

Introduction

The PCRF Functional Tester is an automated test suite for testing the correctness of an implementation of LTE PCRF according to the 3GPP TS 23.203 (Policy and Charging Control), TS 29.214 (Rx), TS 29.212 (Gx), TS 29.215 (S9), TS 29.213 (QoS), TS 29.816 (PCRF failure and restoration) and other relevant Release 10 standards.

Test Coverage

There are total 136 test cases with “IP-CAN Session Establishment, Modification & Termination”, “AF Session Establishment, Modification & Termination”, “Notification to AF”, “Roaming”, “Emergency Session”, “Usage Monitoring”, “Sponsored data connectivity”, “IP Flow Mobility Routing Rule”, “Gateway Control Session Establishment, Modification & Termination”, “GERAN Procedures”, “Gateway Control Session Establishment and Termination Gxa”.

Version 11.0.0.2 Beta

Release Date: August 20, 2015

Component Versions

1. PCRF Functional Tester : 11.0.0.2
2. Test Executive : 2.0.0.23
3. PCRF Functional Tester Test Procedures : 11.0.0

New in this release

1. Configure separate IPv6 addresses for DUT(PCRF) interfaces i.e., i.e., Gx, Rx, S9, Gxx.
2. Configure IPv6 addresses for Testbed nodes (Home PCEF, Home AF, Home BBERF, Visited PCEF etc..).

Resolved Issues

Issue #	Summary
11047	TC 8.3 & 8.4: Functional Tester sends incorrect Subscription ID in Credit Control Request (Test H_PCRF->PCRF) message.

Known Issues

Issue #	Summary
11645	TC 5.1.2 : Functional Tester (H_PCRF) sends hard-coded value for QCI and Priority Level in CCR.

Version 10.2.0.3 Beta

Release Date: February 26, 2014

Component Versions

1. **PCRF Functional Tester : 10.2.0.3**
2. **Test Executive : 2.0.0.23**
3. **PCRF Functional Tester Test Procedures : 10.1.2**

New in this release

1. Support for separate IP addresses for DUT (PCRF) interfaces i.e., Gx, Rx, S9, Gxx.
2. 16 new test cases related to Subscriber on Trusted Non-3GPP IP Access Network, GERAN Procedures, Gateway Control Session Establishment and Termination Gxa.
3. Restructured 20 old test-cases. Restructured test-cases described in the following table.
4. User can enable Wireshark capture option when running tests in a batch, so that individual capture files will be created for the selected tests.

List of New/Modified test cases

Test case/section number	Test case / section description	No of Test cases	Comments
5.5	Subscriber on Trusted Non-3GPP IP Access Network	5	New
14	GERAN Procedures	4	New
15	Gateway Control Session Establishment and Termination Gxa	7	New
2.2 Error-Traffic-Mapping-Info-Rejected with IP-CAN type 3GPP-GPRS	16.1.1 Error-Traffic-Mapping-Info-Rejected	1	Renamed
2.7 Validate CCA with IP-CAN type 3GPP-GPRS	16.1.2 CCA Validation	1	Renamed
3.1.8 Loss-Of-Bearer with IP-CAN type 3GPP-GPRS	16.2.1 Loss-Of-Bearer	1	Renamed
3.1.18 Recovery-Of-Bearer with IP-CAN type 3GPP-GPRS	16.2.2 Recovery-Of-Bearer	1	Renamed
3.2.10 SGSN-Change with IP-CAN type 3GPP-GPRS	16.3.1 SGSN-Change	1	Renamed
3.2.13 TFT-Change with IP-CAN type 3GPP-GPRS	16.3.2 TFT-Change	1	Renamed
3.2.15 Loss-Of-Bearer with IP-CAN type 3GPP-GPRS	16.3.3 Loss-Of-Bearer	1	Renamed
3.2.26 Diameter Error for Charging-	16.3.4 Diameter Error for Charging-	1	Renamed

Test case/section number	Test case / section description	No of Test cases	Comments
Rule-Report with IP-CAN type 3GPP-GPRS	Rule-Report		
3.2.27 Diameter Error for PCC-Rule-Status with IP-CAN type 3GPP-GPRS	16.3.5 Diameter Error for PCC-Rule-Status	1	Renamed
3.2.29 Diameter Error for Recovery-Of-Bearer and Successful-Resource-Allocation with IP-CAN type 3GPP-GPRS	16.3.6 Diameter Error for Recovery-Of-Bearer and Successful-Resource-Allocation	1	Renamed
3.2.30 QoS-Change with Maximum-Bandwidth Change with IP-CAN type 3GPP-GPRS	16.3.7 QoS-Change with Maximum-Bandwidth Change	1	Renamed
3.2.31 Recovery-Of-Bearer with IP-CAN type 3GPP-GPRS	16.3.8 Recovery-Of-Bearer	1	Renamed
3.2.44 Diameter Error for Recovery-Of-Bearer and Successful-Resource-Allocation for EPS with IP-CAN type 3GPP-GPRS	16.3.9 Diameter Error for Recovery-Of-Bearer and Successful-Resource-Allocation for EPS	1	Renamed
3.2.45 Recovery-Of-Bearer with access type 3GPP-EPS with IP-CAN type 3GPP-GPRS	16.3.10 Recovery-Of-Bearer with access type 3GPP-EPS	1	Renamed
5.1.3	5.1.1	1	Moved
5.3.1, 5.3.2	5.3.1	1	Moved
5.3.3	5.3.2	-	Moved
5.4.2	5.4.1	1	Moved
2.4	Error-Initial-Parameters for QoS	1	Removed

Resolved Issues

Issue #	Summary

Known Issues

Issue #	Summary
11047	TC 8.3 & 8.4: Functional Tester sends incorrect Subscription ID in Credit Control Request (Test H_PCRF->PCRF) message.
10980	TC 5.1.1 : Roaming UE attach procedure is failing due to missing Charging-Rule-Install AVP for default rule in S9 CCA.
10753	TC 5.5.3, 5.5.4 & 5.5.5 : Some AVPs such as Online, Offline, Metering Method, Reporting Level, Rating Group within Charging Rule Install AVPs are reported as unexpected AVPs from the DUT.

Version 10.1.0.7 Beta**Release Date:** February 21, 2014**New in this release**

5. 6 testcases related to Gxc session establishment, modification and termination.
6. 24 testcases related to Emergency Session and Packet-Filter-Operation during IP-CAN Session Modification.
7. '**User Prompt**' test step for creating interactive test cases using Test Builder.

Version 10.0.0.3 Beta**Release Date:** July 30, 2013**New in this release**

1. Release 10 compliance.
2. 3 testcases related to Sponsored data connectivity and another 3 testcases related to IP-Flow-Mobility Routing Rule.

Version 1.2.0.3 Beta**Release Date:** May 07, 2013**New in this release**

1. 20 test cases related to IP-CAN Session modification, Notification to AF and handling of error-scenarios.
2. '**Switch**' control element for creating test cases using Test Builder.

Version 1.1.0.1 Beta**Release Date:** March 05, 2013**New in this release**

1. Added 26 new testcases related to Bearer-Control-Mode negotiation, Event to be subscribed by AF, Usage-Monitoring handling and few error-scenarios.
2. Added Failed AVP support.

Version 1.0.0.5 Beta**Release Date:** December 20, 2012**New in this release**

1. Support AVP array in PCRF FT.
2. Packet Details window shows Hex Dump and test compile summary.

Version 1.0.0.3 Beta**Release Date:** November 09, 2012**New in this release**

1. Support both, TCP and SCTP in transport layer in PCRF FT.
2. Added 1 test-case for successful Capability Exchange with V-PCEF in PCRF FT.
3. Support for conditional AVP checking in Compiler.
4. Copy, Paste functionality is implemented for the "Test Steps" of a Test Case in TestBuilder.
5. Bug fixes.

Version 1.0.0.2 Beta**Release Date:** September 19, 2012