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SERIES Q: SWITCHING AND SIGNALLING

Testing specifications – Testing specifications for SIP-IMS

Communication waiting service using IP multimedia core network subsystem; Conformance testing – Part 1: Network side; and user side; Protocol implementation conformance statement

Recommendation ITU-T Q.4006.1

ITU-T Q-SERIES RECOMMENDATIONS

SWITCHING AND SIGNALLING

Recommendation ITU-T Q.4006.1

Communication waiting service using IP multimedia core network subsystem; Conformance testing – Part 1: Network side and user side; Protocol implementation conformance statement

Summary

Recommendation ITU-T Q.4006.1 v.1 (2016) is part 1 of the testing specifications for communication waiting service (CW) implemented on IP multimedia subsystem (IMS) basis on the user side and network side. The Recommendation specifies the protocol implementation conformance statement (PICS) which can be used for testing against Recommendation ITU-T Q.3622 v.1, Communication waiting using IP multimedia core network subsystem – Protocol specification.

The version number, v.1, indicates that this is version one of Recommendation ITU-T Q.4006.1 and that it relates to Release 10 of the relevant 3GPP/ETSI standard.

History

Edition	Recommendation	Approval	Study Group	Unique ID[*]
1.0	ITU-T Q.4006.1 v.1	2016-02-13	11	11.1002/1000/12741

Keywords

Communication waiting, CW, IP multimedia subsystem, IMS, network side, protocol implementation conformance statement, PICS, session description protocol, SDP, session initiation protocol, SIP, testing, user side.

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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.

FOREWORD

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

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NOTE

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

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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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Communication waiting service using IP multimedia core network subsystem; Conformance testing – Part 1: Network side and user side; Protocol implementation conformance statement

1 Scope

The present Recommendation provides the protocol implementation conformance statement (PICS) of the communication waiting (CW) service, based on stage three of the IMS simulation services specified in the protocol specification as specified in [ITU-T Q.3622 v.1] "Communication waiting using IP multimedia core network subsystem – Protocol specification".

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 Q.3622 v.1]   Recommendation ITU-T Q.3622 v.1 (2016), *Communication waiting using IP multimedia core network subsystem – Protocol specification.*

[ITU-T X.290]   Recommendation ITU-T X.290 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – General concepts.*

[ITU-T X.296]   Recommendation ITU-T X.296 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – Implementation conformance statements.*

3 Definitions

For the purposes of this Recommendation, the terms and definitions given in [ITU-X.290] and [ITU-T X.296] apply:

3.1 implementation conformance statement (ICS): A statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented. The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

3.2 ICS proforma: A document, in the form of a questionnaire which, when completed for an implementation or system, becomes an ICS.

3.3 protocol ICS (PICS): An ICS for an implementation or system claimed to conform to a given protocol specification.

NOTE – This may contain additional information.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

CW   Call Waiting

ICS   Implementation Conformance Statement

IP   Internet Protocol

IUT   Implementation Under Test

IMS   IP Multimedia Subsystem

PICS   Protocol Implementation Conformance Statement

SDP   Session Description Protocol

SIP   Session Initiation Protocol

SUT   Session Initiation Protocol

5   Conformance to this PICS proforma specification

If it claims to conform to the present Recommendation, the actual protocol implementation conformance statement (PICS) proforma to be filled in by a supplier shall be technically equivalent to the text of the PICS proforma given in this clause, and shall preserve the numbering/naming and ordering of the proforma items.

A PICS which conforms to the present Recommendation shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause 5.1.

5.1   Guidance for completing the PICS proforma

5.1.1   Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in [ITU-T Q.3622 v.1] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into clauses for the following categories of information:

–   guidance for completing the PICS proforma;

–   identification of the implementation;

–   identification of the <reference specification type>;

–   global statement of conformance;

–   *roles;*

–   *user role;*

    –   major capabilities;

–   network role;

    –   major capabilities;

–   Timers.

5.1.2   Abbreviations and conventions

The PICS proforma contained in this clause is comprised of information in tabular form in accordance with the guidelines presented in [ITU-T X.296].

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text for each respective item (e.g., parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Status column

The following notations, defined in [ITU-T X.296], are used for the status column:

m   mandatory – the capability is required to be supported.

o   optional – the capability may be supported or not.

n/a   not applicable – in the given context, it is impossible to use the capability.

Reference column

The reference column makes reference to [ITU-T Q.3622 v.1], except where explicitly stated otherwise.

Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in [ITU-T X.296], are used for the support column:

Y or y   supported by the implementation.

N or n   not supported by the implementation.

N/A, n/a or –   no answer required (allowed only if the status is n/a, directly or after evaluation of a conditional status).

Prerequisite line

A prerequisite line takes the form: Prerequisite: <predicate>.

A prerequisite line after a clause or table title indicates that the whole clause or the whole table is not required to be completed if the predicate is FALSE.

5.1.3 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. In particular, an explicit answer shall be entered, in each of the support column boxes provided, using the notation described in clause 5.1.2.

However, the tables containing in "user role" clause shall only be completed for user implementations, and the tables containing in "network role" clause shall only be completed for network implementations.

If necessary, the supplier may provide additional comments in the space at the bottom of the tables or separately.

More detailed instructions are given at the beginning of the different clauses of the PICS proforma.

5.2 Identification of the implementation

Identification of the implementation under test (IUT) and the system in which it resides (the system under test (SUT)) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

5.2.1 Date of the statement

....

5.2.2 Implementation Under Test (IUT) identification

IUT name:

....

....

IUT version:

....

5.2.3 System Under Test (SUT) identification

SUT name: ....

....

....

Hardware configuration:

....

....

....

Operating system:

....

5.2.4 Product supplier

Name:

....

Address:

....

....

....

Telephone number:

....

Facsimile number:

....

E-mail address:

....

Additional information:

....

....

....

5.2.5 Client (if different from product supplier)

Name:

....

Address:

....

....

....

Telephone number:

....

Facsimile number:

....

E-mail address:

....

Additional information:

....

....

5.2.6 PICS contact person

(A person to contact if there are any queries concerning the content of the ICS)

Name:

....

Telephone number:

....

Facsimile number:

....

E-mail address:

Additional information:

....

....

....

5.3 Identification of the ITU-T Q.3622 v.1

This PICS proforma applies to [ITU-T Q.3622 v.1], "Communication waiting using IP multimedia core network subsystem – Protocol specification".

5.4 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No)

NOTE –   Answering "No" to this question indicates non-conformance to the <reference specification type> specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming, on pages attached to the PICS proforma.

5.5 Roles

Table 5-1 – Roles

Item	Item description	Reference	Status	Support
1	User	Clauses 4.5.5, 4.5.5.3 of [ITU-T Q.3622 v.1]	o.1	
2	Network	Clause 4.5.5.2 of [ITU-T Q.3622 v.1]	o.1	

o.1:   It is mandatory to support exactly one of these items.

Comments:

5.6 User role

This clause contains the PICS proforma tables related to the user role. They need to be completed only for user implementations:

Prerequisite: 5.0/1   -- user role

5.6.1 Major capabilities

Table 5-2 – User related requirements and options

Item	Item description	Reference	Status	Support
1	Does the user equipment of the user B indicate to the user that the outgoing communication is being treated as a waiting communication?	Clause 4.5.5.3.2 of [ITU-T Q.3622 v.1]	o	
2	Does the user equipment of the user C indicate to the user that the outgoing communication is being treated as a waiting communication?	Clause 4.5.5.3.4 of [ITU-T Q.3622 v.1]	o	
3	Is the user equipment of the user B able to send a communication waiting indication in a 180 Ringing and send the Alert-Info header with the value <urn:alert:service:call-waiting>?	Clause 4.5.5.3.2 of [ITU-T Q.3622 v.1]	o	
4	Does the user equipment of the user B accept and understand the XML CW MIME attachment and notify the user?	Clause 4.5.5.3.2 of [ITU-T Q.3622 v.1]	o	
5	Does the user equipment of the user B starts timer T_{UE-CW}?	Clause 4.5.5.3.2 of [ITU-T Q.3622 v.1]	o	
6	Does the user equipment of the user B use the value of the Expires header received in the INVITE request?	Clause 4.5.5.3.2 of [ITU-T Q.3622 v.1]	o	

Comments:

5.7 Network role

This clause contains the PICS proforma tables related to the network role. They need to be completed only for network implementations:

Prerequisite:5.0/2   -- network role

5.7.1 Major capabilities

Table 5-3 – Network related requirements and options

Item	Item description	Reference	Status	Support
1	Is the CW condition determined by the AS based on the receipt of a 180 (Ringing) response with an Alert-Info header field set to "urn:alert:service:call-waiting"?	Clause 4.5.5.2 of [ITU-T Q.3622 v.1]	o	
2	Is the CW condition determined by the AS based on validation of the "approaching NDUB" condition?	Clause 4.5.5.2 of [ITU-T Q.3622 v.1]	o	
3	Does the AS initiate the procedures for the provision of an announcement to the calling?	Clause 4.5.5.2 of [ITU-T Q.3622 v.1]	o	
4	Does the Application Server start the timer T_{AS-CW} timer?	Clause 4.5.5.2 of [ITU-T Q.3622 v.1]	o	
5	Does the Application Server Supports the Call diversion service?	Clause 4.6.8 of [ITU-T Q.3622 v.1]	o	
6	Does the Application Server Supports the Service configuration via Ut interface?	Clause 4.8 of [ITU-T Q.3622 v.1]	o	
7	Does the Network include an Expires header set to the value of T_{AS-CW} timer in the INVITE sent to user B	Clause 4.5.5.2 of [ITU-T Q.3622 v.1]	o	

Comments:

5.7.2 Timers

Table 5-4 – Timer

Item	Item description	Reference	Status	Support	Values	
					Allowed	**Supported [sec]**
1	Timer T_{AS-CW}	Clause 4.7 of [ITU-T Q.3622 v.1]	o		Service provider option	
2	Timer T_{UE-CW}	Clause 4.5.5.3.2 of [ITU-T Q.3622 v.1]	o		manufacturer option	

Comments:

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