



**Core Network and Interoperability Testing (INT);  
Communication HOLD (HOLD) using IP Multimedia (IM)  
Core Network (CN) subsystem;  
Conformance test specification;  
(3GPP™ Release 12);  
Part 1: Protocol Implementation Conformance  
Statement (PICS)**

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Reference

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# Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Core Network and Interoperability Testing (INT).

The present document is part 1 of a multi-part deliverable covering the Conformance Test Specification of Communication HOLD (HOLD) using IP Multimedia (IM) Core Network (CN) subsystem, as identified below:

- Part 1: "Protocol Implementation Conformance Statement (PICS)";**
- Part 2: "Test Suite Structure and Test Purposes (TSS&TP)".
- Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

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# Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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# Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunication specification. Such a statement is called an Implementation Conformance Statement (PICS).

---

# 1 Scope

The present document provides the Protocol Implementation Communication Hold (HOLD) services, based on stages one and two of the ISDN Hold (HOLD) supplementary services defined in ETSI TS 124 610 [1] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4] and ETSI ETS 300 406 [2].

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## 2 References

### 2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 124 610: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Communication HOLD (HOLD) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification (3GPP TS 24.610 Release 12)".
- [2] ETSI ETS 300 406 (1995): "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [3] ISO/IEC 9646-1: "Information technology -- Open systems interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".
- [4] ISO/IEC 9646-7: "Information technology -- Open systems interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".
- [5] IETF RFC 3264: "An Offer/Answer Model with the Session Description Protocol (SDP)".

### 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

Not applicable.

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## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in ETSI TS 124 610 [1], ISO/IEC 9646-1 [3], ISO/IEC 9646-7 [4] and the following apply:

**ICS pro forma:** document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

**Implementation Conformance Statement (ICS):** statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented

NOTE: The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

**Protocol ICS (PICS):** ICS for an implementation or system claimed to conform to a given protocol specification

NOTE: This may contain additional information.

### 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 124 610 [1] and the following apply:

ICS	Implementation Conformance Statement
IUT	Implementation Under Test
PICS	Protocol ICS
SUT	System Under Test

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## 4 Conformance to this PICS pro forma specification

### 4.0 The right to copy

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the ICS proforma in this clause so that it can be used for its intended purposes and may further publish the completed ICS.

### 4.1 Guidance for completing the PICS pro forma

#### 4.1.0 Introduction

If it claims to conform to the present document, the actual PICS pro forma to be filled in by a supplier shall be technically equivalent to the text of the PICS pro forma given in clause 4, and shall preserve the numbering/naming and ordering of the pro forma items.

A PICS which conforms to the present document shall be a conforming PICS pro forma completed in accordance with the guidance for completion given in clause 4.1.

#### 4.1.1 Purposes and structure

The purpose of this PICS pro forma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ETSI TS 124 610 [1] may provide information about the implementation in a standardized manner.

The ICS pro forma is subdivided into clauses for the following categories of information:

- guidance for completing the ICS pro forma;
- identification of the implementation;
- identification of the <reference specification type>;
- global statement of conformance;
- roles;
- user role:
  - major capabilities;
- network role:
  - major capabilities.

## 4.1.2 Abbreviations and conventions

The ICS pro forma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [4].

### 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 each respective item (e.g. parameters, timers, etc.). It implicitly means "is the requirement or option supported by the implementation?".

### Status column

The following notations, defined in ISO/IEC 9646-7 [4], are used for the status column:

- |     |   |
|-----|---|
| m   | mandatory - the capability is required to be supported.   |
| o   | optional - the capability may be supported or not.  |
| o.i | qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies an unique group of related optional items and the logic of their selection which is defined immediately following the table. |

### Reference column

The reference column makes reference to ETSI TS 124 610 [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 ISO/IEC 9646-7 [4], 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.

## 4.1.3 Instructions for completing the PICS pro forma

The supplier of the implementation shall complete the PICS pro forma in each of the spaces provided. In particular, an explicit answer shall be entered, in each of the support or supported column boxes provided, using the notation described in clause 4.1.2.

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 space at the bottom of the tables or separately.

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

## 4.2 Identification of the implementation

### 4.2.0 Introduction

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 PICS should be named as the contact person.

### 4.2.1 Date of the statement

.....

### 4.2.2 Implementation Under Test (IUT) identification

IUT name:

.....  
 .....

IUT version:

.....

### 4.2.3 System Under Test (SUT) identification

SUT name:

.....  
 .....



Hardware configuration:

.....  
.....  
.....

Operating system:

.....

#### 4.2.4 Product supplier

Name:

.....

Address:

.....  
.....  
.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....  
.....  
.....

#### 4.2.5 Client (if different from product supplier)

Name:

.....

Address:

.....  
.....  
.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

## 4.2.6 PICS contact person

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

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

---

## 4.3 Identification of the ETSI TS 124 610

### 4.3.0 Introduction

This PICS pro forma applies to the following standard:

**ETSI TS 124 610 (V12.6.0) (01-2015) [1]:** "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Communication HOLD (HOLD) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification (3GPP TS 24.610 version 12.6.0 Release 12)".

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## 4.4 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 ICS, with an explanation of why the implementation is non-conforming, on pages attached to the ICS pro forma.

## 4.5 Roles

**Table 4.5.1: Roles**

Item	Role	Reference	Status	Support
1	User	4.5.2.1/ [1]	o.1	
2	Network	4.5.2.4/ [1]	o.1	

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

Comments:

## 4.6 User role

### 4.6.0 Introduction

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

Prerequisite: 4.5.1/1 -- user role

### 4.6.1 Major capabilities

**Table 4.6.1: User Equipment capabilities**

Item	Requirement or option	Reference	Status	Support
1	Does the User Equipment supports the hold and resume of media streams in the early dialogue?	[5]	o	
2	Does the User Equipment supports the hold and resume of media streams using the UPDATE method in the confirmed dialogue?	4.5.2.1/ [1]	o	

o.2: It is mandatory to support at least one of these items.

Comments:

## 4.7 Network role

### 4.7.0 Introduction

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

Prerequisite: 4.5.1/2 -- network role

## 4.7.1 Major capabilities

**Table 4.7.1: Network related requirements and options**

Item	Requirement or option	Reference	Status	Support
1	Does the network supports the hold and resume of media streams in the early dialogue?	[5]	o	
2	Does the network supports the hold and resume of media streams using the UPDATE method in the confirmed dialogue?	4.5.2.1/ [1]	o	
3	Does the AS of the invoking UE initiates the procedures for the provision of an announcement to the held user?	4.5.2.4/ [1]	o	
4	Does the AS of the invoking UE supports for each media stream marked "recvonly" lower the bandwidth by setting the "b=AS:" parameter to a small value?	4.5.2.4/ [1]	o	
5	Does the AS of the invoking UE supports for each media stream marked "inactive" lower the bandwidth by setting the "b=AS:" parameter to a small value?	4.5.2.4/ [1]	o	

Comments:

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## History

<b>Document history</b>		
V1.1.1	October 2006	Publication
V2.1.1	October 2015	Publication
V3.1.1	December 2017	Publication