



**IMS Network Testing (INT);
Diameter Conformance testing for Gx interface;
Part 3: Abstract Test Suite (ATS) and partial Protocol
Implementation eXtra Information for Testing (PIXIT)
proforma specification**

Reference

DTS/INT-00068-3

Keywords

ATS, diameter, PIXIT

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Foreword

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

The present document is part 3 of a multi-part deliverable covering the test specifications for the Diameter protocol on the Gx interface, as identified below:

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

1 Scope

The present document specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the test specifications for Diameter protocol on the Gx interface as specified in TS 129 212 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [5] and ETS 300 406 [6].

The test notation used in the ATS is TTCN-3 (see ES 201 873-1 [7]).

The following test specification and design considerations can be found in the body of the present document:

- the overall test suite structure;
- the testing architecture;
- the test methods and port definitions;
- the test configurations;
- TTCN styles and conventions;
- the partial PIXIT proforma;
- the modules containing the TTCN-3 ATS.

Annex A provides the Abstract Test Suite (ATS) part of the ATS.

Annex B provides the Partial Implementation Extra Information for Testing (PIXIT) Proforma for the PCRF part of the ATS.

Annex C provides the Partial Implementation Extra Information for Testing (PIXIT) Proforma for the PCEF part of the ATS.

Annex D provides the PCTR Proforma for the PCRF part of the ATS.

Annex E provides the PCTR Proforma for the PCEF part of the ATS.

2 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 reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://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.

2.1 Normative references

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

- [1] ETSI TS 129 212 (V10.5.0): "Universal Mobile Telecommunications System (UMTS); LTE; Policy and charging control over Gx/Sd reference point (3GPP TS 29.212 version 10.5.0 Release 10)".
- [2] ETSI TS 101 606-2: "IMS Network Testing (INT); Diameter Conformance testing for Gx interface; Part 2: Test Suite Structure (TSS) and Test Purposes (TP)".

- [3] ISO/IEC 9646-1: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".
- [4] ISO/IEC 9646-6: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 6: Protocol profile test specification".
- [5] ISO/IEC 9646-7: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".
- [6] ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [7] ETSI ES 201 873-1: "Methods for Testing and Specification (MTS); The Testing and Test Control Notation version 3; Part 1: TTCN-3 Core Language".

2.2 Informative references

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.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646-7 [5] and TS 129 212 [1] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ISO/IEC 9646-1 [3], ISO/IEC 9646-6 [4], ISO/IEC 9646-7 [5] and TS 129 212 [1] apply.

4 Abstract Test Method (ATM)

This clause describes the ATM used to test the Diameter protocol on the Gx interface at the PCEF side and at the PCRF side.

4.1 Test architecture

4.1.1 Test method

The test method chosen is the remote test method. Remote test method means that the test tool (the test machine + the executable test suite) shall behave as a PCRF when the IUT is a PCEF and shall behave as a PCEF when the IUT is a PCRF. As the exchange between the test system and the IUT is at the diameter message level, the lower layers of the test machine shall be totally conformant with the corresponding lower layers specifications to use the remote test method.

4.1.2 Test machine configuration

4.1.2.1 Test configurations for PCEF testing

The Gx interface is located between PCRF and the SUT. The GTP interfaces are used to trigger the SUT.

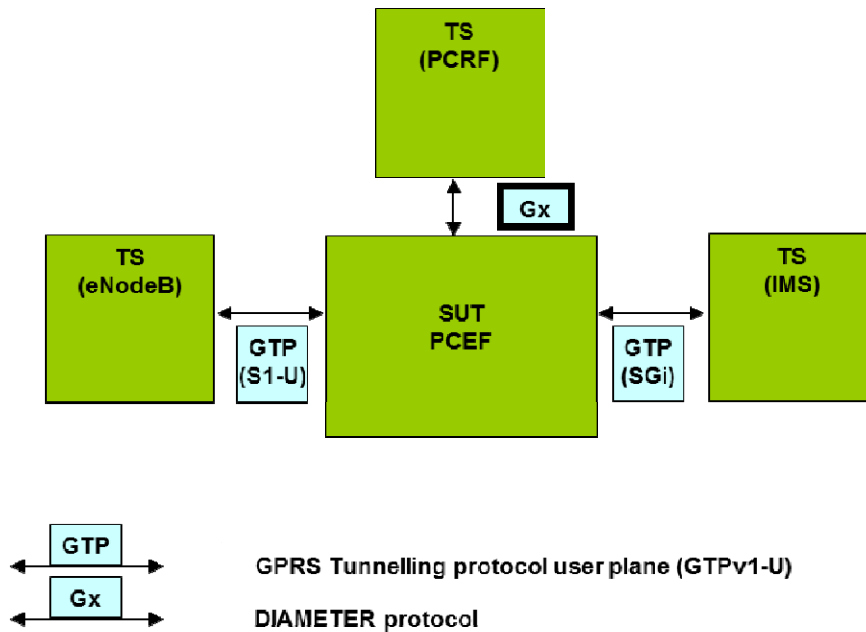


Figure 1: Test architecture with PCEF as SUT

4.1.2.2 Test configurations for PCRF testing

The Gx interface is located between PCEF and PCRF. The Rx interface is located between PCEF and the SUT.

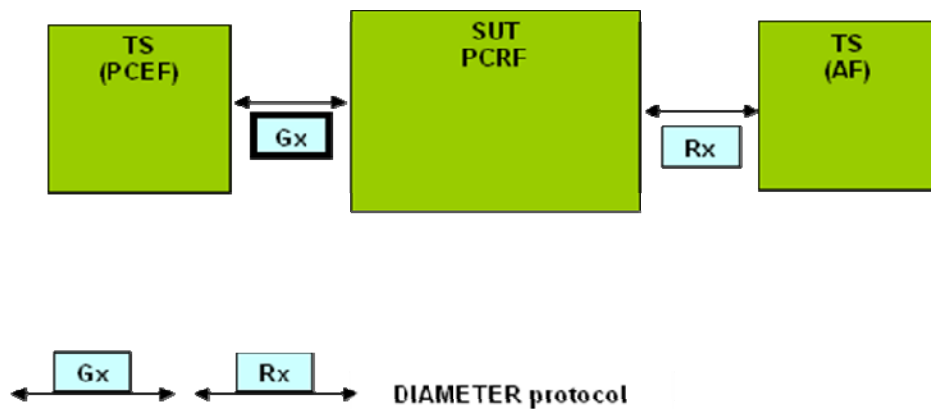


Figure 2: Test architecture with PCRF as SUT

4.1.3 Interconnection of TS and SUT

4.1.3.1 PCEF Role

Figures 3 and 4 show the interconnection of TS and SUT in terms of signalling message flows. Diameter messages are transferred over the DIAMP port. Lower Layer Primitives are transferred over the LLPP port. Some PCEF tests may require additional triggering via the GTP ports. This configuration can be disabled using PIXIT parameter "GTPsupport". GTPv1-U messages are exchanged at ports GTP1 and GTP2 (see figure 4).

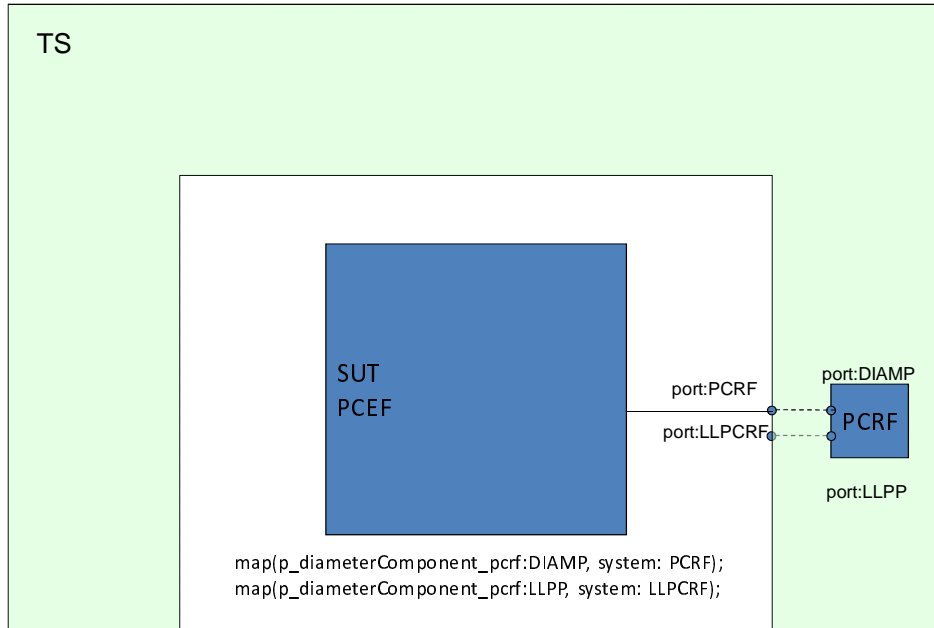


Figure 3: Interconnection for PCEF role without IP interfaces

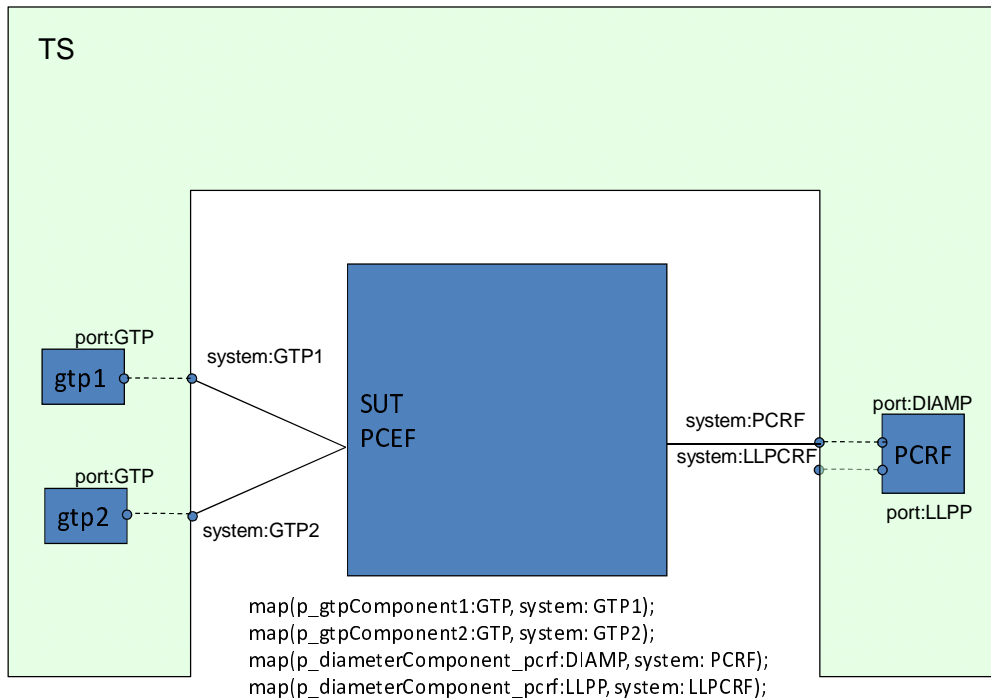


Figure 4: Interconnection for PCEF role with IP interfaces (GTP)

4.1.3.2 PCRF Role

Figures 5 and 6 show the interconnection of TS and SUT in terms of signalling message flows. Diameter messages are transferred over the DIAM port. Lower Layer Primitives are transferred over the LLPP port. Some PCRF tests may require additional triggering via the Rx interface (see figure 6).

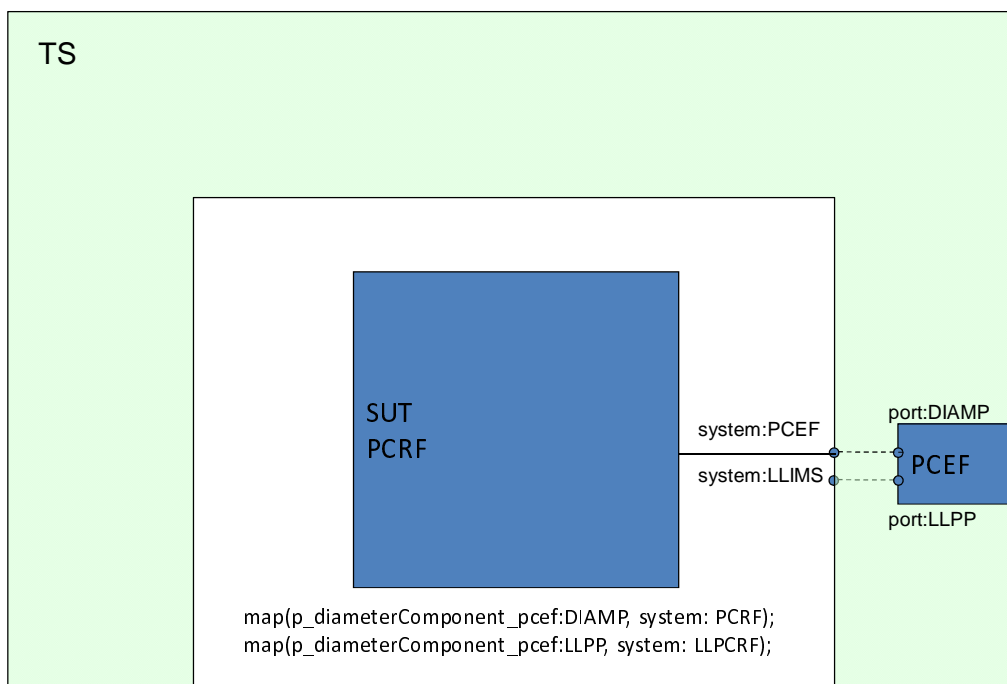


Figure 5: Interconnection for PCRF role

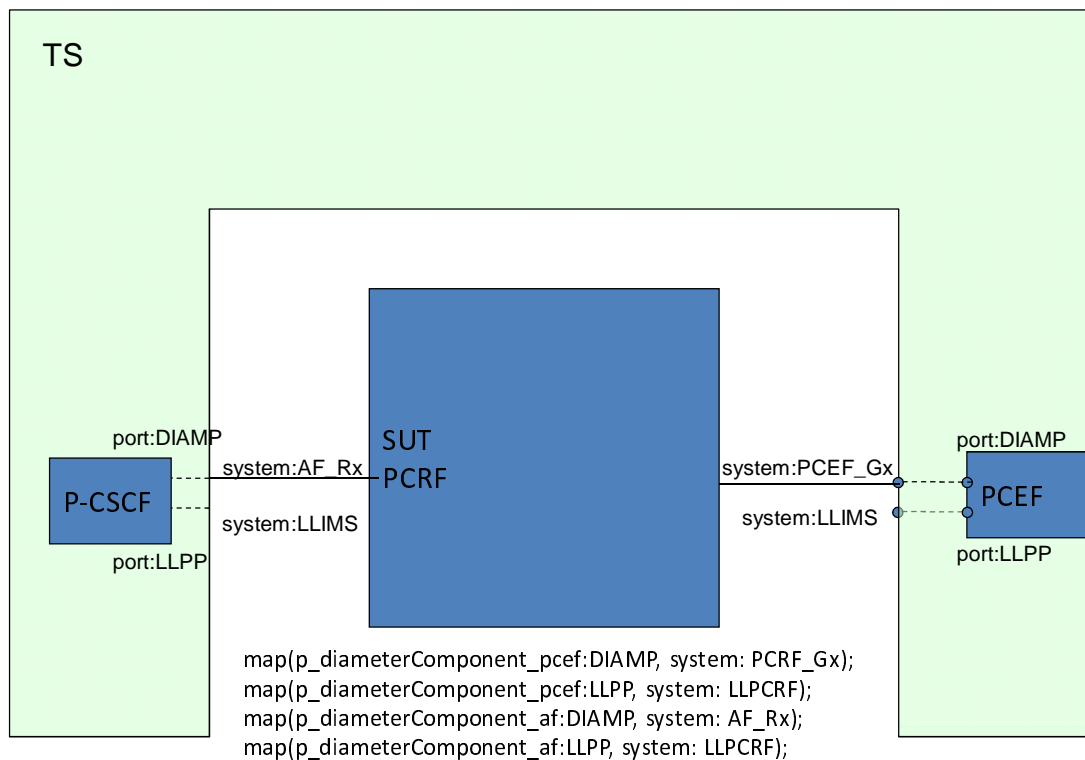


Figure 6: Interconnection for PCRF role with AF interface (Rx)

4.1.3.3 Test Adapter

For execution of the tests the Test Adapter (TA) shall be developed. There are two possibilities to communicate over TA:

- ATS provides only Diameter messages; or
- ATS provides Diameter messages and LL primitives.

5 ATS conventions

The ATS conventions are intended to give a better understanding of the ATS but they also describe the conventions made for the development of the ATS. These conventions shall be considered during any later maintenance or further development of the ATS.

The ATS conventions contain two clauses, the naming conventions and the implementation conventions. The naming conventions describe the structure of the naming of all ATS elements. The implementation conventions describe the functional structure of the ATS.

To define the ATS, the guidelines of the document ETS 300 406 [6] were considered.

5.1 Testing conventions

5.1.1 Test cases Preamble and Postamble

As described in the test method clause the test tool shall behave as a PCRF when the IUT is a PCEF and shall behave as a PCEF when the IUT is a PCRF. For that reason the test case preambles and postambles are named as follows:

IUT is a PCRF (example TC_PCRF_IPS_01)

```
f_preamble_PCEF
f_postamble_PCEF
```

NOTE 1: The tester also behaves as a Diameter Client.

IUT is a PCEF (example TC_PCEF_IPS_01)

```
f_preamble_PCRF
f_postamble_PCRF
```

NOTE 2: The tester also behaves as a Diameter Server.

5.2 Naming conventions

5.2.1 General guidelines

The naming conventions are based on the following underlying principles:

- In most cases, identifiers should be prefixed with a short alphabetic string (specified in table 1) indicating the type of TTCN-3 element it represents.
- Suffixes should not be used except in those specific cases identified in table 2.
- Prefixes and suffixes should be separated from the body of the identifier with an underscore ("_"):

EXAMPLE 1: `c_sixteen`, `t_wait_max`.

- Only module names, data type names and module parameters should begin with an upper-case letter. All other names (i.e. the part of the identifier following the prefix) should begin with a lower-case letter.
- The start of second and subsequent words in an identifier should be indicated by capitalizing the first character. Underscores should not be used for this purpose.

EXAMPLE 2: `f_authenticateUser`.

Table 1 specifies the naming guidelines for each element of the TTCN-3 language indicating the recommended prefix, suffixes (if any) and capitalization.

Table 1: TTCN-3 naming convention

Language element	Naming convention	Prefix	Suffix	Example	Notes
Module	Use upper-case initial letter	DiameterGx_	<i>none</i>	DiameterGx_Steps	
TSS grouping	Use all upper-case letters	<i>none</i>	<i>none</i>	TP_PCEFRole_IPS	
Message template	Use lower-case initial letter	m_	<i>none</i>	m_authApplicationId	
Message template with wildcard or matching expression	Use lower-case initial letters	mw_	<i>none</i>	mw_subscriptionId	
Port instance	Use upper-case initial letter	<i>none</i>	<i>none</i>	DiameterPort	
Constant	Use lower-case initial letter	c_	<i>none</i>	c_maxRetransmission	
Function	Use lower-case initial letter	f_	<i>none</i>	f_authentication()	
Altstep	Use lower-case initial letter	a_	<i>none</i>	a_receive()	
Variable	Use lower-case initial letter	v_	<i>none</i>	v_basicId	
PICS values	Use all upper case letters	PC_	<i>none</i>	PC_PCRF_DATA_CON	Note
PIXIT values	Use all upper case letters	PX_	<i>none</i>	PX_DIAMETER_IP_ADDR	Note
Parameterization	Use lower-case initial letter	p_	<i>none</i>	p_maId	
Enumerated Value	Use lower-case initial letter	e_	<i>none</i>	e_synCpk	
NOTE: In this case it is acceptable to use underscore as a word delimiter.					

5.2.2 Test case grouping

The ATS structure is based on the Test Purposes for the Diameter protocol on the Gx interface as defined in TS 101 606-2 [2].

5.2.3 Test case identifiers

The test cases have been divided according to the functionalities into several groups.

The test case names are built up according to the following scheme:

Table 2: TC identifier naming convention scheme

Identifier:	"<tc>"_"<iut >"_"<scope >"_"<number>"		
<tc>	=	Test Case:	fixed to "TC"
<iut >	=	type of IUT:	PCRF or PCEF
<scope >	=	group	IPS Initial Provisioning Session MSI Modification of Session Information INV Invalid Behaviour ST Session Termination PCC PCC rules EMS Emergency services UMC Usage monitoring control IRS IMS Restoration Support MPS Multimedia Priority Support SDC Sponsored Data Connectivity RAU Reporting Accumulated Usage
<number>	=	sequential number	(01-99)

NOTE: This naming scheme results into a one-to-one correspondence between the test purpose identifiers as defined in TS 101 606-2 [2] and the test case identifiers.
The TP identifier of the test case TC_XXX_01 is TP_XXX_01.

Annex A (normative): DIAMETER Gx Abstract Test Suite (ATS)

This ATS has been produced using the Testing and Test Control Notation (TTCN-3) according to ES 201 873-1 [7].

A.1 The TTCN-3 Module

The TTCN-3 library modules corresponding to the ATS are contained in archive ts10160603v010101p0.zip which accompanies the present document.

Annex B (normative): DIAMETER Gx Partial PIXIT proforma for IUT PCRF

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 Partial PIXIT proforma in this annex so that it can be used for its intended purposes and may further publish the completed Partial PIXIT.

The PIXIT Proforma is based on ISO/IEC 9646-6 [4]. Any additional information which may be needed can be found in this international standard document.

B.1 Identification summary

Table B.1

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

B.2 ATS summary

Table B.2

Protocol Specification:	TS 129 212 [1]
Protocol to be tested:	
ATS Specification:	TS 101 606-3
Abstract Test Method:	TS 101 606-3 clause 4

B.3 Test laboratory

Table B.3

Test Laboratory Identification:	
Test Laboratory Manager:	
Means of Testing:	
SAP Address:	

B.4 Client identification

Table B.4

Client Identification:	
Client Test manager:	
Test Facilities required:	

B.5 SUT

Table B.5

Name:	
Version:	
SCS Number:	
Machine configuration:	
Operating System Identification:	
IUT Identification:	
PICS Reference for IUT:	
Limitations of the SUT:	
Environmental Conditions:	

B.6 Protocol layer information

B.6.1 Protocol identification

Table B.6

Name:	TS 129 212 [1]
Version:	
PICS References:	

B.6.2 Configuration

Tables in this clause need to be filled by the IUT Manufacturer to specify how the IUT needs to be configured with IUT specific values or describe IUT specific procedures required for complete testing of the IUT.

Table B.7: PIXIT for the Gx interface

Gx PIXIT Summary		
1	PX_DIAMETER_GX_ETS_IPADDR	charstring, IP address of the test system
2	PX_DIAMETER_GX_SUT_IPADDR	charstring, IP address of the system under test
3	PX_DIAMETER_GX_ETS_PORT	charstring, Port number of the test system
4	PX_DIAMETER_GX_SUT_PORT	charstring, Port number of the system under test
5	PX_SessionID	UTF8String, Session-Id AVP (AVP Code 263)
6	PX_Logical_Access_ID	octetstring, the logical Access ID in case of xDSL IP-CAN type
7	PX_Physical_Access_ID	UTF8String, the physical Access ID in case of xDSL IP-CAN type
8	PX-OriginHost	charstring, the Origin-Host AVP (AVP Code 264)
9	PX-OriginRealm	charstring, the Origin-Realm AVP (AVP Code 296)
10	PX-DestinationHost	charstring, the Destination-Host AVP (AVP Code 293)
11	PX-DestinationRealm	charstring, the Destination-Realm AVP (AVP Code 283)
12	PX_UE_framedIpAddress	octetstring the Framed-IP-Address AVP (AVP Code 8)
13	PX_UE_framedIp6Address	octetstring, the Framed-IPv6-Prefix AVP (AVP Code 97)
14	PX_SUBSCRIPTION_ID_TYPE	enumerated type, Subscription_Id_Ty_Type, avp_Data within Subscription_Id_Type_AVP
15	PX_SUBSCRIPTION_ID_DATA	UTF8String, avp_Data within Subscription_Id_AVP

Gx PIXIT Summary		
16	PX_IP_CAN_TYPE	enumerated type, IP_CAN_Type, avp_Data within IP_CAN_Type_AVP
17	PX_RAT_TYPE	enumerated type, RAT_Type, avp_Data within RAT_Type_AVP
18	PX_APN_AGGREGATE_MAX_BITRATE_UL_AVP_DATA	UInt32, avp_Data within APN_Aggregate_Max_Bitrate_UL_AVP
19	PX_3GPP_MS_TIMEZONE_DATA	octetstring, avp_Data within ThreeGPP_MS_TimeZone_DATA
20	PX_CALLED_STATION_ID_DATA	UTF8String, avp_Data within Called_Station_Id_AVP
21	PX_PDN_CONNECTION_ID_DATA	octetstring, avp_Data within PDN_Connection_ID_AVP
22	PX_BEARER_USAGE_DATA	enumerated type, Bearer_Usage, avp_Data within Bearer_Usage_AVP
23	PX_ANCA_ipv4	The ANCA (Access-Network-Charging-Address) in IPv4Addr format
24	PX_ANCA_ipv6	The ANCA (Access-Network-Charging-Address) in type IPv6Addr format
25	PX_SGW_AGW_ipv4	The SGW_AGW address (3GPP-EPS and 3GPP2 accesses) in IPv4Addr format
26	PX_SGW_AGW_ipv6	The SGW_AGW address (3GPP-EPS and 3GPP2 accesses) in IPv6Addr format
27	PX_ACCESS_NETWORK_CHARGING_IDENTIFIER_VALUE	octetstring, avp_Data within Access_Network_Charging_Identifier_Value_AVP
28	PX_ROUTING_RULE_IDENTIFIER_VALUE	octetstring, avp_Data within Routing_Rule_Identifier_AVP
29	PX_NETWORK_REQUEST_SUPPORT	enumerated type Network_Request_Support, avp_Data within Network_Request_Support_AVP is of enumerated type Network_Request_Support
30	PX_CHARGING_RULE_NAME_DATA	octetstring, avp_Data within Charging_Rule_Name_AVP
31	PX_PCC_RULE_STATUS	enumerated type, PCC_Rule_Status, avp_Data within PCC_Rule_Status_AVP
32	PX_PRECEDENCE_DATA	UInt32, avp_Data within Precedence_AVP
33	PX_PACKET_FILTER_IDENTIFIER_DATA	octetstring, avp_Data within Packet_Filter_Identifier_AVP
34	PX_RULE_FAILURE_CODE	enumerated type, PCC_Rule_Status, avp_Data within Rule_Failure_Code_AVP
35	PX_OFFLINE_DATA	enumerated type, PCC_Rule_Status, avp_Data within Offline_AVP
36	PX_MPS_IDENTIFIER	octetstring, avp_Data within MPS_Identifier_AVP (parameter is part of AAR message)
37	PX_ONLINE_DATA	enumerated type, PCC_Rule_Status, avp_Data within Online_AVP

Table B.8: PIXIT for the Rx interface

Rx PIXIT Summary		
1	PX_DIAMETER_RX_ETS_IPADDR	charstring, IP address of the test system
2	PX_DIAMETER_RX_SUT_IPADDR	charstring, IP address of the system under test
3	PX_DIAMETER_RX_ETS_PORT	charstring, Port number of the test system
4	PX_DIAMETER_RX_SUT_PORT	charstring, Port number of the system under test
5	PX_ANCA_ipv4	charstring, The ANCA (Access-Network-Charging-Address) in IPv4Addr format
6	PX_ANCA_ipv6	charstring, The ANCA (Access-Network-Charging-Address) in type IPv6Addr format

Annex C (normative): DIAMETER Gx Partial PIXIT proforma for IUT PCEF

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--

The PIXIT Proforma is based on ISO/IEC 9646-6 [4]. Any additional information which may be needed can be found in this international standard document.

C.1 Identification summary

Table C.1

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

C.2 ATS summary

Table C.2

Protocol Specification:	TS 129 212 [1] (3GPP TS 29.212 version 10.5.0 Release 10)
Protocol to be tested:	
ATS Specification:	TS 101 606-2 [2]
Abstract Test Method:	TS 101 606-3, clause 4

C.3 Test laboratory

Table C.3

Test Laboratory Identification:	
Test Laboratory Manager:	
Means of Testing:	
SAP Address:	

C.4 Client identification

Table C.4

Client Identification:	
Client Test manager:	
Test Facilities required:	

C.5 SUT

Table C.5

Name:	
Version:	
SCS Number:	
Machine configuration:	
Operating System Identification:	
IUT Identification:	
PICS Reference for IUT:	
Limitations of the SUT:	
Environmental Conditions:	

C.6 Protocol layer information

C.6.1 Protocol identification

Table C.6

Name:	TS 129 212 [1] (3GPP TS 29.212 version 10.5.0 Release 10)
Version:	
PICS References:	

C.6.2 Configuration

Tables in this clause need to be filled by the IUT Manufacturer to specify how the IUT needs to be configured with IUT specific values or describe IUT specific procedures required for complete testing of the IUT.

Table C.7: PIXIT for the Gx interface

Gx PIXIT Summary		
1	PX_DIAMETER_GX_ETS_IPADDR	charstring, IP address of the test system
2	PX_DIAMETER_GX_SUT_IPADDR	charstring, IP address of the system under test
3	PX_DIAMETER_GX_ETS_PORT	charstring, Port number of the test system
4	PX_DIAMETER_GX_SUT_PORT	charstring, Port number of the system under test
5	PX_SessionID	UTF8String, the Session-Id AVP (AVP Code 263)
6	PX_OriginHost	charstring, the Origin-Host AVP (AVP Code 264)
7	PX_OriginRealm	charstring, the Origin-Realm AVP (AVP Code 296)
8	PX_DestinationHost	charstring, the Destination-Host AVP (AVP Code 293)
9	PX_DestinationRealm	charstring, the Destination-Realm AVP (AVP Code 283)
10	PX_UE_framedIpAddress	octetstring the Framed-IP-Address AVP (AVP Code 8)
11	PX_UE_framedIp6Address	octetstring, the Framed-IPv6-Prefix AVP (AVP Code 97)
12	PX_BEARER_IDENTIFIER	octetstring, avp_Data within Bearer_Identifier_AVP
13	PX_UNKNOWN_RATING_GROUP	UInt32, avp_Data within Rating_Group_AVP
14	PX_CHARGING_RULE_NAME_DATA	octetstring, avp_Data within Charging_Rule_Name_AVP
15	PX_CHARGING_RULE_NAME_DATA2	octetstring, avp_Data (2 nd rule) within Charging_Rule_Name_AVP

Gx PIXIT Summary		
16	PX_CHARGING_RULE_NAME_DATA3	octetstring, avp_Data (3 rd rule) within Charging_Rule_Name_AVP
17	PX_CHARGING_RULE_NAME_DATA_NONEXIST	octetstring, avp_Data within Charging_Rule_Name_AVP
18	PX_CHARGING_RULE_BASE_NAME_DATA	octetstring, avp_Data within PX_CHARGING_RULE_BASE_NAME_DATA
19	PX_PACKET_FILTER_IDENTIFIER_DATA	octetstring, avp_Data within Packet_Filter_Identifier_AVP
20	PX_MONITORING_KEY	octetstring, avp_Data within MONITORING_KEY_AVP (parameter is part of RAR/CCR message)
21	PX_MONITORING_KEY2	octetstring, avp_Data within MONITORING_KEY_AVP (parameter is part of RAR/CCR message)
22	PX_REVALIDATION_TIME	octetstring, avp_Data within Revalidation_Time_AVP (parameter is part of RAR message)
23	PX_ACTIVATION_TIME	octetstring, avp_Data within Rule_Activation_Time_AVP (parameter is part of Charging_Rule_Install_AVP)
24	PX_DEACTIVATION_TIME	octetstring, avp_Data within Rule_DeActivation_Time_AVP (parameter is part of Charging_Rule_Install_AVP)
25	PX_EMERGENCY_APN	UTF8String, avp_Data within Called_Station_Id_AVP (parameter is part of Called_Station_Id_AVP)
26	PX_GTPsupport	Boolean indicator, TRUE if GTP interface is accessible to trigger Diameter events

Annex D (normative): DIAMETER Gx PCTR Proforma for IUT PCRF

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 PCTR proforma in this annex so that it can be used for its intended purposes and may further publish the completed PCTR.

The PCTR proforma is based on ISO/IEC 9646-6 [4]. Any additional information which may be needed can be found in this International standard document.

D.1 Identification summary

D.1.1 Protocol conformance test report

Table D.1

PCTR Number:	
PCTR Date:	
Corresponding SCTR Number:	
Corresponding SCTR Date:	
Test Laboratory Identification:	
Test Laboratory Manager:	
Signature:	

D.1.2 IUT identification

Table D.2

Name:	
Version:	
Protocol specification:	
PICS:	
Previous PCTR if any:	

D.1.3 Testing environment

Table D.3

PIXIT Number:	
ATS Specification:	TS 101 606-3
Abstract Test Method:	TS 101 606-3, clause 4
Means of Testing identification:	
Date of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

D.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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D.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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D.2 IUT Conformance status

This IUT has or has not been shown by conformance assessment to be non-conforming to the specified protocol specification.

Strike the appropriate words in this sentence. If the PICS for this IUT is consistent with the static conformance requirements (as specified in clause C.3 in the present document) and there are no "FAIL" verdicts to be recorded (in clause C.6 in the present document) strike the words "has or", otherwise strike the words "or has not".

D.3 Static conformance summary

The PICS for this IUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

D.4 Dynamic conformance summary

The test campaign did or did not reveal errors in the IUT.

Strike the appropriate words in this sentence. If there are no "FAIL" verdicts to be recorded (in clause C.6 of the present document) strike the words "did or" otherwise strike the words "or did not".

Summary of the results of groups of test:

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D.5 Static conformance review report

If clause C.3 indicates non-conformance, this clause itemises the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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D.6 Test campaign report

Table D.4: PCRF test cases

ATS Reference	Selected?	Run?	Verdict	Observations (Reference to any observations made in clause D.7)
TC_PCRF_IPS_01	Yes/No	Yes/No		
TC_PCRF_IPS_02	Yes/No	Yes/No		
TC_PCRF_IPS_03	Yes/No	Yes/No		
TC_PCRF_IPS_04	Yes/No	Yes/No		
TC_PCRF_IPS_05	Yes/No	Yes/No		
TC_PCRF_IPS_06	Yes/No	Yes/No		
TC_PCRF_MSI_01	Yes/No	Yes/No		
TC_PCRF_MSI_02	Yes/No	Yes/No		
TC_PCRF_MSI_03	Yes/No	Yes/No		
TC_PCRF_MSI_04	Yes/No	Yes/No		
TC_PCRF_MSI_05	Yes/No	Yes/No		
TC_PCRF_MSI_06	Yes/No	Yes/No		
TC_PCRF_INV_01	Yes/No	Yes/No		
TC_PCRF_INV_02	Yes/No	Yes/No		
TC_PCRF_ST_01	Yes/No	Yes/No		
TC_PCRF_ST_02	Yes/No	Yes/No		
TC_PCRF_ST_03	Yes/No	Yes/No		
TC_PCRF_PCC_01	Yes/No	Yes/No		
TC_PCRF_PCC_02	Yes/No	Yes/No		
TC_PCRF_PCC_03	Yes/No	Yes/No		
TC_PCRF_PCC_04	Yes/No	Yes/No		
TC_PCRF_PCC_05	Yes/No	Yes/No		
TC_PCRF_PCC_06	Yes/No	Yes/No		
TC_PCRF_PCC_07	Yes/No	Yes/No		
TC_PCRF_PCC_08	Yes/No	Yes/No		
TC_PCRF_PCC_09	Yes/No	Yes/No		
TC_PCRF_EMS_01	Yes/No	Yes/No		
TC_PCRF_UMC_01	Yes/No	Yes/No		
TC_PCRF_IRS_01	Yes/No	Yes/No		
TC_PCRF_IRS_02	Yes/No	Yes/No		
TC_PCRF_MPS_01	Yes/No	Yes/No		
TC_PCRF_MPS_02	Yes/No	Yes/No		
TC_PCRF_SDC_01	Yes/No	Yes/No		
TC_PCRF_SDC_02	Yes/No	Yes/No		

D.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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Annex E (normative): DIAMETER Gx PCTR Proforma for IUT PCEF

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 PCTR proforma in this annex so that it can be used for its intended purposes and may further publish the completed PCTR.

The PCTR proforma is based on ISO/IEC 9646-6 [4]. Any additional information which may be needed can be found in this International standard document.

E.1 Identification summary

E.1.1 Protocol conformance test report

Table E.1

PCTR Number:	
PCTR Date:	
Corresponding SCTR Number:	
Corresponding SCTR Date:	
Test Laboratory Identification:	
Test Laboratory Manager:	
Signature:	

E.1.2 IUT identification

Table E.2

Name:	
Version:	
Protocol specification:	
PICS:	
Previous PCTR if any:	

E.1.3 Testing environment

Table E.3

PIXIT Number:	
ATS Specification:	TS 101 606-3
Abstract Test Method:	TS 101 606-3, clause 4
Means of Testing identification:	
Date of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

E.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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E.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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E.2 IUT Conformance status

This IUT has or has not been shown by conformance assessment to be non-conforming to the specified protocol specification.

Strike the appropriate words in this sentence. If the PICS for this IUT is consistent with the static conformance requirements (as specified in clause C.3 in the present document) and there are no "FAIL" verdicts to be recorded (in clause C.6 in the present document) strike the words "has or", otherwise strike the words "or has not".

E.3 Static conformance summary

The PICS for this IUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

E.4 Dynamic conformance summary

The test campaign did or did not reveal errors in the IUT.

Strike the appropriate words in this sentence. If there are no "FAIL" verdicts to be recorded (in clause C.6 of the present document) strike the words "did or" otherwise strike the words "or did not".

Summary of the results of groups of test:

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E.5 Static conformance review report

If clause C.3 indicates non-conformance, this clause itemises the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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E.6 Test campaign report

Table E.4: PCEF test cases

ATS Reference	Selected?	Run?	Verdict	Observations (Reference to any observations made in clause D.7)
TC_PCEF_IPS_01	Yes/No	Yes/No		
TC_PCEF_IPS_02	Yes/No	Yes/No		
TC_PCEF_IPS_03	Yes/No	Yes/No		
TC_PCEF_IPS_04	Yes/No	Yes/No		
TC_PCEF_IPS_05	Yes/No	Yes/No		
TC_PCEF_IPS_06	Yes/No	Yes/No		
TC_PCEF_MSI_01	Yes/No	Yes/No		
TC_PCEF_MSI_02	Yes/No	Yes/No		
TC_PCEF_MSI_03	Yes/No	Yes/No		
TC_PCEF_MSI_04	Yes/No	Yes/No		
TC_PCEF_MSI_05	Yes/No	Yes/No		
TC_PCEF_ST_01	Yes/No	Yes/No		
TC_PCEF_ST_02	Yes/No	Yes/No		
TC_PCEF_PCC_01	Yes/No	Yes/No		
TC_PCEF_PCC_02	Yes/No	Yes/No		
TC_PCEF_PCC_03	Yes/No	Yes/No		
TC_PCEF_PCC_04	Yes/No	Yes/No		
TC_PCEF_PCC_05	Yes/No	Yes/No		
TC_PCEF_PCC_06	Yes/No	Yes/No		
TC_PCEF_PCC_07	Yes/No	Yes/No		
TC_PCEF_PCC_08	Yes/No	Yes/No		
TC_PCEF_PCC_09	Yes/No	Yes/No		
TC_PCEF_PCC_10	Yes/No	Yes/No		
TC_PCEF_PCC_11	Yes/No	Yes/No		
TC_PCEF_PCC_12	Yes/No	Yes/No		
TC_PCEF_PCC_13	Yes/No	Yes/No		
TC_PCEF_PCC_14	Yes/No	Yes/No		
TC_PCEF_PCC_15	Yes/No	Yes/No		
TC_PCEF_PCC_16	Yes/No	Yes/No		
TC_PCEF_PCC_17	Yes/No	Yes/No		
TC_PCEF_PCC_18	Yes/No	Yes/No		
TC_PCEF_PCC_19	Yes/No	Yes/No		
TC_PCEF_PCC_20	Yes/No	Yes/No		
TC_PCEF_EMS_01	Yes/No	Yes/No		
TC_PCEF_EMS_02	Yes/No	Yes/No		
TC_PCEF_UMC_01	Yes/No	Yes/No		
TC_PCEF_RAU_01	Yes/No	Yes/No		
TC_PCEF_RAU_02	Yes/No	Yes/No		
TC_PCEF_RAU_03	Yes/No	Yes/No		
TC_PCEF_RAU_04	Yes/No	Yes/No		
TC_PCEF_RAU_05	Yes/No	Yes/No		
TC_PCEF_RAU_06	Yes/No	Yes/No		
TC_PCEF_RAU_07	Yes/No	Yes/No		
TC_PCEF_IRS_01	Yes/No	Yes/No		
TC_PCEF_IRS_02	Yes/No	Yes/No		

E.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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History

Document history		
V1.1.1	September 2012	Publication