

UN/EDIFACT

UNITED NATIONS STANDARD MESSAGE (UNSM)

EDI MIG reporting message

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For general information on UN standard message types see UN Trade Data
Interchange Directory, UNTDID, Part 4, Section 2.6, UN/ECE UNSM
General Introduction

0. INTRODUCTION

This specification provides the definition of the EDI MIG reporting message (MIGRPT) to be used in Electronic Data Interchange (EDI) between trading partners involved in administration, commerce and transport.

1. SCOPE

1.1 Functional Definition

The EDI MIG reporting message (MIGRPT) permits the exchange of MIG reporting information between both trading partners and service providers.

1.2 Field of Application

The EDI MIG reporting message may be used for both national and international applications. It is based on universal practice related to administration, commerce and transport, and is not dependent on the type of business or industry.

1.3 Principles

The MIGRPT message provides a method to report detailed syntax and semantic checking for a previously transmitted message. It differs from CONTRL in the following important ways:

- o it reports against a message implementation guide (MIG) rather than the underlying UNSM
- o it can report multiple violations at the same level
- o it can be used in multiple environments, on multiple occasions against the same data transmission
- o it is designed for use in a testing or development environment as well as production

The Interchange header shall specify character set level C.

2. REFERENCES

See UNTDID, Part 4, Chapter 2.6 UN/ECE UNSM - General Introduction, Section 1.

3. TERMS AND DEFINITIONS

3.1 Standard terms and definitions

See UNTDID, Part 4, Chapter 2.6 UN/ECE UNSM - General Introduction, Section 2.

3.2 Message terms and definitions

4. MESSAGE DEFINITION

4.1 Data Segment Clarification

This section should be read in conjunction with the Segment Table which indicates mandatory, conditional and repeating requirements.

0010 UNH, Message header
A service segment starting and uniquely identifying a message. The message type code for the EDI data tracking message is DATRAK.

Note: EDI implementation guide definition messages conforming to this document must contain the following data in segment UNH, composite S009:

Data element 0065 DATRAK
0052 D
0054 99B
0051 UN

0020 Segment group 1: PNA-DTM-DSI
A group of segments identifying an interchange envelope and describing the sender, receiver, interchange date/time and control number.

0030 PNA, Party identification
A pair of segments to identify the subject interchange sender and receiver.

0040 DTM, Data/time/period
A segment further identifying an interchange by specifying its original transmission date and time.

0050 DSI, Data set identification
A segment to carry the subject interchange control number.

0060 Segment group 2: MSG-DSI
A group of segments identifying the subject message within the subject interchange, detailing both the message itself and the message control number.

0070 MSG, Message type identification
A segment identifying the subject message, providing the message name/identifier, its version and release.

0080 DSI, Data set identification
A pair of segments to identify the message control number and the implementation convention reference.

0090 Segment group 3: STS-DFN-SG4-SG5-ELU-ELV
A group of segments reporting status and constraint activity as the data message is checked against the MIG. This is the main loop of the reporting mechanism. When in full trace mode, each iteration will refer to one or more components that have been checked, with either a positive or negative result. In

error-only mode, there will be one iteration for each error that occurs.

Context inheritance is assumed. This means, for example, that once a segment context has been established, it is not necessary to repeat the segment context segments for subsequent errors or status reports for the other elements in the same segment.

- 0100 STS, Status
A segment identifying the status of the component to be identified and described in the following segments and segment groups. The status is likely to be 'Approved' or 'Rejected', and if the latter, then one or more Status reasons may be given.
- 0110 DFN, Definition function
A repeating segment identifying one or more constraints that have been activated or terminated at the current point in the processing flow, or are active at the time of an error occurring.
- 0120 Segment group 4: GRU-GIR
A group of segments to identify a segment group context.
- 0130 GRU, Segment group usage details
A segment identifying a particular segment group by name and position within the UNSM
- 0140 GIR, Related identification numbers
A segment identifying a segment group by its sequence within the flow of the subject data message.
- 0150 Segment group 5: SGU-GIR
A group of segments to identify a segment context.
- 0160 SGU, Segment usage details
A segment identifying a particular segment by name and position within the UNSM
- 0170 GIR, Related identification numbers
A segment identifying a segment by its sequence within the flow of the subject data message.
- 0180 ELU, Data element usage details
A pair of segments to identify an element context, and composite element context.
- 0190 ELV, Element value definition
A segment to carry a copy of an erroneous data element value, whether coded or non-coded. This segment is only likely to be used in an error condition.
- 0200 CNT, Control totals
A number of segments providing totals of errors, segments processed or other counts or totals.
- 0210 UNT, Message trailer
A service segment ending a message, giving the total number of segments in the message and the control reference number of the

message.

4.2 Data segment index (Alphabetical sequence by tag)

CNT Control total
DFN Definition function
DSI Data set identification
DTM Date/time/period
ELU Data element usage details
ELV Element value definition
GIR Related identification numbers
GRU Segment group usage details
MSG Message type identification
PNA Party identification
SGU Segment usage details
STS Status
UNH Message header
UNT Message trailer

4.3 Message structure

4.3.1 Segment table

Pos	Tag Name	S	R
0010	UNH Message header	M	1
0020	----- Segment group 1 -----	M	1 -----+
0030	PNA Party identification	M	2
0040	DTM Date/time/period	M	1
0050	DSI Data set identification	M	1 -----+
0060	----- Segment group 2 -----	M	1 -----+
0070	MSG Message type identification	M	1
0080	DSI Data set identification	M	2 -----+
0090	----- Segment group 3 -----	C	99999 -----+
0100	STS Status	M	1
0110	DFN Definition function	C	99
0120	----- Segment group 4 -----	C	1 -----+
0130	GRU Segment group usage details	M	1
0140	GIR Related identification numbers	M	1 -----+
0150	----- Segment group 5 -----	C	1 -----+
0160	SGU Segment usage details	M	1
0170	GIR Related identification numbers	M	1 -----+
0180	ELU Data element usage details	C	2
0190	ELV Element value definition	C	2 -----+
0200	CNT Control total	M	9
0210	UNT Message trailer	M	1

5. DIRECTORIES

5.1 Segment Direcorry

	CNT	CONTROL TOTAL		
		Function: To provide control total.		
010	C270	CONTROL	M	
	6069	Control qualifier	M	an..3
	6066	Control value	M	n..18
	6411	Measure unit qualifier	C	an..3

	DFN	DEFINITION FUNCTION		
		Function: To specify a definition function.		
010	9023	DEFINITION FUNCTION, CODED	M	an..3
020	9025	DEFINITION EXTENT, CODED	C	an..3
030	4519	DEFINITION IDENTIFICATION	C	an..35

	DSI	DATA SET IDENTIFICATION		
		Function: To identify a data set.		
010	C782	DATA SET IDENTIFICATION	M	
	1520	Data set identifier	M	an..35
	7405	Identity number qualifier	C	an..3
020	C082	PARTY IDENTIFICATION DETAILS	C	
	3039	Party identification	M	an..35
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
030	4405	STATUS, CODED	C	an..3
040	C286	SEQUENCE INFORMATION	C	
	1050	Sequence number	M	an..10
	1159	Sequence number source, coded	C	an..3
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
050	1060	REVISION NUMBER	C	an..6

	DTM	DATE/TIME/PERIOD		
		Function: To specify date, and/or time, or period.		
010	C507	DATE/TIME/PERIOD	M	
	2005	Date/time/period qualifier	M	an..3
	2380	Date/time/period	C	an..35
	2379	Date/time/period format qualifier	C	an..3

	ELU	DATA ELEMENT USAGE DETAILS		
		Function: To specify the usage of a data element.		

010	9162	DATA ELEMENT TAG	M	an..4
020	7299	REQUIREMENT DESIGNATOR, CODED	C	an..3
030	1050	SEQUENCE NUMBER	C	an..10
040	4513	MAINTENANCE OPERATION, CODED	C	an..3
050	6176	MAXIMUM NUMBER OF OCCURRENCES	C	n..7
060	9453	CODE VALUE SOURCE, CODED	C	an..3
070	9285	VALIDATION CRITERIA, CODED	C	an..3
080	9175	DATA ELEMENT USAGE TYPE, CODED	C	an..3

ELV ELEMENT VALUE DEFINITION

Function: To define an element value.

010	9029	VALUE DEFINITION QUALIFIER	M	an..3
020	9422	VALUE	C	an..512
030	7299	REQUIREMENT DESIGNATOR, CODED	C	an..3
040	4513	MAINTENANCE OPERATION, CODED	C	an..3

GIR RELATED IDENTIFICATION NUMBERS

Function: To specify a related set of identification numbers.

010	7297	SET IDENTIFICATION QUALIFIER	M	an..3
020	C206	IDENTIFICATION NUMBER	M	
	7402	Identity number	M	an..35
	7405	Identity number qualifier	C	an..3
	4405	Status, coded	C	an..3
030	C206	IDENTIFICATION NUMBER	C	
	7402	Identity number	M	an..35
	7405	Identity number qualifier	C	an..3
	4405	Status, coded	C	an..3
040	C206	IDENTIFICATION NUMBER	C	
	7402	Identity number	M	an..35
	7405	Identity number qualifier	C	an..3
	4405	Status, coded	C	an..3
050	C206	IDENTIFICATION NUMBER	C	
	7402	Identity number	M	an..35
	7405	Identity number qualifier	C	an..3
	4405	Status, coded	C	an..3
060	C206	IDENTIFICATION NUMBER	C	
	7402	Identity number	M	an..35
	7405	Identity number qualifier	C	an..3
	4405	Status, coded	C	an..3

GRU SEGMENT GROUP USAGE DETAILS

Function: To specify the usage of a segment group within a message type structure and its maintenance operation.

010	9164	GROUP IDENTIFICATION	M	an..4
020	7299	REQUIREMENT DESIGNATOR, CODED	C	an..3
030	6176	MAXIMUM NUMBER OF OCCURRENCES	C	n..7
040	4513	MAINTENANCE OPERATION, CODED	C	an..3
050	1050	SEQUENCE NUMBER	C	an..10

MSG MESSAGE TYPE IDENTIFICATION

Function: To identify a message type and to give its class and maintenance operation.

010	C709	MESSAGE IDENTIFIER	M	
	1475	Message type identifier	M	an..6
	1056	Version	C	an..9
	1058	Release	C	an..9
	1476	Control agency	C	an..2
	1523	Association assigned identification	C	an..6
	1060	Revision number	C	an..6
	1373	Document/message status, coded	C	an..3
020	1507	CLASS DESIGNATOR, CODED	C	an..3
030	4513	MAINTENANCE OPERATION, CODED	C	an..3
040	C941	RELATIONSHIP	C	
	9143	Relationship, coded	C	an..3
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
	9142	Relationship	C	an..35

PNA PARTY IDENTIFICATION

Function: To specify information necessary to establish the identity of a party.

010	3035	PARTY QUALIFIER	M	an..3
020	C206	IDENTIFICATION NUMBER	C	
	7402	Identity number	M	an..35
	7405	Identity number qualifier	C	an..3
	4405	Status, coded	C	an..3
030	C082	PARTY IDENTIFICATION DETAILS	C	
	3039	Party identification	M	an..35
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
040	3403	NAME TYPE, CODED	C	an..3
050	3397	NAME STATUS, CODED	C	an..3
060	C816	NAME COMPONENT DETAILS	C	
	3405	Name component qualifier	M	an..3
	3398	Name component	C	an..70

	3401	Name component usage, coded	C	an..3
	3295	Name component original representation, coded	C	an..3
070	C816	NAME COMPONENT DETAILS	C	
	3405	Name component qualifier	M	an..3
	3398	Name component	C	an..70
	3401	Name component usage, coded	C	an..3
	3295	Name component original representation, coded	C	an..3
080	C816	NAME COMPONENT DETAILS	C	
	3405	Name component qualifier	M	an..3
	3398	Name component	C	an..70
	3401	Name component usage, coded	C	an..3
	3295	Name component original representation, coded	C	an..3
090	C816	NAME COMPONENT DETAILS	C	
	3405	Name component qualifier	M	an..3
	3398	Name component	C	an..70
	3401	Name component usage, coded	C	an..3
	3295	Name component original representation, coded	C	an..3
100	C816	NAME COMPONENT DETAILS	C	
	3405	Name component qualifier	M	an..3
	3398	Name component	C	an..70
	3401	Name component usage, coded	C	an..3
	3295	Name component original representation, coded	C	an..3
110	1229	ACTION REQUEST/NOTIFICATION, CODED	C	an..3

SGU SEGMENT USAGE DETAILS

Function: To specify the details of the usage of a segment within a message type structure.

010	9166	SEGMENT TAG	M	an..3
020	7299	REQUIREMENT DESIGNATOR, CODED	C	an..3
030	6176	MAXIMUM NUMBER OF OCCURRENCES	C	n..7
040	7168	LEVEL NUMBER	C	n..3
050	1050	SEQUENCE NUMBER	C	an..10
060	1049	MESSAGE SECTION, CODED	C	an..3
070	4513	MAINTENANCE OPERATION, CODED	C	an..3

STS STATUS

Function: To specify the status of an object or service, including its category and the reason(s) for the status.

010	C601	STATUS CATEGORY	C	
	9015	Status category, coded	M	an..3
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
020	C555	STATUS	C	
	4405	Status, coded	M	an..3

	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
	4404	Status	C	an..35
030	C556	STATUS REASON	C	
	9013	Status reason, coded	M	an..3
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
	9012	Status reason	C	an..35
040	C556	STATUS REASON	C	
	9013	Status reason, coded	M	an..3
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
	9012	Status reason	C	an..35
050	C556	STATUS REASON	C	
	9013	Status reason, coded	M	an..3
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
	9012	Status reason	C	an..35
060	C556	STATUS REASON	C	
	9013	Status reason, coded	M	an..3
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
	9012	Status reason	C	an..35
070	C556	STATUS REASON	C	
	9013	Status reason, coded	M	an..3
	1131	Code list qualifier	C	an..3
	3055	Code list responsible agency, coded	C	an..3
	9012	Status reason	C	an..35

5.2 Code Directory (significant codes)

2005 Date/time/period qualifier [C]

Desc: Code giving specific meaning to a date, time or period.

Repr: an..3

243 Transmission date/time of document
Self explanatory.

3035 Party qualifier [C]

Desc: Code giving specific meaning to a party.

Repr: an..3

MR Message recipient
Self explanatory.

MS Document/message issuer/sender
Issuer of a document and/or sender of a message.

4405 Status, coded [C]

Desc: Code indicating the relative standing, condition or position.

Repr: an..3

- 39 Approved
Approval has been given.
- 41 Rejected
Item is rejected.

* 6069 Control qualifier [B]

Desc: Determines the source data elements in the message which forms the basis for 6066 Control value.

Repr: an..3

- + 47 Total number of errors
Total number of errors in the interchange.
- + 48 Total number of segments
Total number of segments in the interchange.

* 7297 Set identification qualifier [B]

Desc: Identification of the type of set.

Repr: an..3

- + 19 Segment number
The sequence number of a segment in a sequential data flow

* 7405 Identity number qualifier [C]

Desc: Code specifying the type/source of identity number.

Repr: an..3

- + IG Implementation guide
Implementation guide number assigned to an EDI interchange in the UNB header segment
- + IN Interchange control number
Control number assigned to an EDI interchange in the UNB header segment

* 9013 Status reason, coded [B]

Desc: Code identifying the reason for a status.

Repr: an..3

- + AA Value too short
A simple data element value is too short.
- + AB Value too long
A simple data element value is too long.
- + AC Value missing
A simple data element value is missing when it should be present.
- + AD Value present
A simple data element value is present when it should be absent.
- + AE Value mask mismatch
A simple data element value does not match its mask.

+ AF Value pattern mismatch
A simple data element value does not match its pattern.

+ AG Value out of range
A simple data element value is out of range.

+ AH Value not listed
A coded simple data element value is not in the code list,
or a non-coded simple data element value is not in the
value list.

+ AI Value invalid character
A simple data element value contains an invalid character.

+ AJ Value mismatch
A simple data element does not match its expected value.

+ AK Value not composite
A simple data element contains a composite data element
separator.

+ BA Relationship violation
A relationship has been violated.

+ BB Too many repeats
A component has been repeated too many times.

+ BC Too few repeats
A component has been repeated too few times.

+ BD Repeats not allowed
A non-repeating component has been repeated.

+ CA Composite missing
A composite data element is missing when it should be present.

+ CB Composite present
A composite data element is present when it should be absent.

+ CC Composite too full
A composite data element has too many simple data elements.

+ DA Segment missing
A segment is missing when it should be present.

+ DB Segment present
A segment is present when it should be absent.

+ DC Unknown segment
An unknown segment tag has been encountered.

+ DD Segment out of sequence
A known segment has been encountered out of sequence.

+ DE Segment too full
A segment has too many data elements.

+ ZA Message type unsupported
The message type is not supported.

+ ZB Message version unsupported
The version of the message is not supported.

+ ZC Message release unsupported
The release of the message is not supported.

+ ZD Message type not allowed
The message type is not allowed between the specified
trading partners.

+ ZE MIG unsupported
The message implementation guide is not supported.

+ ZF Control agency not supported
The controlling agency is not supported.

+ ZG Syntax not supported
The syntax version, level or type is not supported.

+ ZH Invalid control segment
The control segment is invalid.

+ ZI Interchange not allowed
The interchange is not allowed between the specified
trading partners.

+ ZJ Unknown sender
The interchange sender unknown.

+ ZK Unknown receiver
The interchange receiver is unknown.

9023 Definition function, coded [B]

Desc: Code identifying the function of a definition.

Repr: an..3

2 Constraint
To specify a constraint function.

9025 Definition extent, coded [B]

Desc: Identifies the extent of a definition.

Repr: an..3

1 Begin
To specify the beginning of a definition.
2 End
To specify the end of a definition.

9029 Value definition qualifier [B]

Desc: To qualify a value definition.

Repr: an..3

3 Specific value
The value definition is a specific value.

Business Requirements

- a. reporting on the compliance of a data message against a MIG, rather than the EDIFACT standards, in a number of different environments:
 1. normal production data flow - this might raise some conflict with CONTRL, but the depth and level of reporting would significantly exceed CONTRL's current functionality (see below) - BUT carried out at a subsequent stage to the standard CONTRL acknowledgement. This checking might be carried out by a pre-translation utility that went into much more detail than a translator would, in order to avoid the processing overhead of both translation and possibly initial application processing on what can essentially be determined to be bad data by a robot process rather than a full-blown application program. MIGRPT would then be generated after CONTRL had already been sent.
 2. test-bed environment - where an individual message or group of messages is repeatedly processed by a test facility to determine compliance rather than to pass data. In this environment, the control numbers and sequencing would be meaningless since the same data might be presented many times, or generated at random; the messages might appear to be to a number of both valid or invalid trading partners, rather than the test facility that was actually performing the check

a user would typically use this test facility to develop a translator or a hard-coded EDI module, and would use the detailed diagnostics which could be produced by this message as it steps through the data message, showing where and how constraints are enabled in different contexts
 3. in a multi-stage environment, where it is not necessarily the final recipient that is generating the report. This particularly applies to the VAN environment, where a VAN may be performing data validation on behalf of an individual or group of clients. The VAN is unable to generate APERAK since it isn't the application, and isn't doing application level checks; the VAN can't correctly produce CONTRL since it isn't the recipient, and depending on the VAN's contractual relationship with the intended recipient there may still be some or all of the normal end-to-end acknowledgment model taking place; as with the other cases, the level of checking against a MIG may be significantly more complex than CONTRL can currently carry or was intended to carry
- b. MIGRPT is intended to support a much greater level of data and syntax compliance checking than CONTRL currently provides. Extra checking is envisioned to include:
 1. checking of both minimum and maximum repeating counts for all appropriate EDI components (groups, segments, composites and simple elements)
 2. checking of codes against specific subset code lists rather than the standards

3. checking of value ranges, data patterns and data formats (i.e. number ranges such as $1 \leq x \leq 12$, account number formats such as "99-999-9999" or "XX-99/99999.X", product codes starting with a specific digit or digits [149]*)
4. usage-based constraints: because this item is used/not-used, then this other item is used/not-used/has-certain-values - such relationships to be both intra-segment and inter-segment
5. value-based constraints: because this element has this value, matches this pattern or falls within this range, then this other item (or group of items) has some defined behaviour or property - such relationships to be both intra-segment and inter-segment, and would require not only reporting as an exception condition, but also the context in which the exception arose

Much of this checking would not be described by EDI purists as syntax checking, reporting of which is the function and scope of CONTRL. Indeed, much of this checking greatly increases the power and flexibility of translators and other EDI products such as MIG interpreters or Web-EDI tools - moving the line between syntax and semantic checking somewhat away from its currently accepted position.

c. CONTRL's boilerplate specifically makes it unsuitable for some of this functionality by saying:

1. CONTRL shall not be used to report errors ... at the application level, i.e. reports related to the semantic information contained in user segments.

A significant part of the functionality if MIGRPT comes from allowing it to report errors against a MIG which has been expressed in IMPDEF, and hence may contain quantities of user-level semantic checks and constraints which can be mechanically expressed

2. A maximum of two CONTRL messages may be sent in response to a received interchange. The first, which is optional, indicates only the receipt of the subject interchange. The second reports the action taken after the syntax check of the subject interchange.

The same message may be sent many times through a test facility, either varying some small component of the subject message, or varying the MIG. In addition, there is no effective action in such an environment - the syntax and semantic check is the purpose of the subject transmission, and a user reply in MIGRPT is the response message.

3. The UCI, UCF and UCM segments can only report one error. If more than one error is detected at a level referenced by one of these segments, the receiver of the subject interchange is free to choose which error to report. Several CONTRL messages shall not be sent in order to report several errors

Since detailed syntactical and semi-semantic checking is the object of the business function, it is essential that MIGRPT can report all of the (possibly many) errors at any one level or point in the message.