

International Telecommunication Union

**ITU-T**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

**H.830.6**

(07/2016)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

E-health multimedia services and applications –  
Interoperability compliance testing of personal health  
systems (HRN, PAN, LAN, TAN and WAN)

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**Conformance of ITU-T H.810 personal health  
devices: WAN interface Part 6: PCD-01 HL7  
messages: Receiver**

Recommendation ITU-T H.830.6



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## Recommendation ITU-T H.830.6

### Conformance of ITU-T H.810 personal health devices: WAN interface Part 6: PCD-01 HL7 messages: Receiver

#### Summary

Recommendation ITU-T H.830.6 is a transposition of Continua Health Alliance Test Tool DG2013, Test Suite Structure & Test Purposes, WAN Interface; Part 6: PCD-01 HL7 Messages. Receiver (Version 1.4, 2014-01-24), that was developed by the Continua Health Alliance. A number of versions of this specification existed before transposition.

This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

This Recommendation was initially approved as ITU-T H.836 (01/2015) and later renumbered, without further modifications, as ITU-T H.830.6 (01/2015) for consistency with the numbering of new WAN interface conformance testing specifications.

#### History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T H.836	2015-01-13	16	<a href="http://handle.itu.int/11.1002/1000/12254">11.1002/1000/12254</a>
1.0	ITU-T H.830.6	2015-01-13	16	<a href="http://handle.itu.int/11.1002/1000/12592">11.1002/1000/12592</a>
2.0	ITU-T H.830.6	2016-07-14	16	<a href="http://handle.itu.int/11.1002/1000/12927">11.1002/1000/12927</a>

#### Keywords

Conformance testing, continua design guidelines, e-health, H.810, WAN interface, personal connected health devices, wide area network.

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\* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

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**Electronic attachment:** This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

## Introduction

This Recommendation is the transposition of Continua Health Alliance Test Tool DG2013, Test Suite Structure & Test Purposes, WAN Interface; Part 6: PCD-01 HL7 Messages. Receiver (Version 1.4, 2014-01-24), that was developed by the Continua Health Alliance. A number of versions of this specification existed before transposition and these can be found in the table below.

Version	Date	Revision history
1.2	2012-10-05	Initial release for Test Tool DG2011. This is the same version as "TSS&TP_1.5_WAN_PART_6_(REC PCD-01)_v1.2.doc" because
1.3	2013-05-24	new features included in [b-CDG 2011] do not affect the test procedures specified in this document. Initial release for Test Tool DG2012. This uses "TSS&TP_DG2011_WAN_PART_6_(REC PCD-01)_v1.2" as baseline and adds new features included in [b-CDG 2012]: <ul style="list-style-type: none"><li>• Adds glucose meter new spec version</li><li>• Adds body composition analyser device specialization</li><li>• Adds basic electrocardiograph device specialization</li></ul>
1.4	2014-01-24	Initial release for Test Tool DG2013. This uses "TSS&TP_DG2012_WAN_PART_6_(REC PCD-01)_v1.3.doc" as a baseline and adds new features included in [b-ITU-T H.810 (2013)]: <ul style="list-style-type: none"><li>• Adds glucose meter BLE</li><li>• Adds BLE SSP support</li><li>• Adds NFC new transport</li><li>• Adds INR device specialization</li></ul>

## Recommendation ITU-T H.830.6

### Conformance of ITU-T H.810 personal health devices: WAN interface Part 6: PCD-01 HL7 messages: Receiver

#### 1 Scope

The scope of this Recommendation<sup>1</sup> is to provide a test suite structure and the test purposes (TSS & TP) for the WAN interface based on the requirements defined in the Continua Design Guidelines (CDG) [ITU-T H.810]. The objective of this test specification is to provide a high probability of air interface interoperability between different devices.

TSS & TP for the WAN interface have been divided into the eight parts specified below. This Recommendation covers Part 6.

- **Part 1:** Web Services Interoperability. Sender
- **Part 2:** Web Services Interoperability. Receiver
- **Part 3:** SOAP/ATNA. Sender
- **Part 4:** SOAP/ATNA. Receiver
- **Part 5:** PCD-01 HL7 Messages. Sender
- **Part 6: PCD-01 HL7 Messages. Receiver**
- **Part 7:** Consent Management. Sender
- **Part 8:** Consent Management. Receiver

#### 2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T H.810 (2015)] Recommendation ITU-T H.810 (2015), *Interoperability design guidelines for personal health systems*.

[ITU-T H.810 (2016)] Recommendation ITU-T H.810 (2016), *Interoperability design guidelines for personal health systems*.

[ITU-T H.812.1 (2015)] Recommendation ITU-T H.812.1 (2015), [Interoperability design guidelines for personal health systems: WAN interface: Observation upload certified device class](#).

[IEEE 11073-20601A] IEEE 11073-20601A:2010, *IEEE Health informatics – Personal health device communication – Part 20601: Application profile – Optimized*

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<sup>1</sup> This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

*Exchange Protocol Amendment 1.*

[<http://standards.ieee.org/findstds/standard/11073-20601a-2010.html>](http://standards.ieee.org/findstds/standard/11073-20601a-2010.html)

[IHE PCD-TF-2]

Integrating the Healthcare Enterprise (2011), *IHE Patient Care Device (PCD) Technical Framework, Volume 2 (PCD TF-2): Transactions, Revision 1.0.*

[<http://www.ihe.net/Technical\\_Framework/upload/IHE\\_PCD\\_TF\\_Vol2\\_FT\\_2011-08-12.pdf>](http://www.ihe.net/Technical_Framework/upload/IHE_PCD_TF_Vol2_FT_2011-08-12.pdf)

### 3 Definitions

#### 3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

**3.1.1 agent** [IEEE 11073-20601A]: A node that collects and transmits personal health data to an associated manager.

**3.1.2 manager** [IEEE 11073-20601A]: A node receiving data from one or more agent systems. Some examples of managers include a cellular phone, health appliance, set top box, or a computer system.

#### 3.2 Terms defined in this Recommendation

None.

### 4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

AHD	Application Hosting Device
ATS	Abstract Test Suite
ATNA	Audit Trail and Node Authentication
CDG	Continua Design Guidelines
DUT	Device Under Test
GUI	Graphical User Interface
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
IHE	Integrating the Healthcare Enterprise
INR	International Normalized Ratio
IUT	Implementation Under Test
MDS	Medical Device System
NFC	Near Field Communication
PCD	Patient Care Device
PCT	Protocol Conformance Testing
PCO	Point of Control and Observation
PCHA	Personal Connected Health Alliance
PHD	Personal Healthcare Device
PHDC	Personal Healthcare Device Class
PHM	Personal Health Manager



PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation extra Information for Testing
SABTE	Sleep Apnoea Breathing Therapy Equipment
SDP	Service Discovery Protocol
SOAP	Simple Object Access Protocol
TCRL	Test Case Reference List
TCWG	Test and Certification Working Group
TLS	Transport Level Security
TP	Test Purpose
TSS	Test Suite Structure
USB	Universal Serial Bus
URI	Uniform Resource Identifier
WAN	Wide Area Network
WDM	Windows Driver Model
WS	Web Service
WSDL	Web Service Description Language
XML	extensible Markup Language

## 5 Conventions

The key words "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "MAY", "MAY NOT" in this recommendation are to be interpreted as in [b-ETSI SR 001 262].

- –SHALL is equivalent to: must or it is required to.
- –SHALL NOT is equivalent to: must not or it is not allowed.
- –SHOULD is equivalent to: it is recommended to.
- –SHOULD NOT is equivalent to: it is not recommended to.
- –MAY is equivalent to: is permitted.
- –MAY NOT is equivalent to: it is not required .

NOTE – The above-mentioned key words are capitalized for illustrative purposes only and they do not appear capitalized within this Recommendation.

Reference is made in the ITU-T H.800-series of Recommendations to different versions of the Continua Design Guidelines (CDG) by a specific designation. The list of terms that may be used in this Recommendation is provided in Table 1.

**Table 1 – List of designations associated with the various versions of the CDG**

CDG release	Transposed as	Version	Description	Designation
2016 plus errata	[ITU-T H.810 (2016)]	6.1	Release 2016 plus errata noting all ratified bugs [ITU-T H.810 (2016)].	–
2016	–	6.0	Release 2016 of the CDG including maintenance updates of the CDG 2015 and additional guidelines that cover new functionalities.	Iris
2015 plus errata	[ITU-T H.810 (2015)]	5.1	Release 2015 plus errata noting all ratified bugs [ITU-T H.810 (2015)].	–
2015	–	5.0	Release 2015 of the CDG including maintenance updates of the CDG 2013 and additional guidelines that cover new functionalities.	Genome
2013 plus errata	[ITU-T H.810 (2013)]	4.1	Release 2013 plus errata noting all ratified bugs [b-ITU-T H.810 (2013)].	–
2013	–	4.0	Release 2013 of the CDG including maintenance updates of the CDG 2012 and additional guidelines that cover new functionalities.	Endorphin
2012 plus errata	–	3.1	Release 2012 plus errata noting all ratified bugs [b-CDG 2012].	–
2012	–	3.0	Release 2012 of the CDG including maintenance updates of the CDG 2011 and additional guidelines that cover new functionalities.	Catalyst
2011 plus errata	–	2.1	CDG 2011 integrated with identified errata.	–
2011	–	2.0	Release 2011 of the CDG including maintenance updates of the CDG 2010 and additional guidelines that cover new functionalities [b-CDG 2011].	Adrenaline
2010 plus errata	–	1.6	CDG 2010 integrated with identified errata	–
2010	–	1.5	Release 2010 of the CDG with maintenance updates of the CDG Version 1 and additional guidelines that cover new functionalities [b-CDG 2010].	1.5
1.0	–	1.0	First released version of the CDG [b-CDG 1.0].	–

## 6 Test suite structure (TSS)

The test purposes (TPs) for the WAN interface have been divided into the main subgroups specified below. Annex A describes the TPs for subgroups 2.4.1 to 2.4.16 (shown in bold).

- Group 1: Sender (SEN)
  - Group 1.1: Web services interoperability (WSI)
    - Subgroup 1.1.1: Basic profile (BP)
    - Subgroup 1.1.2: Basic security profile (BSP)
    - Subgroup 1.1.3: Reliable messaging (RM)

- Group 1.2: SOAP (SOAP)
  - Subgroup 1.2.1: SOAP headers (HEAD)
- Group 1.3: Audit (ATNA)
  - Subgroup 1.3.1: General (GEN)
  - Subgroup 1.3.2: PCD-01 (PCD-01)
  - Subgroup 1.3.3: Consent management (CM)
- Group 1.4: PCD-01 HL7 Messages (PCD-01-DATA)
  - Subgroup 1.4.1: General (GEN)
  - Subgroup 1.4.2: Design guidelines (DG)
  - Subgroup 1.4.3: Pulse oximeter (PO)
  - Subgroup 1.4.4: Blood pressure monitor (BPM)
  - Subgroup 1.4.5: Thermometer (TH)
  - Subgroup 1.4.6: Weighing scales (WEG)
  - Subgroup 1.4.7: Glucose meter (GL)
  - Subgroup 1.4.8: Cardiovascular fitness and activity monitor (CV)
  - Subgroup 1.4.9: Strength fitness equipment (ST)
  - Subgroup 1.4.10: Independent living activity hub (HUB)
  - Subgroup 1.4.11: Adherence monitor (AM)
  - Subgroup 1.4.12: Peak expiratory flow monitor (PF)
  - Subgroup 1.4.13: Body composition analyser (BCA)
  - Subgroup 1.4.14: Basic electrocardiograph (ECG)
  - Subgroup 1.4.15: International normalized ratio (INR)
  - Subgroup 1.4.16: Sleep apnoea breathing therapy equipment (SABTE)
- Group 1.5: Consent management (CM)
  - Subgroup 1.5.1: WAN XDR transaction (TRANS)
  - Subgroup 1.5.2: WAN metadata validation (META)
  - Subgroup 1.5.3: WAN consent directive validation (CDV)
- Group 1.6: hData observation upload (HDATA)
  - Subgroup 1.6.1: General (GEN)
- Group 1.7: Questionnaires (QUE)
  - Subgroup 1.7.1: General (GEN)
  - Subgroup 1.7.2: CDA validation (CDA)
- Group 2: Receiver (REC)
  - Group 2.1: Web service interoperability (WSI)
    - Subgroup 2.1.1: Basic profile (BP)
    - Subgroup 2.1.2: Basic security profile (BSP)
    - Subgroup 2.1.3: Reliable messaging (RM)
  - Group 2.2: SOAP (SOAP)
    - Subgroup 2.2.1: SOAP headers (HEAD)

- Group 2.3: Audit (ATNA)
  - Subgroup 2.3.1: General (GEN)
  - Subgroup 2.3.2: PCD-01 (PCD-01)
  - Subgroup 2.3.3: Consent management (CM)
- **Group 2.4: PCD-01 HL7 Messages (PCD-01-DATA)**
  - **Subgroup 2.4.1: General (GEN)**
  - **Subgroup 2.4.2: Design guidelines (DG)**
  - **Subgroup 2.4.3: Pulse oximeter (PO)**
  - **Subgroup 2.4.4: Blood pressure monitor (BPM)**
  - **Subgroup 2.4.5: Thermometer (TH)**
  - **Subgroup 2.4.6: Weighing scales (WEG)**
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  - **Subgroup 2.4.13: Body composition analyser (BCA)**
  - **Subgroup 2.4.14: Basic electrocardiograph (ECG)**
  - **Subgroup 2.4.15: International normalized ratio (INR)**
  - **Subgroup 2.4.16: Sleep apnoea breathing therapy equipment (SABTE)**
- Group 2.5: Consent management (CM)
  - Subgroup 2.5.1: WAN XDR transaction (TRANS)
  - Subgroup 2.5.2: WAN service validation (SER)
- Group 2.6: hData observation upload (HDATA)
  - Subgroup 2.6.1: General (GEN)
  - Subgroup 2.6.2: hData record format (HRF)
- Group 2.7: Questionnaires (QUE)
  - Subgroup 2.7.1: General (GEN)
  - Subgroup 2.7.2: CDA validation (CDA)
- Subgroup 2.7.3: hData record format (HRF)

## 7 Electronic attachment

The protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A can be downloaded from <http://handle.itu.int/11.1002/2000/12067>.

In the electronic attachment, letters "C" and "I" in the column labelled "Mandatory" are used to distinguish between "PICS" and "PIXIT" respectively during testing. If the cell is empty, the corresponding PICS is "independent". If the field contains a "C", the corresponding PICS is dependent on other PICS, and the logical expression is detailed in the "SCR\_Expression" field. The static conformance review (SCR) is used in the test tool to assert whether the PICS selection is consistent.

## Annex A

### Test purposes

(This annex forms an integral part of this Recommendation.)

#### A.1 TP definition conventions

The test purposes (TPs) are defined according to the following rules:

- **TP Id:** This is a unique identifier (TP/<TT>/<DUT>/<GR>/<SGR>/<XX> – <NNN>). It is specified according to the naming convention defined below:
  - Each test purpose Identifier is introduced by the prefix "TP".
  - <TT>: This is the test tool that will be used in the test case.
    - WAN: Wide area network
  - <DUT>: This is the device under test.
    - SEN: WAN observation sender
    - REC: WAN observation receiver
  - <GR>: This identifies a group of test cases.
  - <SGR>: This identifies a subgroup of test cases.
  - <XX>: This identifies the type of testing.
    - BV: Valid behaviour test
    - BI: Invalid behaviour test
  - <NNN>: This is a sequential number that identifies the test purpose (TP).
- **TP label:** This is the title of the TP.
- **Coverage:** This contains the specification reference and clause to be checked by the TP.
  - Spec: This indicates the earliest version of the specification from which the testable items to be checked by the TP are included.
  - Testable item: This contains testable items to be checked by the TP.
- **Test purpose:** This is a description of the requirements to be tested.
- **Applicability:** This contains the PICS items that define if the test case is applicable or not for a specific device. When a TP contains an "ALL" in this field it means that it applies to the device under test within that scope of the test (specialization, transport used, etc.).
- **Other PICS:** This contains additional PICS items (apart from the PICS specified in the Applicability row) which are used within the test case implementation and can modify the final verdict. When this row is empty, it means that only the PICS specified in the Applicability row are used within the test case implementation.
- **Initial condition:** This indicates the state to which the DUT needs to be moved at the beginning of TC execution.
- **Test procedure:** This describes the steps to be followed in order to execute the test case.
- **Pass/Fail criteria:** This provides criteria to decide whether the DUT passes or fails the test case.

#### A.2 Subgroup 2.4.1 – General (GEN)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-000	
<b>TP label</b>	MSH Segment	
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendices H and K

<b>Testable items</b>	MSH-1; M	MSH-2; M	MSH-3; M
	MSH-4; M	MSH-5; M	MSH-6; M
	MSH-7; M	MSH-8; M	MSH-9; M
	MSH-10; M	MSH-11; M	MSH-12; M
	MSH-13; M	MSH-14; M	MSH-15; M
	MSH-16; M	MSH-17; M	MSH-18; M
	MSH-19; M	MSH-20; M	MSH-21; M
	MSH-22; M	MSH-23; M	MSH-24; M
	MSH-25; M	HL7Concept 2; M	CWEDataType 1; M
	CWEDataType 2; M	CWEDataType 3; C	DateTimeDataType 1; M
	NumericDataType 1; M	StringDataType 1; M	IDDataType 1; M
	ISDataType 1; M	EIDDataType 1; M	EIDDataType 2; O
	EIDDataType 3; O	EIDDataType 4; O	EIUse1; C
	EIUse2; C	EIUse3; C	EIUse4; C
<b>Spec</b>	[IHE PCD-TF-2]		
<b>Testable items</b>	HDUse1; M	HDUse2; C	HDUse3; C
	HD-1; M	HD-2; M	HD-3; M
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of the MSH segment of a message</p> <p>[AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>	C_REC_000		
<b>Other PICS</b>			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. The simulated sender sends an HL7 message inside a SOAP body including an observation.</li> <li>2. The receiver under test responds using another HL7 message. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Only one MSH segment is present and: <ul style="list-style-type: none"> <li><input type="checkbox"/> The character ' ' is the separator element.</li> <li><input type="checkbox"/> MSH-2 = ^~\&amp; (for Encoding characters element).</li> <li><input type="checkbox"/> MSH-3 = &lt;Namespace ID (data type IS)&gt;^&lt;Universal ID (data type ST)&gt;^&lt;Universal Type (data type ID)&gt; <ul style="list-style-type: none"> <li>• If C_REC_DATA_001=TRUE, Namespace ID (HD-1) is optional and may contain a locally unique name for the application implementing PCD actor(s). Universal ID (HD-2) contains the EUI-64 identifier as a hexadecimal string. The IEEE defined 64-bit extended unique identifier (EUI-64) is a concatenation of the 24-bit company_id value assigned by the IEEE Registration Authority, and a 40-bit extension identifier assigned by the organization having that company_id assignment. Universal ID (HD-2) contains all three components, Third component (required): EUI-64</li> <li>• If C_REC_DATA_002=TRUE, "Namespace ID" (HD-1) containing the name of the assigning authority, "Universal ID" (HD-2) containing its universal OID, and "Universal ID Type" (HD-3) containing the value ISO</li> <li>• Otherwise, if Universal Type (HD-3) is valued, it takes one of the following values:</li> </ul> </li> </ul> </li> </ol> </li> </ol>		

- 'DNS' - An Internet dotted name. Either in ASCII or as integers
  - 'GUID' – is the same as UUID
  - 'HCD' - The CEN Healthcare Coding Scheme Designator. (Identifiers used in DICOM follow this assignment scheme.)
  - 'HL7' - Reserved for future HL7 registration schemes
  - 'L','M','N' - These are reserved for locally defined coding schemes.
  - 'Random' - Usually a base64 encoded string of random bits. The uniqueness depends on the length of the bits. Mail systems often generate ASCII string "unique names", from a combination of random bits and system names. Obviously, such identifiers will not be constrained to the base64 character set.
  - 'URI' - Uniform resource identifier
  - 'UUID' - The DCE universal unique identifier
  - 'x400' - An X.400 MHS format identifier
  - 'x500' - An X.500 directory name.
- MSH-4, MSH-5, MSH-6 may be empty, but if they are not empty, they have the same encoding as MSH-3.
  - MSH-7 is encoded as YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ].
  - MSH-8 is empty
  - MSH-9 = ACK^R01^ACK
  - MSH-10 is a string (that uniquely identifies the message)
  - MSH-11 = <Processing ID (data type ID)>^<Processing Mode (data type ID)>
- where 'Processing ID' can be one of the following values:
- 'D' for debugging
  - 'P' for processing
  - 'T' for training.
- And 'Processing Mode', can be one of the following values:
- 'A' for archive
  - 'I' for initial load
  - 'R' for restore from archive
  - 'T' for current processing, transmitted at intervals
  - Not present (empty), meaning current processing.
- MSH-12 = 2.6
  - MSH-13 should not be valued, but if it is valued, it is a sequence number (it is allowed to have any of these characters: '+', '-' and '.')
  - MSH-14 is empty
  - MSH-15 = NE
  - MSH-16 = AL
  - MSH-17 may be empty, but if it is valued, it uses a 3-character (alphabetic) form of ISO 3166.
  - MSH-18 may be empty, but if it is valued, it has one or more of these codes:
    - 'ASCII' (the default)
    - '8859/1'
    - '8859/2'
    - '8859/3'

	<ul style="list-style-type: none"> <li>• '8859/4'</li> <li>• '8859/5'</li> <li>• '8859/6'</li> <li>• '8859/7'</li> <li>• '8859/8'</li> <li>• '8859/9'</li> <li>• '8859/15'</li> <li>• 'ISO IR14'</li> <li>• 'ISO IR87'</li> <li>• 'ISO IR159'</li> <li>• 'GB 18030-2000'</li> <li>• 'KS X 1001'</li> <li>• 'CNS 11643-1992'</li> <li>• 'BIG-5'</li> <li>• 'UNICODE'</li> <li>• 'UNICODE UTF-8'</li> <li>• 'UNICODE UTF-16'</li> <li>• 'UNICODE UTF-32'</li> </ul> <p>❑ MSH-19 may be empty, but if it is valued, it is encoded as CWE data type: <i>&lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt;^&lt;Alternate Identifier (ST)&gt;^&lt;Alternate Text (ST)&gt;^&lt;Name of Alternate Coding System (ID)&gt;^&lt;Coding System Version ID (ST)&gt;^&lt;Alternate Coding System Version ID (ST)&gt;^&lt;Original Text (ST)&gt;</i></p> <p>where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</p> <p>❑ MSH-20 is empty</p> <p>❑ MSH-21 = <i>&lt;Entity Identifier (data type ST)&gt; ^ &lt;Namespace ID (data type IS)&gt; ^ &lt;Universal ID (data type ST)&gt; ^ &lt;Universal ID Type (data type ID)&gt;</i>, where NamespaceID and UniversalID are 'HL7'</p> <p>MSH-22, MSH-23, MSH-24, MSH-25 are empty</p>
<b>Pass/Fail criteria</b>	In step 2, all elements are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-001			
<b>TP label</b>	MSA and Segment Sequence Error			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M



	EIDataType 3; M	EIDataType 4; M	EIUse1; C
	EIUse2; C	EIUse3; C	EIUse4; C
	IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
	XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
	XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
	XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M
	XTNDataType 11; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message [AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>	C_REC_000		
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004		
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.		
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message without an MSH segment inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100813095715+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X     FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continua    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0    R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2 8196-16388    R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body-continua    R OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1 1^unregulated-device(0)   R OBX 7 CWE 68220^MDC_TIME_SYNC_PROTOCOL^MDC 0.0.0.3 532224^MDC_TIME_SYNC_NONE^MDC    R OBX 8 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.4 2^auth-body-continua    R OBX 9 CWE 64515^MDC_REG_CERT_DATA_CONTINUA_AHD_CERT_LIST^MDC 0.0.0.4.1 0-1    R OBX 10  528388^MDC_DEV_SPEC_PROFILE_PULS_OXIM^MDC 1    X     1234567890ABCDEF^EUI-64 OBX 11 ST 531969^MDC_ID_MODEL_NUMBER^MDC 1.0.0.1 PulseOx v1. 5    R OBX 12 ST 531970^MDC_ID_MODEL_MANUFACTURER^MDC 1.0.0.2 AT4 Wireless    R OBX 13 DTM 67975^MDC_ATTR_TIME_ABS^MDC 1.0.0.3 20100813095715+0000    R  20100813095715+0000 OBX 14 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.4 2^auth-body-continua    R OBX 15 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.5 2^auth-body-continua    R OBX 16 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 1.0.0.4.1 1.5     </pre>		

	<p> R</p> <p>OBX 17 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 1.0.0.4.2 16388     R</p> <p>OBX 18 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 1.0.0.5.1 0^unregulated-device(0)   R</p> <p>OBX 19 NM 150456^MDC_PULS_OXIM_SAT_O2^MDC 1.0.0.8 80.5 262688^MDC_DIM_PERCENT^MDC    R   20100813095715+0000</p> <p>OBX 20 NM 149530^MDC_PULS_OXIM_PULS_RATE^MDC 1.0.0.9 70 264864^MDC_DIM_BEAT_PER_MIN^MDC    R   20100813095715+0000</p> <p>2. The receiver under test responds using another HL7 message. Check in the captured message that:</p> <p>a. Only one MSA segment is present and:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MSA-1 is 'AE' – Accept Acknowledgment: Application Error</li> <li><input type="checkbox"/> MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent</li> <li><input type="checkbox"/> MSA-3 to MSA-8 are empty</li> </ul> <p>b. If the ERR segment referring to the MSA is present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> ERR-1 is empty</li> <li><input type="checkbox"/> ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: &lt;Segment ID (ST)&gt; ^ &lt;Segment Sequence (NM)&gt; ^ &lt;Field Position (NM)&gt; ^ &lt;Field Repetition (NM)&gt; ^ &lt;Component Number (NM)&gt; ^ &lt;Sub-Component Number (NM)&gt;</li> <li><input type="checkbox"/> ERR-3 starts with the error code '100', other optional subfields might be included</li> <li><input type="checkbox"/> ERR-4 is set to: <ul style="list-style-type: none"> <li>• 'E' – Error</li> </ul> </li> <li><input type="checkbox"/> ERR-5 and ERR-6 are empty</li> <li><input type="checkbox"/> ERR-7 may be empty, but if it is valued, it is a text data</li> <li><input type="checkbox"/> ERR-8 may be empty, but if it is valued, it is a text data</li> <li><input type="checkbox"/> ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> </li> <li><input type="checkbox"/> ERR-10 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt;Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li><input type="checkbox"/> ERR-11 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt;Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li><input type="checkbox"/> ERR-12 may be empty, but if it is valued, it is encoded as: &lt;WITHDRAWN Constituent&gt;^&lt;Telecommunication Use Code (ID)&gt;^&lt;Telecommunication Equipment Type (ID)&gt;^&lt;Communication Address (ST)&gt;^&lt;Country Code (NM)&gt;^&lt;Area/City Code (NM)&gt;^&lt;Local Number (NM)&gt;^&lt;Extension (NM)&gt;^&lt;Any Text (ST)&gt;^&lt;Extension Prefix (ST)&gt;^&lt;Speed Dial Code (ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</li> </ul> <p>Where:</p>
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	<ul style="list-style-type: none"> <li>Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <p>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	In step2, all elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-002			
<b>TP label</b>	MSA and Required Field Missing Error			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataTypes 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M		
XTNDataType 11; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.			
<b>Test procedure</b>	1. The simulated sender sends the following HL7 message with an MSH segment including a MSH-7 empty inside a SOAP body to make the receiver respond with another HL7 message:			

MSH|^~\&|AT4\_AHD^1234567890ABCDEF^EUI-64|||||ORU^R01^ORU\_R01|MSGID12|P|2.6||||NE|AL|||||HE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7

PID|||789567^^^Imaginary Hospital^PI||Doe^John^Joseph^^^L

OBR|1|POTest^AT4\_AHD^1234567890ABCDEF^EUI-64|POTest^AT4\_AHD^1234567890ABCDEF^EUI-64|182777000^monitoring of patient^SNOMED-CT|||20100813095715+0000

OBX|1||531981^MDC\_MOC\_VMS\_MDS\_AHD^MDC|0|||||X|||||FEEDABEEDEADBEEF^EUI-64

OBX|2|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.1|2^auth-body-continua|||||R

OBX|3|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|0.0.0.1.1|4.0|||||R

OBX|4|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|0.0.0.1.2|8196~16388|||||R

OBX|5|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.2|2^auth-body-continua|||||R

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528388^MDC\_DEV\_SPEC\_PROFILE\_PULS\_OXIM^MDC|1|||||X|||||1234567890ABCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|PulseOx v1. 5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100813095715+0000|||||R|||20100813095715+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16388|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC|1.0.0.8|90|262688^MDC\_DIM\_PERCENT^MDC|||||R|||20100813095715+0000

OBX|20|NM|149530^MDC\_PULS\_OXIM\_PULS\_RATE^MDC|1.0.0.9|80|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC|||||R|||20100813095715+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:

- a. Only one MSA segment is present and:
  - MSA-1 is 'AE' – Accept Acknowledgment: Application Error
  - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
  - MSA-3 to MSA-8 are empty

	<p>b. If the ERR segment referring to the MSA is present:</p> <ul style="list-style-type: none"> <li>❑ ERR-1 is empty</li> <li>❑ ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: &lt;Segment ID (ST)&gt; ^ &lt;Segment Sequence (NM)&gt; ^ &lt;Field Position (NM)&gt; ^ &lt;Field Repetition (NM)&gt; ^ &lt;Component Number (NM)&gt; ^ &lt;Sub-Component Number (NM)&gt;</li> <li>❑ ERR-3 starts with the error code '101', other optional subfields might be included</li> <li>❑ ERR-4 is set to: <ul style="list-style-type: none"> <li>• 'E' – Error</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: &lt;WITHDRAWN Constituent&gt;^&lt;Telecommunication Use Code (ID)&gt;^&lt;Telecommunication Equipment Type (ID)&gt;^&lt;Communication Address (ST)&gt;^&lt;Country Code (NM)&gt;^&lt;Area/City Code (NM)&gt;^&lt;Local Number (NM)&gt;^&lt;Extension (NM)&gt;^&lt;Any Text (ST)&gt;^&lt;Extension Prefix (ST)&gt;^&lt;Speed Dial Code (ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <p>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	In step 2, all elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-003			
<b>TP label</b>	MSA and Data Type Error			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M		
XTNDataType 11; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>				
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.			
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message including a wrong data type in the first OBX segment inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   20101015102130+0000  ORU^R01^ORU_R01 MSGID1 P 2.6   NE AL     IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100522083542+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continua     R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0     R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2 8196~16388     R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body-continua     R OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1  </pre>			

1^unregulated-device(0)|||||R

OBX|7|ST|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528388^MDC\_DEV\_SPEC\_PROFILE\_PULS\_OXIM^MDC|1|||||X|||||1234567890A BCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|PulseOx v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100522083542+0000|||||R||20100522083542+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16388|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC|1.0.0.8|76|262688^MDC\_DIM\_PERCENT^MDC|||||R||20100522083542+0000

OBX|20|NM|149530^MDC\_PULS\_OXIM\_PULS\_RATE^MDC|1.0.0.9|100|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC|||||R||20100522083542+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:

- a. Only one MSA segment is present and:
  - MSA-1 is 'AE' – Accept Acknowledgment: Application Error
  - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
  - MSA-3 to MSA-8 are empty
- b. If ERR segment referring to the MSA is present:
  - ERR-1 is empty
  - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
  - ERR-3 starts with the error code '102', other optional subfields might be included
  - ERR-4 is set to:
    - 'E' – Error
  - ERR-5 and ERR-6 are empty
  - ERR-7 may be empty, but if it is valued, it is a text data
  - ERR-8 may be empty, but if it is valued, it is a text data
  - ERR-9 may be empty, but if it is valued, it is one of these values:
    - 'PAT'

	<ul style="list-style-type: none"> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> <ul style="list-style-type: none"> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: &lt;WITHDRAWN Constituent&gt;&amp;&lt;Telecommunication Use Code (ID)&gt;&amp;&lt;Telecommunication Equipment Type (ID)&gt;&amp;&lt;Communication Address (ST)&gt;&amp;&lt;Country Code (NM)&gt;&amp;&lt;Area/City Code (NM)&gt;&amp;&lt;Local Number (NM)&gt;&amp;&lt;Extension (NM)&gt;&amp;&lt;Any Text (ST)&gt;&amp;&lt;Extension Prefix (ST)&gt;&amp;&lt;Speed Dial Code (ST)&gt;&amp;&lt;Unformatted Telephone Number (ST)&gt;&amp;&lt;Effective Start Date (DTM)&gt;&amp;&lt;Expiration Date (DTM)&gt;&amp;&lt;Expiration Reason (CWE)&gt;&amp;&lt;Protection Code (CWE)&gt;&amp;&lt;Shared Telecommunication Identifier (EI)&gt;&amp;&lt;Preference Order (NM)&gt;</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <p>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	In step 2, all elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-004			
<b>TP label</b>	MSA and Table Value not found Error			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M		



		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
		XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M
		XTNDataType 11; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.			
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message with an MSH segment including a MSH-15 = 'XXX' inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   20100930102130+0000  ORU^R01^ORU_R01 MSGID123 P 2.6   XXX AL    IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100713150214+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continua    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0    R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2 8196~16388    R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body-continua    R OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1 1^unregulated-device(0)   R OBX 7 CWE 68220^MDC_TIME_SYNC_PROTOCOL^MDC 0.0.0.3 532224^MDC_TIME_SYNC_NONE^MDC    R OBX 8 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.4 2^auth-body-continua    R OBX 9 CWE 64515^MDC_REG_CERT_DATA_CONTINUA_AHD_CERT_LIST^MDC 0.0.0.4.1 0~1    R OBX 10  528388^MDC_DEV_SPEC_PROFILE_PULS_OXIM^MDC 1     X     1234567890ABCDEF^EUI-64 OBX 11 ST 531969^MDC_ID_MODEL_NUMBER^MDC 1.0.0.1 PulseOx v1. 5    R OBX 12 ST 531970^MDC_ID_MODEL_MANUFACTURER^MDC 1.0.0.2 AT4 Wireless    R OBX 13 DTM 67975^MDC_ATTR_TIME_ABS^MDC 1.0.0.3 20100713150214+0000    R   20100713150214+0000 OBX 14 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.4 2^auth-body-continua    R OBX 15 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.5 2^auth-body-continua    R OBX 16 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 1.0.0.4.1 1.5    R </pre>			

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16388|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||R

OBX|19|NM|150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC|1.0.0.8|99.1|262688^MDC\_DIM\_PERCENT^MDC||||R|||20100713150214+0000

OBX|20|NM|149530^MDC\_PULS\_OXIM\_PULS\_RATE^MDC|1.0.0.9|82|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC||||R|||20100713150214+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:

a. Only one MSA segment is present and:

- MSA-1 is 'AE' – Accept Acknowledgment: Application Error
- MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
- MSA-3 to MSA-8 are empty

b. If the ERR segment referring to the MSA is present:

- ERR-1 is empty
- ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
- ERR-3 starts with the error code '103', other optional subfields might be included
- ERR-4 is set to:
  - 'E' – Error
- ERR-5 and ERR-6 are empty
- ERR-7 may be empty, but if it is valued, it is a text data
- ERR-8 may be empty, but if it is valued, it is a text data
- ERR-9 may be empty, but if it is valued, it is one of these values:
  - 'PAT'
  - 'NPAT'
  - 'USR'
  - 'HD'
- ERR-10 may be empty, but if it is valued, it is encoded as: <Identifier (ST)>^<Text (ST)>^<Name of Coding System (ID)> the rest of the elements of the CWE data type are not used in the WAN interface.
- ERR-11 may be empty, but if it is valued, it is encoded as: <Identifier (ST)>^<Text (ST)>^<Name of Coding System (ID)> the rest of the elements of the CWE data type are not used in the WAN interface.
- ERR-12 may be empty, but if it is valued, it is encoded as: <WITHDRAWN Constituent>^<Telecommunication Use Code (ID)>^<Telecommunication Equipment Type (ID)>^<Communication Address (ST)>^<Country Code (NM)>^<Area/City Code (NM)>^<Local Number (NM)>^<Extension (NM)>^<Any Text (ST)>^<Extension Prefix (ST)>^<Speed Dial Code (ST)>^<Unformatted Telephone Number (ST)>^<Effective Start Date (DTM)>^<Expiration Date (DTM)>^<Expiration Reason (CWE)>^<Protection Code (CWE)>^<Shared Telecommunication Identifier (EI)>^<Preference Order (NM)>

Where:

- Expiration Reason subcomponents are: <Identifier (ST)>&<Text

	<p>(ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</p> <ul style="list-style-type: none"> <li>Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <p>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	In step 2, all elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-005		
<b>TP label</b>	MSA and Unsupported Message Type Error		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K	
	<b>Testable items</b>	MSAUse; M	MSA-1; M
		MSA-3; M	MSA-4; M
		MSA-6; M	MSA-7; M
		ERRUse 1; O	ERRUse 2; M
		ERR-2; R	ERR-3; M
		ERR-5; M	ERR-6; M
		CWEDataType 1; M	CWEDataType 2; M
		CWEDataType 4; R	NumericDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M
		EIDDataType 3; M	EIDDataType 4; M
		EIUse2; C	EIUse3; C
		IDDataType 1; M	ISDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M
		XTNDataType 5; M	XTNDataType 6; M
		XTNDataType 8; M	XTNDataType 9; M
		XTNDataType 11; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message [AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>	C_REC_000		
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004		
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.		
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message with an MSH segment including a MSH-9 = ACK^A01^ACK inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre>MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   20100930102130+0000  ACK^A01^ACK MSGID12345 P 2.6   NE AL   IHE PCD ORU-</pre>		

R012006^HL7^2.16.840.1.113883.9.n.m^HL7  
 PID|||789567^^^Imaginary Hospital^PI||Doe^John^Joseph^^^L  
 OBR|1|POTest^AT4\_AHD^1234567890ABCDEF^EUI-64|POTest^AT4\_AHD^1234567890ABCDEF^EUI-64|182777000^monitoring of patient^SNOMED-CT|||20100910102736+0000  
 OBX|1||531981^MDC\_MOC\_VMS\_MDS\_AHD^MDC|0|||||X|||||FEEDABEEDEADBEEF^EUI-64  
 OBX|2|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.1|2^auth-body-continua|||||R  
 OBX|3|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|0.0.0.1.1|4.0|||||R  
 OBX|4|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|0.0.0.1.2|8196~16388|||||R  
 OBX|5|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.2|2^auth-body-continua|||||R  
 OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R  
 OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R  
 OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R  
 OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R  
 OBX|10||528388^MDC\_DEV\_SPEC\_PROFILE\_PULS\_OXIM^MDC|1|||||X|||||1234567890ABCDEF^EUI-64  
 OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|PulseOx v1.5|||||R  
 OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R  
 OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100910102736+0000|||||R|||20100910102736+0000  
 OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R  
 OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R  
 OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R  
 OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16388|||||R  
 OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R  
 OBX|19|NM|150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC|1.0.0.8|83.2|262688^MDC\_DIM\_PERCENT^MDC|||||R|||20100910102736+0000  
 OBX|20|NM|149530^MDC\_PULS\_OXIM\_PULS\_RATE^MDC|1.0.0.9|79|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC|||||R|||20100910102736+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:

- a. Only one MSA segment is present and:
  - MSA-1 is 'AR' – Accept Acknowledgment: Application Reject
  - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
  - MSA-3 to MSA-8 are empty
- b. If ERR segment referring to the MSA is present:
  - ERR-1 is empty

	<ul style="list-style-type: none"> <li>❑ ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: &lt;Segment ID (ST)&gt; ^ &lt;Segment Sequence (NM)&gt; ^ &lt;Field Position (NM)&gt; ^ &lt;Field Repetition (NM)&gt; ^ &lt;Component Number (NM)&gt; ^ &lt;Sub-Component Number (NM)&gt;</li> <li>❑ ERR-3 starts with the error code '200', other optional subfields might be included</li> <li>❑ ERR-4 is set to: <ul style="list-style-type: none"> <li>• 'E' – Error</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: &lt;WITHDRAWN Constituent&gt;^&lt;Telecommunication Use Code (ID)&gt;^&lt;Telecommunication Equipment Type (ID)&gt;^&lt;Communication Address (ST)&gt;^&lt;Country Code (NM)&gt;^&lt;Area/City Code (NM)&gt;^&lt;Local Number (NM)&gt;^&lt;Extension (NM)&gt;^&lt;Any Text (ST)&gt;^&lt;Extension Prefix (ST)&gt;^&lt;Speed Dial Code (ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <p>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	In step 2, all elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-006
<b>TP label</b>	MSA and Unsupported Event Code Error

<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
		XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M
XTNDataType 11; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message [AND]</p> <p>The data type of each element.V</p>			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>				
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.			
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message with an MSH segment including a wrong event code: MSH-9 = ORU^R02^ORU_R02 inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre>MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   20100930102130+0000  ORU^R02^ORU_R02 MSGID1234 P 2.6   NE AL     HE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100813095715+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continua    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0    R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2 8196-16388    R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body-continua    R OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1 1^unregulated-device(0)   R OBX 7 CWE 68220^MDC_TIME_SYNC_PROTOCOL^MDC 0.0.0.3 532224^MDC_TIME_SYNC_NONE^MDC    R</pre>			

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1||||R

OBX|10||528388^MDC\_DEV\_SPEC\_PROFILE\_PULS\_OXIM^MDC|1|||||X|||||1234567890A BCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|PulseOx v1.5||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100813095715+0000||||R||20100813095715+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16388||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||R

OBX|19|NM|150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC|1.0.0.8|80.5|262688^MDC\_DIM\_PERCENT^MDC||||R||20100813095715+0000

OBX|20|NM|149530^MDC\_PULS\_OXIM\_PULS\_RATE^MDC|1.0.0.9|70|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC||||R||20100813095715+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:
- a. Only one MSA segment is present and:
    - MSA-1 is 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If ERR segment referring to the MSA is present:
    - ERR-1 is empty
    - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
    - ERR-3 starts with the error code '201', other optional subfields might be included
    - ERR-4 is set to:
      - 'E' – Error
    - ERR-5 and ERR-6 are empty
    - ERR-7 may be empty, but if it is valued, it is a text data
    - ERR-8 may be empty, but if it is valued, it is a text data
    - ERR-9 may be empty, but if it is valued, it is one of these values:
      - 'PAT'
      - 'NPAT'
      - 'USR'

	<ul style="list-style-type: none"> <li>• 'HD'</li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt;Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt;Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: &lt;WITHDRAWN Constituent&gt;^&lt;Telecommunication Use Code (ID)&gt;^&lt;Telecommunication Equipment Type (ID)&gt;^&lt;Communication Address (ST)&gt;^&lt;Country Code (NM)&gt;^&lt;Area/City Code (NM)&gt;^&lt;Local Number (NM)&gt;^&lt;Extension (NM)&gt;^&lt;Any Text (ST)&gt;^&lt;Extension Prefix (ST)&gt;^&lt;Speed Dial Code (ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <p>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	In step 2, all elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-007			
<b>TP label</b>	MSA and Unsupporting Processing Id Error			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDataType 1; M	EIDataType 2; M
		EIDataType 3; M	EIDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataTypes 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M		



	XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M
	XTNDataType 11; M		
<b>Test purpose</b>	Check that: The elements of every segment of the message [AND] The data type of each element.		
<b>Applicability</b>	C_REC_000 AND (NOT (C_SEN_DATA_003 AND C_SEN_DATA_004 AND C_SEN_DATA_005))		
<b>Other PICS</b>			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.		
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message with an MSH segment sending a not supported Processing (MSH-11 = 'M') inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   20100930102130+0000  ORU^R01^ORU_R01 MSGID123456 M 2.6   NE AL    IHEPCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID  789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100813095715+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X     FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continua    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0    R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2 8196-16388    R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body-continua    R OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1 1^unregulated-device(0)   R OBX 7 CWE 68220^MDC_TIME_SYNC_PROTOCOL^MDC 0.0.0.3 532224^MDC_TIME_SYNC_NONE^MDC    R OBX 8 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.4 2^auth-body-continua    R OBX 9 CWE 64515^MDC_REG_CERT_DATA_CONTINUA_AHD_CERT_LIST^MDC 0.0.0.4.1 0~1    R OBX 10  528388^MDC_DEV_SPEC_PROFILE_PULS_OXIM^MDC 1    X     1234567890ABCDEF^EUI-64 OBX 11 ST 531969^MDC_ID_MODEL_NUMBER^MDC 1.0.0.1 PulseOx v1.5    R OBX 12 ST 531970^MDC_ID_MODEL_MANUFACTURER^MDC 1.0.0.2 AT4 Wireless    R OBX 13 DTM 67975^MDC_ATTR_TIME_ABS^MDC 1.0.0.3 20100813095715+0000    R  20100813095715+0000 OBX 14 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.4 2^auth-body-continua    R OBX 15 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.5 2^auth-body-continua    R OBX 16 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 1.0.0.4.1 1.5    R OBX 17 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 1.0.0.4. </pre>		

2|16388|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC|1.0.0.8|85.9|262688^MDC\_DIM\_PRCENT^MDC|||||R|||20100813095715+0000

OBX|20|NM|149530^MDC\_PULS\_OXIM\_PULS\_RATE^MDC|1.0.0.9|77|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC|||||R|||20100813095715+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:

a. Only one MSA segment is present and:

- MSA-1 is 'AR' – Accept Acknowledgment: Application Reject
- MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
- MSA-3 to MSA-8 are empty

b. If the ERR segment referring to the MSA is present:

- ERR-1 is empty
- ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: *<Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>*
- ERR-3 starts with the error code '202', other optional subfields might be included
- ERR-4 is set to:
  - 'E' – Error
- ERR-5 and ERR-6 are empty
- ERR-7 may be empty, but if it is valued, it is a text data
- ERR-8 may be empty, but if it is valued, it is a text data
- ERR-9 may be empty, but if it is valued, it is one of these values:
  - 'PAT'
  - 'NPAT'
  - 'USR'
  - 'HD'
- ERR-10 may be empty, but if it is valued, it is encoded as: *<Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)>* the rest of the elements of the CWE data type are not used in the WAN interface.
- ERR-11 may be empty, but if it is valued, it is encoded as: *<Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)>* the rest of the elements of the CWE data type are not used in the WAN interface.
- ERR-12 may be empty, but if it is valued, it is encoded as: *<WITHDRAWN Constituent>^<Telecommunication Use Code (ID)>^<Telecommunication Equipment Type (ID)>^<Communication Address (ST)>^<Country Code (NM)>^<Area/City Code (NM)>^<Local Number (NM)>^<Extension (NM)>^<Any Text (ST)>^<Extension Prefix (ST)>^<Speed Dial Code (ST)>^<Unformatted Telephone Number (ST)>^<Effective Start Date (DTM)>^<Expiration Date (DTM)>^<Expiration Reason (CWE)>^<Protection Code (CWE)>^<Shared Telecommunication Identifier (EI)>^<Preference Order (NM)>*

Where:

- Expiration Reason subcomponents are: *<Identifier (ST)>&<Text (ST)>&< Name of Coding System (ID)> &<Alternate Identifier (ST)>&<Alternate Text (ST)>&<Name of Alternate Coding System*

	<p>(ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</p> <ul style="list-style-type: none"> <li>Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <p>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	In step 2, all elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GEN/BV-008		
<b>TP label</b>	MSA and Unsupported Version Id Error		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K	
	<b>Testable items</b>	MSAUse; M	MSA-1; M
		MSA-2; M	MSA-3; M
		MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M
		MSA-8; M	MSA-9; M
		ERRUse 1; O	ERRUse 2; M
		ERR-1; M	ERR-2; R
		ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M
		ERR-7; O	CWEDataType 1; M
		CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M
		StringDataType 1; M	DateTimeDataType 1; M
		EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M
		EIUse1; C	EIUse2; C
		EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M
		XTNDataType 1; M	XTNDataType 2; M
		XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M
		XTNDataType 7; M	XTNDataType 8; M
		XTNDataType 9; M	XTNDataType 10; M
		XTNDataType 11; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message [AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>	C_REC_000		
<b>Other PICS</b>			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation.		
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message with an MSH segment sending a MSH-12 = '2.5' inside a SOAP body to make the the receiver respond with another HL7 message:</p> <pre>MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   20100930102130+0000  ORU^R01^ORU_R01 MSGID1235 P 2.5   NE AL   IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7</pre>		

PID||789567^^^Imaginary Hospital^PI||Doe^John^Joseph^^^L

OBR|1|POTest^AT4\_AHD^1234567890ABCDEF^EUI-64|POTest^AT4\_AHD^1234567890ABCDEF^EUI-64|182777000^monitoring of patient^SNOMED-CT||20100322172147+0000

OBX|1||531981^MDC\_MOC\_VMS\_MDS\_AHD^MDC|0||||X||||FEEDABEEDEADBEEF^EUI-64

OBX|2|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.1|2^auth-body-continua||||R

OBX|3|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|0.0.0.1.1|4.0||||R

OBX|4|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|0.0.0.1.2|8196~16388||||R

OBX|5|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.2|2^auth-body-continua||||R

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1||||R

OBX|10||528388^MDC\_DEV\_SPEC\_PROFILE\_PULS\_OXIM^MDC|1||||X||||1234567890ABCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|PulseOx v1.5||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100322172147+0000||||R||20100322172147+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.6|2^auth-body-continua||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.5.1|1.5||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.5.2|16388||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.6.1|0^unregulated-device(0)|||R

OBX|19|NM|150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC|1.0.0.8|77.1|262688^MDC\_DIM\_PERCENT^MDC||||R||20100322172147+0000

OBX|20|NM|149530^MDC\_PULS\_OXIM\_PULS\_RATE^MDC|1.0.0.9|92|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC||||R||20100322172147+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:

- Only one MSA segment is present and:
  - MSA-1 is 'AR' – Accept Acknowledgment: Application Reject
  - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
  - MSA-3 to MSA-8 are empty
- If the ERR segment referring to the MSA is present:
  - ERR-1 is empty

	<ul style="list-style-type: none"> <li>❑ ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <i>&lt;Segment ID (ST)&gt; ^ &lt;Segment Sequence (NM)&gt; ^ &lt;Field Position (NM)&gt; ^ &lt;Field Repetition (NM)&gt; ^ &lt;Component Number (NM)&gt; ^ &lt;Sub-Component Number (NM)&gt;</i></li> <li>❑ ERR-3 starts with the error code '203', other optional subfields might be included</li> <li>❑ ERR-4 is set to: <ul style="list-style-type: none"> <li>• 'E' – Error</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• N'PAT'</li> <li>• USR</li> <li>• HD</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: <i>&lt;WITHDRAWN Constituent&gt;^&lt;Telecommunication Use Code (ID)&gt;^&lt;Telecommunication Equipment Type (ID)&gt;^&lt;Communication Address (ST)&gt;^&lt;Country Code (NM)&gt;^&lt;Area/City Code (NM)&gt;^&lt;Local Number (NM)&gt;^&lt;Extension (NM)&gt;^&lt;Any Text (ST)&gt;^&lt;Extension Prefix (ST)&gt;^&lt;Speed Dial Code (ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</i></li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Protection code subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Shared Telecommunication Identifier subcomponents are: <i>&lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</i></li> </ul> <p>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	In step 2, all elements in each segment are as specified.
<b>Notes</b>	

### A.3 Subgroup 2.4.2 – Design guidelines (DG)

No test cases have been defined in this subgroup.

#### A.4 Subgroup 2.4.3 – Pulse oximeter (PO)

<b>TP Id</b>		TP/WAN/REC/PCD-01-DATA/PO/BV-000		
<b>TP label</b>		MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M		
XTNDataType 11; M				
<b>Test purpose</b>		<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>		C_REC_000		
<b>Other PICS</b>				
<b>Initial condition</b>		The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a pulse oximeter device.		
<b>Test procedure</b>		<p>1. The simulated sender sends the following HL7 message, including the mandatory objects of a pulse oximeter device inside a SOAP body to make the receiver respond with another HL7 message.</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6   NE AL   IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7  PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L  OBR 1 POTest^AT4_AHD^1234567890ABCDEF^EUI- 64 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100903124015+0000  OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADB EEF^EUI-64  OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth- body-continua    R  OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1. 1 4.0    R  OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC  0.0.0.1.2 8196~16388    R  OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth- body-continua    R </pre>		

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528388^MDC\_DEV\_SPEC\_PROFILE\_PULS\_OXIM^MDC|1|||||X|||||1234567890ABCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|PulseOx v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100903124015+0000|||||R||20100903124015+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16388|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC|1.0.0.6|92.3|262688^MDC\_DIM\_PERCENT^MDC|||||R||20100903124015+0000

OBX|20|NM|149530^MDC\_PULS\_OXIM\_PULS\_RATE^MDC|1.0.0.7|71|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC|||||R||20100903124015+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:
- a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If the ERR segment referring to the MSA is present:
    - If a receiver reports an ERR segment with a severity (ERR-4) E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
    - ERR-1 is empty
    - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
    - ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:
      - '0' – Accepted

	<ul style="list-style-type: none"> <li>• '206' – Application record locked</li> <li>❑ '207' – Application internal error</li> <li>❑ ERR-4 is set to one of these valid error severity values: <ul style="list-style-type: none"> <li>• 'W' – Warning</li> <li>• 'I' – Information</li> <li>• 'E' – Error</li> <li>• 'F' – Fatal error.</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;&lt;Text (ST)&gt;&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;&lt;Text (ST)&gt;&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: <i>&lt;WITHDRAWN Constituent&gt;&lt;Telecommunication Use Code (ID)&gt;&lt;Telecommunication Equipment Type (ID)&gt;&lt;Communication Address (ST)&gt;&lt;Country Code (NM)&gt;&lt;Area/City Code (NM)&gt;&lt;Local Number (NM)&gt;&lt;Extension (NM)&gt;&lt;Any Text (ST)&gt;&lt;Extension Prefix (ST)&gt;&lt;Speed Dial Code (ST)&gt;&lt;Unformatted Telephone Number (ST)&gt;&lt;Effective Start Date (DTM)&gt;&lt;Expiration Date (DTM)&gt;&lt;Expiration Reason (CWE)&gt;&lt;Protection Code (CWE)&gt;&lt;Shared Telecommunication Identifier (EI)&gt;&lt;Preference Order (NM)&gt;</i></li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: <i>&lt;Identifier (ST)&gt;&lt;Text (ST)&gt;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&lt;Alternate Text (ST)&gt;&lt;Name of Alternate Coding System (ID)&gt;&lt;Coding System Version ID (ST)&gt;&lt;Alternate Coding System Version ID (ST)&gt;&lt;Original Text (ST)&gt;</i></li> <li>• Protection code subcomponents are: <i>&lt;Identifier (ST)&gt;&lt;Text (ST)&gt;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&lt;Alternate Text (ST)&gt;&lt;Name of Alternate Coding System (ID)&gt;&lt;Coding System Version ID (ST)&gt;&lt;Alternate Coding System Version ID (ST)&gt;&lt;Original Text (ST)&gt;</i></li> <li>• Shared Telecommunication Identifier subcomponents are: <i>&lt;Entity Identifier (ST)&gt;&lt;Namespace ID (IS)&gt;&lt;Universal ID (ST)&gt;&lt;Universal ID Type (ID)&gt;</i></li> </ul> <ul style="list-style-type: none"> <li>• Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above</li> <li>• Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurement: 2010-09-03 12:40:15 UTC, Values: SpO2=92.3 [%] and PulseRate=71 [bpm]</li> </ul>
<b>Notes</b>	



## A.5 Subgroup 2.4.4 – Blood pressure monitor (BPM)

<b>TP Id</b>		TP/WAN/REC/PCD-01-DATA/BPM/BV-000		
<b>TP label</b>		MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M		XTNDataType 9; M	XTNDataType 10; M	
XTNDataType 11; M				
<b>Test purpose</b>		<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>		C_REC_000		
<b>Other PICS</b>		C_REC_DATA_003, C_REC_DATA_004		
<b>Initial condition</b>		The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a blood pressure device.		
<b>Test procedure</b>		<p>1. The simulated sender sends the following HL7 message, including the mandatory objects of a blood pressure device inside a SOAP body to make the receiver respond. The message sent is:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6  NE AL    IHE PCD ORU- R012006^HL7^2.16.840.1.113883.9.n.m^HL7  PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L  OBR 1 BPMTest^AT4_AHD^1234567890ABCDEF^EUI- 64 BPMTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100916145110+0000  OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X    FEEDABEEDEADBEEF^EUI -64  OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body- continua    R  OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0     R  OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2  8199~7    R  OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body- continua    R </pre>		

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528391^MDC\_DEV\_SPEC\_PROFILE\_BP^MDC|1|||||X|||||1234567890ABCDEF^E UI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|BloodPressure v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100916145110+0000|||||R||20100916145110+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|8199|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19||150020^MDC\_PRESS\_BLD\_NONINV^MDC|1.0.1|||||X|||20100916145110+0000

OBX|20|NM|150021^MDC\_PRESS\_BLD\_NONINV\_SYS^MDC|1.0.1.1|120|266016^MDC\_DIM\_MMHG^MDC|||||R

OBX|21|NM|150022^MDC\_PRESS\_BLD\_NONINV\_DIA^MDC|1.0.1.2|80|266016^MDC\_DIM\_MMHG^MDC|||||R

OBX|22|NM|150023^MDC\_PRESS\_BLD\_NONINV\_MEAN^MDC|1.0.1.3|100|266016^MDC\_DIM\_MMHG^MDC|||||R

OBX|23|NM|149546^MDC\_PULS\_RATE\_NON\_INV^MDC|1.0.0.8|82|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC|||||R||20100916145110+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:
  - a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If the ERR segment referring to the MSA is present:
    - If a receiver reports an ERR segment with severity E (error) or F (fatal error), the Message Acknowledgement value shall be CR (commit reject)
    - ERR-1 is empty
    - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>

	<ul style="list-style-type: none"> <li>❑ ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included: <ul style="list-style-type: none"> <li>• ‘0’ – Message accepted</li> <li>• ‘206’ – Application record locked</li> <li>• ‘207’ – Application internal error</li> </ul> </li> <li>❑ ERR-4 is set to one of these valid error severity values: <ul style="list-style-type: none"> <li>• ‘W’ – Warning</li> <li>• ‘I’ – Information</li> <li>• ‘E’ – Error</li> <li>• ‘F’ – Fatal error.</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• ‘PAT’</li> <li>• ‘NPAT’</li> <li>• ‘USR’</li> <li>• ‘HD’</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: <i>&lt;WITHDRAWN Constituent&gt;&amp;&lt;Telecommunication Use Code (ID)&gt;&amp;&lt;Telecommunication Equipment Type (ID)&gt;&amp;&lt;Communication Address (ST)&gt;&amp;&lt;Country Code (NM)&gt;&amp;&lt;Area/City Code (NM)&gt;&amp;&lt;Local Number (NM)&gt;&amp;&lt;Extension (NM)&gt;&amp;&lt;Any Text (ST)&gt;&amp;&lt;Extension Prefix (ST)&gt;&amp;&lt;Speed Dial Code (ST)&gt;&amp;&lt;Unformatted Telephone Number (ST)&gt;&amp;&lt;Effective Start Date (DTM)&gt;&amp;&lt;Expiration Date (DTM)&gt;&amp;&lt;Expiration Reason (CWE)&gt;&amp;&lt;Protection Code (CWE)&gt;&amp;&lt;Shared Telecommunication Identifier (EI)&gt;&amp;&lt;Preference Order (NM)&gt;</i></li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Protection code subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Shared Telecommunication Identifier subcomponents are: <i>&lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</i></li> </ul> <ul style="list-style-type: none"> <li>• Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<p><b>Pass/Fail criteria</b></p>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above</li> <li>• Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the</li> </ul>

	measurement: 2010-09-16 14:51:10 UTC, Values: Systolic=120 [mmHg], Diastolic=80 [mmHg], Mean=100 [mmHg], and PulseRate=82 [bpm]
<b>Notes</b>	

### A.6 Subgroup 2.4.5 – Thermometer (TH)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/TH/BV-000		
<b>TP label</b>	MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K	
	<b>Testable items</b>	MSAUse; M	MSA-1; M
		MSA-2; M	MSA-3; M
		MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M
		MSA-8; M	MSA-9; M
		ERRUse 1; O	ERRUse 2; M
		ERR-1; M	ERR-2; R
		ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M
		ERR-7; O	ERR-8; M
		CWEDataType 1; M	CWEDataType 2; M
		CWEDataType 3; C	CWEDataType 4; R
		NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M
		EIDDataType 2; M	EIDDataType 3; M
		EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C
		EIUse4; C	IDDataType 1; M
		ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M
		XTNDataType 4; M	XTNDataType 5; M
		XTNDataType 6; M	XTNDataType 7; M
		XTNDataType 8; M	XTNDataType 9; M
		XTNDataType 10; M	XTNDataType 11; M
<b>Test purpose</b>	Check that: The elements of every segment of the message [AND] The data type of each element.		
<b>Applicability</b>	C_REC_000		
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004		
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a thermometer device.		
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message, including the mandatory objects of a thermometer device inside a SOAP body to make the receiver respond with another HL7 message.</p> <pre>MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6   NE AL   IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 THTest^AT4_AHD^1234567890ABCDEF^EUI-64 THTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100916145110+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continua     R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0     R</pre>		

OBX|4|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|0.0.0.1.2|8200~16392~32776|||||R

OBX|5|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.2|2^auth-body-continua|||||R

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528392^MDC\_DEV\_SPEC\_PROFILE\_TEMP^MDC|1|||||X|||||1234567890ABCDE F^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|Thermometer v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100916145110+0000|||||R||20100916145110+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16392|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|150364^MDC\_TEMP\_BODY^MDC|1.0.0.6|36.5|268192^MDC\_DIM\_DEGC^MDC|||||R||20100916145110+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:
- a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If the ERR segment referring to the MSA is present:
    - If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
    - ERR-1 is empty
    - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
    - ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:
      - '0' – Message accepted

	<ul style="list-style-type: none"> <li>• '206' – Application record locked</li> <li>• '207' – Application internal error</li> </ul> <p>❑ ERR-4 is set to one of these valid error severity values:</p> <ul style="list-style-type: none"> <li>• 'W' – Warning</li> <li>• 'I' – Information</li> <li>• 'E' – Error</li> <li>• 'F' – Fatal error.</li> </ul> <p>❑ ERR-5 and ERR-6 are empty</p> <p>❑ ERR-7 may be empty, but if it is valued, it is a text data</p> <p>❑ ERR-8 may be empty, but if it is valued, it is a text data</p> <p>❑ ERR-9 may be empty, but if it is valued, it is one of these values:</p> <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> <p>❑ ERR-10 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</p> <p>❑ ERR-11 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</p> <p>❑ ERR-12 may be empty, but if it is valued, it is encoded as: <i>&lt;WITHDRAWN Constituent&gt;^&lt;Telecommunication Use Code (ID)&gt;^&lt;Telecommunication Equipment Type (ID)&gt;^&lt;Communication Address (ST)&gt;^&lt;Country Code (NM)&gt;^&lt;Area/City Code (NM)&gt;^&lt;Local Number (NM)&gt;^&lt;Extension (NM)&gt;^&lt;Any Text (ST)&gt;^&lt;Extension Prefix (ST)&gt;^&lt;Speed Dial Code (ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</i></p> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Protection code subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Shared Telecommunication Identifier subcomponents are: <i>&lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</i></li> </ul> <ul style="list-style-type: none"> <li>• Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above</li> <li>• Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurement: 2010-09-16 14:51:10 UTC, Value: Body temperature= 36.5 [°C]</li> </ul>
<b>Notes</b>	

## A.7 Subgroup 2.4.6 – Weighing scales (WEG)

<b>TP Id</b>		TP/WAN/REC/PCD-01-DATA/WEG/BV-000		
<b>TP label</b>		MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M		XTNDataType 9; M	XTNDataType 10; M	
XTNDataType 11; M				
<b>Test purpose</b>		<p>Check that:</p> <p>The elements of every segment of the message [AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>		C_REC_000		
<b>Other PICS</b>				
<b>Initial condition</b>		The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a weighing scales device.		
<b>Test procedure</b>		<p>1. The simulated sender sends the following HL7 message, including the mandatory object of a weighing scales device inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6   NE AL    IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 WEGTest^AT4_AHD^1234567890ABCDEF^EUI-64 WEGTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100916145510+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X    FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continual    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0    R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2 8207~24591~16399    R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body-continual    R </pre>		

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528399^MDC\_DEV\_SPEC\_PROFILE\_SCALE^MDC|1|||||X|||||1234567890ABCEFE^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|WeighingScale v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100916145510+0000|||||R||20100916145510+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16399|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|188736^MDC\_MASS\_BODY\_ACTUAL^MDC|1.0.0.6|80|263875^MDC\_DIM\_KILO\_G^MDC|||||R||20100916145510+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:
- a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If the ERR segment referring to the MSA is present:
    - If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
    - ERR-1 is empty
    - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
    - ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:
      - '0' – Message accepted
      - '206' – Application record locked
      - '207' – Application internal error
    - ERR-4 is set to one of these valid error severity values:



	<ul style="list-style-type: none"> <li>• 'W' – Warning</li> <li>• 'I' – Information</li> <li>• 'E' – Error</li> <li>• 'F' – Fatal error.</li> </ul> <ul style="list-style-type: none"> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;&lt;Text (ST)&gt;&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;&lt;Text (ST)&gt;&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: <i>&lt;WITHDRAWN Constituent&gt;&lt;Telecommunication Use Code (ID)&gt;&lt;Telecommunication Equipment Type (ID)&gt;&lt;Communication Address (ST)&gt;&lt;Country Code (NM)&gt;&lt;Area/City Code (NM)&gt;&lt;Local Number (NM)&gt;&lt;Extension (NM)&gt;&lt;Any Text (ST)&gt;&lt;Extension Prefix (ST)&gt;&lt;Speed Dial Code (ST)&gt;&lt;Unformatted Telephone Number (ST)&gt;&lt;Effective Start Date (DTM)&gt;&lt;Expiration Date (DTM)&gt;&lt;Expiration Reason (CWE)&gt;&lt;Protection Code (CWE)&gt;&lt;Shared Telecommunication Identifier (EI)&gt;&lt;Preference Order (NM)&gt;</i></li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: <i>&lt;Identifier (ST)&gt;&lt;Text (ST)&gt;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&lt;Alternate Text (ST)&gt;&lt;Name of Alternate Coding System (ID)&gt;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Protection code subcomponents are: <i>&lt;Identifier (ST)&gt;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Shared Telecommunication Identifier subcomponents are: <i>&lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</i></li> </ul> <ul style="list-style-type: none"> <li>• Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above</li> <li>• Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurement: 2010-09-16 14:55:10 UTC, Values: Body Mass = 80 [kg]</li> </ul>
<b>Notes</b>	

## A.8 Subgroup 2.4.7 – Glucose meter (GL)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/GL/BV-000			
<b>TP label</b>	MSA and ERR segments			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M		
XTNDataType 11; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a glucose meter device.			
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message, including the mandatory object of a glucose meter device inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6   NE AL   IHE PCD ORU- R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 GLTest^AT4_AHD^1234567890ABCDEF^EUI- 64 GLTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100910141527+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADBEEF^EUI -64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body- continua    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0      R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2  17~8209~24593    R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body- </pre>			

continua|||||R

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528401^MDC\_DEV\_SPEC\_PROFILE\_GLU\_COSE^MDC|1|||||X|||||1234567890ABCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|Glucose Meter v1.0|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100910141527+0000|||||R||20100910141527+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.0|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|8209|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|160184^MDC\_CONC\_GLU\_CAPILLARY\_WHOLEBLOOD^MDC|1.0.0.8|38|264274^MDC\_DIM\_MILLI\_G\_PER\_DL^MDC|||||R||20100910141527+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:
- a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If the ERR segment referring to the MSA is present:
    - If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
    - ERR-1 is empty
    - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
    - ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:
      - '0' – Message accepted
      - '206' – Application record locked

	<ul style="list-style-type: none"> <li>• '207' – Application internal error</li> <li>❑ ERR-4 is set to one of these valid error severity values: <ul style="list-style-type: none"> <li>• 'W' – Warning</li> <li>• 'I' – Information</li> <li>• 'E' – Error</li> <li>• 'F' – Fatal error.</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: <i>&lt;WITHDRAWN Constituent&gt;^&lt;Telecommunication Use Code (ID)&gt;^&lt;Telecommunication Equipment Type (ID)&gt;^&lt;Communication Address (ST)&gt;^&lt;Country Code (NM)&gt;^&lt;Area/City Code (NM)&gt;^&lt;Local Number (NM)&gt;^&lt;Extension (NM)&gt;^&lt;Any Text (ST)&gt;^&lt;Extension Prefix (ST)&gt;^&lt;Speed Dial Code (ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</i></li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Protection code subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Shared Telecommunication Identifier subcomponents are: <i>&lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</i></li> </ul> <ul style="list-style-type: none"> <li>• Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above</li> <li>• Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurement: 2010-09-10 14:15:27 UTC, Values: Glucose capillary= 38 [mg/dl]</li> </ul>
<b>Notes</b>	

## A.9 Subgroup 2.4.8 – Cardiovascular fitness and activity monitor (CV)

<b>TP Id</b>		TP/WAN/REC/PCD-01-DATA/CV/BV-000		
<b>TP label</b>		MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M		
XTNDataType 11; M				
<b>Test purpose</b>		<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>		C_REC_000		
<b>Other PICS</b>		C_REC_DATA_003, C_REC_DATA_004		
<b>Initial condition</b>		The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a cardiovascular device.		
<b>Test procedure</b>		<p>1. The simulated sender sends the following HL7 message, including the mandatory Session object and an optional object of a cardiovascular device inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6  NE AL    IHE PCD ORU- R012006^HL7^2.16.840.1.113883.9.n.m^HL7  PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L  OBR 1 CVTest^AT4_AHD^1234567890ABCDEF^EUI- 64 CVTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100910141527+0000  OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X    FEEDABEEDEADBEEF^EUI -64  OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body- continua    R  OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0     R  OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2  41~8233    R  OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body- continua    R </pre>		

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528425^MDC\_DEV\_SPEC\_PROFILE\_HF\_CARDIO^MDC|1|||||X|||||1234567890A BCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|CardioV v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100910141527+0000|||||R||20100910141527+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|41|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|CWE|8454267^MDC\_HF\_SESSION^MDC|1.0.0.6|8455155^MDC\_HF\_ACT\_RUN^MDC|||||R||20100910141527+0000

OBX|20|NM|68185^MDC\_ATTR\_TIME\_PD\_MSMT\_ACTIVE^MDC|1.0.0.6.1|25|2643204^MDC\_DIM\_SEC^MDC|||||R

OBX|21|NM|8454254^MDC\_HF\_SPEED^MDC|1.0.0.7|38.1|26870^MDC\_DIM\_M\_PER\_MIN^MDC|||||R||20100910141527+0000

OBX|22|CWE|67883^MDC\_ATTR\_ID\_PHYSIO^MDC|1.0.0.7.1|8456146^MDC\_HF\_MAX^MDC|||||R

OBX|23|ST|68167^MDC\_ATTR\_SOURCE\_HANDLE\_REF^MDC|1.0.0.7.2|1.0.0.8|||||R

2. The receiver under test responds using another HL7 message. Check in the captured message that:

- a. Only one MSA segment is present and:
  - MSA-1 is one of the following values:
    - 'AA' – Accept Acknowledgment: Application Accept
    - 'AR' – Accept Acknowledgment: Application Reject
  - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
  - MSA-3 to MSA-8 are empty
- b. If the ERR segment referring to the MSA is present:
  - If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
  - ERR-1 is empty
  - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>

	<ul style="list-style-type: none"> <li>❑ ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included: <ul style="list-style-type: none"> <li>• ‘0’ – Message accepted</li> <li>• ‘206’ – Application record locked</li> <li>• ‘207’ – Application internal error</li> </ul> </li> <li>❑ ERR-4 is set to one of these valid error severity values: <ul style="list-style-type: none"> <li>• ‘W’ – Warning</li> <li>• ‘I’ – Information</li> <li>• ‘E’ – Error</li> <li>• ‘F’ – Fatal error.</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• ‘PAT’</li> <li>• ‘NPAT’</li> <li>• ‘USR’</li> <li>• ‘HD’</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt;</i> the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: <i>&lt;WITHDRAWN Constituent&gt;&amp;&lt;Telecommunication Use Code (ID)&gt;&amp;&lt;Telecommunication Equipment Type (ID)&gt;&amp;&lt;Communication Address (ST)&gt;&amp;&lt;Country Code (NM)&gt;&amp;&lt;Area/City Code (NM)&gt;&amp;&lt;Local Number (NM)&gt;&amp;&lt;Extension (NM)&gt;&amp;&lt;Any Text (ST)&gt;&amp;&lt;Extension Prefix (ST)&gt;&amp;&lt;Speed Dial Code (ST)&gt;&amp;&lt;Unformatted Telephone Number (ST)&gt;&amp;&lt;Effective Start Date (DTM)&gt;&amp;&lt;Expiration Date (DTM)&gt;&amp;&lt;Expiration Reason (CWE)&gt;&amp;&lt;Protection Code (CWE)&gt;&amp;&lt;Shared Telecommunication Identifier (EI)&gt;&amp;&lt;Preference Order (NM)&gt;</i></li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Protection code subcomponents are: <i>&lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></li> <li>• Shared Telecommunication Identifier subcomponents are: <i>&lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</i></li> </ul> <ul style="list-style-type: none"> <li>• Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<p><b>Pass/Fail criteria</b></p>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above.</li> <li>• Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the</li> </ul>

	measurement: 2010-09-10 14:15:27 UTC, Values: Speed= 38.1 [m/min]
<b>Notes</b>	

### A.10 Subgroup 2.4.9 – Strength fitness equipment (ST)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/ST/BV-000			
<b>TP label</b>	MSA and ERR segments			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M		
XTNDataType 11; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a strength fitness device.			
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message, including the mandatory Set object and an optional object of a strength fitness device inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6   NE AL    IHE PCD ORU- R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 STTest^AT4_AHD^1234567890ABCDEF^EUI- 64 STTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100919211841+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADBEEF^EUI -64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body- continua    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0      </pre>			



R

OBX|4|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|0.0.0.1.2|42~8234~16426|||||R

OBX|5|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.2|2^auth-body-continua|||||R

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528426^MDC\_DEV\_SPEC\_PROFILE\_HF\_STRENGTH^MDC|1|||||X|||||1234567890ABCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|StrengthFitness v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100919211841+0000|||||R||20100919211841+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16426|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|8454344^MDC\_HF\_SET^MDC|1.0.0.6|||||R||20100919211841+0000|||||459284^MDC\_MUSC\_THORAX\_PECTORAL\_MAJOR^MDC

OBX|20|NM|68185^MDC\_ATTR\_TIME\_PD\_MSMT\_ACTIVE^MDC|1.0.0.6.1|25|264320^MDC\_DIM\_SEC^MDC|||||R

OBX|21|NM|8454346^MDC\_HF\_REPETITION\_COUNT^MDC|1.0.0.7|12|262656^MDC\_DIM\_DIMLESS^MDC|||||R||20100919211841+0000

OBX|22|ST|68167^MDC\_ATTR\_SOURCE\_HANDLE\_REF^MDC|1.0.0.7.1|1.0.0.6|||||R

2. The receiver under test responds using another HL7 message. Check in the captured message that:

- a. Only one MSA segment is present and:
  - MSA-1 is one of the following values:
    - 'AA' – Accept Acknowledgment: Application Accept
    - 'AR' – Accept Acknowledgment: Application Reject
  - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
  - MSA-3 to MSA-8 are empty
- b. If the ERR segment referring to the MSA is present:
  - If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
  - ERR-1 is empty
  - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which

	<p>result from the combination of multiple locations. Components: &lt;Segment ID (ST)&gt; ^ &lt;Segment Sequence (NM)&gt; ^ &lt;Field Position (NM)&gt; ^ &lt;Field Repetition (NM)&gt; ^ &lt;Component Number (NM)&gt; ^ &lt;Sub-Component Number (NM)&gt;</p> <ul style="list-style-type: none"> <li>❑ ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included: <ul style="list-style-type: none"> <li>• '0' – Message accepted</li> <li>• '206' – Application record locked</li> <li>• '207' – Application internal error</li> </ul> </li> <li>❑ ERR-4 is set to one of these valid error severity values: <ul style="list-style-type: none"> <li>• 'W' – Warning</li> <li>• 'I' – Information</li> <li>• 'E' – Error</li> <li>• 'F' – Fatal error.</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• 'PAT'</li> <li>• 'NPAT'</li> <li>• 'USR'</li> <li>• 'HD'</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: &lt;WITHDRAWN Constituent&gt;^&lt;Telecommunication Use Code (ID)&gt;^&lt;Telecommunication Equipment Type (ID)&gt;^&lt;Communication Address (ST)&gt;^&lt;Country Code (NM)&gt;^&lt;Area/City Code (NM)&gt;^&lt;Local Number (NM)&gt;^&lt;Extension (NM)&gt;^&lt;Any Text (ST)&gt;^&lt;Extension Prefix (ST)&gt;^&lt;Speed Dial Code (ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <ul style="list-style-type: none"> <li>• Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above</li> </ul>

	<ul style="list-style-type: none"> <li>Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurement: 2010-09-19 21:18:41 UTC, Values: Repetition Count = 12 [dimless]</li> </ul>
<b>Notes</b>	

### A.11 Subgroup 2.4.10 – Independent living activity hub (HUB)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/HUB/BV-000			
<b>TP label</b>	MSA and ERR segments			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
		XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M
XTNDataType 11; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message [AND]</p> <p>The data type of each element.</p>			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of an independent living hub device.			
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message, including one of the optional objects of an independent living hub device inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre>MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6  NE AL    IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 HUBTest^AT4_AHD^1234567890ABCDEF^EUI-64 HUBTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100920203341+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X    FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-</pre>			

continua|||||R

OBX|3|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|0.0.0.1.1|4.0|||||R

OBX|4|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|0.0.0.1.2|71~8263~16455|||||R

OBX|5|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.2|2^auth-body-continua|||||R

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528455^MDC\_DEV\_SPEC\_PROFILE\_AI\_ACTIVITY\_HUB^MDC|1|||||X|||||1234567890ABCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|HUB v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100920203341+0000|||||R|||20100920203341+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16455|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|CWE|8519681^MDC\_AI\_TYPE\_SENSOR\_FALL^MDC|1.0.0.6|1^fall-detected(0)|||||R|||20100920203341+0000

OBX|20|CWE|8520703^MDC\_AI\_LOCATION^MDC|1.0.0.6.1|8522816^MDC\_AI\_LOCATION\_BEDROOMMASTER^MDC|||||R

2. The receiver under test responds using another HL7 message. Check in the captured message that:
  - a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If the ERR segment referring to the MSA is present:
    - If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
    - ERR-1 is empty
    - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field

	<p><i>Repetition (NM)</i>&gt; ^ &lt;<i>Component Number (NM)</i>&gt; ^ &lt;<i>Sub-Component Number (NM)</i>&gt;</p> <ul style="list-style-type: none"> <li>❑ ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included: <ul style="list-style-type: none"> <li>• ‘0’ – Message accepted</li> <li>• ‘206’ – Application record locked</li> <li>• ‘207’ – Application internal error</li> </ul> </li> <li>❑ ERR-4 is set to one of these valid error severity values: <ul style="list-style-type: none"> <li>• ‘W’ – Warning</li> <li>• ‘I’ – Information</li> <li>• ‘E’ – Error</li> <li>• ‘F’ – Fatal error.</li> </ul> </li> <li>❑ ERR-5 and ERR-6 are empty</li> <li>❑ ERR-7 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-8 may be empty, but if it is valued, it is a text data</li> <li>❑ ERR-9 may be empty, but if it is valued, it is one of these values: <ul style="list-style-type: none"> <li>• ‘PAT’</li> <li>• ‘NPAT’</li> <li>• ‘USR’</li> <li>• ‘HD’</li> </ul> </li> <li>❑ ERR-10 may be empty, but if it is valued, it is encoded as: &lt;<i>Identifier (ST)</i>&gt;^&lt;<i>Text (ST)</i>&gt;^&lt; <i>Name of Coding System (ID)</i>&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: &lt;<i>Identifier (ST)</i>&gt;^&lt;<i>Text (ST)</i>&gt;^&lt; <i>Name of Coding System (ID)</i>&gt; the rest of the elements of the CWE data type are not used in the WAN interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: &lt;<i>WITHDRAWN Constituent</i>&gt;^&lt;<i>Telecommunication Use Code (ID)</i>&gt;^&lt;<i>Telecommunication Equipment Type (ID)</i>&gt;^&lt;<i>Communication Address (ST)</i>&gt;^&lt;<i>Country Code (NM)</i>&gt;^&lt;<i>Area/City Code (NM)</i>&gt;^&lt;<i>Local Number (NM)</i>&gt;^&lt;<i>Extension (NM)</i>&gt;^&lt;<i>Any Text (ST)</i>&gt;^&lt;<i>Extension Prefix (ST)</i>&gt;^&lt;<i>Speed Dial Code (ST)</i>&gt;^&lt;<i>Unformatted Telephone Number (ST)</i>&gt;^&lt;<i>Effective Start Date (DTM)</i>&gt;^&lt;<i>Expiration Date (DTM)</i>&gt;^&lt;<i>Expiration Reason (CWE)</i>&gt;^&lt;<i>Protection Code (CWE)</i>&gt;^&lt;<i>Shared Telecommunication Identifier (EI)</i>&gt;^&lt;<i>Preference Order (NM)</i>&gt;</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: &lt;<i>Identifier (ST)</i>&gt;&amp;&lt;<i>Text (ST)</i>&gt;&amp;&lt; <i>Name of Coding System (ID)</i>&gt; &amp;&lt;<i>Alternate Identifier (ST)</i>&gt;&amp;&lt;<i>Alternate Text (ST)</i>&gt;&amp;&lt;<i>Name of Alternate Coding System (ID)</i>&gt;&amp;&lt;<i>Coding System Version ID (ST)</i>&gt;&amp;&lt;<i>Alternate Coding System Version ID (ST)</i>&gt;&amp;&lt;<i>Original Text (ST)</i>&gt;</li> <li>• Protection code subcomponents are: &lt;<i>Identifier (ST)</i>&gt;&amp;&lt;<i>Text (ST)</i>&gt;&amp;&lt; <i>Name of Coding System (ID)</i>&gt; &amp;&lt;<i>Alternate Identifier (ST)</i>&gt;&amp;&lt;<i>Alternate Text (ST)</i>&gt;&amp;&lt;<i>Name of Alternate Coding System (ID)</i>&gt;&amp;&lt;<i>Coding System Version ID (ST)</i>&gt;&amp;&lt;<i>Alternate Coding System Version ID (ST)</i>&gt;&amp;&lt;<i>Original Text (ST)</i>&gt;</li> <li>• Shared Telecommunication Identifier subcomponents are: &lt;<i>Entity Identifier (ST)</i>&gt;&amp;&lt;<i>Namespace ID (IS)</i>&gt;&amp;&lt;<i>Universal ID (ST)</i>&gt;&amp;&lt;<i>Universal ID Type (ID)</i>&gt;</li> </ul> <ul style="list-style-type: none"> <li>• Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<p><b>Pass/Fail criteria</b></p>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above</li> <li>• Verify that the receiver under test is able to accept the data and time stamps (e.g., if</li> </ul>

	there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurement: 2010-09-20 20:33:41 UTC, Values: Fall Sensor = "fall detected" [dimless]
<b>Notes</b>	

### A.12 Subgroup 2.4.11 – Adherence monitor (AM)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/AM/BV-000			
<b>TP label</b>	MSA and ERR segments			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
		XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M
XTNDataType 11; M				
<b>Test purpose</b>	Check that: The elements of every segment of the message [AND] The data type of each element.			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004			
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of an adherence monitor device.			
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message, including the mandatory object of the standard configuration (7201) adherence monitor device inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre>MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6  NE AL   IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 AMTest^AT4_AHD^1234567890ABCDEF^EUI-64 AMTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100921123934+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADBEEF^EUI-64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continua     R</pre>			

OBX|3|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|0.0.0.1.1|4.0||||R

OBX|4|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|0.0.0.1.2|16456~8264||||R

OBX|5|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.2|2^auth-body-continua||||R

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1||||R

OBX|10||528456^MDC\_DEV\_SPEC\_PROFILE\_AI\_MED\_MINDER^MDC|1|||||X||||1234567890ABCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|Adherence Mon v1.5||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100921123934+0000||||R||20100921123934+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|1.5||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16456||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||R

OBX|19|NM|8532992^MDC\_AI\_MED\_DISPENSED\_FIXED^MDC|1.0.0.6|44|262656^MDC\_DIM\_DIMLESS^MDC||||R||20100921123934+0000

OBX|20|CWE|8532994^MDC\_AI\_MED\_STATUS^MDC|1.0.0.7|1^medication-course-complete(4)|||R

OBX|21||8532995^MDC\_AI\_MED\_FEEDBACK^MDC|1.0.1|||||X

OBX|22|NM|8532996^MDC\_AI\_MED\_UF\_LOCATION^MDC|1.0.1.1|5||||R||20100921123934+0000

OBX|23|NM|8532997^MDC\_AI\_MED\_UF\_RESPONSE^MDC|1.0.1.2|3||||R||20100921123934+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:
- a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If the ERR segment referring to the MSA is present:
    - If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)

- ❑ ERR-1 is empty
- ❑ ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
- ❑ ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:
  - '0' – Message accepted
  - '206' – Application record locked
  - '207' – Application internal error
- ❑ ERR-4 is set to one of these valid error severity values:
  - 'W' – Warning
  - 'I' – Information
  - 'E' – Error
  - 'F' – Fatal error.
- ❑ ERR-5 and ERR-6 are empty
- ❑ ERR-7 may be empty, but if it is valued, it is a text data
- ❑ ERR-8 may be empty, but if it is valued, it is a text data
- ❑ ERR-9 may be empty, but if it is valued, it is one of these values:
  - 'PAT'
  - 'NPAT'
  - 'USR'
  - 'HD'
- ❑ ERR-10 may be empty, but if it is valued, it is encoded as: <Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)> the rest of the elements of the CWE data type are not used in the WAN interface.
- ❑ ERR-11 may be empty, but if it is valued, it is encoded as: <Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)> the rest of the elements of the CWE data type are not used in the WAN interface.
- ❑ ERR-12 may be empty, but if it is valued, it is encoded as: <WITHDRAWN Constituent>^<Telecommunication Use Code (ID)>^<Telecommunication Equipment Type (ID)>^<Communication Address (ST)>^<Country Code (NM)>^<Area/City Code (NM)>^<Local Number (NM)>^<Extension (NM)>^<Any Text (ST)>^<Extension Prefix (ST)>^<Speed Dial Code (ST)>^<Unformatted Telephone Number (ST)>^<Effective Start Date (DTM)>^<Expiration Date (DTM)>^<Expiration Reason (CWE)>^<Protection Code (CWE)>^<Shared Telecommunication Identifier (EI)>^<Preference Order (NM)>

Where:

- Expiration Reason subcomponents are: <Identifier (ST)>&<Text (ST)>&< Name of Coding System (ID)> &<Alternate Identifier (ST)>&<Alternate Text (ST)>&<Name of Alternate Coding System (ID)>&<Coding System Version ID (ST)>&<Alternate Coding System Version ID (ST)>&<Original Text (ST)>
- Protection code subcomponents are: <Identifier (ST)>&<Text (ST)>&< Name of Coding System (ID)> &<Alternate Identifier (ST)>&<Alternate Text (ST)>&<Name of Alternate Coding System (ID)>&<Coding System Version ID (ST)>&<Alternate Coding System Version ID (ST)>&<Original Text (ST)>
- Shared Telecommunication Identifier subcomponents are: <Entity Identifier (ST)>&<Namespace ID (IS)>&<Universal ID (ST)>&<Universal ID Type (ID)>



	<ul style="list-style-type: none"> <li>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>In step 2, all elements in each segment are as specified above</li> <li>Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurements: 2010-09-21 12:39:34 UTC, Values: Fixed Dosage Dispensed = 44 [dimless], Status = "medication course completed", Feedback Location = 5 [dimless] and Feedback Response = 3 [dimless]</li> </ul>
<b>Notes</b>	<p>[AT4]: Possible Continua DG v2011 bug. Step 2.d shows the expected OBX segment as specified in Continua DG v2011 – Appendix J Table J-29. Based on similarity between BPM and AM compound values, we understand that correct OBX segment should be:</p> <p>User Feedback Channel object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> OBX-3 = 8532995^MDC_AI_MED_FEEDBACK^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the channel level for the User Feedback Channel object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> </ul>

### A.13 Subgroup 2.4.12 – Peak expiratory flow monitor (PF)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/PF/BV-000		
<b>TP label</b>	MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2012] – Appendix K	
	<b>Testable items</b>	MSAUse; M	MSA-1; M
		MSA-2; M	MSA-3; M
		MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M
		MSA-8; M	ERRUse 1; O
		ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M
		ERR-4; M	ERR-5; M
		ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M
		CWEDataType 3; C	CWEDataType 4; R
		NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M
		EIDDataType 2; M	EIDDataType 3; M
		EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C
		EIUse4; C	IDDataType 1; M
		ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M
		XTNDataType 4; M	XTNDataType 5; M
		XTNDataType 6; M	XTNDataType 7; M
		XTNDataType 8; M	XTNDataType 9; M
		XTNDataType 10; M	XTNDataType 11; M
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>	C_REC_000		

<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a peak flow device.
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message, including the mandatory objects of a peak flow device inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6  NE AL    IHE PCD ORU- R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 PFTest^AT4_AHD^1234567890ABCDEF^EUI- 64 PFTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100921124034+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X    FEEDABEEDEADBEEF^EUI -64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body- continua    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0     R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2  16405~8213~24597    R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body- continua    R OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1  1^unregulated-device(0)   R OBX 7 CWE 68220^MDC_TIME_SYNC_PROTOCOL^MDC 0.0.0.3 532224^MDC_TIME_SY NC_NONE^MDC    R OBX 8 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.4 2^auth-body- continua    R OBX 9 CWE 64515^MDC_REG_CERT_DATA_CONTINUA_AHD_CERT_LIST^MDC 0.0.0.4. 1 0~1    R OBX 10  528405^MDC_DEV_SPEC_PROFILE_PEFM^MDC 1    X    1234567890ABCDE F^EUI-64 OBX 11 ST 531969^MDC_ID_MODEL_NUMBER^MDC 1.0.0.1 Peak Flow v1.5    R OBX 12 ST 531970^MDC_ID_MODEL_MANUFACTURER^MDC 1.0.0.2 AT4 Wireless    R OBX 13 DTM 67975^MDC_ATTR_TIME_ABS^MDC 1.0.0.3 20100921124034+0000    R  20 100921124034+0000 OBX 14 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.4 2^auth-body- continua    R OBX 15 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.5 2^auth-body- continua    R OBX 16 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 1.0.0.4.1 1.5     R OBX 17 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 1.0.0.4. 2 16405    R OBX 18 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 1.0.0.5. 1 0^unregulated-device(0)   R OBX 19 NM 152584^MDC_FLOW_AWAY_EXP_FORCED_PEAK^MDC 1.0.0.6 67 264992^ MDC_DIM_L_PER_MIN^MDC    R  20100921124034+0000 OBX 20 NM 152585^MDC_FLOW_AWAY_EXP_FORCED_PEAK_PB^MDC 1.0.0.7 35 2649 92^MDC_DIM_L_PER_MIN^MDC    R  20100921124034+0000 OBX 21 NM 152586^MDC_FLOW_AWAY_EXP_FORCED_PEAK_1S^MDC 1.0.0.8 48 26374 4^MDC_DIM_L^MDC    R  20100921124034+0000 </pre> <p>2. The receiver under test responds using another HL7 message. Check in the captured</p>

message that:

- a. Only one MSA segment is present and:
  - ❑ MSA-1 is one of the following values:
    - 'AA' – Accept Acknowledgment: Application Accept
    - 'AR' – Accept Acknowledgment: Application Reject
  - ❑ MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
  - ❑ MSA-3 to MSA-8 are empty
- b. If the ERR segment referring to the MSA is present:
  - ❑ If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
  - ❑ ERR-1 is empty
  - ❑ ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: *<Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>*
  - ❑ ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:
    - '0' – Message accepted
    - '206' – Application record locked
    - '207' – Application internal error
  - ❑ ERR-4 is set to one of these valid error severity values:
    - 'W' – Warning
    - 'I' – Information
    - 'E' – Error
    - 'F' – Fatal error.
  - ❑ ERR-5 and ERR-6 are empty
  - ❑ ERR-7 may be empty, but if it is valued, it is a text data
  - ❑ ERR-8 may be empty, but if it is valued, it is a text data
  - ❑ ERR-9 may be empty, but if it is valued, it is one of these values:
    - 'PAT'
    - 'NPAT'
    - 'USR'
    - 'HD'
  - ❑ ERR-10 may be empty, but if it is valued, it is encoded as: *<Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)>* the rest of the elements of the CWE data type are not used in the WAN interface.
  - ❑ ERR-11 may be empty, but if it is valued, it is encoded as: *<Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)>* the rest of the elements of the CWE data type are not used in the WAN interface.
  - ❑ ERR-12 may be empty, but if it is valued, it is encoded as: *<WITHDRAWN Constituent> ^ <Telecommunication Use Code (ID)> ^ <Telecommunication Equipment Type (ID)> ^ <Communication Address (ST)> ^ <Country Code (NM)> ^ <Area/City Code (NM)> ^ <Local Number (NM)> ^ <Extension (NM)> ^ <Any Text (ST)> ^ <Extension Prefix (ST)> ^ <Speed Dial Code (ST)> ^ <Unformatted Telephone Number (ST)> ^ <Effective Start Date (DTM)> ^ <Expiration Date (DTM)> ^ <Expiration Reason (CWE)> ^ <Protection Code (CWE)> ^ <Shared Telecommunication Identifier (EI)> ^ <Preference Order (NM)>*

	<p>Where:</p> <ul style="list-style-type: none"> <li>Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <ul style="list-style-type: none"> <li>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>In step 2, all elements in each segment are as specified above</li> <li>Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of measurements: 2010-09-21 12:40:34 UTC, Values: PEF = 67 [l/min], Personal Best = 35 [l/min], FEV1 = 48 [l]</li> </ul>
<b>Notes</b>	

#### A.14 Subgroup 2.4.13 – Body composition analyser (BCA)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/BCA/BV-000		
<b>TP label</b>	MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2011] – Appendix K	
	<b>Testable items</b>	MSAUse; M	MSA-1; M
		MSA-2; M	MSA-3; M
		MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M
		MSA-8; M	MSA-9; M
		ERRUse 1; O	ERRUse 2; M
		ERR-1; M	ERR-2; R
		ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M
		ERR-7; O	ERR-8; M
		CWEDataType 1; M	CWEDataType 2; M
		CWEDataType 3; C	CWEDataType 4; R
		NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M
		EIDDataType 2; M	EIDDataType 3; M
		EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C
		EIUse4; C	IDDataType 1; M
		ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M
		XTNDataType 4; M	XTNDataType 5; M
		XTNDataType 6; M	XTNDataType 7; M
		XTNDataType 8; M	XTNDataType 9; M
		XTNDataType 10; M	XTNDataType 11; M
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message [AND]</p> <p>The data type of each element.</p>		

<b>Applicability</b>	C_REC_000
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a body composition analyser device.
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6   NE AL    IHE PCD ORU- R012006^HL7^2.16.840.1.113883.9.n.m^HL7 PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L OBR 1 THTest^AT4_AHD^1234567890ABCDEF^EUI- 64 THTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100916145110+0000 OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X     FEEDABEEDEADBEEF^EUI- 64 OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body- continua    R OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0     R OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2  8212~16404~24596    R OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body- continua    R OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1  1^unregulated-device(0)   R OBX 7 CWE 68220^MDC_TIME_SYNC_PROTOCOL^MDC 0.0.0.3 532224^MDC_TIME_SY NC_NONE^MDC    R OBX 8 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.4 2^auth-body- continua    R OBX 9 CWE 64515^MDC_REG_CERT_DATA_CONTINUA_AHD_CERT_LIST^MDC 0.0.0.4. 1 0~1    R OBX 10  528404^MDC_DEV_SPEC_PROFILE_BCA^MDC 1    X     1234567890ABCDEF^ EUI-64 OBX 11 ST 531969^MDC_ID_MODEL_NUMBER^MDC 1.0.0.1 Body Composition Analyser v3.0    R OBX 12 ST 531970^MDC_ID_MODEL_MANUFACTURER^MDC 1.0.0.2 AT4 Wireless    R OBX 13 DTM 67975^MDC_ATTR_TIME_ABS^MDC 1.0.0.3 20100916145110+0000    R  20 100916145110+0000 OBX 14 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.4 2^auth-body- continua    R OBX 15 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.5 2^auth-body- continua    R OBX 16 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 1.0.0.4.1 3.0     R OBX 17 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 1.0.0.4. 2 16404    R OBX 18 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 1.0.0.5. 1 0^unregulated-device(0)   R OBX 19 NM 188748^MDC_BODY_FAT^MDC 1.0.0.6 25 262688^MDC_DIM_PERCENT^MD C    R  20100916145110+0000 OBX 20 NM 188740^MDC_LEN_BODY_ACTUAL^MDC 1.0.0.7 175 263441^MDC_DIM_CEN TI_M^MDC    R  20100916145110+0000 OBX 21 NM 188736^MDC_MASS_BODY_ACTUAL^MDC 1.0.0.8 73.5 263875^MDC_DIM_KI LO_G^MDC    R  20100916145110+0000 </pre>

2. The receiver under test responds using another HL7 message. Check in the captured message that:
- a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent
    - MSA-3 to MSA-8 are empty
  - b. If the ERR segment referring to the MSA is present:
    - If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
    - ERR-1 is empty
    - ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: *<Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>*
    - ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:
      - '0' – Message accepted
      - '206' – Application record locked
      - '207' – Application internal error
    - ERR-4 is set to one of these valid error severity values:
      - 'W' – Warning
      - 'I' – Information
      - 'E' – Error
      - 'F' – Fatal error.
    - ERR-5 and ERR-6 are empty
    - ERR-7 may be empty, but if it is valued, it is a text data
    - ERR-8 may be empty, but if it is valued, it is a text data
    - ERR-9 may be empty, but if it is valued, it is one of these values:
      - 'PAT'
      - 'NPAT'
      - 'USR'
      - 'HD'
    - ERR-10 may be empty, but if it is valued, it is encoded as: *<Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)>* the rest of the elements of the CWE data type are not used in the WAN interface.
    - ERR-11 may be empty, but if it is valued, it is encoded as: *<Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)>* the rest of the elements of the CWE data type are not used in the WAN interface.
    - ERR-12 may be empty, but if it is valued, it is encoded as: *<WITHDRAWN Constituent>^<Telecommunication Use Code (ID)>^<Telecommunication Equipment Type (ID)>^<Communication Address (ST)>^<Country Code (NM)>^<Area/City Code (NM)>^<Local Number (NM)>^<Extension (NM)>^<Any Text (ST)>^<Extension Prefix (ST)>^<Speed Dial Code (ST)>^<Unformatted Telephone Number (ST)>^<Effective Start Date (DTM)>^<Expiration Date (DTM)>^<Expiration Reason*

	<p>(CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</p> <p>Where:</p> <ul style="list-style-type: none"> <li>Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <ul style="list-style-type: none"> <li>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>In step 2, all elements in each segment are as specified above</li> <li>Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of measurements 2010-09-16 14:51:10 UTC, Values: Body Fat, 25 [%]; Body Height, 175 [cm] and Body Weight, 73.5 [Kg]</li> </ul>
<b>Notes</b>	

### A.15 Subgroup 2.4.14 – Basic electrocardiograph (ECG)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/ECG/BV-000			
<b>TP label</b>	MSA and ERR segments			
<b>Coverage</b>	<b>Spec</b>	[b-CDG 2011] – Appendix K		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDDataType 1; M	EIDDataType 2; M
		EIDDataType 3; M	EIDDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M		
XTNDataType 11; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message [AND]</p>			

	The data type of each element.
<b>Applicability</b>	C_REC_000
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004
<b>Initial condition</b>	The receiver under test has published a WebService and the simulated sender is ready to send a SOAP message with an observation of a basic electrocardiograph device.
<b>Test procedure</b>	<p>1. The simulated sender sends the following HL7 message inside a SOAP body to make the receiver respond with another HL7 message:</p> <pre> MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6   NE AL    IHE PCD ORU- R012006^HL7^2.16.840.1.113883.9.n.m^HL7  PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L  OBR 1 THTest^AT4_AHD^1234567890ABCDEF^EUI- 64 THTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100916145110+0000  OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0    X    FEEDABEEDEADBEEF^EUI -64  OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body- continua    R  OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 4.0     R  OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2  8204-8332    R  OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body- continua    R  OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1  1^unregulated-device(0)    R  OBX 7 CWE 68220^MDC_TIME_SYNC_PROTOCOL^MDC 0.0.0.3 532224^MDC_TIME_SY NC_NONE^MDC    R  OBX 8 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.4 2^auth-body- continua    R  OBX 9 CWE 64515^MDC_REG_CERT_DATA_CONTINUA_AHD_CERT_LIST^MDC 0.0.0.4. 1 0-1    R  OBX 10  528384^MDC_DEV_SPEC_PROFILE_HYDRA^MDC 1    X    1234567890ABCD EF^EUI-64  OBX 11 CWE 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC 1.0.0.1 528390^MDC_DE V_SPEC_PROFILE_ECG^MDC~528525^MDC_DEV_SUB_SPEC_PROFILE_HR^MDC    R    20110808135003+0000  OBX 12 ST 531969^MDC_ID_MODEL_NUMBER^MDC 1.0.0.2 Basic Electrocardiograph v3.0    R  OBX 13 ST 531970^MDC_ID_MODEL_MANUFACTURER^MDC 1.0.0.3 AT4 Wireless    R  OBX 14 DTM 67975^MDC_ATTR_TIME_ABS^MDC 1.0.0.4 20100916145110+0000    R   20 100916145110+0000  OBX 15 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.5 2^auth-body- continua    R  OBX 16 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.6 2^auth-body- continua    R  OBX 17 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 1.0.0.5.1 3.0     R  OBX 18 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 1.0.0.5. 2 8204-8332    R  OBX 19 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 1.0.0.6. 1 0^unregulated-device(0)    R </pre>



OBX|20|NM|147842^MDC\_ECG\_HEART\_RATE^MDC|1.0.0.7|80|264864^MDC\_DIM\_BEAT\_PER\_MIN^MDC||||R||||20100916145110+0000

2. The receiver under test responds using another HL7 message. Check in the captured message that:

a. Only one MSA segment is present and:

MSA-1 is one of the following values:

- 'AA' – Accept Acknowledgment: Application Accept
- 'AR' – Accept Acknowledgment: Application Reject

MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent

MSA-3 to MSA-8 are empty

b. If the ERR segment referring to the MSA is present:

If a receiver reports an ERR segment with severity E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)

ERR-1 is empty

ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>

ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:

- '0' – Message accepted
- '206' – Application record locked
- '207' – Application internal error

ERR-4 is set to one of these valid error severity values:

- 'W' – Warning
- 'I' – Information
- 'E' – Error
- 'F' – Fatal error.

ERR-5 and ERR-6 are empty

ERR-7 may be empty, but if it is valued, it is a text data

ERR-8 may be empty, but if it is valued, it is a text data

ERR-9 may be empty, but if it is valued, it is one of these values:

- 'PAT'
- 'NPAT'
- 'USR'
- 'HD'

ERR-10 may be empty, but if it is valued, it is encoded as: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> the rest of the elements of the CWE data type are not used in the WAN interface.

ERR-11 may be empty, but if it is valued, it is encoded as: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> the rest of the elements of the CWE data type are not used in WAN interface.

ERR-12 may be empty, but if it is valued, it is encoded as: <WITHDRAWN Constituent> ^ <Telecommunication Use Code (ID)> ^ <Telecommunication Equipment Type (ID)> ^ <Communication Address (ST)> ^ <Country Code (NM)> ^ <Area/City Code (NM)> ^ <Local Number (NM)> ^ <Extension (NM)> ^ <Any Text (ST)> ^ <Extension Prefix (ST)> ^ <Speed Dial Code

	<p>(ST)&gt;^&lt;Unformatted Telephone Number (ST)&gt;^&lt;Effective Start Date (DTM)&gt;^&lt;Expiration Date (DTM)&gt;^&lt;Expiration Reason (CWE)&gt;^&lt;Protection Code (CWE)&gt;^&lt;Shared Telecommunication Identifier (EI)&gt;^&lt;Preference Order (NM)&gt;</p> <p>Where:</p> <ul style="list-style-type: none"> <li>Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt; Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <ul style="list-style-type: none"> <li>Where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</li> </ul>
<b>Pass/Fail criteria</b>	<ul style="list-style-type: none"> <li>In step 2, all elements in each segment are as specified above</li> <li>Verify that the receiver under test is able to accept the data and time stamps (e.g., if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of measurement: 2010-09-16 14:51:10 UTC, Value: Heart Rate, 80 [beats per min.].</li> </ul>
<b>Notes</b>	

### A.16 Subgroup 2.4.15: International normalized ratio (INR)

<b>TP Id</b>	TP/WAN/REC/PCD-01-DATA/INR/BV-000		
<b>TP label</b>	MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1 (2015)]	
	<b>Testable items</b>	MSAUse; M	MSA-1; M
		MSA-2; M	
		MSA-3; M	MSA-4; M
		MSA-5; M	
		MSA-6; M	MSA-7; M
		MSA-8; M	
		ERRUse 1; O	ERRUse 2; M
		ERR-1; M	
		ERR-2; R	ERR-3; M
		ERR-4; M	
		ERR-5; M	ERR-6; M
		ERR-7; O	
		CWEDataType 1; M	CWEDataType 2; M
		CWEDataType 3; C	
		CWEDataType 4; R	NumericDataType 1; M
		StringDataType 1; M	
		DateTimeDataType 1; M	EIDataType 1; M
		EIDataType 2; M	
		EIDataType 3; M	EIDataType 4; M
		EIUse1; C	
		EIUse2; C	EIUse3; C
		EIUse4; C	
		IDDataType 1; M	ISDataType 1; M
		XTNDataType 1; M	
		XTNDataType 2; M	XTNDataType 3; M
		XTNDataType 4; M	

		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
		XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M
		XTNDataType 11; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>			
<b>Applicability</b>	C_REC_000			
<b>Other PICS</b>	C_REC_DATA_003, C_REC_DATA_004			
<b>Initial condition</b>	Receiver under test has published a WebService and Simulated Sender is ready to send a message with an Observation of a International Normalized Ratio device.			
<b>Test procedure</b>	<p>1. Simulated Sender sends the following HL7 message, including the mandatory objects of a Pulse Oximeter device to make the Receiver respond with another HL7 message.</p> <p>MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6  NE AL    IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7</p> <p>PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L</p> <p>OBR 1 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of patient^SNOMED-CT   20100903124015+0000</p> <p>OBX 1  531981^MDC_MOC_VMS_MDS_AHD^MDC 0     X     FEEDABEEDEADBEEF^EUI-64</p> <p>OBX 2 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.1 2^auth-body-continua     R</p> <p>OBX 3 ST 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC 0.0.0.1.1 5.0     R</p> <p>OBX 4 NA 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC 0.0.0.1.2 8196~16388     R</p> <p>OBX 5 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.2 2^auth-body-continua     R</p> <p>OBX 6 CWE 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC 0.0.0.2.1 1^unregulated-device(0)     R</p> <p>OBX 7 CWE 68220^MDC_TIME_SYNC_PROTOCOL^MDC 0.0.0.3 532224^MDC_TIME_SYNC_NONE^MDC     R</p> <p>OBX 8 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 0.0.0.4 2^auth-body-continua     R</p> <p>OBX 9 CWE 64515^MDC_REG_CERT_DATA_CONTINUA_AHD_CERT_LIST^MDC 0.0.0.4.1 0~1     R</p> <p>OBX 10  528406^MDC_DEV_SPEC_PROFILE_COAG^MDC 1     X     0123456789ABCDE F^0123456789ABCDEF^EUI-64</p> <p>OBX 11 ST 531969^MDC_ID_MODEL_NUMBER^MDC 1.0.0.1 INR v1.5     R</p> <p>OBX 12 ST 531970^MDC_ID_MODEL_MANUFACTURER^MDC 1.0.0.2 AT4 Wireless     R</p> <p>OBX 13 DTM 67975^MDC_ATTR_TIME_ABS^MDC 1.0.0.3 20100903124015+0000     R   20150316145510+0000</p> <p>OBX 14 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.4 2^auth-body-continua     R</p> <p>OBX 15 CWE 68218^MDC_REG_CERT_DATA_AUTH_BODY^MDC 1.0.0.5 2^auth-body-continua     R</p>			

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|5.0|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16388|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|160260^MDC\_RATIO\_INR\_COAG^MDC|1.0.0.1|0.9|268752^MDC\_DIM\_INR^MDC|||||R|||20150316145510+0000

2. Receiver under test responds using another HL7 message. Check in the captured message that:

a. Only one MSA segment is present and:

MSA-1 is one of the following values:

- 'AA' – Accept Acknowledgment: Application Accept
- 'AR' – Accept Acknowledgment: Application Reject

MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent

MSA-3 to MSA-8 are empty

b. If ERR segment referring to the MSA is present:

If a Receiver reports an ERR segment with Severity (ERR-4) E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)

ERR-1 is empty

ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: *<Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>*

ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:

- '0' – Accepted
- '206' – Application record locked
- '207' – Application internal error

ERR-4 is set to one of these valid error severity values:

- 'W' – Warning
- 'I' – Information
- 'E' – Error
- 'F' – Fatal error.

ERR-5 and ERR-6 are empty

ERR-7 may be empty, but if it is valued, it is a text data

ERR-8 may be empty, but if it is valued, it is a text data

ERR-9 may be empty, but if it is valued, it is one of these values:

- 'PAT'
- 'NPAT'
- 'USR'
- 'HD'

ERR-10 may be empty, but if it is valued, it is encoded as: *<Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)> the rest of the element*

	<p>of the CWE data type are not used in WAN Interface.</p> <ul style="list-style-type: none"> <li>❑ ERR-11 may be empty, but if it is valued, it is encoded as: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; the rest of the element of the CWE data type are not used in WAN Interface.</li> <li>❑ ERR-12 may be empty, but if it is valued, it is encoded as: &lt;WITHDRAWN Constituent&gt;&amp;&lt;Telecommunication Use Code (ID)&gt;&amp;&lt;Telecommunication Equipment Type (ID)&gt;&amp;&lt;Communication Address (ST)&gt;&amp;&lt;Country Code (NM)&gt;&amp;&lt;Area/City Code (NM)&gt;&amp;&lt;Local Number (NM)&gt;&amp;&lt;Extension (NM)&gt;&amp;&lt;Any Text (ST)&gt;&amp;&lt;Extension Prefix (ST)&gt;&amp;&lt;Speed Dial Code (ST)&gt;&amp;&lt;Unformatted Telephone Number (ST)&gt;&amp;&lt;Effective Start Date (DTM)&gt;&amp;&lt;Expiration Date (DTM)&gt;&amp;&lt;Expiration Reason (CWE)&gt;&amp;&lt;Protection Code (CWE)&gt;&amp;&lt;Shared Telecommunication Identifier (EI)&gt;&amp;&lt;Preference Order (NM)&gt;</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• Expiration Reason subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Protection code subcomponents are: &lt;Identifier (ST)&gt;&amp;&lt;Text (ST)&gt;&amp;&lt;Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</li> <li>• Shared Telecommunication Identifier subcomponents are: &lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</li> </ul> <p>Where XTN-2, XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<b>Pass/Fail criteria</b>	<p>In step 2, all elements in each segment are as specified above</p> <p>Verify that the Receiver under test is able to accept the data and time stamps (e.g. if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurement: 2015-03-16 14:55:10 UTC, Value: INR=0.9 [INR Units]</p>
<b>Notes</b>	

**A.17 Subgroup 2.4.16: Sleep apnoea breathing therapy equipment (SABTE)**

<b>TP Id</b>		TP/WAN/REC/PCD-01-DATA/SABTE/BV-000		
<b>TP label</b>		MSA and ERR segments		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1 (2015)]		
	<b>Testable items</b>	MSAUse; M	MSA-1; M	MSA-2; M
		MSA-3; M	MSA-4; M	MSA-5; M
		MSA-6; M	MSA-7; M	MSA-8; M
		ERRUse 1; O	ERRUse 2; M	ERR-1; M
		ERR-2; R	ERR-3; M	ERR-4; M
		ERR-5; M	ERR-6; M	ERR-7; O
		CWEDataType 1; M	CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 4; R	NumericDataType 1; M	StringDataType 1; M
		DateTimeDataType 1; M	EIDataType 1; M	EIDataType 2; M
		EIDataType 3; M	EIDataType 4; M	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M		
XTNDataType 11; M				
<b>Test purpose</b>		<p>Check that:</p> <p>The elements of every segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>		C_REC_000		
<b>Other PICS</b>		C_REC_DATA_003, C_REC_DATA_004		
<b>Initial condition</b>		Receiver under test has published a WebService and Simulated Sender is ready to send a message with an Observation of a Sleep Apnoea Breathing Therapy Equipment device.		
<b>Test procedure</b>		<p>1. Simulated Sender sends the following HL7 message, including the mandatory objects of a Sleep Apnoea Breathing Therapy Equipment device to make the Receiver respond with another HL7 message.</p> <p>MSH ^~\&amp; AT4_AHD^1234567890ABCDEF^EUI-64   &lt;current time in UTC&gt;  ORU^R01^ORU_R01 MSGID&lt;random number&gt; P 2.6  NE AL    IHE PCD ORU-R012006^HL7^2.16.840.1.113883.9.n.m^HL7</p> <p>PID   789567^^^Imaginary Hospital^PI  Doe^John^Joseph^^^L</p> <p>OBR 1 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 POTest^AT4_AHD^1234567890ABCDEF^EUI-64 182777000^monitoring of</p>		

patient^SNOMED-CT|||20100903124015+0000

OBX|1||531981^MDC\_MOC\_VMS\_MDS\_AHD^MDC|0|||||X|||||FEEDABEEDEADBEEF^EUI-64

OBX|2|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.1|2^auth-body-continua|||||R

OBX|3|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|0.0.0.1.1|5.0|||||R

OBX|4|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|0.0.0.1.2|8196~16388|||||R

OBX|5|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.2|2^auth-body-continua|||||R

OBX|6|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|0.0.0.2.1|1^unregulated-device(0)|||||R

OBX|7|CWE|68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC|0.0.0.3|532224^MDC\_TIME\_SYNC\_NONE^MDC|||||R

OBX|8|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|0.0.0.4|2^auth-body-continua|||||R

OBX|9|CWE|64515^MDC\_REG\_CERT\_DATA\_CONTINUA\_AHD\_CERT\_LIST^MDC|0.0.0.4.1|0~1|||||R

OBX|10||528409^MDC\_DEV\_SPEC\_PROFILE\_SABTE^MDC|1|||||X|||||0123456789ABCDE F^0123456789ABCDEF^EUI-64

OBX|11|ST|531969^MDC\_ID\_MODEL\_NUMBER^MDC|1.0.0.1|SABTE v1.5|||||R

OBX|12|ST|531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC|1.0.0.2|AT4 Wireless|||||R

OBX|13|DTM|67975^MDC\_ATTR\_TIME\_ABS^MDC|1.0.0.3|20100903124015+0000|||||R|||20150316145510+0000

OBX|14|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.4|2^auth-body-continua|||||R

OBX|15|CWE|68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC|1.0.0.5|2^auth-body-continua|||||R

OBX|16|ST|532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC|1.0.0.4.1|5.0|||||R

OBX|17|NA|532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC|1.0.0.4.2|16388|||||R

OBX|18|CWE|532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC|1.0.0.5.1|0^unregulated-device(0)|||||R

OBX|19|NM|8410708^MDC\_SABTE\_TIME\_PD\_FLOW\_GEN\_TOTAL^MDC|1.0.0.6|67|264352^MDC\_DIM\_MIN^MDC|||||R|||20150316145510+0000

OBX|20|NM|8410712^MDC\_SABTE\_TIME\_PD\_USAGE\_TOTAL^MDC|1.0.0.7|55|264352^MDC\_DIM\_MIN^MDC|||||R|||20150316145510+0000

OBX|21|CWE|8410876^MDC\_SABTE\_MODE\_DEV\_SET^MDC|1.0.0.8|8410877^MDC\_SABTE\_MODE\_DEV\_UNDETERMINED^MDC|||||R|||20150316145510+0000

OBX|22|CWE|8410888^MDC\_SABTE\_MODE\_THERAPY\_SET^MDC|1.0.0.9|8410889^MDC\_SABTE\_MODE\_THERAPY\_UNDETERMINED^MDC|||||R|||20150316145510+0000

2. Receiver under test responds using another HL7 message. Check in the captured message that:
  - a. Only one MSA segment is present and:
    - MSA-1 is one of the following values:
      - 'AA' – Accept Acknowledgment: Application Accept
      - 'AR' – Accept Acknowledgment: Application Reject
    - MSA-2 contains the message control ID from the MSH-10 (Message Control ID) of the incoming message for which this acknowledgement is being sent

- ❑ MSA-3 to MSA-8 are empty
- b. If ERR segment referring to the MSA is present:
  - ❑ If a Receiver reports an ERR segment with Severity (ERR-4) E (Error) or F (Fatal Error), the Message Acknowledgement value shall be CR (Commit Reject)
  - ❑ ERR-1 is empty
  - ❑ ERR-2 should be valued with the location in the message related to the identified error, warning, or message. This field is repeated for errors which result from the combination of multiple locations. Components: <Segment ID (ST)> ^ <Segment Sequence (NM)> ^ <Field Position (NM)> ^ <Field Repetition (NM)> ^ <Component Number (NM)> ^ <Sub-Component Number (NM)>
  - ❑ ERR-3 starts with one of the following valid error condition codes and other optional subfields might be included:
    - '0' – Accepted
    - '206' – Application record locked
    - '207' – Application internal error
  - ❑ ERR-4 is set to one of these valid error severity values:
    - 'W' – Warning
    - 'I' – Information
    - 'E' – Error
    - 'F' – Fatal error.
  - ❑ ERR-5 and ERR-6 are empty
  - ❑ ERR-7 may be empty, but if it is valued, it is a text data
  - ❑ ERR-8 may be empty, but if it is valued, it is a text data
  - ❑ ERR-9 may be empty, but if it is valued, it is one of these values:
    - 'PAT'
    - 'NPAT'
    - 'USR'
    - 'HD'
  - ❑ ERR-10 may be empty, but if it is valued, it is encoded as: <Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)> the rest of the element of the CWE data type are not used in WAN Interface.
  - ❑ ERR-11 may be empty, but if it is valued, it is encoded as: <Identifier (ST)>^<Text (ST)>^< Name of Coding System (ID)> the rest of the element of the CWE data type are not used in WAN Interface.
  - ❑ ERR-12 may be empty, but if it is valued, it is encoded as: <WITHDRAWN Constituent>^<Telecommunication Use Code (ID)>^<Telecommunication Equipment Type (ID)>^<Communication Address (ST)>^<Country Code (NM)>^<Area/City Code (NM)>^<Local Number (NM)>^<Extension (NM)>^<Any Text (ST)>^<Extension Prefix (ST)>^<Speed Dial Code (ST)>^<Unformatted Telephone Number (ST)>^<Effective Start Date (DTM)>^<Expiration Date (DTM)>^<Expiration Reason (CWE)>^<Protection Code (CWE)>^<Shared Telecommunication Identifier (EI)>^<Preference Order (NM)>

Where:

- Expiration Reason subcomponents are: <Identifier (ST)>&<Text (ST)>&< Name of Coding System (ID)> &<Alternate Identifier (ST)>&<Alternate Text (ST)>&<Name of Alternate Coding System (ID)>&<Coding System Version ID (ST)>&<Alternate Coding System Version ID (ST)>&<Original Text (ST)>
- Protection code subcomponents are: <Identifier (ST)>&<Text (ST)>&<



	<p><i>Name of Coding System (ID)&gt; &amp;&lt;Alternate Identifier (ST)&gt;&amp;&lt;Alternate Text (ST)&gt;&amp;&lt;Name of Alternate Coding System (ID)&gt;&amp;&lt;Coding System Version ID (ST)&gt;&amp;&lt;Alternate Coding System Version ID (ST)&gt;&amp;&lt;Original Text (ST)&gt;</i></p> <ul style="list-style-type: none"> <li>• Shared Telecommunication Identifier subcomponents are: <i>&lt;Entity Identifier (ST)&gt;&amp;&lt;Namespace ID (IS)&gt;&amp;&lt;Universal ID (ST)&gt;&amp;&lt;Universal ID Type (ID)&gt;</i></li> </ul> <p>Where XTN-2, XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.</p>
<p><b>Pass/Fail criteria</b></p>	<ul style="list-style-type: none"> <li>• In step 2, all elements in each segment are as specified above</li> <li>• Verify that the Receiver under test is able to accept the data and time stamps (e.g. if there is a log verify the date and the data are displayed in some form that indicates the correct date and time and the correct data as transmitted). Date and time of the measurement: 2015-03-16 14:55:10 UTC, Values: DPU=55 [min], DFG=67 [min], Device mode set='Device mode undetermined (22269)', Therapy mode set='Therapy mode undetermined (22269)'.</li> </ul>
<p><b>Notes</b></p>	

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