

Prepared (also subject responsible if other) ETH/RZX Timea Moder		No. 198 17- CNL 113 588 Uen		
Approved ETH/RZXC (Tibor Csöndes)	Checked	Date 2012-06-14	Rev A	Reference GASK2

The Real Time Streaming Protocol (RTSP) Protocol Modules for TTCN-3 Toolset with TITAN, User Guide

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1 Introduction

1.1 Revision history

Date	Rev	Characteristics	Prepared
2008-04-28	PA1	First draft version	ETHBAAT
2010-03-19	PA2	Updated for TITAN R8B	ETMEMOD

1.2 About this Document

1.2.1 How to Read this Document

This is the User Guide for the Real Time Streaming Protocol (RTSP) protocol module. The Real Time Streaming Protocol (RTSP) protocol module is developed for the TTCN-3 Toolset with TITAN. This document should be read together with Product Revision Information [2] and Function Specification [2].

1.2.2 Presumed Knowledge

To use this protocol module the knowledge of the TTCN-3 language [1] is essential. Basic knowledge of the RTSP [6] protocol is valuable when reading this document.

1.2.3 References

- [1] ETSI ES 201 873-1 v.3.2.1 (02/2007)
The Testing and Test Control Notation version 3. Part 1: Core Language
- [2] 1/1553-CRL 113 200 Uen
User Documentation for the TITAN TTCN-3 Test Executor
- [3] 109 21-CNL 113 588-1
The Real Time Streaming Protocol (RTSP) Protocol Modules for TTCN-3 Toolset with TITAN, Product Revision Information
- [4] 155 17- CNL 113 588
The Real Time Streaming Protocol (RTSP) Protocol Modules for TTCN-3 Toolset with TITAN, Function Specification
- [5] 2/19817-CRL 113 200 Uen Rev F
Programmer's Technical Reference for TITAN TTCN-3 Test Executor
- [6] IETF RFC 2326
Real Time Streaming Protocol (RTSP)

1.2.4 Abbreviations

TTCN-3 Testing and Test Control Notation version 3

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RTSP Real Time Streaming Protocol

1.2.5 Terminology

No specific terminology is used.

1.3 System Requirements

Protocol modules are a set of TTCN-3 source code files that can be used as part of TTCN-3 test suites only. Hence, protocol modules alone do not put specific requirements on the system used. However in order to compile and execute a TTCN-3 test suite using the set of protocol modules the following system requirements must be satisfied:

- TITAN TTCN-3 Test Executor version R8B (1.8.pl1) or higher installed. For installation guide see [2]. Please note: This version of the protocol module is not compatible with TITAN releases earlier than R8B.

2 Protocol Modules

2.1 Overview

Protocol modules implement the message structure of the related protocol in a formalized way, using the standard specification language TTCN-3. This allows defining of test data (templates) in the TTCN-3 language [1] and correctly encoding/decoding messages when executing test suites using the Titan TTCN-3 test environment.

2.2 Installation

The set of protocol modules can be used for developing TTCN-3 test suites using any text editor. However to make the work more efficient a TTCN-3-enabled text editor is recommended (e.g. nedit, xemacs). Since the RTSP protocol is used as a part of a TTCN-3 test suite, this requires Titan TTCN-3 Test Executor be installed before the module can be compiled and executed together with other parts of the test suite. For more details on the installation of TTCN-3 Test Executor see the relevant section of [2].

2.3 Configuration

2.4 Module parameters

2.4.1 tsp_RTSP_EncDec_debugging

There is a boolean module parameter for debugging purposes of encode/decode functions:

Its default value is 'false', thus in order to have debug information about encoding and decoding it must be set to 'true' in the test suite configuration file in the [MODULE_PARAMETERS] section.

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2.4.2 tsp_crlf_mode

There is a module parameter `tsp_crlf_mode` of type `strict_crlf_mode` which defined as follows:

```
type enumerated strict_crlf_mode {ERROR, WARNING, WARNING_ONCE, ACCEPT};
```

This module parameter is introduced to control the reaction of the decoder for the missing “\r”. In RTSP (and in HTTP 1.0) each line shall be finished by a sequence of “\r\n”. If only a “\n” has been found, the decoder can report and return according to the following table:

Tsp_crlf_value	Decoder returns with	Log report
ERROR	BUFFER_FAIL	
WARNING	/no interruption/	"Missing '\r'."
WARNING_ONCE	/no interruption/	"Missing '\r'." at first occurrence
ACCEPT	/no interruption/	/no report/

3 Examples

The demo directory of the deliverable contains the following additional files:

- RTSP_Demo.prj (for mctr_gui) – project file of the demo application
- modify_Makefile – an example script, it does the needed modifications in the Makefile automatically
- RTSP_Demo.cfg – configuration file for the demo
- RTSP_Demo.ttcn - contains simple examples of a server and a client, use templates (which are in the file RTSP_Templates.ttcn) to create messages easily, use the encoding/decoding function to encode/decode the RTSP PDUs.
- RTSP_Templates.ttcn – contains example templates
- Makefile – In order to compile the RTSP protocol module you can use the Makefile generated by the TTCN-3 compiler using the given TTCN-3 files. The example Makefile in the demo directory assumes use of IPL4 Test Port
- A symbolic link was created to all necessary files