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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)

Conformance of ITU-T H.810 personal health devices: WAN interface Part 1: Web services interoperability: Sender

Recommendation ITU-T H.831

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Recommendation ITU-T H.831

Conformance of ITU-T H.810 personal health devices: WAN interface Part 1: Web services interoperability: Sender

Summary

Recommendation ITU-T H.831 is a transposition of Continua Test Tool DG2013, Test Suite Structure & Test Purposes, WAN Interface; Part 1: Web Services Interoperability. Sender (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.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T H.831	2015-01-13	16	11.1002/1000/12249

* 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>.

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

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Electronic attachment: 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 a transposition of Continua Test Tool DG2013, Test Suite Structure & Test Purposes, WAN Interface; Part 1: Web Services Interoperability. Sender (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. It is the same version as "TSS&TP_1.5_WAN_PART_1_(SEN WS-I)_v1.2.doc" because new features included in [b-CDG 2011] do not affect the test procedures specified in this document.
1.3	2013-05-24	Initial release for Test Tool DG2012. It is the same version as "TSS&TP_DG2011_WAN_PART_1_(SEN WS-I)_v1.2.doc" because new features included in [b-CDG 2012] do not affect the test procedures specified in this document.
1.4	2014-01-24	Initial release for Test Tool DG2013. It is the same version as "TSS&TP_DG2012_WAN_PART_1_(SEN WS-I)_v1.2.doc" because new features included in CDG 2013 [ITU-T H.810] do not affect the test procedures specified in this document.

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Recommendation ITU-T H.831

Conformance of ITU-T H.810 personal health devices: WAN interface Part 1: Web services interoperability: Sender

1 Scope

The scope of this Recommendation¹ is to provide a test suite structure and the test purposes (TSS & TP) for the WAN interface based on the requirements defined in Continua specifications. 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 document has been divided into a set of eight parts. Each part contains:

- 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] Recommendation ITU-T H.810 (2013), *Interoperability design guidelines for personal health systems*.

[IEEE 11073-20601A] IEEE 11073-20601A-2010, *IEEE Health informatics – Personal health device communication – Part 20601: Application profile – Optimized Exchange Protocol Amendment 1*.
<<http://standards.ieee.org/findstds/standard/11073-20601a-2010.html>>

[OASIS/WS-I BP] OASIS/WS-I (2006), *Basic Security Profile Version 1.1*.
<<http://www.ws-i.org/Profiles/BasicProfile-1.1.html>>

[OASIS WS-I BSP] OASIS/WS-I (2007), *Basic Security Profile Version 1.0*.
<<http://www.ws-i.org/Profiles/BasicSecurityProfile-1.0.html>>

[OASIS WS-I RM] OASIS (2007), *Web Services Reliable Messaging (WS-ReliableMessaging) Version 1.1*.
<<http://docs.oasis-open.org/ws-rx/wsrn/200702/wsrn-1.1-spec-cs-01.pdf>>

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

3 Definitions

3.1 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
EPR	Endpoint Reference
GUI	Graphical User Interface
INR	International Normalized Ratio
IUT	Implementation Under Test
MDS	Medical Device System
NFC	Near Field Communication
PCO	Point of Control and Observation
PCT	Protocol Conformance Testing
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
SDP	Service Discovery Protocol
SOAP	Simple Object Access Protocol
STR	Security Token Reference
TCRL	Test Case Reference List
TCWG	Test and Certification Working Group
TP	Test Purposes
URI	Uniform Resource Identifier

TSS	Test Suite Structure
USB	Universal Serial Bus
WAN	Wide Area Network
WD	WAN Device
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 document 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 that'.

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 to the various versions of the CDG

CDG name	Transposed as	Version	Description	Designation
2013 plus errata	ITU-T H.810	4.1	CDG 2013 plus errata noting all ratified bugs.	–
2013	–	4.0	Release 2013 of CDG including maintenance updates of the CDG 2012 and additional guidelines that cover new functionalities.	Endorphin
2012 plus errata	–	3.1	CDG 2012 plus errata noting all ratified bugs [b-CDG 2012].	–
2012	–	3.0	Release 2012 of the CDG including maintenance updates of 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 CDG including maintenance updates of CDG 2010 and additional guidelines that cover new functionalities [b-CDG 2011].	Adrenaline

Table 1 – List of designations associated to the various versions of the CDG

CDG name	Transposed as	Version	Description	Designation
2010 plus errata	–	1.6	CDG 2010 integrated with identified errata	–
2010	–	1.5	Release 2010 of CDG with maintenance updates of 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 group 1.1 (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)

- 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 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)
 - Subgroup 2.4.7: Glucose meter (GL)
 - Subgroup 2.4.8: Cardiovascular fitness and activity monitor (CV)
 - Subgroup 2.4.9: Strength fitness equipment (ST)
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 - Subgroup 2.4.12: Peak expiratory flow monitor (PF)
 - Subgroup 2.4.13: Body composition analyser (BCA)
 - Subgroup 2.4.14: Basic electrocardiograph (ECG)
 - Group 2.5: Consent management (CM)
 - Subgroup 2.5.1: WAN XDR transaction (TRANS)
 - Subgroup 2.5.2: WAN service validation (SER)

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>.