is created by the document source, which is either the host application or the NEIS Platform. It contains the following information:

FIELD NAME	START	LENGTH	COMMENT
Header Record Id	1	3	mandatory, must be "\$\$\$"
Document Type	4	8	mandatory, eg "PUR"
Sender ID	12	17	mandatory, eg "BranchX"
Document Number	29	35	mandatory; Any Unique No.
Receiver Id	64	17	mandatory, eg "SupplierY"
Document Format	81	8	optional, eg "GW3", blank if not used
Return Code	89	3	optional, used by the Gateway, blank if not used

header\_id

doc\_type

sender\_id

doc\_no

supplier\_id

doc\_format

return\_code

The fields *Sender* and *Receiver Id* may contain any code identifying the two parties. The NEIS Gateway will map them to the codes used by the NEIS Platform and vice versa. Note that the NEIS applications (Purchaser and Supplier) ignore all other fields providing party identification within the document content (eg UNB and NAD segments).

The field *Document Type* contains the standard Platform identifier for the type of document. Valid identifiers are:

ENQ	Request for Quote
QTE	Quote
PUR	Purchase Order
POC	Purchase Order Change
SUP	Purchase Order Response
DAV	Despatch Advice
INV	Invoice (Version 5.1)
INH	Invoice (HEMMP - Jan '93 version)

The field *Document Format* will usually contain the value identifying the format of the document. Examples are:

GW3	The normal choice for Gateway 3
GATEWAY	Old NEIS flat file format
NEDIX	
TRADER	
EDIFACT	
X12	
IB	

This field is primarily used by the NEIS Gateway to control the document flow between host applications and the NEIS Platform. It has no effect unless the Gateway is set up to check its value before executing a certain task.

### 3.2.2 Document Content

The document itself is made up of 3 sections:

- i The Header section
- ii The Detail section
- iii The Summary section

## 3.3 Record Formats

### 3.3.1 NEIS Standard Record Format

The same format is used for data being transferred into and out from the Host applications. The format of the records to be supplied by your application and the format in which the Interface will return data to your application is as follows:

	Start Position	Length	Type
Record Tag	1	5	Alphanumeric
1st Qualifier	6	3	Alphanumeric
2nd Qualifier	9	3	Alphanumeric
Data	12	As Defined	As Defined

The Record Tag at the beginning of each record is used by the translator to map data into the correct EDIFACT segment. The first three characters are the segment code. The fourth character indicates the section (ie H=Header, I=Item, S=Summary). The fifth character is a sequence number.

RECORD TAG		
Segment Code	Level 2 characters	
3 characters	Section Code	Sequence Number
	1 character	1 character

### 3.3.2 Payroll Deduction Document Record Format

See section 6. Special Case - Payroll Deduction Documents.

## 3.4 Data Field Formats

**Alphanumeric Fields** - All fields must be left justified and space filled to the stated field size.

**Numeric Fields** - All fields must be right justified. Leading blanks or zeros are allowed. The field length includes a decimal point if appropriate. A decimal point cannot be placed in the first or last positions. For example, an n9 field (numeric length of 9 characters) may contain the following data:

Position	1	2	3	4	5	6	7	8	9
Data	0	0	0	0	4	.	5	0	0
<i>or</i>				4	.	5	0	0	0
<i>or</i>							4	.	5

**Date Field** - Unless otherwise specified, date fields must be of the form YYMMDD.

**Time Fields** - Unless otherwise specified, time fields are of the form HHMM.

**Money Fields** - All fields must be expressed in local currency.

### 3.5 Character Set

Only characters contained within ISO 9735 Syntax Level B Character Set must be used. This character set is not intended for transmission to telex machines. The characters comprising Level B are as follows:

Letters, upper case	A to Z
Letters, lower case	a to z
Numerals	0 to 9
Space character	
Full stop	.
Comma	,
Hyphen / minus sign	-
Opening parenthesis	(
Closing parenthesis	)
Oblique stroke (slash)	/
Apostrophe	'
Plus sign	+
Colon	:
Equals sign	=
Question mark	?
Quotation mark	"
Percentage sign	%
Ampersand	&
Asterisk	*
Semi-colon	;
Less than sign	<
Greater than sign	>

### 3.6 Data Specification Layout

<b>Record Tag</b>	The five character code that identifies the fields in the Record.
<b>Qualifier</b>	Each record may have 1 or 2 codes which qualify data fields where the same record tag is used more than once.  The 4 digit number in brackets is the EDIFACT Data Element number for that qualifier and is based on UN/EDIFACT Directory 91.1
<b>Field Format</b>	The maximum length and the format of the data element, the codes are:  aX = alphanumeric, maximum length X characters nX = numeric, maximum length X characters YYMMDD Date field, with year, month then day, including leading zeros HHMM time field, with hour and minutes. The twenty four hour clock is assumed  NOTE: (M) indicates a mandatory data field or qualifier.
<b>Start Position</b>	Specifies the fixed location within the record where the data field begins.
<b>Data Field Name</b>	The common name of the data field
<b>Description</b>	Free format description of the field's purpose.
<b>Comments</b>	The space provided for you to note your system requirements

## 4.0 NEIS Standard Data Specification

The record sequence within each document type is structured as follows:

HEADER SECTION	Each record can occur once per document (unless otherwise stated)
DETAIL SECTION	These records can be repeated as a group
SUMMARY SECTION	Each record can occur once per document (unless otherwise stated)