CGI Advantage® 4

EDI Invoice Implementation Guide

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1 Introduction

Electronic Data Interchange (EDI) is the electronic exchange of business transactions using a standardized format; a process which allows one company to send information to another company electronically rather than with paper. There are various types of business transactions that can be processed through EDI such as invoices, purchase orders, payments, and inventory notices. The business transaction data is organized according to a specified format set by both parties, allowing a "hands-off" computer transaction that requires little human intervention or re-keying on either end. All information contained in an EDI transaction set is, for the most part, the same as on a conventionally printed transaction. While there are competing EDI transaction standards worldwide, the most prevalent standards for conducting commerce within the United States are developed and maintained by the Accredited Standards Committee (ASC) X12.

Advantage Financial provides a means for processing electronic invoices through the use of EDI. The standardized format implemented by Advantage Financial is ASC X12, and the EDI 810 Invoice Transaction Set is used for formatting invoice data. Instead of vendors sending paper invoices that need to be processed individually, a file is sent that can contain hundreds of invoices, which eventually generates vendor payments.

In Advantage Financial, the EDI transaction set 810 is used to process vendor invoice data via the steps outlined below.

High Level Process Overview

1. Vendor sends an 810 file that contains multiple invoice records.
2. The vendor's file is processed by the Load EDI Invoices chain job.
    a. The system creates a 997 file for each EDI file that is processed. The 997 file tells the vendor if there were any data errors in the file they sent to Advantage. If there are errors, the invoice(s) will not be processed.
    b. For invoice records that pass 997 validations, the system performs 824 validations. These are business rule validations such as rate * quantity does not equal amount; electronic account information provided in the file but not found in the system, and so forth.
    c. Vendors may send information in their files that is not needed; this data is ignored by Advantage.
3. If an invoice passes both sets of validations, an invoice is created in Advantage. The Load EDI Invoices chain job uses the SMU utility to upload the invoice xml into Advantage.
4. The Load EDI Invoices chain job populates the EDI File (EDIF), EDI Header (EDIH), and EDI Detail (EDID) pages so that EDI users can see the data that was passed in the original file.
5. After an electronic invoice is created, an electronic payment is later generated by the Electronic Payment Request Chain job.

2 Implementing EDI in Advantage Financial

EDI is not a turnkey operation. It requires initial configuration and extensive testing to ensure that files process smoothly. If a site chooses to use EDI for invoices, and they have never used EDI before, there are steps that need to occur before EDI can be used at a site.

1. Determine which vendors are able to send EDI 810 transaction files. These are typically your larger vendors such as Xerox, Ricoh, and utility companies.
2. Determine the EDI Specification format that the vendor(s) follow(s) and determine the EDI Specification format the site will follow (Refer to the “Specification File” section for more information).
3. Determine if any business rule validations need to be modified/added for your site. This requires custom code changes.
4. Work with your vendor(s) to send test files and response files prior to implementing at your site.

Additionally, it is important for a site to have a user that is familiar with EDI concepts and file structures. A site cannot expect to implement EDI without knowing anything about the EDI formats and guidelines.

Once a site decides to use EDI, there are several configuration settings within Advantage that will allow a vendor to use EDI. Each configuration item is addressed in detail in the following sections.

2.1 Application Setup/Configuration

2.1.1 System-wide Settings

Records/settings are required in the following tables, unless specifically listed as optional.

2.1.1.1 Application Parameters (APPCTRL)

On the Application Parameters (APPCTRL) page, verify the ELECTRONIC_ACCOUNT parameter is set to True. This effectively activates EDI processing in Advantage Financial, and establishes a relationship between the Electronic Account Profile (EAPRO) and the Electronic Account and Address Crosswalk (EAAD) tables. EAPRO and EAAD are described in more detail in the “Account Level Settings” section.

2.1.1.2 Integration Parameters (INTCTRL)

On the Integration Parameters (INTCTRL) page, a record must exist for the UTILITY_ENABLED parameter with a Parameter Value set to TRUE, for the Resource (Invoice-Electronic or Electronic Payment Request Transaction Code). For the specified Resource, the system first looks for the transaction’s Department and Unit. If not found, the system looks for the transaction’s specific Department with a Unit of ALL. If not found, the system looks for a Department of ALL and a Unit of ALL. If a record exists and the Parameter Value is TRUE, then additional edits are invoked on the Electronic Payment Request and Invoice-Electronic transactions. Also, if the Parameter Value is TRUE, then the Electronic Billing Inquiry (EBIT) page is updated by the IE transactions, EPRC transactions, and the Electronic Payment Request Chain.

2.1.1.3 Electronic Billing Data Source (EBDS)

The Electronic Billing Data Source (EBDS) table identifies the different data sources supported by EDI in Advantage Financial. Examples of valid data sources are: CD-ROM, EDI transfer, and FTP. sms 100,A record is required on EBDS that defines the vendor's data source. This Data Source ID will be used when defining Electronic Accounts in Advantage Financial.

2.1.1.4 Contact (CNTAC)

The Contact (CNTAC) page identifies a point of contact for particular activities, such as Disbursement Processing, Claims Processing, and Budgeting. Ensure there is a Contact record specified on CNTAC for EDI processing. The CNTAC Contact Code is tied to EDI Processing when it is listed as a Contact Code for the Contact Code for Response Files (CNTAC_CD) parameter for the Prepare EDI Invoices job of the Load EDI Invoices chain. The information that is in the contact record is written in the 824 response file to the vendor, so the vendor knows who to contact if they have any questions.

2.1.1.5 Auto Numbering (ADNT)

The Auto Numbering (ADNT) page is used to setup the format for automatic transaction numbering for each Transaction Code, Year, and Department combination that exists in Advantage. In order for an invoice to be created automatically for a vendor, the transaction code, year, and department combination specified in the Load EDI Invoice chain parameters must exist on this page, otherwise the Load EDI Invoices chain job will fail.

2.1.2 Vendor Settings

There must be a record in the Vendor/Customer (VCUST) table for each vendor that sends EDI files to be processed. So, for example, if company Xerox submits vendor invoices for printing charges, Xerox must be established as a valid, active vendor on VCUST. Additionally, the VCUST record must have EDI Enabled checked, to indicate to Advantage Financial the vendor is allowed to send EDI files. If a vendor sends a file and they are not marked as EDI Enabled, the system will reject their file.

Note: Miscellaneous vendors cannot be EDI Enabled.

2.1.3 Commodity Settings

Any Commodity Code the vendor sends in an EDI file must be identified on the Commodity (COMM) table, or must appear on the External Commodity Crosswalk (ECOMMX) page. Specifically, if the vendor's EDI file contains Commodity Codes (found in the IT1, SLN, and SAC segments of the incoming data file), these must be defined on the COMM table.

In the event a vendor uses a completely different Qualifier/Schema (for example, NIGP, UNSPSC) for defining commodities, Advantage Financial can accommodate this for EDI processing. The Electronic Commodity Crosswalk (ECOMMX) table is optional to EDI processing. It is used to facilitate cross walking Commodity Codes when the numbering standards are different between the vendor and Advantage Financial.

The use of ECOMMX is recommended if both of the following conditions exist:

- The vendor's EDI file specifies Commodity Codes (found in the IT1, SLN, and SAC segments of the incoming data file), AND
- The commodity numbering conventions in the vendor's EDI file are different from how commodities are stored in Advantage.

Note: Commodity Codes can be defaulted in the system if not specified in the vendor's EDI file.

In the Load EDI Invoices chain, the Prepare EDI Invoices job has a parameter called Enable Commodity Code Crosswalk (COMM_XW_FL), which is used to indicate if the system should look at the ECOMMX table when evaluating data. If the parameter is set to *True*, the system uses the ECOMMX table to determine the Commodity Code to populate on the invoice. If a match is not found on this table, and a default commodity code is not provided in the Default Commodity Code (DFLT_COMM_CD) parameter of the Prepare EDI Invoices job, then an EDI 824 error is issued, which prevents the invoice from being created.

When the COMM_XW_FL parameter is set to True, the ECOMMX table crosswalks the External Identifier (the commodity code supplied by the vendor) to the Internal Commodity (the corresponding Commodity Code from Advantage Financial). A combination of Vendor Customer Code (or "ALL"), Qualifier/Scheme (identifies commodity structure such as NIGP, or UNSPSC), and External Identifier are used to uniquely derive the commodity code. The Vendor Customer Code field is used to indicate the vendor that the crosswalk record applies to. "ALL" may be used as a wildcard value to indicate a record is applicable as a default for all vendors.

In the event a vendor uses a different set of Unit of Measure codes, Advantage Financial can accommodate this for EDI processing. The Electronic Data Interchange UOM Crosswalk (UOMC) table is optional to EDI processing. It is used to facilitate cross walking Unit of Measure codes when different between the vendor's source system and Advantage Financial (which uses the standard ASC X12 UOM codes).

The use of UOMC is recommended if both of the following conditions exist:

- The vendor's EDI file specifies Unit of Measure Codes (found in the IT1, SLN, and SAC segments of the incoming data file), AND
- Unit of Measure (UOM) conventions in the vendor's EDI file are different from the UOM codes stored in Advantage.

In the Load EDI Invoices chain, the Prepare EDI Invoices job has a parameter called Enable Unit of Measure Code Crosswalk (true or false)? (UOM_XW_FL), which is used to indicate if the system should look at the UOMC table when evaluating data. If the parameter is set to *true*, the system uses the UOMC table to determine the UOM Code to populate on the invoice. If a Unit of Measurement code is used that Advantage does not recognize, the invoice will reject with an 824 error as the system could not identify a valid Advantage Unit of Measurement code.

2.1.4 Account Level Settings

EDI accounts must be established in order to process a vendor's EDI file. The Electronic Account Profile (EAPRO) table stores account level information for each vendor, address, and commodity combination. Each combination of these fields is assigned a unique Electronic Account ID. Items to note given the key structure of EAPRO:

- There are two sets of address information on EAPRO, which are both factored into the key structure: the Account Address defines where the service is provided and the Vendor Payment Address defines where the resulting disbursement will be sent.
- If the vendor (for example, Xerox) provides services across multiple locations (for example, printers and charges for printing services on floors 1, 2, and 3 of Building XYZ), an Electronic Account needs to be established for every location, or Account Address (for example, address is for "Building XYZ, floor 1, Printer 1"). The Vendor Payment Address on EAPRO defines the address associated with the disbursement (for example, Xerox Corporate Headquarters).

- If the vendor charges for multiple commodities (for example, printer equipment, toner, and printing services), an Electronic Account needs to be established for every commodity, as Commodity Code is part of the key structure. There can be multiple Electronic Account IDs for the same vendor and address combination.

As discussed above, each Electronic Account ID on EAPRO must be associated with a unique address that defines where the service will be provided, or the Account Address. This information is tracked on the Electronic Account and Address Crosswalk (EAAD) table. The Account Address record must be entered first, prior to establishing an Electronic Account on EAPRO.

3 EDI Input

3.1 Vendor Input File

3.1.1 Structure of Invoice Files

Files containing EDI transactions are typically text files. Each line starts with an identifier indicating the type of segment (that is, record type) followed by data elements in a format conforming to published EDI specifications. In the example below, the segments start each new line in the file, and the data elements are field values within each segment. The asterisk "*" serves as a field delimiter. Despite the "flat" appearance of the file, there are hierarchical (for example, parent/child, one-to-many) relationships among several groups of segments.

Example of an EDI 810 Invoice file

```
ISA*00* *00* *01*SENDERID *08*6135830004 *120717*0900*^*00500*123456789*0*P*>
GS*IN*SENDERID*6135830004*20120717*0900*123456789*X*005040
ST*810*123456789
BIG*20120717*0123456789**0222244789
CUR*SE*USD
REF*IA*009999999
REF*WH*EXP01
REF*BAI*FIN01
IT1*1*1*EA*9.99**PL*1*CB*CM_999_99999999999
PAM****1*9.99
PID*F****PRODUCT DESCRIPTION FIELD
SR*1
N1*ST*LOWES LOCATION NAME*92*99999
TDS*110997
TXI*TX*99.99
SAC*C*G740***99999
CTT*1
SE*16*123456789
GE*1*123456789
IEA*1*123456789
```

Some of the segments seen in the example above are control segments providing header or trailer information for all of the transactions specified within. For example, the ISA (Interchange Control Header) seen in the example contains envelope information for the entire file and does not contain data for any one invoice. The IEA (Interchange Control Trailer) terminates the scope of the ISA segment.

The GS (Functional Group Header) segment indicates the start of a grouping of similar transaction sets and also provides control information about that group. There can be many functional groups (GS segments) within one Interchange Control Header. The GE (Functional Group Trailer) segment terminates the scope of the GS segment.

In the example above, the ST (Transaction Set Header) segment indicates the start of an actual 810 Invoice transaction set and the BIG (Beginning Segment for Invoice) segment indicates the start of an invoice.

The rules for organizing segments into transactions are depicted in EDI specifications in the following kind of format with the highlighted "loop" indicating blocks of segments that can be repeated as needed. The SE (Transaction Set Trailer) segment terminates the scope of the ST segment.

Example of 810 Transaction Set Specification (Partial)

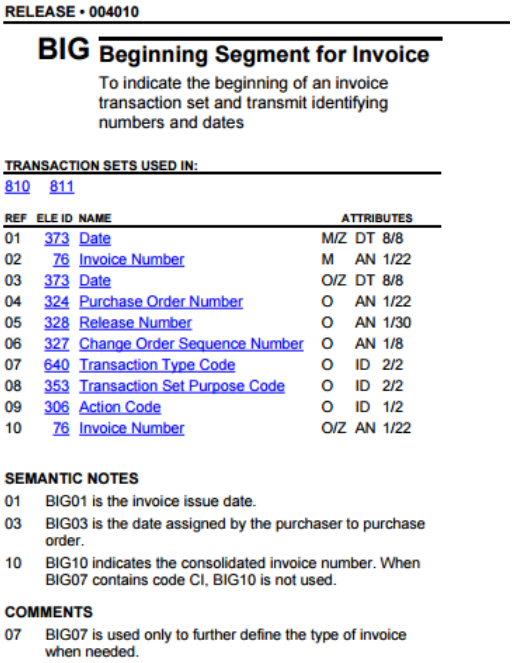
Table 1

NOTE	POS.NO.	SEG.ID	NAME	REQ.DES.	MAX USE	LOOP REPEAT
	010	ST	Transaction Set Header	M	1	
	020	BIG	Beginning Segment for Invoice	M	1	
	030	NTE	Note/Special Instruction	O	100	
	040	CUR	Currency	O	1	
	050	REF	Reference Identification	O	12	
	055	YNQ	Yes/No Question	O	10	
	060	PER	Administrative Communications Contact	O	3	
			LOOP ID - N1			200
	070	N1	Name	O	1	
	080	N2	Additional Name Information	O	2	
	090	N3	Address Information	O	2	
	100	N4	Geographic Location	O	1	
	110	REF	Reference Identification	O	12	
	120	PER	Administrative Communications Contact	O	3	
	125	DMG	Demographic Information	O	1	
	130	ITD	Terms of Sale/Deferred Terms of Sale	O	>1	
	140	DTM	Date/Time Reference	O	10	
	150	FOB	F.O.B. Related Instructions	O	1	
	160	PID	Product/Item Description	O	200	
	170	MEA	Measurements	O	40	
	180	PWK	Paperwork	O	25	
	190	PKG	Marking, Packaging, Loading	O	25	
	200	L7	Tariff Reference	O	1	
	212	BAL	Balance Detail	O	>1	
	213	INC	Installment Information	O	1	
	214	PAM	Period Amount	O	>1	
			LOOP ID - LM			10
	220	LM	Code Source Information	O	1	
	230	LQ	Industry Code	M	100	
			LOOP ID - N9			1
	240	N9	Reference Identification	O	1	
	250	MSG	Message Text	M	10	
			LOOP ID - V1			>1

Specifications are published for the data elements of each type of segment. Below, the breakdown of the BIG segment into individual fields is described, along with field attributes. Not all fields available within the 810 EDI invoice specification are translated into discrete database fields within Advantage Financial. Instead, this process focuses only on fields needed to successfully generate Advantage invoices and to provide proper traceability and tracking from the vendor's submitted invoice data to the generated Advantage invoices.

Additional fields could exist on the EDI input file that are considered extraneous to the Advantage Financial EDI process. Population of these fields does not adversely impact processing in Advantage; instead, these are ignored from a processing perspective.

Example of EDI Segment Specification



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BIG Beginning Segment for Invoice

To indicate the beginning of an invoice transaction set and transmit identifying numbers and dates

TRANSACTION SETS USED IN:

810 811

REF	ELE ID	NAME	ATTRIBUTES
01	373	Date	M/Z DT 8/8
02	76	Invoice Number	M AN 1/22
03	373	Date	O/Z DT 8/8
04	324	Purchase Order Number	O AN 1/22
05	328	Release Number	O AN 1/30
06	327	Change Order Sequence Number	O AN 1/8
07	640	Transaction Type Code	O ID 2/2
08	353	Transaction Set Purpose Code	O ID 2/2
09	306	Action Code	O ID 1/2
10	76	Invoice Number	O/Z AN 1/22

SEMANTIC NOTES

01 BIG01 is the invoice issue date.

03 BIG03 is the date assigned by the purchaser to purchase order.

10 BIG10 indicates the consolidated invoice number. When BIG07 contains code CI, BIG10 is not used.

COMMENTS

07 BIG07 is used only to further define the type of invoice when needed.

Below is a high level description provided for the segments that are pertinent to Advantage from the incoming EDI file. If an EDI segment is not listed below, then Advantage does not use that segment for any sort of processing.

Segment Code	Segment Description	Description
ISA	Interchange Control Header	Header information for a file. Contains information such as sender and recipient info. Note: This segment is also in the 824 and 997 file.
GS	Functional Group Header	Group information for a file. Designates the 810 invoice information. For example, some vendors may send more than just 810 Invoice transactions in a file. Note: This segment is also in the 824 and 997 file.
ST	Transaction Set Header	Start of an invoice record. This tells the system that it has a new invoice to process. Note: This segment is also in the 824 and 997 file.
BIG	Beginning Segment for Invoice	Provides invoice information such as invoice date, invoice number, invoice type (original, corrected, replaced).
REF	Reference Information	Contains miscellaneous information that needs to be shared to a site, such as Vendor Code and Electronic Account number.

Segment Code	Segment Description	Description
N1	Name	Contains information such as the vendor's name and their Advantage payment mailing address code.
N3	Address Information	Contains vendor's address information such as street. Used if payment mailing address code is not provided in the N1 Name segment.
N4	Geographic Location	Contains vendor's city, state, and zip code. Used if payment mailing address code is not provided in the N1 Name segment.
PER	Administrative Communications Contact	Contact information for the invoice record.
DTM	Date/Time Reference	Contains information related to dates/times.
IT1	Baseline Item Data (Invoice)	Indicates the start of the detailed invoice information.
PID	Product/Item Description	Describes an item in more detail.
SLN	Subline Item Detail	This equates to your commodity level information. Each SAC/SLN segment is a new commodity line on an invoice.
SAC	Service, Promotion, Allowance, or Charge Information	This equates to your commodity level information. Each SAC/SLN segment is a new commodity line on an invoice.
TDS	Total Monetary Value Summary	This is the total dollar amount of the invoice. Advantage cross checks this amount against the amount Advantage calculates. If the two do not match, the invoice is not processed.
CTT	Transaction Totals	This is the count of the number of IT1 segments in the invoice.
SE	Transaction Set Trailer	Indicates that there is no more data for the invoice. Note: This segment is also in the 824 and 997 file.
GE	Functional Group Trailer	Indicates the end of the 810 group. Also verifies that the number of invoices in the file is equal to the number in the trailer. Note: This segment is also in the 824 and 997 file.
IEA	Interchange Control Trailer	Indicates the end of the file. Note: This segment is also in the 824 and 997 file.

3.1.2 Validating Invoice Files

Validation of the content of EDI invoices includes several types of validations ranging from syntax checking to detailed business validations. One file may include many invoices so it is important to consider whether an entire file must pass all validations before it is processed or whether invoices can be processed individually. Typical file level validations in Advantage Financial include (but are not limited to):

- Unexpected EDI content (for example, number of data elements, missing required data elements, unrecognized codes, and so forth).
- Formatting and basic syntax issues (for example, non-numeric data in numeric fields, unrecognized characters, and so forth).
- Mismatched summary/detail amounts (detail amounts/counts do not tally to summary).
- One or more invoices are duplicates of previously submitted invoices.

If invoices are allowed to be processed individually, then for a single file, if some invoices fail validation and some do not, then it is important to distinguish between file-level validations and invoice-level validations. Failed file-level validations will prevent the entire file from being processed. Failed invoice-level validations will prevent only the failed invoices from being processed.

3.1.3 Responding to the Vendor

Most standards for electronic commerce include the ability for each party to acknowledge receipt of a transaction and/or to provide feedback to the submitted regarding the disposition of the transaction. EDI provides several transaction sets for responding to transactions, but two are customarily used in conjunction with the EDI 810 Invoice transaction set:

3.1.3.1 997 Response

Transaction set 997 (“Functional Acknowledgment”) is typically used by the recipient of a transaction to acknowledge to the sender that the transaction was received. This transaction set is, essentially, a simple receipt. A 997 response is always generated for the vendor.

In addition to the ISA, GA, GS, and IEA segments, which were previously discussed, the 997 file may also include a TA1 segment. A TA1 segment is required if the vendor indicates this in the 810 ISA segment, data element 14 (Acknowledgment Requested). If this value is a 1, then a TA1 segment needs to be included in the 997 transaction. If a TA1 segment is included in a 997, the TA1 segment is after the ISA segment and before the GS/IEA segment. Additionally, the 997 file that is generated by Advantage contains the following segments:

Segment ID	Segment Required?	Used for errors in the following segments	Data Element Mandatory or Optional?	Data Element	Description (note: see EDI Specifications for data formats, minimum and maximum lengths, etc.)
ST	Yes	All	Mandatory	Transaction Set Identifier Code	Set equal to 997.

		All	Mandatory	Transaction Set Control Number	System determined numeric value, incremented with each use.
AK1	Yes	All	Mandatory	Functional Identifier Code	Set equal to IN.
		All	Mandatory	Group Control Number	Corresponds to the Functional Group Control Number of the 810 transaction file. This is the GS segment, sixth data element.
AK2	No. Only used when errors occur in segments ST through SE.	ST through SE, segment errors only	Mandatory	Transaction Set Identifier Code	Returns the Transaction Set Identifier that is passed in the incoming 810 file. Note: If an ST segment is missing, this will be treated as a Functional Group error.
		ST through SE, segment errors only	Mandatory	Transaction Set Control Number	Corresponds to the invoice's 810 Transaction Set Control Number. This is the ST segment, second data element. Note: If an ST segment is missing, this will be treated as a Functional Group error.
AK3	No. Only used when errors occur in segments ST through SE.	ST through SE, segment errors only	Mandatory	Segment ID Code	Code (such as BIG, REF, etc.) defining the segment ID of the data segment in error.
		ST through SE, segment errors only	Mandatory	Segment Position in Transaction Set	The numerical count position of this data segment from the start of the transaction set: the transaction set header is count position 1
		ST through SE, segment errors only	Optional	Loop Identifier Code	The loop ID number given on the transaction set diagram is the value for this data element in segments LS and LE.
		ST through SE, segment errors only	Optional	Segment Syntax Error Code	Code indicating error found based on the syntax editing of a segment.

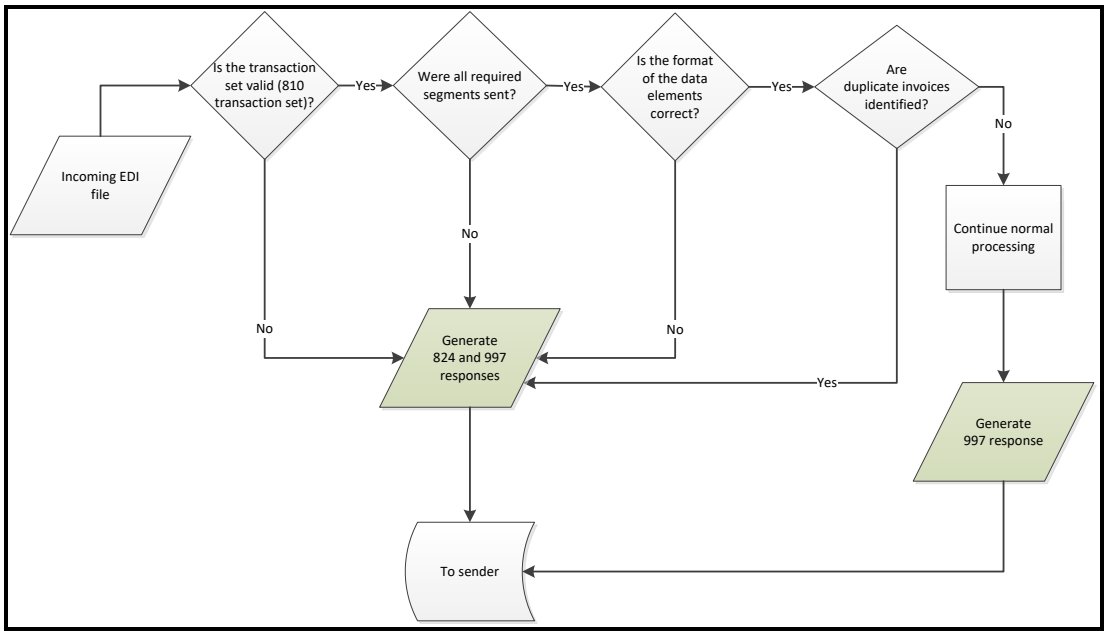
AK4	No. Only used when data element errors occur in segments ST through SE.	ST through SE, data element errors only	Mandatory	Position in Segment	Code indicating the relative position of a simple data element
		ST through SE, data element errors only	Optional	Data Element Reference Code	Reference number used to locate the data element in the Data Element Dictionary. This is the Specification ID for the field and comes from the specification.
		ST through SE, data element errors only	Mandatory	Data Element Syntax Error Code	Code indicating the error found after syntax edits of a data element
		ST through SE, data element errors only	Optional	Copy of Bad Data Element	Copy of the bad data element.
AK5	No. Only used when errors occur in segments ST through SE.	ST through SE, data element errors only	Optional	Transaction Set Acknowledgment Code	Set to A or R.
		ST through SE, data element errors only	Optional	Transaction Set Syntax Error Code	If Transaction Set Acknowledgment Code is R, this is set to 5 indicating one or more segments in error.
		ST through SE, data element errors only	Optional	Transaction Set Syntax Error Code (only used for errors on the ST/SE segments).	If Transaction Set Acknowledgment Code is R, and there was an error in an ST/SE segment, this field may be used. The value will be dependent on the code pertaining to the ST/SE segment.
AK9	Yes	All	Mandatory	Functional Group Acknowledge Code	Set to A or R. If no errors in GS/GE/Invoices segments, then this is set to A. If errors in GS/GE segments, then this is set to R. If there are some invoices in error and some invoices with no errors this is set to P indicating Partially Accepted.

		All	Mandatory	Number of Transaction Sets Included	Total number of transaction sets included in the functional group.
		All	Mandatory	Number of Received Transaction Sets	Total number of transaction sets received.
		Only used when error is in GS or GE segments	Optional	Functional Group Syntax Error Code	Code indicating error found based on the syntax editing of the functional group header and/or trailer.
SE	Yes	All	Mandatory	Number of Included Segments	Total number of segments included in a transaction set including ST and SE segments.
		All	Mandatory	Transaction Set Control Number	Set value, matches the Transaction Set Control Number from the ST segment of the 997 transaction.

3.1.3.2 824 Response

Transaction set 824 (“Application Advice”) is typically used by the recipient of a transaction to return details regarding the status of the transaction. This transaction set is often used to return messages regarding failed validations. An 824 response file may not be created. If one is not created, it indicates that all invoices processed successfully.

Typical 824/997 Response Approach



The 824 file that is generated by Advantage contains the following segments, in addition to the ISA, GA, GS, and IEA segments, which were previously discussed:

Segment	Data Element Mandatory or Optional?	Data Element	Description (note: see EDI Specifications for data formats, minimum and maximum lengths, etc.)
ST	Mandatory	Transaction Set Identifier Code	Set value equal to 824.
	Mandatory	Transaction Set Control Number	System determined numeric value, incremented with each use, must be unique to the system.
BGN	Mandatory	Transaction Set Purpose Code	Set to 44.
	Mandatory	Reference Identification	Set to Interchange Control Number that contained the data with the invalid data. This is segment ISA, data element 13.

Segment	Data Element Mandatory or Optional?	Data Element	Description (note: see EDI Specifications for data formats, minimum and maximum lengths, etc.)
	Mandatory	Date	Date of the transaction.
N1	Mandatory	Entity Identifier Code	Set this value to FR indicating "Message From".
	Mandatory	Name	This is from the Contact ID Code entered as a batch parameter. The Contact field from the CNTAC page is used for the Name.
PER	Mandatory	Contact Function Code	Set to CR.
	Optional	Name	Concatenation of the First Name and Last Name on the CNTAC page for the Contact Code used in the batch parameter.
	Mandatory	Communication Number Qualifier	Code identifying the type of communication Number. The system will use TE to indicate Telephone, EM to indicate Email, and FX to indicate Fax. This data is found on the CNTAC page correlating to the Contact Code used as a batch parameter. The system will allow up to three Communication Number Qualifiers + Communication Numbers.
	Mandatory	Communication Number	Complete communications number including country or area code when applicable. If Communication Number Qualifier is EM, then this field is the email address.
OTI	Mandatory	Application Acknowledgment Code	Set to TR.
	Mandatory	Reference Identification Qualifier	Set to IV.
	Mandatory	Reference Identification	Set to the invoice number found in the BIG segment, data element 2 of the 810 transaction.
AMT	Mandatory	Amount Qualifier Code	Set to 5.

Segment	Data Element Mandatory or Optional?	Data Element	Description (note: see EDI Specifications for data formats, minimum and maximum lengths, etc.)
	Mandatory	Monetary Amount	Set to the amount passed in the TDS segment, data element 01.
TED	Mandatory	Application Error Condition Code	Set to 848.
	Optional	Free Form Message	Message describing error.
SE	Mandatory	Number of Included Segments	Total number of segments included in a transaction set including ST and SE segments.
	Mandatory	Transaction Set Control Number	Transaction Set Control Number from the ST segment of the 824 transaction.

3.2 Specification File

The Advantage EDI solution comes with a pre-defined specification file. Sites may configure this file, however, they need to keep in mind the key fields Advantage depends on as described in the EDI Data Mapping section.

Each possible segment of an 810 file is listed in the specification file. Within the file there are segment specifications and element specifications. A site can choose to allow only certain segments/data elements, and within those also choose to limit the values accepted. If a value is sent in an invoice that is not accepted by Advantage, the invoice will be rejected and not processed.

To configure the file to a site's needs, the site needs to update the Segment and Data Element specifications within the file. Updates are fairly simple and include modifying data to make it Mandatory or Optional, specifying expected data types, indicating field size, and so forth.

Segment specifications are below:

<segmentSpecification>
<id>ISA</id> **(EDI segment ID)**
<description>Interchange Control Header</description> **(EDI segment description)**
<usage>M</usage> **(Indicates if a segment is Mandatory or Optional)**
<maximumUse>1</maximumUse> **(Indicates the maximum number of times the segment can appear)**
<maximumElements>16</maximumElements> **(Indicates the maximum number of data elements the segment can have)**
<loopSegment>false</loopSegment> **(Indicates if the segment is part of a loop)**
<loopRepeat>0</loopRepeat> **(Indicates how many times the loop can repeat)**

Data element specifications are below:
<elementSpecification>
<id>1</id> **(Data Element's position within the segment)**

<reference>I01</reference> > **(EDI data element ID)**
<description>Authorization Information Qualifier</description> **(EDI data element description)**
<usage>M</usage> **(Indicates if a segment is Mandatory or Optional)**
<type>ID</type> **(Indicates the type such as text, currency, etc)**
<minimumLength>2</minimumLength> **(The minimum length the field can be)**
<maximumLength>2</maximumLength> **(The maximum length the field can be)**
<cvlSupplied>true</cvlSupplied> (Indicates if there can only be a certain value)
<idValue> **(This indicates a "drop down" value that the field could be)**
<id>00</id> **(The EDI code for the value)**
<description>No Authorization Information Present (No Meaningful Information in I02)</description> **(The EDI description for the value)**
</idValue>
</elementSpecification>

The screen shot below shows more of what a specification file looks like.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?><specifications>
    <segmentSpecification>
        <id>ISA</id>
        <description>Interchange Control Header</description>
        <usage>M</usage>
        <maximumUse>1</maximumUse>
        <maximumElements>16</maximumElements>
        <loopSegment>false</loopSegment>
        <loopRepeat>0</loopRepeat>
        <elementSpecification>
            <id>1</id>
            <reference>I01</reference>
            <description>Authorization Information Qualifier</description>
            <usage>M</usage>
            <type>ID</type>
            <minimumLength>2</minimumLength>
            <maximumLength>2</maximumLength>
            <cvlSupplied>true</cvlSupplied>
            <idValue>
                <id>00</id>
                <description>No Authorization Information Present (No Meaningful Information in I02)</description>
            </idValue>
        </elementSpecification>
        <elementSpecification>
            <id>2</id>
            <reference>I02</reference>
            <description>Authorization Information</description>
            <usage>M</usage>
            <type>AN</type>
            <minimumLength>10</minimumLength>
            <maximumLength>10</maximumLength>
            <cvlSupplied>false</cvlSupplied>
        </elementSpecification>
        <elementSpecification>
            <id>3</id>
            <reference>I03</reference>
            <description>Security Information Qualifier</description>
            <usage>M</usage>
            <type>ID</type>
            <minimumLength>2</minimumLength>
            <maximumLength>2</maximumLength>
```

3.3 Transformation File

The Load EDI Invoices chain job allows sites to use a transformation file, placed in the Parms directory. If the parameter for this file name is left blank, the system does not perform any transformations. However, if it is populated, the system will make transformations based on the conditions in the xsl file. The transformations in this file should be written by a person who is familiar with xslt transformations.

Before performing 997 and 824 validations, the system will determine if any transformations need to occur. While EDI specifications dictate what is acceptable for EDI, sites may need to manipulate incoming data to update segments and data elements so that data passes 824 validations. For example, if a vendor sends in monthly service information, but does not use the EDI code of SV for service, then a transformation tool will be needed for the system to automatically change that code to SV so that the system will process that data and map the data correctly to Advantage Invoices.

The transformation services provided by this batch process are simple in nature, capable of analyzing data in the incoming EDI 810 file, rearranging data, and introducing new data based on hardcoded values in the transformation. The transformation services are not capable of performing business logic such as inferring values from Advantage tables into the EDI data or performing any kind of table lookups to determine what logic to perform. Examples of such transformations include:

- If SAC04 (Data element 04 in the SAC segment) = ‘PRB002’ (previous account balance) and SAC01 = A (allowance), change SAC01 to ‘C’ (Charge).
- If SAC04 = ‘LPC001’ (delinquent payment change) and SAC01 = A (allowance) and SAC05 > 0 (Amount greater than zero), change SAC01 to ‘C’ (Charge).
- If BIG04 is blank, populate with ‘UTILITY’

As suggested above, none of these examples rely on business logic, rather just basic analysis of the incoming EDI data and substitution with hard-coded data. Some of these transformation rules may be specific to a single vendor. The batch process will support a “transformation specification file” to be provided for each execution of the batch process. Therefore, when the process is run for a file from Vendor A, transformation rules specific to Vendor A – possibly containing hard-coded values specific to Vendor A – can be used. When the process is run for a file from Vendor B, transformation rules specific to Vendor B can be supplied, and so forth. Transformation rules a optional.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="1.0">

  <xsl:output
     method="xml"
     indent="yes"
  />
  <xsl:template match="EdiTransaction">
      <EdiTransaction>
        <xsl:copy-of select="@*" />
        <xsl:apply-templates/>
      </EdiTransaction>
  </xsl:template>

  <xsl:template match="Segment">
    <Segment>
       <xsl:copy-of select="@*" />
        <xsl:apply-templates/>
    </Segment>
  </xsl:template>
  <xsl:template match="Element">
    <Element>
       <xsl:copy-of select="@*" />
       <xsl:choose>

       <!-- Add the Electronic Account number to the file  -->
       <xsl:when test="../@id='REF' and @Order='2' and ../*[@Order='1']='12'">VENDORNAME</xsl:when>

        <xsl:otherwise>
             <xsl:apply-templates/>
          </xsl:otherwise>
       </xsl:choose>
    </Element>
  </xsl:template>
</xsl:stylesheet>
```

When a transformation file is used, the system will create a _Before.xml file and an _After.xml file in the ExportImport directory. This allows a site to see what the data looked like before being processed and what the data looked like after being processed. The _After.xml file will not contain a full file, but will contain the last several lines of the new modified data. This should be enough for a site to verify the transformations were performed as they expected.

If a site works with a vendor though to ensure they are sending the data that Advantage expects, sites may not need to use a transformation file.

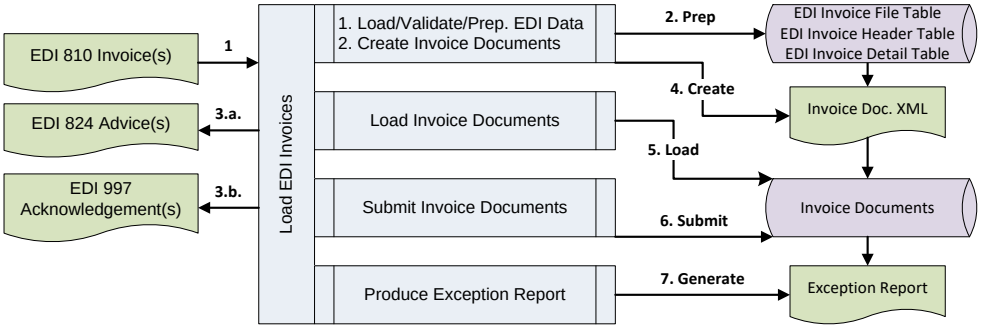
4 EDI Batch Processing

4.1 Jobs

There are two chain jobs used with EDI Processing. The first is the Load EDI Invoices Chain job. The second is the Electronic Payment Request Chain job. A high level overview of these jobs is provided below. Detailed information for these chains jobs can be found in the respective run sheets in the *CGI Advantage Financial Accounts Payable Run Sheet Guide.*

The Load EDI Invoices Chain job has four jobs in the chain:

- **Prepare EDI Invoices**: This job parses, validates, and prepares the EDI Invoice data in Advantage Financial. This job generates appropriate 824 and 997 response transactions. If the file passes all file-level validations, then the job creates appropriate Advantage Invoice transaction XML files for each validated invoice.
- **Load Invoice Transactions**: A standard SMU (System Maintenance Utility) step to load the generated Advantage Invoice transactions.
- **Submit Invoice Transactions**: A standard SMU (System Maintenance Utility) step to submit the generated Advantage Invoice transactions.
- **EDI Invoice Exception Report**: Similar to most chain jobs that prepare, load, and submit Advantage transactions, this job produces a report of any submitted Invoice transactions that encountered errors.



The Electronic Payment Request Chain has four jobs in the chain, similar to the Load EDI Invoices Chain.

- **Electronic Payment Request xml Generation**: Produces an XML file containing output Payment Request transactions and updates the EBIT table with the generated Payment Request transaction information.
- **Electronic Payment Request Upload:** A standard SMU (System Maintenance Utility) step to load the generated Advantage Payment transactions.
- **Electronic Payment Request Submit:** A standard SMU (System Maintenance Utility) step to submit the generated Advantage Payment transactions.
- **Electronic Payment Request Transaction Exception:** Similar to most chain jobs that prepare, load, and submit Advantage transactions, this job produces a report of any submitted Payment transactions that encountered errors.

For both chains, the majority of the processing occurs in the first job of each chain. The remaining jobs load xml data, submit the data, and create an exception report.

4.2 Parameters

Batch parameters are discussed in the run sheets found within the *CGI Advantage Financial - Accounts Payable Run Sheets Guide.*

If a batch parameter causes the chains to fail, error resolution is also discussed in the run sheet.

4.3 Load EDI Invoices job logic

4.3.1 Transform EDI data

If a Transformation File was included as a parameter, the system will first transform the incoming file using the transformations listed in the transformation file. After the system has done that, processing will continue.

4.3.2 Validate for 997 errors

997 errors occur when data does not conform to EDI or Advantage standards. After validating parameters are correct, the system begins validating the EDI Input file and compares the data to EDI standards. The system will perform increasingly detailed validations on the data that is in the EDI file such as, but not limited to:

1. Verify the file contains a valid 810 transaction set (segments, order of segments).
2. Verify all required segments are available in the file.
3. Verify all required data elements are populated within the required segments.
4. Verify data elements are in the correct format, contain expected content (alphanumeric, numeric), and are of expected lengths.

If any file level information fails, the system will stop processing all invoices. However, if file information is valid, the system will move on to processing invoice information. If any invoice does not pass the validations for this, the invoice will not continue to be processed, and will be rejected. The system will then proceed to validate the next invoice, and so forth.

4.3.3 Validate for 824 errors

Next, the system validates the invoice data against 824 validations. If an invoice fails for one of these validations, the invoice is also rejected and listed in the 824 response file. The reason for rejection is also included in the file. Reasons for rejection are listed below:

- ADDRESS CODE REQUIRED BUT NOT PROVIDED FOR INVOICE
- AWARD REFERENCE NOT FOUND
- CANNOT CREATE INVOICE WITH DATA AVAILABLE FOR TRANS SET
- COMMODITY LINE INFO COULD NOT BE OBTAINED. PLEASE CORRECT
- CORRECTED COPY RECEIVED BUT ORIGINAL INVOICE PROCESSED
- COULD NOT CREATE ELECTRONIC INVOICE

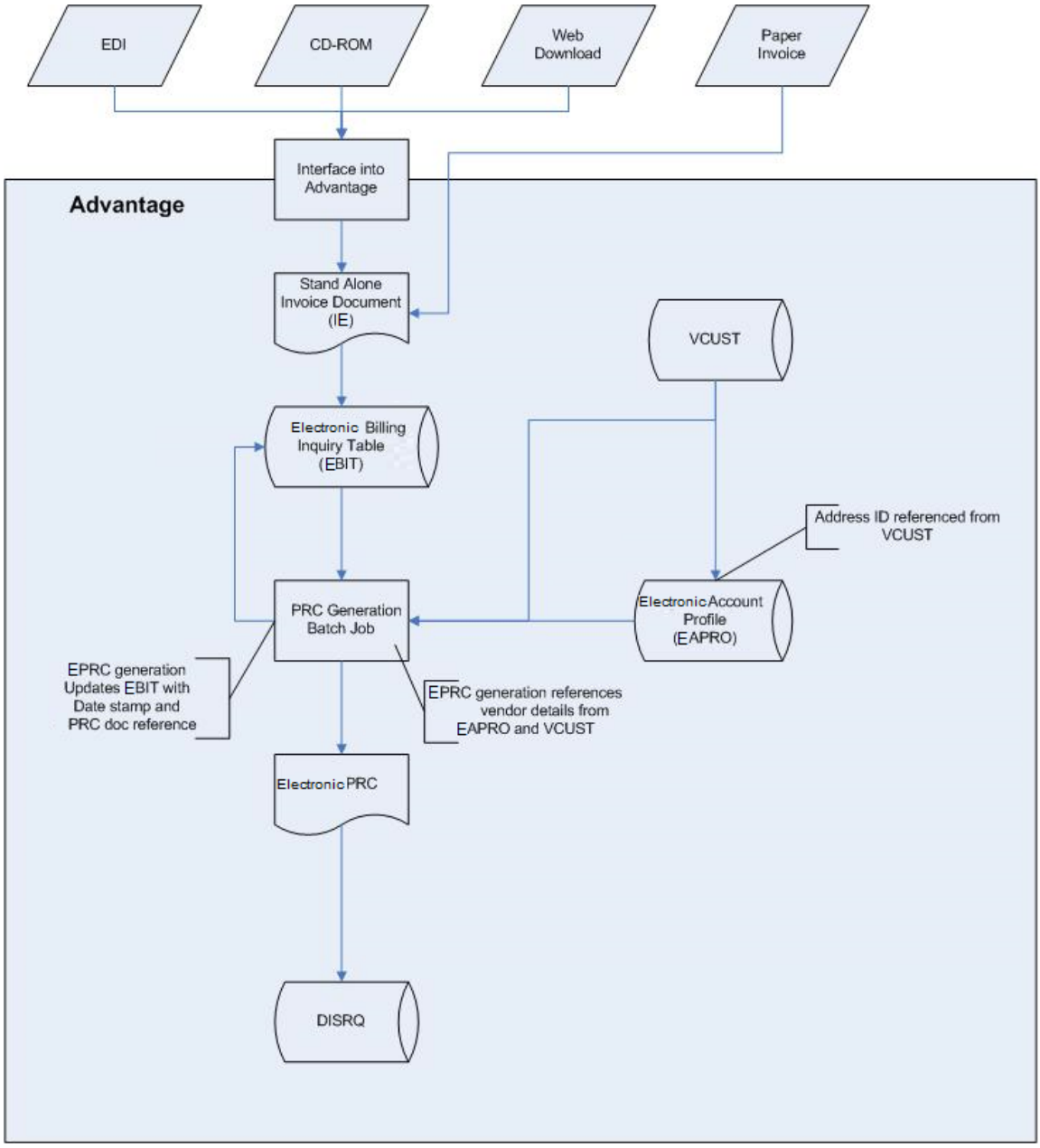
- COULD NOT FIND ADDRESS INFO WITH ADDRESS CODE PROVIDED
- COULD NOT FIND COMMODITY CODE IN THE SYSTEM
- DATE RANGE IN DTM SEGMENT INVALID
- DEFAULT PAYMENT ADDRESS COULD NOT BE FOUND FOR VENDOR
- DUPLICATE INVOICE WAS FOUND. INVOICE NOT PROCESSED
- ELECTRONIC ACCT NO PROVIDED, BUT RECORD NOT FOUND IN SYSTEM
- MISSING DATA ELEMENT PI TO INDICATE COMMODITY
- MISSING REQUIRED INFO FOR AWARD REFERENCE
- ORIGINAL INVOICE COULD NOT BE FOUND
- PURCHASE ORDER LINE NUMBER MUST BE NUMERIC
- RATE x QUANTITY DOES NOT EQUAL AMOUNT. INVOICE REJECTED
- REJECTED DUE TO OTHER ERRORS FOUND IN FILE
- SYSTEM CALCULATED INVOICE AMOUNT DOES NOT MATCH TDS AMOUNT
- SYSTEM COUNTED IT1 SEGMENTS DOES NOT MATCH CTT NUMBER
- TRANSACTION SET MUST NOT CONTAIN ANY TXI SEGMENTS
- UNABLE TO MATCH ACTIVE VENDOR BASED ON CONTROL OR REF INFO
- UNABLE TO PARSE AWARD REFERENCING INFO. PLEASE CORRECT
- UNEXPECTED VENDOR ID FOUND IN FILE
- UNIQUE ADDRESS COULD NOT BE FOUND FOR VENDOR
- UNIT OF MEASURE NOT FOUND IN SYSTEM

4.3.4 Determine the type of invoice to create

After each invoice passes validations, the system determines which type of invoice to create. The system can create either an electronic, award referencing, or stand-alone invoice. The differences between the three are discussed in more detail in the “Transactions” section of this guide.

4.4 Electronic Payment Request Chain logic

When the Invoice-Electronic (IE) transaction is submitted to a Phase of *Final*, a record is added to the Electronic Billing Inquiry (EBIT) page, if the Utility Enabled parameter is set to *TRUE* on the Integration Parameters (INTCTRL) table for the Transaction Code and Transaction Department. Refer to the “Integration Parameters (INTCTRL)” section for more information. The Electronic Payment Request Chain selects eligible records from EBIT to create EPRC transactions. The Electronic Payment Request Chain also updates EBIT with the generated EPRC transaction information.


EDI
CD-ROM
Web Download
Paper Invoice
Interface into Advantage
Advantage
Stand Alone Invoice Document (IE)
VCUST
Electronic Billing Inquiry Table (EBIT)
Address ID referenced from VCUST
PRC Generation Batch Job
Electronic Account Profile (EAPRO)
EPRC generation Updates EBIT with Date stamp and PRC doc reference
EPRC generation references vendor details from EAPRO and VCUST
Electronic PRC
DISRQ

5 EDI Data Mapping

As the system parses data from an EDI file, the system temporarily stores the data to be used to populate invoices. EDI files will often contain data that Advantage does not use to create invoices. Only data that Advantage uses is discussed below.

5.1 EDI-to-Advantage Invoice Mapping Details – Transaction Level

The following table provides details regarding the expected mapping of fields from the EDI file to the Transaction level of Advantage invoice transactions.

Advantage Field	Applies To	Source/Derivation
Transaction Code	IE, IN, IS	Electronic Invoice Transaction Code, Award Referencing Invoice Transaction Code, and Stand Alone Invoice Transaction parameter values.
Transaction Dept.	IE	If the **Electronic Invoices – Infer Dept and Unit from EAPRO (true or false)?** (IE_INFER_EAPRO) parameter is set to *True*, then this is the Department from the Electronic Account Profile (EAPRO) record, unless the EAPRO record has a Department of *ALL*, then this is set to the Electronic Invoice Transaction Department parameter value. If the IE_INFER_EAPRO parameter is set to *False*, this is the Electronic Invoice Transaction Department parameter value.
Transaction Dept	IN, IS	Award Referencing Invoice Transaction Department or Stand Alone Invoice Transaction Department parameter value.
Transaction Unit	IE	If the **Electronic Invoices – Infer Dept and Unit from EAPRO (true or false)?** (IE_INFER_EAPRO) parameter is set to *True*, this is the Unit from the Electronic Account Profile (EAPRO) record (if populated), unless the EAPRO record has a Department of *ALL*, then this is set to the Electronic Invoice Transaction Unit parameter value. If the IE_INFER_EAPRO parameter is set to *False*, this is the Electronic Invoice Transaction Unit parameter value.
Transaction Unit	IN, IS	Award Referencing Invoice Transaction Unit or Stand Alone Invoice Transaction Unit parameter value.
Transaction ID	IE, IN, IS	ADNT Last Number + 1 value

5.2 EDI-to-Advantage Invoice Mapping Details – Header

The following table provide details regarding the expected mapping of fields from the EDI file specific to the Header section of Advantage invoice transactions.

Advantage Tab	Advantage Field	Applies To	Source/Derivation
General Information	Invoiced Date	IE, IS, IN	BIG segment, data element 01 (Date)
General Information	Invoiced By	IE, IS, IN	Effective user ID of the Advantage process creating the Invoice transactions.
General Information	Vendor	IE, IS, IN	As described below in the "Vendor Code" section.
General Information	Vendor Invoice Number	IE, IS, IN	BIG segment, data element 02 (Invoice Number) or REF segment where qualifier code = IV (Seller's Invoice Number). If an REF IV qualifier is provided, this overrides the BIG segment value. If the Modify Invoice Number parameter is set to *true* and a duplicate invoice number is received, the system will concatenate the invoice date to the invoice number to create a new invoice number.
General Information	EDI Invoice Header	IE, IS, IN	A reference to the key of the EDI Invoice Header record to which this Invoice transaction is associated. The **EDI Invoice Header Record ID** field on the Invoice transactions displays the foreign key used to identify the EDI Invoice Header record. This field is populated by the Load EDI Invoices chain job.

5.3 EDI-to-Advantage Invoice Mapping Details - Vendor

The following tables provide details regarding the expected mapping of fields from the EDI specific to the Vendor section of Advantage invoice transactions.

Advantage Tab	Advantage Field	Applies To	Source/Derivation
General Information	Address Code	IE, IS, IN	As described below in the "Address Code" section.

Advantage Tab	Advantage Field	Applies To	Source/Derivation
General Information	Customer Contact	IE, IS, IN	Inferred based on the Vendor code.
(all other tabs)	(all vendor fields)	IE, IS, IN	Inferred based on the Vendor code.

5.4 EDI-to-Advantage Invoice Mapping Details - Commodity

The following table provides details regarding the expected mapping of fields from the EDI file to the Commodity section of Advantage invoice transactions. Several of the fields depend on which segment the data is coming from. These fields are broken down to the segments that the data can come from. Business rules detail how the system determines which segment to use for the data.

Advantage Tab	Advantage Field	Applies To	Source/Derivation
General Information	Vendor Invoice Line No	IE, IS, IN	Incremented numerically for each commodity line created in the transaction set.
General Information	Electronic Account	IE	As described below in the "Electric Account" section.
General Information	Summary Account	IE	Inferred by Advantage from the related EAPRO record.
General Information	Data Source ID	IE	Provided by Load EDI Invoices batch parameter.
General Information	Data Source Type	IE	Inferred by Advantage from the Electronic Billing Data Source (EBDS) record for the Data Source ID.
General Information	CL Description	IE, IS, IN	Based on which data elements are populated. Data can be populated from three different data elements: • IT1: Product/Item Description (PID) segment, data element 05 (Description), from the PID associated to the item's IT1 segment. • SLN: data element 02 (Assigned Identification) • SAC: data element 015 (Description)

Advantage Tab	Advantage Field	Applies To	Source/Derivation
General Information	Commodity	IE, IS, IN	As described in other sections.
General Information	Line Type	IE, IS, IN	If the commodity line is associated to an Electronic Account, the line type will be set to “Service”. If the segment is associated to an IT1/SLN, or is an IT1/SLN segment and the IT1/SLN segment has a Product/Service ID Qualifier (IT1 = 06/SLN = 09) where Qualifier = SV, then the system considers the line type to be “Service” for the segment associated to that IT1/SLN. Otherwise, the system will set this to “Item”.
General Information	Invoiced Qty	IE, IS, IN	Item and Service: (If quantity is blank, but unit price is provided, quantity is assumed 1) IT1 segment, data element 02 (Quantity Invoiced) SLN segment, data element 04 (Quantity) SAC segment, data element 010 (Quantity)
General Information	Unit	IS, IN	Item and Service: IT1 segment, data element 03 (Unit or Basis for Measurement Code) SLN segment, data element 05 (Composite Unit of Measure) SAC segment, data element 09 (Unit or Basis for Measurement Code) May be used with the UOMC table.
General Information	Invoiced Unit Price	IE, IS, IN	Item and Service: IT1 segment, data element 04 (Unit Price) SLN segment, data element 06 (Unit Price) SAC segment, data element 08 (Rate)

Advantage Tab	Advantage Field	Applies To	Source/Derivation
General Information	Invoiced SC Amount	IE, IS, IN	Item: No value Service: Product of [IT1 segment, data element 02 (Quantity)] * [IT1 segment, data element 04 (Unit Price)] Product of [SLN segment, data element 04 (Quantity)] * [SLN segment, data element 06 (Unit Price)] SAC segment, data element 05 (Amount). If data element 05 is not provided, then product of [segment SAC, data element 10 (Quantity)] * [segment SAC, data element 08 (Rate)]. If data element 10 is not provided for either situation, then quantity should be assumed as 1.
General Information	Received Service From Date	IE, IN	Populated from a Date/Time Reference (DTM) segment, data element 02, having Date/Time Qualifier of 150 (Service Period Start) or 472 (Service) associated with the IT1 or SLN segment for which the commodity line is being generated.
General Information	Received Service To Date	IE, IN	Populated from a Date/Time Reference (DTM) segment, data element 02, having Date/Time Qualifier 151 (Service Period End) or 472 (Service) associated with the IT1 or SLN segment for which the commodity line is being generated.
Reference	Ref Transaction Code	IN	Parsed from the award reference as described below in the Ref Transaction Code, Ref Transaction Dept, Ref Transaction ID, Ref Award Line section.
Reference	Ref Transaction Dept	IN	Parsed from the award reference as described below in the Ref Transaction Code, Ref Transaction Dept, Ref Transaction ID, Ref Award Line section.

Advantage Tab	Advantage Field	Applies To	Source/Derivation
Reference	Ref Transaction ID	IN	Parsed from the award reference as described below in the Ref Transaction Code, Ref Transaction Dept, Ref Transaction ID, Ref Award Line section.
Reference	Ref Award Line	IN	IT1 segment where a qualifier has a code of PL for Purchase Order Line Number.
Reference	Invoice Indicator	IN	System will set this automatically when the invoice is imported using the xml.

5.5 Vendor Code

The two fundamental identifiers needed to establish an Advantage Invoice regardless of the kind of invoice are Vendor/Customer Code and Address ID. For each invoice, Vendor/Customer Code will be determined by the system in the precedence outlined below. If none of these approaches yield a unique match for an EDI Invoice-enabled Vendor/Customer Code in Advantage, the invoice will be rejected. The system will determine the Vendor Code very early in processing the file. If the vendor code cannot be found from the first invoice, the batch job will terminate and invoices will not be processed.

1. The system will determine if the vendor passed their Advantage Vendor/Customer Code in a Reference Identification (REF) segment associated with each Beginning Segment for the Invoice (BIG) segment, essentially passing the Vendor/Customer Code for each invoice in the file. The Vendor ID Number (VR) Reference Identification Qualifier is used to indicate the Reference Identification data element contains the vendor identification as assigned by the buying (Advantage) entity. If the Vendor Code Required parameter is set to *True* and a REF segment with code *VR* is not in the transaction set, the system will reject the invoice automatically. If the Vendor Code Required parameter is set to *False* and a REF segment with code *VR* is not in the transaction set, the system will continue processing the file to determine if the invoice vendor can be determined another way.

   If Vendor ID Number is provided, the system will verify that this is a valid Vendor ID, and that the Vendor ID is Active.

2. The system will determine if the Interchange ID Qualifier in the Interchange Control Header (ISA) of the file indicates the sender is identifying itself with a DUNS and determine if that DUNS uniquely identifies an EDI Invoice-enabled Vendor/Customer Code in Advantage. The Interchange ID Qualifier is the fifth data element of the ISA segment. If the value is 01, this indicates that a DUNS is provided.

   If DUNS is provided, the system will validate that only one vendor record was retrieved based on the DUNS. If more than one record was retrieved, then the invoice will be rejected.

3. The system will determine if the Interchange ID Qualifier in the Interchange Control Header (ISA) of the file indicates the sender is identifying itself with a US Federal Tax Identification Number (FEIN, known in Advantage as a Taxpayer Identification Number (TIN) and determine if the TIN uniquely identifies an EDI Invoice-enabled Vendor/Customer Code in

Advantage. The Interchange ID Qualifier is the fifth data element of the ISA segment. If the value is *30*, this indicates that a U.S. Federal Tax Identification Number is provided.

If FEIN is provided, the system will validate that only one vendor record was retrieved based on the FEIN. If more than one record was retrieved, then the invoice will be rejected.

Once the system determines a unique vendor code, the system also verifies that the vendor has the EDI Enabled check box selected on VCUST. If this is not selected, then the batch job terminates and invoices are not processed. Advantage will not allow a Miscellaneous vendor to have this field enabled.

Additionally, once the system has determined the vendor for the file, the system will continue to determine the vendor code for each transaction set in the file. If a vendor code does not match the first vendor code in the file, then that transaction set will be rejected and an 824 error will be issued.

5.6 Address Code

For each invoice, the Address ID will be determined by the system in the precedence outlined below. If none of these approaches yields a unique match for an address in Advantage, then the invoice transaction may be generated with an invalid Address ID which may result in the transaction being rejected, which requires manual attention.

1. The system will determine if the vendor included their Advantage Payment Address ID in the Name (N1) segment that is associated with each Beginning Segment for the Invoice (BIG) segment, essentially passing the Address ID for each invoice in the file. In the N1 segment, the Assigned By Buyer (92) Identification Code Qualifier is used to indicate the Identification Code provided in the N1 segment is an address identifier assigned by the buying (Advantage) entity. This qualifier can be found in the third data element of the N1 segment. If a Payment Address ID is included, but cannot be found the system will attempt to locate the address using other methods (listed below), only if the Enable Address lookup when vendor provided Address Code is either not found or the Invalid? Parameter is set to true.
2. If the Address Code provided in the file is matched in the system (see logic in step 3), the system will create an invoice. If the Address Code provided in the file is not matched in the system, the system uses the following logic:
    - If the ‘Enable VCUST default Vendor Address ID inference when vendor provided Address Code is either not found or invalid’ parameter is True, the system will check VCUST for a valid Default Payment Address.
        - If a valid Default Payment Address is present, the system will create an invoice with that address.
        - If a valid Default Payment Address is not present, the system will verify the ‘Address Code Required’ parameter:
            - If ‘Address Code Required’=True, the system will reject the invoice and generate an 824 message.
            - If ‘Address Code Required’=False, the system will verify the ‘Create Invoice with Invalid Address’ parameter:
                - If ‘Create Invoice with Invalid Address’=True, the system will create an invoice with the invalid address code in the file.
                - If ‘Create Invoice with Invalid Address’=False, the system will reject the invoice and generate an 824 message.

- If the 'Enable VCUST default Vendor Address ID inference when vendor provided Address Code is either not found or invalid' parameter is False, the system will reject the invoice and generate an 824 message.

3. The system will determine if the vendor included a Mailing address as one of the possible addresses associated with the Beginning Segment for the Invoice (BIG) segment and if that mailing address matches a unique Advantage payment address for the vendor's profile. While the system will attempt to match on address, the included address and the system address must be exact matches (with a case-insensitive comparison), and as such it is expected the volume of addresses matched with this rule will be low.

   Mailing address is passed in the N4 segment in the fifth data element where the Code = M. If this is included, then the system will need data from the N3 and N4 segments.

The N3 segment provides the following data:

Data Element Number	Field	Max Length	Advantage Field
01	Address Information (street)	55	Street 1
02	Address Information	55	Street 2

The N4 segment provides the following data:

Data Element Number	Field	Max Length	Advantage Field
01	City Name	30	City
02	State or Province Code	2	State/Province
03	Postal Code	15	Zip/Postal Code
04	Country Code	3	Country (but uses full name and not code)

The system will then use the data and attempt to find a match with Address Information (first data element only), City Name, State/Province Code, and Postal Code. If a unique payment address is found for the vendor with this information, then the system will use the address code associated with this mailing address for the invoice.

5.7 Electronic Account

The system will determine if the vendor passed an Electronic Account number in a Reference Identification (REF) segment associated with each Beginning Segment for the Invoice (BIG) segment. The Billing Account (12) Reference Identification Qualifier is used to indicate the Reference Identification data element (of the REF segment) contains the Electronic Account number known to the Advantage entity.

The system will always determine if an Electric Account Number is provided in the file. If Electronic Invoices are a valid outcome for the execution of the Load EDI Invoices batch job, the

system will use the Electronic Account number, in conjunction with Vendor/Customer Code, Address ID, and Commodity Code, to uniquely identify the Electronic Account Profile (EAPRO) record associated with each item in the invoice. If Electronic Invoices are not a valid outcome for the execution of the Load EDI Invoices batch job, and an Electric Account Number is provided, the system will reject the invoice with the assumption that it was intended to go through the Electronic Payment Request Generation process for Electronic Billing Accounts.

Additionally, if Electronic Invoices are desired, the system will determine the value of the 'Electronic Invoices – Infer Dept and Unit from EAPRO (true or false)?' parameter.

- If the value is True, the system will use the Department and Unit from the EAPRO record to populate the Transaction Department and Transaction Unit values of the Invoice-Electronic (IE) transaction. The system will verify that the Department and/or Unit value is not set to ALL on EAPRO when performing this lookup. If the value is set to ALL, then the system will use the Electronic Invoice Transaction Department and/or Transaction Unit parameter values provided in the batch job instead of the values on EAPRO.
- If the value is False, the system will use the Electronic Invoice Transaction Department and Transaction Unit parameter values provided in the batch job to populate the Electronic Invoice's Department and Unit.

Since Electronic Account Profiles are defined to the Commodity Code level, it is important to remember that the system must be able to identify profiles for every item in the invoice for the invoice to be valid for an Advantage Electronic Invoice. If an Electronic Account number is not identified for the incoming invoice, then the invoice may be eligible to be generated as a non-Electronic Standalone Invoice (IS) or a referencing Invoice (IN).

To determine if an Electronic Account number is valid, the system will look up the second data element of the REF segment when the first data element qualifier is 12. If the system searches EAPRO with this number and the Electronic Account is Active, then the Electronic Account number is considered valid. If the Electronic Account is not Active or is not found, then the Electronic Account is not valid, and the invoice is either rejected, or the system attempts to create an Award Referencing or Stand Alone invoice (depending on batch parameters).

5.8 Vendor Invoice Number

Vendor Invoice Number is passed in the BIG segment as the second data element. This field can be 22 characters long. Advantage allows this field to be as large as 30 characters.

Advantage requires that Invoice Number is unique for each vendor. This means that if a vendor sends an invoice with Invoice Number 01429, then 01429 could not be reused as that the Invoice Number for that vendor. To allow for "duplicate" invoice numbers to post in Advantage, a batch parameter is used to indicate if this should be allowed or prohibited. If the parameter is set to True then Advantage will change the invoice number (for subsequent matching invoices) to the invoice number + the invoice date. In the previous example if the first invoice was sent on December 18, 2015 and the second was sent on December 21, 2015 then the invoice numbers would be 1429 and 142920151221. If the parameter is set to False and a duplicate invoice occurs, then the system will reject the invoice because the invoice number is a duplicate.

Additionally, a Vendor's Invoice number in Advantage can be up to 30 characters, whereas the EDI invoice field only allows 22 characters. The system will verify that there is not an additional REF segment with an IV qualifier (indicating Seller's Invoice Number) when determining the Vendor's Invoice value. If there is an IV qualifier the system will use this as the Vendor Invoice Number and will ignore the value provided in the BIG segment.

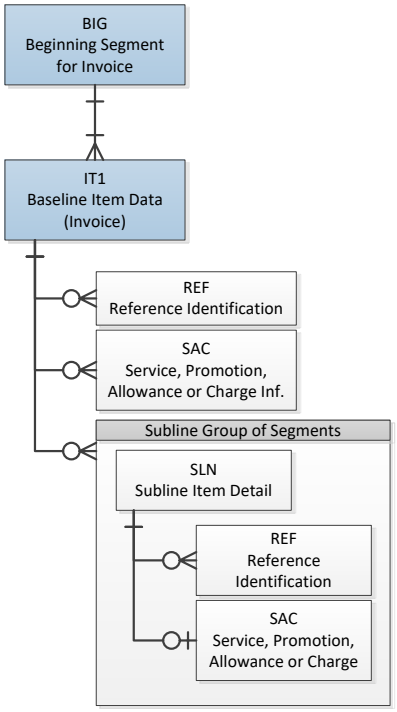
5.9 Commodity Line-level Details for the Invoice, Vendor Line Number

The EDI 810 specification provides two approaches to defining invoice item data that can map to the Advantage construct of Commodity Line. Both approaches require the IT1 (Baseline Item Data) segment to indicate the beginning of new item information. Each IT1 can have one-or-more Service, Promotion, Allowance, or Charge (SEG) segments and/or one-or-more Subline Item Detail (SLN) segments to elaborate invoice data for the item. Both levels have some similar subordinate segments. For example (but not limited to):

- The SAC (Service, Promotion, Allowance, or Charge Information) segment will elaborate the preceding IT1 or SLN when services or miscellaneous charges are invoiced.
- The REF (Reference Identification) segment will provide additional data related to the preceding IT1 or SLN.

The following diagram depicts the relationship among the following item level segments. Several other segments (subordinate to BIG, IT1, and SLN are omitted for clarity):

Segments Driving Commodity Line Creation (Partial)



When an IT1 segment does not have any SAC segments or sublines (SLN segments), the IT1 will drive the creation of a single Commodity Line if certain fields are populated (one Commodity Line per IT1). When an IT1 segment does have sublines, the SAC segments associated to the sublines will drive creation of the Commodity Line (one Commodity Line per SAC), assuming all information is available. If all data is not available, the system will determine if the data is supplied with the SLN line.

5.10 Identifying Commodity Codes for Items and Services

Commodity Code is essential for the creation of non-electronic Standalone (IS) and Electronic (IE) Invoice transactions. For Electronic Invoices, the Electronic Account Profile (EAPRO) record cannot be identified without the Commodity Code. Otherwise, Commodity Code is required for each Commodity Line in all standalone invoice transactions.

For each invoice line item, Advantage will request that a vendor send the expected Advantage commodity code as a data element. This data element appears in both the IT1 (Baseline Item Data - Invoice) and SLN (Sub line detail) segments as Product/Service ID Qualifier where the qualifier is PI indicating Purchaser's Item Code, or the SAC segment, Data Element 02 or 04.

If a vendor does not have, or does not know, the Advantage Commodity Code, the vendor may send another Product/Service ID qualifier code and a corresponding ID; however, this code must exist on the External Commodity Crosswalk (ECOMMX) table. This means that the corresponding Advantage Commodity Code of this new value must be set up beforehand as part of configuration. The Product/Service ID qualifier code and ID is different depending on which segment is creating the commodity line. If a SAC segment is used, this is data element 03 (Agency Qualifier Code) and 04 (Agency Service, Promotion, Allowance, or Charge Code). If an IT1 segment is used, this is data element 08 (Product/Service ID Qualifier) and 09 (Product/Service ID). If an SLN segment is used, this is data element 11 (Product/Service ID) and 12 (Product/Service ID). The crosswalk table will associate a Vendor Customer Code, Product/Service ID Qualifier, and External (product/service) Identifier to an Advantage Commodity Code. The Load EDI Invoices batch job will provide a batch parameter to control whether the crosswalk may be used. This will allow sites to enable/disable the crosswalk feature without loading/emptying the table. If a Commodity Code is not found for the invoice line item, or the product/service information passed in the file is not valid on the External Commodity Crosswalk (ECOMMX) table, the system will optionally use the Default Commodity Code optionally specified as a parameter in the Load EDI Invoices batch job. If a valid Commodity Code is provided with an invoice and the code is Inactive, the system will still create the invoice. To correct this, a user will need to either reject the invoice manually, change the Commodity Code to an Active one and resubmit the invoice, or change the Commodity Code to Active on the Commodity (COMM) page and then resubmit the invoice.

5.11 Commodity Code for Shipping and Miscellaneous Charges

Miscellaneous charges such as shipping and handling/freight can be transmitted using SAC (Service, Promotion, Allowance, or Charge) segments. SAC segments can appear at the detail level or at the summary level of the invoice. The second data element (Service, Promotion, Allowance, or Charge Code) of the SAC segment corresponds to a specific list of EDI codes that describe the kind of charge such as D240 for Freight or G821 for Shipping.

EDI Service Codes (Partial List for Data Element 1300)

RELEASE • 004010 DATA ELEMENTS • 1300

1300 Service, Promotion, Allowance, or Charge Code

TYPE= ID MIN= 4 MAX= 4

Code identifying the service, promotion, allowance, or charge

SEGMENTS USED IN (AS SIMPLE):

FA1 G14 SAC

TRANSACTION SETS USED IN:

124 180 304 511 517 527 561 568 810 811
812 814 820 821 823 830 832 840 842 843
846 847 850 855 856 857 858 860 861 865
867 869 870 879 887 940 945 947

CODE	DEFINITION AND EXPLANATION
A010	Absolute Minimum Charge
A020	Access Charge - Federal
A030	Access Charge - State
A040	Access Charges
A050	Account Number Correction Charge
A060	Acid (Battery)
A070	Acknowledgement of Delivery Fee (AOD)
A080	Activation of Carnet
A090	Ad Valorem
A100	Add on - Destination
A110	Add on - Origin
A112	Add to Make Market Value
A120	Additional Copies of Freight Bill
A121	Additional Commercial Invoices
A122	Additional Tariff Classifications
A130	Additional Material
A140	Address Correction
A150	Adjustment for Maximum Charges Billing
A160	Adjustment for Minimum Average Time Requirement Billing
A290	Agent Disbursement - Origin
A300	Air Export Certificate
A310	Air Express Charge
A320	Air Transportation Charge
A330	Aircraft On Ground (AOG)
A340	Airline Opening Fee
A350	Airport Terminal Handling Charge
A360	Alcoholic Beverage Report Charge
A370	Allegheny County, PA Delivery Charge
A380	Allowance Advance
A390	Allowance for Consignment Merchandise
A400	Allowance Non-performance
A410	"Alterations"
A420	Amending Export Documentation
A430	Anneal/Heat (Steel or Glass Treatment)
A440	Anodizing Charge
A445	Anti-dumping Duty
A450	Appointment (Notification)
A460	Arbitrary (In Addition to Through Rates and Charges)
A470	Art Work
A480	Assembly
A485	Assist Amount
A490	Attachments to Bill of Lading Charge
A500	Bad Debt
A510	Banking Drafts
A520	Base Charge
A530	Basic Reorder Allowance
A540	Beaming Charge
A550	Bedding/Feeding/Disinfecting
A555	Beef Fee
A560	Beyond Charge
A570	Beyond Freight Charges
A580	Bill and Hold

For standalone (both IS and IE) invoices, the system will determine the commodity code to use for the miscellaneous charge using the External Commodity Crosswalk (ECOMMX) table. Since there is no specific scheme or qualifier for the list of EDI service codes a Load EDI Invoices batch parameter (“Commodity Code Crosswalk Qualifier/Scheme For Miscellaneous Charges”) to specify the value for querying the Qualifier/Scheme field in the External Commodity Crosswalk (ECOMMX) table. If an Advantage commodity code is identified using the crosswalk, the system will use that commodity code for the generated Commodity Line. If the charge code is not found in the ECOMMX table, the system will use the Default Commodity Code passed as a parameter for the Load EDI Invoices batch job and looks up that code on the COMM table. For Electronic Invoices, the vendor must still have a valid Electronic Account Profile for the resulting Commodity Code.

In the example below, the SAC’s second data element has a charge of G821. SH was entered as the Commodity Code Crosswalk Qualifier/Scheme for Miscellaneous invoices. The system does not find a unique record based on Vendor Code + Qualifier Schemed + External Identifier, but does find a match using a Vendor Code of ALL. As a result, for the shipping commodity line item, the system uses the Internal Commodity Code.

```
ITD|B|||||20150215\

DTM|186|20141215||||\

DTM|187|20150115||||\
```

IT1|1|200|EA|2.75||||PI|62086|PO|PO-A953-93250235||PL|1\

PID|F||||Pens, Erasable Markers\

TDS|5650\

SAC|C|G821|OP|SHST05|1500||||||5|||\

CTT|4|\

Vendor Code	Qualifier/Scheme	External Identifier	Match Found?	Internal Commodity	(Advantage) Description
ALL	SH	G821	Y	3456246	Shipping

If a commodity code is populated for both the second and fourth data element of a SAC segment, the system will first attempt to find a commodity match using the second data element. If a match is not found, the system will then attempt to find a match using the fourth data element.

5.12 Award Reference Information

For each invoice, the system will determine if the vendor is providing a reference to a specific award (for example, a purchase order) and award line numbers. The system uses the Award Reference Parsing Information parameter to determine how to parse the Award Reference Information.

The system will identify award references in the manner outlined below. If none of these approaches yields an award reference then the invoice will not be eligible to be generated as an award-referencing Invoice (IN).

1. The system will determine if the vendor included a reference to an Advantage award transaction (for that vendor) in the Purchase Order Number data element of the Beginning Segment for the Invoice (BIG) segment for the invoice. Data in this field will need to conform to a specific format for combining the Transaction Department, Transaction Code, and Transaction ID that uniquely identifies the award (for example, PO-010-20160000692071). However, the EDI 810 specification limits the size of this value to 22 characters, which may not provide enough space for all possible Advantage award transaction identifiers.

2. The system will determine if the vendor passed a reference to an Advantage award transaction (for that vendor) in a Reference Identification (REF) segment associated with the invoice's BIG segment with a Reference Identification Qualifier of "PO" (Purchase Order) and the Reference Identification data element contains the concatenated Advantage award identifier (for example, PO-010-20160000692071). The EDI 810 specification allows a value of up to 30 characters in this field which is sufficient for most implementations where Transaction Codes rarely exceed four characters in length, Transaction Department has a maximum of four characters and Transaction ID has a maximum length of 20 characters (4 + delimiter + 4 + delimiter + 20).

3. The EDI specification also allows for a vendor to create an invoice that references multiple awards. The system will determine if the vendor passed an item-level reference to an Advantage award transaction (for that vendor) in the Baseline Item Data for Invoice (IT1) segment or Subline Item Detail (SL) segment in one of the Product/Service ID elements with a Product/Service ID Qualifier of "PO" (Purchase Order) and Product/Service ID data element matching the expected concatenated format . (Note: The maximum size of the

Product/Service ID data element for IT1 is 48 characters because it is designed to contain many different kinds of data values).

4. The system will always check for Award Referencing information on an IT1/SLN segment. If there is award referencing information on the IT1/SLN segment and also in the BIG/REF segment, the system will consider the information on the IT1/SLN segment to be the valid value.

For each item in the EDI invoice, the vendor will reference an award line number in the Baseline Item Data for Invoice (IT1) segment or in the Subline Item Detail (SLN) segment. The line number is expected to be sent in the IT1 segment in one of the Product/Service ID elements, with a Product/Service ID Qualifier of “PL” (Purchase Order Line Number).

If the system is unable to determine the Award Referencing Invoice, the treatment of the invoice will depend on the parameter settings. If the site had only enabled the Award Referencing Invoices only parameter, then the system will reject the invoice and create an 824 response. However, if the site had enabled the Electronic Invoice and/or the Stand Alone Invoice, the system will not reject the invoice. The system will instead attempt to create one of those invoices if the reference is not valid.

One exception to identifying a specific award line number is the handling of Freight charges. The existing Advantage Invoice (IN) process permits the creation of Memo reference Invoice Commodity Lines when an invoice contains a line for freight charges that were not anticipated at the time of the award and thus do not have a corresponding Commodity Line for freight. Per current processing this will then prevent the invoice from submitting to Final. A user will need to update the referenced award transaction for the freight charge and then go back to the IN, set the Memo Commodity Line to zero and enter a new Commodity Line for the freight. At this point the IN can be submitted to Final.

6 EDI Output

6.1 Tables

The Load EDI Invoices chain populates three pages within Advantage: Electronic Data Interchange Invoice File (EDIF), Electronic Data Interchange Invoice Header (EDIH), and Electronic Data Interchange Invoice Detail (EDID).

6.1.1 EDIF

The Electronic Data Interchange Invoice File (EDIF) page allows a user to view file detail information regarding EDI transactions processed by the system. The page is read-only; a user is not allowed to make updates to the data, insert new records, or delete existing records. Each EDI file will only have one record on the EDIF page. If a file fails processing, the user can view the file error on this page.

6.1.2 EDIH

The Electronic Data Interchange Invoice Header (EDIH) page allows a user to view invoice Header information for EDI transactions loaded by the system. This page is read-only; a user is not allowed to make updates to the data, insert new records, or delete existing records. Each EDI file can contain multiple EDIH records. An EDIH record can only be associated with one EDIF record.

6.1.3 EDID

The Electronic Data Interchange Invoice Detail (EDID) page allows a user to view EDI segment details for EDI transactions loaded by the system. This is the page that shows the detailed segment and data element information for each invoice that is in the EDI file. This page is read-only; a user is not allowed to make updates to the data, insert new records, or delete existing records. An EDIH record can only be associated with one EDID record. An EDID record can only be associated with one EDIH record and one EDIF record.

6.2 Transactions

The system will determine if each EDI 810 invoice should result in an Invoice-Electronic (IE) transaction, which is a kind of stand-alone invoice associated with an Electronic Billing Account, a standard (non-electronic) Stand Alone Invoice (IS), or a referencing Invoice (IN) transaction. There are fundamental requirements that must be met to successfully create an Advantage invoice of each type. Creation of an Invoice-Electronic (IE) transaction requires the following key data elements to identify the appropriate Electronic Account Profile (EAPRO) record for each item being invoiced:

- Electronic Account ID
- Vendor/Customer Code
- Address ID
- Commodity Code

In the case of Invoice-Electronic (IE) transactions, the Commodity Code of the selected Electronic Account Profile (EAPRO) record will apply to all items being invoiced.

Creation of a referencing Invoice (IN) transaction requires the following key data elements:

- Vendor/Customer Code
- Address ID
- Award Line Reference (for each item)

Creation of a non-electronic Stand Alone Invoice (IS) transaction requires the following key data elements to identify the vendor and the items being invoiced:

- Vendor/Customer Code
- Address ID
- Commodity Code (for each item)

The decision of which kind(s) of Advantage invoice to generate and how to accumulate the data needed will be based on a combination of data available from the EDI files, batch parameters provided to the Advantage EDI process, and data inferred from Advantage. A simple hierarchy could be:

a. If enough information is provided to identify an Electronic Account Profile for the vendor, then create Invoice-Electronic (IE) transactions,

b. Otherwise, if enough information is provided to identify the vendor and award references can be established, then create award-referencing Invoice (IN) transactions,

c. Otherwise, if enough information is provided to identify the vendor and commodity codes for invoiced items, then create non-electronic Stand Alone Invoice (IS) transactions.

It is important to allow Advantage sites to control the eligible outcomes for interfaced invoices. Some sites may not implement the Electronic Billing process, while other sites may not want non-electronic Stand Alone Invoices to be created, or may not want award-referencing invoices to be created. Note: Electronic Payments can only be generated for Electronic Invoices.

Once the mapping is established between EDI 810 Invoices and Advantage, Advantage transaction XML can be generated, loaded into Advantage Financial, and submitted.

7 EDI Flexibility

The Load EDI Invoices chain job allows sites to use the process in a flexible way. Earlier, the transformation file tool was discussed. This section will discuss parameters that can be utilized to allow flexibility.

7.1 Department and Unit

The Load EDI Invoices chain job has parameters for each invoice type for Department and Unit. In cases of Award Referencing or Stand Alone invoices, the Department/Unit for the newly created invoice will correlate to the Department/Unit listed in the batch parameters. However, if electronic invoices are desired, there is an option to infer the Department/Unit from the Electronic Account Profile instead of from the batch parameters. In order to successfully infer this information, the system requires the Vendor Code, Electronic Account Number, Commodity Code, and Address ID. Otherwise the system will not be able to determine the correct Department/Unit for creating the IE transaction.

7.2 Vendor options

The Load EDI chain job allows sites to determine if the vendor code must be sent in the EDI file. If the vendor does not send this information and the 'Vendor Code required in Transaction Set' parameter is set to *True*, the system will reject each invoice that does not contain this information. If the parameter is set to *False*, the system will attempt to determine the Vendor Code.

7.3 Address options

7.3.1 Require Address code in file

The 'Require Address code in file' parameter indicates whether an invoice will be rejected if a valid Address Code cannot be found. If this parameter is set to *True* and an Address Code is not found, the invoice will reject. If this is set to *False*, the system will attempt to figure out the Address Code.

7.3.2 Infer Address Code

The 'Infer Address Code' parameter indicates whether the system should attempt to infer the Vendor's Address Code if an address code is not provided. The system will determine if the vendor's profile has a default payment address in Advantage. If a unique payment address is found for the vendor, the address code associated with the default payment address is used for the invoice.

7.3.3 Create invoice with invalid address

If the 'Require Address code in file' parameter is *False* and the system is not able to find a valid address, an invoice is created if the 'Create Invoice with Invalid Address' parameter is set to *True*. An authorized user must select a valid Address Code before submitting the Invoice to *Final*. If the 'Create Invoice with Invalid Address' parameter is set to *False*, the invoice is not created in Advantage.

7.4 Commodity/Unit-of-Measure

7.4.1 Crosswalk tables

There are two crosswalk tables that can be used with EDI: Electronic Data Interchange UOM Crosswalk (UOMC) table and the External Commodity Crosswalk (ECOMMX) table. If the ECOMMX table is used, the table translates the vendor's Product/Service identifiers that are used in the incoming EDI file to Advantage Commodity Codes. If the UOMC table is used, it translates ISO UOM codes to the codes used by the Advantage site. This is only needed if the Advantage site does not use ISO UOM codes.

7.4.2 Default Commodity Codes

If a vendor sends a Commodity Code in the file that Advantage does not recognize, there is an option for sites to default this Commodity Code. If the Commodity Code the vendor provides is not found in the system, the invoice will reject. However, if a default Commodity Code is provided in the parameter file, then an invoice is more likely to process successfully. As mentioned earlier, the system will always attempt to use the vendor provided Commodity Code before using the default Commodity Code.