Test Files Package for RCS

Candidate Version 5.x – 05 Sep 2017

Open Mobile Alliance

OMA-TFP-RCS_TTCN-V5_x-20170905-C

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Contents

1. SCOPE 4
2. REFERENCES 5
3. TERMINOLOGY AND CONVENTIONS 6
   3.1 CONVENTIONS 6
   3.2 DEFINITIONS 6
   3.3 ABBREVIATIONS 6
4. INTRODUCTION 7
   4.1 DESCRIPTION OF DIRECTORY HIERARCHY 7
   4.2 DESCRIPTION OF FILE DISTRIBUTION AND VERSIONING FOR TESTING 7
5. SCRIPT FILES FOR CLIENT CONFORMANCE 8
   5.1 SCRIPT GROUP – TYPES_VALUES 8
   5.2 SCRIPT GROUP – TEMPLATES 8
   5.3 SCRIPT GROUP – BEHAVIOURS 8
   5.4 TEST CASE STATUS 9
6. OMA RCS CONFORMANCE TESTING FRAMEWORK 18
   6.1 TTCN-3 TEST SYSTEM ARCHITECTURE 18
      6.1.1 Protocol Data Units and Service Primitives 20
      6.1.2 PDUs 20
      6.1.3 Service Primitives 20
      6.1.4 Upper Tester Primitives 20
   6.2 PLATFORM ADAPTER REQUIREMENTS 24
   6.3 TTCN-3 COMPILER REQUIREMENTS 24
7. TEST SUITE EXECUTION 25
   7.1 GENERAL 25
   7.2 PIXIT 25
CHANGE HISTORY 28
   APPROVED VERSION HISTORY 28
   DRAFT/CANDIDATE VERSION 5.X HISTORY 28

Figures

Figure 1: Directory Hierarchy for the RCS 5.x Enabler Test Files 7

Figure 2: Conceptual RCS CON Test Architecture 18

Tables

Table 1: Listing of unchanged versions of TTCN-3 7

Table 2: Listing of Scripts of types_values 8

Table 3: Listing of Scripts of templates 8

Table 4: Listing of Scripts of behaviour 8

Table 5: Listing of Test Case Status 17

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1. Scope

This document describes in detail the structure of TTCN-3 files in the RCS 5.x Client Conformance Abstract Test Suite (ATS).

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2. References

[IOPPROC] "OMA Interoperability Policy and Process", Open Mobile Alliance™, URL:http://www.openmobilealliance.org/

[OMADICT] "Dictionary for OMA Specifications", Open Mobile Alliance™, URL:http://www.openmobilealliance.org/

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

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3. Terminology and Conventions

3.1 Conventions

This is an informative document, which is not intended to provide testable requirements for implementations.

3.2 Definitions

TBD	TBD

3.3 Abbreviations

ATS	Abstract Test Suite
OMA	Open Mobile Alliance

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4. Introduction

This document provides details of the files needed to support Client Conformance testing of the RCS Enabler Release version 5.1.

4.1 Description of Directory Hierarchy

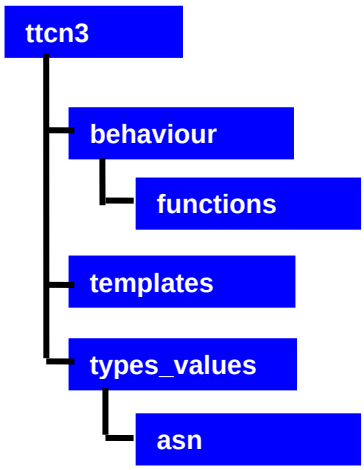

Figure 1: Directory Hierarchy for the RCS 5.x Enabler Test Files

4.2 Description of File Distribution and Versioning for Testing

The complete ATS will be made available on the OMA portal in the zip file containing this document.

The version of the TTCN-3 script files is identified by the date in the TFP document name. Thus the version of TTCN-3 script files contained in OMA-TFP-RCS_TTCN-V5_1-20150226-D is “20150226”. Any version of TTCN-3 that remains unchanged from a previous version is noted in the table below.

New unchanged version of TTCN-3	Old version of TTCN-3

Table 1: Listing of unchanged versions of TTCN-3

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5. Script Files for Client Conformance

This section describes the script files for Client Conformance testing included in the zip package.

5.1 Script Group – types_values

The script files in the subsection cover the type definitions.

Script File Path	Script Description	Comments

Table 2: Listing of Scripts of types_values

5.2 Script Group – Templates

The script files in the subsection cover the templates of the RCS ATS.

Script File Path	Script Description	Comments

Table 3: Listing of Scripts of templates

5.3 Script Group – Behaviours

The script files in the subsection cover the behaviours of the RCS ATS.

Script File Path	Script Description	Comments

Table 4: Listing of Scripts of behaviour

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5.4 Test Case Status

This section describes the current status of the ETS Test Cases in the script files including the current status of Verification.

RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
Configuration						
RCS-con-001	First-time unsuccessful configuration - Subscriber unauthorized (Auto-Configuration Server)	Yes	Delivery 1			
RCS-con-004	Configuration - RCS re-configuration successful	Yes	Delivery 1			
Keep Alive						
RCS-con-020	Keep-Alive for SIPoUDP (STUN)	No	Delivery 1			
Mobile Originated Capability Discovery						
RCS-con-030	Mobile Originated Capability Discovery – Successful	Yes	Delivery 1			
RCS-con-031	Mobile Originated Capability Discovery – Unsuccessful – 480 Temporarily Unavailable	Yes	Delivery 1			
RCS-con-032	Mobile Originated Capability Discovery – Unsuccessful –408 Request Timeout	Yes	Delivery 1			
RCS-con-033	Mobile Originated Capability Discovery – Unsuccessful – 404 Not Found	Yes	Delivery 1			
RCS-con-034	Mobile Originated Capability Discovery – Successful – Multiple Identities	Yes	Delivery 1			
RCS-con-035	Mobile Originated Capability Discovery – Successful (IMS registered, does not support RCS)	Yes	Delivery 1			
RCS-con-036	Mobile Originated Capability Discovery – Send an Receive Social Presnce Information to non-VIP Contacts	No				
RCS-con-037	Mobile Originated Capability Discovery – Social Presnce Information including Geolocation	Yes				

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RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
RCS-con-038	Mobile Originated Capability Discovery – Social Presnce Information of a VIP contact	No				
Mobile Terminated Capability Discovery						
RCS-con-040	Mobile Terminated Capability Discovery – Correct Presentation of Remote Capabilities	Yes	Delivery 1			
RCS-con-041	Mobile Terminated Capability Discovery – Learning Unknown New Users RCS Capabilities	Yes	Delivery 1			
Capability Update						
RCS-con-050	Capability update during a MO call for video /image sharing	Yes	Delivery 1			
RCS-con-051	Capability update during a MT call for video /image sharing	Yes	Delivery 1			
RCS-con-052	Capability update during initiation of an MO voice call – fails as other end has no capability	Yes	Delivery 1			
RCS-con-053	Capability Exchange Optimization during a Call	Yes	Delivery 1			
Mobile Originated 1-to-1 Chat						
RCS-con-100	Mobile Originated 1-to-1 Chat – session establishment – Mobile Originated session termination	Yes	Delivery 1			
RCS-con-101	Mobile Originated 1-to-1 Chat – session establishment – Mobile Terminated session termination	Yes	Delivery 1			
RCS-con-102	Mobile Originated 1-to-1 Chat – display notification	Yes	Delivery 1			
RCS-con-103	Mobile Originated 1-to-1 Chat– duplicate session	Yes	Delivery 1			
RCS-con-104	Mobile Originated 1-to-1 Chat – race condition	Yes	Delivery 1			
RCS-con-105	Mobile Originated 1-to-1 Chat – inactivity timeout	Yes	Delivery 1			

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RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
RCS-con-106	Mobile Originated 1-to-1 Chat – store and forward – sender still in active IM session	Yes	Delivery 1			
RCS-con-107	Mobile Originated 1-to-1 Chat – store and forward – sender still online	Yes	Delivery 1			
RCS-con-108	Mobile Originated 1-to-1 Chat – Switch up to Group Chat	Yes				
RCS-con-109	Mobile Originated 1-to-1 Chat – Maximum Concurrent Sessions (Includes Optional Features)	No				
Mobile Terminated 1-to-1 Chat						
RCS-con-120	Mobile Terminated 1-to-1 Chat - session establishment – Mobile Terminated session termination	Yes	Delivery 1			
RCS-con-121	Mobile Terminated 1-to-1 Chat - session establishment – Mobile Originated session termination	Yes	Delivery 1			
RCS-con-122	Mobile Terminated 1-to-1 Chat – spam/blacklist	Yes	Delivery 1			
RCS-con-123	Mobile Terminated 1-to-1 Chat – display notification	Yes	Delivery 1			
RCS-con-124	Mobile Terminated 1-to-1 Chat– duplicate session	Yes	Delivery 1			
RCS-con-125	Mobile Terminated 1-to-1 Chat - race condition	Yes	Delivery 1			
RCS-con-126	Mobile Terminated 1-to-1 Chat - store and forward	Yes	Delivery 1			
RCS-con-127	Mobile Terminated 1-to-1 Chat – Switch up to group Chat	Yes				
Mobile Originated Group Chat						
RCS-con-130	Mobile Originated Group Chat – establishment – Originating User leaves the session	Yes	Delivery 1			
RCS-con-131	Mobile Originated Group Chat – non-originating Users leave the session	Yes	Delivery 1			
RCS-con-132	Mobile Originated Group Chat – adding new User to the session	Yes	Delivery 1			

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RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
RCS-con-135	Mobile Origianted Group Chat – closed Group Chat	Yes				
Mobile Terminated Group Chat						
RCS-con-140	Mobile Terminated Group Chat – establishment – Terminating User leaves the session	Yes	Delivery 1			
RCS-con-141	Mobile Terminated Group Chat – establishment – Terminating User tries to rejoin	Yes				
Group Chat Store and Forward						
RCS-con-145	Group Chat Store and Forward – notification for sent messages	Yes				
RCS-con-146	Group Chat Store and Forward – delivery of stored messages	Yes				
RCS-con-147	Group Chat Store and Forward – race condition	Yes				
Group Chat						
RCS-con-165	Group Chat automatic re-join	Yes	Delivery 1			TTCN needs number updating
RCS-con-166	Group Chat re-start: 404 (Not Found)	Yes	Delivery 1			TTCN needs number updating
RCS-con-167	Group Chat re-start: 403 (Forbidden)	Yes	Delivery 1			TTCN needs number updating
RCS-con-168	Group Chat: Concurrent sessions	Yes	Delivery 1			TTCN needs number updating
RCS-con-169	Group Chat: Maximum Concurrent Sessions (Includes Optional Features)	No				
Mobile Originated File transfer						
RCS-con-200	Mobile Originated File Transfer (Includes Optional Features)	Yes	Delivery 1			
RCS-con-201	Mobile Originated File Transfer – Rejected (Includes Optional Features)	Yes	Delivery 1			
RCS-con-202	Mobile Originated File Transfer – Store and Forward Sending 1	Yes				

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RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
RCS-con-205	Mobile Originated File Transfer – File Transfer within a Group Chat	Yes				
RCS-con-206	Mobile Originated File Transfer – Resume a Send File Transfer	Yes				
RCS-con-209	Mobile Originated File Transfer – Send Audio message	Yes				
RCS-con-220	Mobile Originated File Transfer in a Group Chat – Blocked file transfer	Yes				
Mobile Terminated File transfer						
RCS-con-210	Mobile Terminated File Transfer (Includes Optional Features)	Yes	Delivery 1			
RCS-con-211	Mobile Terminated File Transfer – Rejected (Includes Optional Features)	Yes	Delivery 1			
RCS-con-212	Mobile Terminated File Transfer – File Size Limit (Includes Optional Features)	Yes	Delivery 1			
RCS-con-213	Mobile Terminated File Transfer – File Size Warn Limit (Includes Optional Features)	Yes	Delivery 1			
RCS-con-214	Mobile Terminated File Transfer – Store an Forward Receiving 1	Yes				
RCS-con-218	Mobile Terminated File Transfer in a group Chat – Receive a File	Yes				
RCS-con-219	Mobile Terminated File Transfer in a Group Chat – Ignore to receive a file	No				
RCS-con-223	Mobile Terminated File Transfer – Resume receiving a file	Yes				
RCS-con-226	Mobile Terminated File Transfer – Receive Audio Message	Yes				
Mobile Originated Image sharing						
RCS-con-250	Mobile Originated Image Sharing Session Establishment – Mobile Originated Session Termination (Includes Optional Features)	Yes	Delivery 1			

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RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
RCS-con-251	Mobile Originated Image Sharing - Session Establishment - rejected (Includes Optional Features)	Yes	Delivery 1			
Mobile Terminated Image sharing						
RCS-con-270	Mobile Terminated Image Sharing - Session Establishment – Mobile Terminated Session Termination (Includes Optional Features)	Yes	Delivery 1			
RCS-con-271	Mobile Terminated Image Sharing - Session Establishment - rejected (Includes Optional Features)	Yes	Delivery 1			
Mobile Originated Video sharing						
RCS-con-300	Mobile Originated Video Sharing - Session Establishment – Mobile Originated Session Termination (Includes Optional Features)	Yes	Delivery 1			
RCS-con-301	Mobile Originated Video Sharing - Session Establishment – Mobile Terminated Session Termination (Includes Optional Features)	Yes	Delivery 1			
RCS-con-302	Mobile Originated Video Sharing - Session Establishment - Rejected (Includes Optional Features)	Yes	Delivery 1			
RCS-con-303	Mobile Originated Video Sharing – Send Video Sharing outside of a Voice Call	Yes				
RCS-con-304	Mobile Originated Video Sharing - Send Video Sharing outside of a Voice Call – Rejected	Yes				
RCS-con-305	Mobile Originated Video Sharing - Video Sharing outside of a Voice Call not possible	Yes				
Mobile Terminated Video sharing						

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RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
RCS-con-320	Mobile Terminated Video Sharing - Session Establishment – Mobile Terminated Session Termination (Includes Optional Features)	Yes	Delivery 1			
RCS-con-321	Mobile Terminated Video Sharing - Session Establishment – Mobile Originated Session Termination (Includes Optional Features)	Yes	Delivery 1			
RCS-con-322	Mobile Terminated Video Sharing - Session Establishment – Rejected (Includes Optional Features)	Yes	Delivery 1			
RCS-con-323	Mobile Terminated Video Sharing – Receive Video Sharing outside of a Voice Call	Yes				
RCS-con-324	Mobile Terminated Video Sharing - Ignore Video Sharing outside of a Voice Call	Yes				
RCS-con-325	Mobile Terminated Video Sharing – Video Sharing outside of a Voice Call not possible	Yes				
Mobile Terminated Video sharing						
RCS-con-400	Mobile Origianted Pager Mode – Send Text	Yes	Yes	20170724		
RCS-con-401	Mobile Origianted Large Message Mode – Send Multimedia	Yes				
RCS-con-402	Mobile Origianted Large Message Mode – Send Long Text (Includes Optional Features)	Yes				
Mobile Terminated Standalone messaging						
RCS-con-420	Mobile Terminated Pager Mode – Receive Text	Yes	Yes	20170724		
RCS-con-421	Mobile Terminated Large Message Mode – Receive Multimedia	Yes				
RCS-con-422	Mobile Terminated Large Message Mode – Receive Long Text (Includes Optional Features)	Yes				

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RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
RCS-con-425	Mobile Originated Pager Mode – Send Notificaiton Displayed	Yes				
Mobile Originated RCS IP Video Call						
RCS-con-500	Mobile Originated RCS IP Video Call – Send an accepted Call (Duplex Mode)	Yes				
RCS-con-501	Mobile Originated RCS IP Video Call – Send an declined Call	Yes				
RCS-con-502	Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Send an uni-directional accepted Call	Yes				
RCS-con-503	Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Send an bi-directional accepted Call	Yes				
RCS-con-504	Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Switch between a bi-directional and uni-directional Call	Yes				
RCS-con-505	Mobile Originated RCS IP Video Call – Receive a Decline of an upgrade from CS voice call	Yes				
RCS-con-506	Mobile Originated RCS IP Video Call – Send an accepted Call (Simplex Mode)	Yes				
Mobile Terminated RCS IP Video Call						
RCS-con-530	Mobile Terminated RCS IP Video Call – Accept a Call (Duplex Mode)	Yes				
RCS-con-531	Mobile Terminated RCS IP Video Call – Decline a Call	Yes				
RCS-con-532	Mobile Terminated RCS IP Video Call (Upgrade from CS voice call) – Accept a uni-directional Call	Yes				
RCS-con-533	Mobile Terminated RCS IP Video Call (Upgrade from CS voice call) – Accept a bi-directional Call	Yes				
RCS-con-534	Mobile Terminated RCS IP Video Call – Decline an upgrade from CS voice call	Yes				

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RCS 5.x ETS TC number	TC Title	GCF	TTCN	Verified in Version	Outstanding CRs	Comments
RCS-con-535	Mobile Terminated RCS IP Video Call – Accept a Call (Simplex Mode)	Yes				
Call Establishment and Termination						
RCS-con-600	Mobile Originated IP Voice Call Set Up – Mobile Originated IP Voice Call Termination (Includes Optional Features)	Yes				
Einriched Calling						
RCS-con-620	Mobile originated Voice Call – Mobile terminated Geolocation Push	Yes				
RCS-con-621	Mobile originated Voice Call – Send Shared Sketch	Yes				
RCS-con-622	Mobile originated Voice Call – Receive Shared Sketch	Yes				
RCS-con-623	Mobile originated Voice Call – MSRP Error during shared sketch	Yes				
RCS-con-624	Mobile originated Voice Call – Send Shared Map	Yes				
RCS-con-625	Mobile originated Voice Call – Receive Shared Map	Yes				
RCS-con-626	Mobile Terminated Voice Call – Call Composer MSRP Error	No				
RCS-con-627	Mobile Terminated Voice Call – MSRP error during shared sketch	Yes				

Table 5: Listing of Test Case Status

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6. OMA RCS Conformance Testing Framework

6.1 TTCN-3 test system architecture

Figure 1 illustrates the RCS test system architecture used for testing a real terminal implementing the OMA RCS standards. It is based on the general TTCN test system architecture specified in [T3TRI, T3TCI].

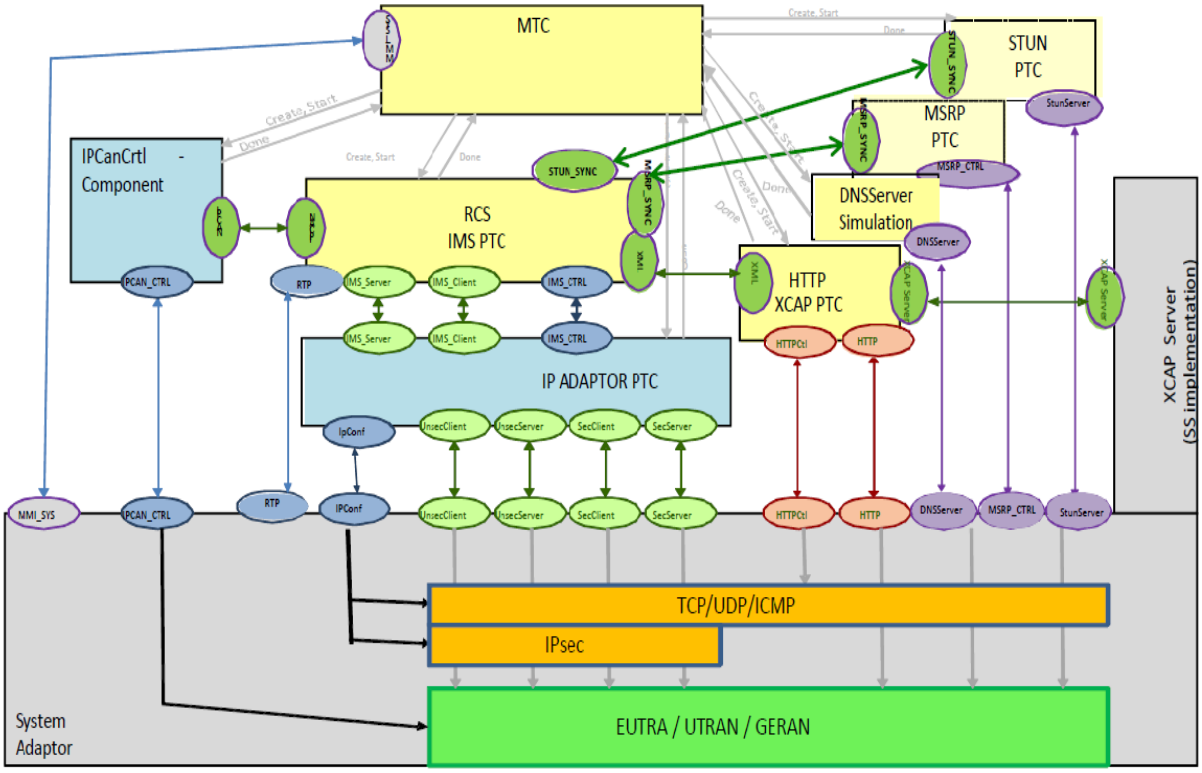

Figure 2: Conceptual RCS CON Test Architecture

OMA-ETS-RCS-CON was developed upon the architecture and functionalities of 3GPP-34-229-LTE-IMS-D13w15 and later updated to 3GPP-34-229-LTE-IMS-D14w410.

For the architecture of 3GPP-34-229-LTE-IMS please refer to document TS 34.229-3 Figure 2: IMS CC test model and parts 5 and 6.

For OMA-ETS-RCS-CON the following architectural modifications were done:

- DHCPServer Simulation component was removed
- SigComp port from IP ADAPTER component was removed
- HTTP_SYNC was added for synchronisation purpose with RCS_PTC component

Newly added components:

- RCS Component(RCS_PTC) – extends IMS component (IMS_PTC) and is used to the RCS functionality and to coordinate the communication with STUN and MSRP components
    - RCS Ports:
        - RTP procedure-based port type for RTP operations to send and receive video streams.
        - Ports for synchronized communication:
            - Between RCS and MSRP via MSRP_SYNC
            - Between RCS and STUN via STUN_SYNC
            - Between RCS and HTTP via HTTP_SYNC

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Port Name	Port Type	Exchanged Message Type	Reference
STUN_SYNC	StunPortSync	see STUN_PTC	
MSRP_SYNC	MsrpPortSync	see MSRP_PTC	
HTTP_SYNC	HTTPPortSync	inout charstring	
RTP	RTP_Port	out startSendVideo, stopSendVideo, startReceiveVideo, stopReceiveVideo	procedure-based port type for RTP operations to send and receive video streams

- MSRP Component(MSRP_PTC) - used to handle the MSRP functionality
  - MSRP Ports:
    - Between RCS and MSRP via MSRP_SYNC and MSRP_CTRL

Port Name	Port Type	Exchanged Message Type	Reference
MSRP	MsrpPort	inout SEND_request	RFC 4975 - Clause 7.1.1. Sending SEND Requests
MSRP		inout RECEIVE_response	RFC 4975 - Clause 7.1.2. Sending REPORT Requests
MSRP_CTRL	MSRP_CTRL_PORT	out: Create_MSRP_Session_Req, MSRP_Receive_Image_Req, MSRP_Send_Image_Req, MSRP_Receive_File_Req, MSRP_Send_File_Req; in: Create_MSRP_Session_Cnf, MSRP_Receive_Image_Cnf, MSRP_Send_Image_Cnf, MSRP_Receive_File_Cnf, MSRP_Send_File_Cnf;	
MSRP_SYNC	MsrpPortSync	inout MSRP_SYNC_Commands	

- The MSRP external functions were replaced with the following ASPs:

Name of the External Function	Name of the ASP
fx_MSRP_Receive_Image	MSRP_Receive_Image_Req
fx_MSRP_Send_Image	MSRP_Send_Image_Req
fx_MSRP_Receive_File	MSRP_Receive_File_Req
fx_MSRP_Send_File	MSRP_Send_File_Req

- STUN Component(STUN_PTC) - used to handle the Initial and Keep-Alive STUN message

Port Name	Port Type	Exchanged Message Type	Reference
StunServer	StunPort	inout STUNMessage	RFC 5389 section 6
STUN_SYNC	StunPortSync	inout charstring	

Newly added ASPs for component IPCAN_PTC:

Port Name	Port Type	ASP Name	Purpose
IPCAN_CTRL	IPCAN_CTRL_PORT	MOCSCallReq	ASP for the MO to request a CS Call
IPCAN_CTRL		MOCSCallCnf	ASP which returns the result of the execution of the ASP MOCSCallReq

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IPCAN_CTRL		MTCSCallReq	ASP for the MT to request a CS Call
IPCAN_CTRL		MTCSCallCnf	ASP which returns the result of the execution of the ASP MTCSCallCnf
IPCAN_CTRL		SetRFPowerReq	ASP for TC 145*/ RANTech ranTech, integer CellId, //for each RAT, start counting from 0 integer PowerLevel //PowerLevel: 1 High ; 2 Low; 3 OFF;
IPCAN_CTRL		SetRFPowerCnf	ASP for TC 145

Usage of components for groups of tests:

- RCS
  - All the tests use this component
- HTTP
  - Configuration 001,004
- STUN
  - Keep_Alive 020
- MSRP
  - Mobile_Originated_1_to_1_Chat 100-107
  - Mobile_Terminated_1_to_1_Chat 120-126
  - Mobile_Originated_Group_Chat 130-132
  - Mobile_Terminated_Group_Chat 140
  - Group_Chat 145-148
  - Mobile_Originated_File_Transfer 200, 201
  - Mobile_Terminated_File_Transfer 210-213
  - Mobile_originated_Image_Sharing 250,251
  - Mobile_Terminated_Image_Sharing 270, 271

6.1.1 Protocol Data Units and Service Primitives

6.1.2 PDUs

6.1.3 Service Primitives

6.1.4 Upper Tester Primitives

The primitives used by the upper tester reflect commands and observations that are either to be issued or checked by a human during the execution of a test based on textual instructions or directly performed on the IUT by the UTS, i.e., a special software application on top of the RCS implementation user interface and integrated in the terminal. If there is no UTS implementation available the command should result in the posing of a question and three answers to a human terminal operator, i.e., the correct observation was made, an incorrect observation was made, and no change was observed in the terminal user interface.

6.1.4.1 RCS MMI Commands

RCS MMI Command	RCS MMI Command Description	Confirmation

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RCS_SERVICE_ENABLED_DISABLED_SWITCH	Confirm if the following message is displayed on SUT: 'RCS Service' enabled/disabled switch	Yes
RCS_SERVICE_WHILE_ROAMING_ENABLED_DISABLED_SWITCH	Confirm if the following message is displayed on SUT: RCS Service while roaming enabled/disabled switch	Yes
SET_RCS_SERVICE_ENABLED_ON_HANDSET	Set the RCS service on SUT	No
RCS_SERVICE_NOT_ENABLED_ON_HANDSET	Make sure that RCS service is not enabled on SUT	No
REGISTER_TO_RCS_SERVICE	Register SUT for the RCS service	No
VERIFY_RCS_REGISTERED_USER	Verify if the SUT is a registered RCS user	Yes
SET_WI_FI	Set the SUT coverage to Wi-Fi	No
CHANGE_COVERAGE_TO_3G	Change coverage to 3G.	No
CHANGE_COVERAGE_TO_HSPA	Change coverage to HSPA	No
CONFIRM_USER_NOT_AVAILABLE_FOR_VIDEO_AND_IMAGE_SHARING	Confirm if User B is shown as not available for video and image sharing on SUT's RCS client	Yes
CONFIRM_VIDEO_IMAGE_SHARING_MATCHING_ICS_CAPABILITIES	Confirm if user B's capabilities for video and image sharing are shown as available on SUT, matching SUT's RCS client's capabilities according to ICS	Yes
SUT_ACCEPTS_VOICE_CALL	SUT accepts a voice call from User B	No
HSPA_3G_Wi_Fi_CONNECTIVITY	User A's RCS device as 3G, HSPA or Wi-Fi connectivity	No
CONFIRM_USER_AVAILABLE_FOR_VIDEO_AND_OR_IMAGE_SHARING	Confirm that user B is shown as available for video and/or image sharing on SUT	Yes
SUT_INITIATES_VOICE_CALL	SUT initiates a voice call to User B	No
STORE_USER_X_CONTACT	Store User X contact in the address book	No
CONFIRM_X_AS_RCS_USER	Confirm if X is shown as an RCS user	Yes
CONFIRM_USER_X_NOT_CURRENTLY_STORED_IN_ADDRESS_BOOK	Confirm that User X is currently not stored in your address book	Yes
ADD_NEW_USER_IN_ADDRESSBOOK	Add new User B entry (RCS user) in address book or Refresh User B's (RCS user) status manually	No
CONFIRM_USER_NOT_AVAILABLE	Confirm if User B is not available	Yes
CONFIRM_USER_AVAILABLE	Confirm if User B is available	Yes
SET_DEVICE_PROVISIONED_FOR_RCS	Set SUT provisioned for RCS	No
CONFIGURE_NON_ZERO_FTWARNSIZE_FOR_RCS	Configure SUT with a non-zero value of FT WARN SIZE	No
SUT_IGNORES_INCOMING_SESSION_REQUEST	Ignore the incoming session request	No
CONFIRM_MESSAGE_SPAM_FOR_A_AVAILABLE_IN_SPAMFILTER	Confirm if the message "Spam for A" is available in the spam filter	Yes
CONFIRM_SUT_HAS_USER_S_IN_SPAMLIST	Confirm if User S is listed in the spam/blacklist	Yes
SUT_REJECTS_INCOMING_SESSION_REQUEST	Reject the incoming session request	No
SUT_SENDS_TWO_B	Send the message "Two B" to User B before the session times out	No
CONFIRM_SUT_RECEIVES_AGAIN_A	Confirm the reception of "Again A" from User B	Yes

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CONFIRM_SUT_DISPLAYED_NOTIF_QUICK_B	Confirm the reception of an indication that the message “Quick B” has been displayed	Yes
CONFIRM_SUT_RECEIVES_DELIVERED_NOTIF_QUICK_B	Confirm the reception of an indication that the message “Quick B” has been delivered	Yes
CONFIRM_SUT_RECEIVES_YES_A	Confirm the reception of “Yes A” from User B	Yes
SUT_SENDS_QUICK_B	Send the message “Quick B” to User B	No
CONFIRM_SUT_RECEIVES_YET_AGAIN_A	Confirm the reception of the message “Yet again A” from User B	Yes
SUT_OPENS_CHAT_WINDOW	Open the chat window	No
SUT_OPTIONALLY_RECEIVES_AGAIN_A	SUT may receive optionally an indication of the stored message “Again A” from User B	Yes
SUT_TERMINATES_VIDEO_SHARE	Terminate the Video Share session	No
SUT_INITIATES_VIDEO_SHARE	Initiate a Video Share session towards User B	No
SUT_INITIATES_IMAGE_SHARE	Initiate an Image Share session towards User B	No
SUT_ESTABLISHES_CS_VOICE_CALL	Establish a CS Voice call to User B	No
SUT_ACCEPTS_REQUEST	Accept the confirmation request	
CONFIRM_SUT_RECEIVES_WARNING_MESSAGE	SUT's RCS client determines file is of size larger than FT WARN SIZE and a warning message requesting confirmation is received	Yes
SUT_INITIATES_FILE_TRANSFER	Initiate a File Transfer towards User B	No
CONFIRM_SUT_RECEIVES_BACK_AGAIN	Confirm the reception of the message “Back again” from User B	Yes
SUT_SENDS_RESTART	Send the message “Restart” to the original Group	No
CONFIRM_SUT_RECEIVES_HELLO_AGAIN_A	Confirm the reception of the message “Hello again A” from User B	Yes
SUT_SENDS_HELLO_B_C	Send the message “Hello BC” to the Group	No
SUT_SENDS_HELLO_AGAIN_SESSION_2	Send the message “Hello Again” to the Group using session 2	
CONFIRM_SUT_RECEIVES_HELLO_GROUP	Confirm the reception of the message “Hello group” from User B	Yes
SUT_ACCEPTS_INVITATION	Accept the invitation	No
CONFIRM_SUT_RECEIVES_INVITATION_AND_PARTICIPANT_LIST	Confirm the reception of the invitation and the participant list	Yes
SUT_SELECTS_USER_D_TO_ADD	Select User D to add to the session	No
CONFIRM_SUT_RECEIVES_C_GOING	Confirm the reception of the message “C going” from User C	Yes
CONFIRM_SUT_RECEIVES_B_GOING	Confirm the reception of the message “B going” from User B	Yes
SUT_LEAVES_GROUP_CHAT	Leave the Group Chat session	Yes
SUT_SENDS_HELLO_GROUP	Send “Hello group” to the group	Yes
SUT_RECEIVES_PARTICIPANT_LIST_AND_STATUS	Confirm if SUT receives the participant list and the status for each one	Yes

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SUT_INITIATES_GROUP_CHAT_WITH_B_C_D	Initiate a Group Chat session with User B, User C and User D on his device with the subject “Test”	No
SUT_SENDS_WAKE_UP_B	Send “Wake Up B”	No
SUT_COMES_ONLINE	Come online	No
CONFIRM_SUT_DISPLAYS_BYE_A	Confirm the display of “Bye A” from User B	Yes
SUT_DOESNT_RECEIVE_MSG_FROM_USER_S	SUT does not receive the message from User S	Yes
SUT_RECEIVES_DELIVERED_NOTIF_AGAIN_B	Confirm if SUT receives an indication that the message “Again B” has been delivered and if display notifications were requested, then an indication that the message has been displayed	Yes
CONFIRM_SUT_RECEIVES_DISPLAY_NOTIF_BYE_B	Confirm the reception of the indication that the message “Hello B” has been delivered	Yes
CONFIRM_SUT_RECEIVES_BYE_A	Confirm the reception of “Bye A” from User B	Yes
SUT_SENDS_HELLO_B	Send the message “Hello B” to User B before the session times out	No
SUT_TERMINATES_SESSION	Terminate the session	No
CONFIRM_SUT_RECEIVES_DELIVERED_NOTIF_BYE_B	Confirm the reception of an indication that the message “Bye B” has been delivered	Yes
SUT_SENDS_BYE_B	Send the message “Bye B” to User B	No
CONFIRM_SUT_RECEIVES_HELLO_A	Confirm the reception of “Hello A” from User B	Yes
CONFIRM_SUT_RECEIVES_COMPOSING_NOTIF	Confirm the reception of “Is Composing” indication from User B	Yes
CONFIRM_SUT_RECEIVES_DELIVERED_NOTIF_HELLO_B	Confirm the reception of an indication that the message “Hello B” has been delivered	Yes
SUT_INITIATES_SESSION	Please initiate a 1-to-1 Chat session with the message “Hello B”	No
CONFIRM_USER_C_AVAILABLE	*Case A: SIP URI's **are not** supported* “Confirm if the following entries for User C are shown as available:\n" & "1. MSISDN number 1 (RCS capable): " & px_IMS_MSISDN_1_C & "\n " & "3. MSISDN number 3 (RCS capable, different from 1): " & px_IMS_MSISDN_3_C *Case B: SIP URI's **are** supported* Verify that the following entries for User C are shown as available:\n" & "1. MSISDN number 1 (RCS capable): " & px_IMS_MSISDN_1_C & "\n " & "3. MSISDN number 3 (RCS capable, different from 1): " & px_IMS_MSISDN_3_C & "\n" & "4. SIP_URI (RCS capable, if supported by the UI, independent from 1, 2 or 3): " & px_IMS_PublicUserIdentityC;	Yes

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CREATE_USER_C_IN_ADDRESSBOOK	*Case A: SIP URI's **are not** supported* "Create a new contact (User C) in address book with the following four unique entries: \n " & "1. MSISDN number 1 (RCS capable): " & px_IMS_MSISDN_1_C & "\n " & "2. MSISDN number 2 (without RCS capabilities): " & px_IMS_MSISDN_2_C & "\n" & "3. MSISDN number 3 (RCS capable, different from 1): " & px_IMS_MSISDN_3_C; *Case B: SIP URI's **are** supported* "Create a new contact (User C) in address book with the following four unique entries: \n " & "1. MSISDN number 1 (RCS capable): " & px_IMS_MSISDN_1_C & "\n " & "2. MSISDN number 2 (without RCS capabilities): " & px_IMS_MSISDN_2_C & "\n" & "3. MSISDN number 3 (RCS capable, different from 1): " & px_IMS_MSISDN_3_C; & "\n" & "4. SIP_URI (RCS capable, if supported by the UI, independent from 1, 2 or 3): " & px_IMS_PublicUserIdentityC;	No
CONFIRM_RECEPTION_OF_VIDEO_STREAM	Confirm if on SUT's RCS client the video stream received from User B can be seen	Yes
CONFIRM_USER_B_AVAILABLE_FOR_VIDEO_SHARING	Confirm if SUT's RCS client shows User B still as available for video sharing	Yes

6.1.4.2 IMS MMI Commands

IMS MMI Command	IMS MMI Command Description	Confirmation
RELEASE_IMS_CALL	Please release call	No
REBOOT_HANDSET	Reboot the handset.	No

6.1.4.3 IPCAN MMI Commands

IPCAN MMI Command	IPCAN MMI Command Description	Confirmation
SWITCH_OFF	Please switch off the UE	Yes
POWER_ON	Please switch on the UE	Yes

6.2 Platform Adapter Requirements

6.3 TTCN-3 Compiler Requirements

[FFS The RCS CON test suite has been implemented and analyzed with two independent TTCN-3 Edition 3.2.1 compliant TTCN-3 compilers: Telelogic Tau 2.6 and Testing Technologies TTworkbench 1.1.1.]

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7. Test suite execution

7.1 General

There are three means how this test suite can be executed:

1. By using the TTCN-3 control part specified in the TTCN-3 TestControl module. By default all tests part of this test suite will be executed. Relevant PIXITs defined clause 7.2 should be used to narrow the selection of tests to a desired group of tests. At this point this mode of execution does not allow to run an individual test
2. By using a TTCN-3 tool proprietary means to execute one or more tests at a time based on the interface provided by the tool provider. In this case the TTCN-3 TestControl module should be excluded from the test suite compilation.
3. By integrating your own TTCN-3 Test Management (TM) entity implementation that is integrated with the TTCN-3 test system via the TCI-TM interface [T3TCI]. In this case the TTCN-3 TestControl module should be excluded from the test suite compilation. The operation of such a TM implementation, e.g., to select execution of specific tests, is beyond the scope of this document.

7.2 PIXIT

TTCN-3 allows fixing of some test suite information without recompilation of TTCN-3 code, e.g., just prior to test execution. This information is referred to as module parameters in TTCN-3 or more generally PIXIT (Partial Protocol Implementation Extra Information for Testing). This clause discusses all such parameters relevant for the RCS ATS.

Note that TTCN-3 test systems are likely to require configuration beyond the setting of TTCN-3 module parameters, e.g., configuration specific to a test tool or SUT Adapter, prior to a test execution. Such configuration is however beyond the scope of this document. It is the responsibility of TTCN-3 RCS test tool providers to document such configuration needs.

The following module parameters configure test case selection in the TTCN-3 control part:

RCS Module Parameters

Parameter Name	Parameter Type	Parameter Description
RCS_MSRP_TRANSFER_FILES_AND_IMAGES		
px_MSRP_PATH_TO_EXPECTED_IMAGE	charstring	Path for storing the image which will be compared with the image received from SUT via MSRP
px_MSRP_PATH_TO_SEND_IMAGE	charstring	Path of the image to be sent by the Test Tool to SUT via MSRP
px_MSRP_PATH_TO_RECEIVED_IMAGE	charstring	Path for storing the image sent by SUT via MSRP
px_MSRP_PATH_TO_EXPECTED_FILE	charstring	Path for storing the file which will be compared with the file received from SUT via MSRP
px_MSRP_PATH_TO_SEND_FILE	charstring	Path of the file to be sent by the Test Tool to SUT via MSRP
px_MSRP_PATH_TO_RECEIVED_FILE	charstring	Path for storing the file sent by SUT via MSRP
RCS_IMS_Params		
px_RUN_AUTOMATIC_TESTS	boolean	Activator of MMI commands for automatic tests if set to true. For manual tests, it must be set to false and the commands will be shown as pop-ups
pc_IMS_Digest_sec	boolean	UE supports Digest security only
px_APPAUTH_UserName	charstring	User name for provisioning xml
px_APPAUTH_UserPWD	charstring	Password for provisioning xml
px_IMS_PublicUserIdentityA	charstring	Public User Identity of User A (SUT)
px_IMS_PublicUserIdentityB	charstring	Public User Identity of User B (test tool)

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px_IMS_PublicUserIdentityC	charstring	Public User Identity of User C (test tool)
px_IMS_MSISDN_1_C	charstring	MSISDN 1 of User C (test tool)
px_IMS_MSISDN_2_C	charstring	MSISDN 2 of User C (test tool)
px_IMS_MSISDN_3_C	charstring	MSISDN 3 of User C (test tool)
px_IMS_PublicUserIdentityD	charstring	Public User Identity of User D (test tool)
px_IMS_PublicUserIdentityX	charstring	Public User Identity of User X (test tool)
px_IMS_PublicUserIdentityS	charstring	Public User Identity of User S (test tool)
ics_os_supports_imsi_imei	boolean	OS provides access to IMSI and IMEI
ims_mode	boolean	If true 3GPP IMS mode is used for SIP session setup, otherwise IETF RFC 3261 standard flow is applied
supports_SIP_URI	boolean	Flag to indicate if SIP URI's are supported
RCS_MSRP_Addresses		
ixit_SUT_ADDRESS	charstring	Address used by MSRP Messages and SIP Messages (a=path:"...") It is a MSRP URI that describes where one partner is willing to receive MSRP requests and vice versa. See RFC4975, page 6
ixit_TS_ADDRESS_USER_B	charstring	This is the address for the standard user.
ixit_TS_ADDRESS_USER_C	charstring	This is the address for a second user (used in Group Chat)
RCS_FILE_VIDEO_TRANS		
ics_fileTransfer	boolean	Support of file transfer. PICS parameter according to chapter B.3
ics_imageShare	boolean	Support of in-call image share. PICS parameter according to chapter B.3
ics_videoShare	boolean	Support of in-call video share. PICS parameter according to chapter B.3
ics_imChat	boolean	Support of IM Chat. PICS parameter according to chapter B.3
RCS_STUN_Params		
ics_stun_udp	boolean	Support of STUN when using SIP/UDP
ics_stun_server_port	integer	Stun Server Port
ics_stun_server_ip	charstring	Stun Server IP
ics_stun_ip_family	Family	Stun IP Family
RCS_TIMERS_AND_SIZE_LIMITS		
ixit_FTMAXSIZE	integer	File Size Limit in Bytes
ixit_FTWARNSIZE	integer	File Size Warn Limit in Bytes
ixit_RF_loss_recognition_timer	float	Timer for attenuating the cellular signal
ixit_chat_inactivity_timeout	float	Timeout for Chat Inactivity

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RCS_RTP_PIXITS		
px_RTP_REMOTE_PORT	integer	RTP Remote Port
px_RTP_REMOTE_IP_ADDR	charstring	RTP Remote IP Address
px_RTP_PATH_TO_SEND_VIDEO_FILE	charstring	PATH to the files to be sent via RTP
px_RTP_CODEC	integer	RTP Codec

RCS External Functions

Function Name	**Returned Type**	**Description**
getMSRPTransID	charstring	Generates a new random transaction ID for MSRP Messages, i.e.: kjhd37s2s20w2a
getMSRPMessageID	charstring	Generates a new random Message ID for MSRP Messages, i.e.: MsgpIYyntTEBA
getIMDNMessageID	charstring	Generates a random new Message ID for IMDN, i.e.: 7a2896f3
getCPIMMessageID	charstring	Generates a random new Message ID for CPIM, i.e.: 1L0dFkTiJA
getDateTime	charstring	Generates the actual date and time in format: * pattern "{yearExpansion}{year}{dash}{month}{dash}{dayOfMonth}T({hour}{cln}{minute}{cln}{second}" & * "{sFraction}|{endOfDayExt}){ZorTimeZoneExt}") * i.e: 2012-12-04T21:19:23.000Z this is used in CPIM and IMDN
getRandomCookie	charstring	Generates a random Cookie for TC 001 and 004 (f_C_6_1_1)
readFileAsOctetstring	octetstring	Reads the content of a file and transforms it into octetstring

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