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EPTF CLL Statistics Manager, Function Description

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Introduction

## Revision history

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| --- | --- | --- | --- |
| Date | Rev | Characteristics | Prepared |
| 2012-05-25 | PA1 | First draft version | <EBALLUG> |

## How to Read this Document

This is the Function Description for the Statistics Manager Feature of the Ericsson Performance Test Framework (TitanSim), Core Load Library (CLL). TitanSim CLL is developed for the TTCN-3 ‎[1] Toolset with TITAN ‎[2]. For more information on the TitanSim CLL please consult the Product Revision Information ‎[3]. Additionally, to understand the functionality of this feature, read the documentation of the StatMeasure ‎[6] feature.

## References

1. ETSI ES 201 873-1 v3.2.1 (2007-02)  
   The Testing and Test Control Notation version 3. Part 1: Core Language
2. 1/198 17-CRL 113 200 Uen  
   User Guide for the TITAN TTCN-3 Test Executor
3. 109 21-CNL 113 512-2 Uen   
   TitanSim CLL for TTCN-3 toolset with TITAN, Product Revision Information
4. 155 17-CNL 113 512 Uen   
   TitanSim CLL for TTCN-3 toolset with TITAN, Function Specification
5. TitanSim CLL for TTCN-3 toolset with TITAN, Reference Guide  
   <http://ttcn.ericsson.se/products/libraries.shtml>
6. 34/155 16-CNL 113 512 Uen  
   EPTF CLL StatMeasure Function Description

## Scope

This document is to specify the content and functionality of the Statistics Manager feature of the TitanSim CLL.

## Recommended way of reading

The readers are supposed to get familiar with the concept and functionalities of TitanSim CLL ‎[4] in general, and the StatMeasure ‎[6] feature. They should get familiar with the list of acronyms and the glossary in Section ‎1.7 and ‎1.8, respectively.

## Typographical conventions

Important concepts are denoted by *italic* font wherever they are first used in the given context. Moreover, whenever a concept is mentioned that has a special meaning as described in the Glossary (Section ‎1.8) of this document, then these occurrences are marked with an initial arrow, e.g., *🡪 TitanSim Statistics*.

## Abbreviations

CLL Core Load Library

EPTF Ericsson Load Test Framework, formerly TITAN Load Test Framework

TitanSim Ericsson Load Test Framework, formerly TITAN Load Test Framework

TTCN-3 Testing and Test Control Notation version 3 ‎[1]

## Terminology

*TitanSim Core (Load) Library(CLL)* is that part of the TitanSim software that is totally project independent. (I.e., which is not protocol-, or application-dependent). The TitanSim CLL is to be supplied and supported by the TCC organization. Any TitanSim CLL development is to be funded centrally by Ericsson

*TitanSim Variables* contain values, from which *🡪 TitanSim Statistics* can be calculated automatically on changes or periodically.

*TitanSim Statistics Measure* is a feature, which is responsible for creating *🡪 TitanSim Statistics* and updating their value when required.

*TitanSim Statistics* are Statistics of TTCN-3 Variables. Possible Statistics are among others minimum, maximum, mean, standard deviation, etc. and also the content of a Variable can be a Statistics itself. The values of such Statistics are automatically and periodically updated in the background.

# General Description

This document specifies the Statistics Manager feature of the TITANSim CLL.

The EPTF Statistics Manager feature makes it possible to

* Create limit statistics based on published data elements
* Publish these statistics as new data elements

StatManager feature publishes a data element called ‘LEDlimit’, this is a statusLED. This can be used to visualize a source data element’s value or the relative difference to a reference data. Different limits can be provided which decide the LED’s color in cases of different values of the source data. As the value of the source or reference data changes, the color of the status LED changes dynamically also.

## Detailed description

### The source data

Source data can be of two types: integer and float. This is the only mandatory parameter. If no source data is specified not only there won’t be any statistics created and published, but it will cause an error. This and the limit parameters will decide the actual color of the status LED.

**Parameter name:** “VarId” (mandatory)

### Reference data

It is possible to provide a reference variable which case the statistic will be calculated relatively to this reference data: 100 \* (source-ref)/ref. This percentage and the limit parameters will decide the actual color of the status LED. The reference data must be also of type integer or float.

**Parameter name:** “refVarId” (optional)

### The limit parameters

Limit parameters define the color of the status LED in case of different values of the limit statistic. Their values must be legal float numbers.

**Example:**

<dataparam name=”greenLimit” value=”90.0” />  
<dataparam name=”yellowLimit” value=”70.0” />

**Parameter name:** “greenLimit”, “yellowLimit”, “redLimit”, “blueLimit”, “blackLimit”

### Default color

Default color of the status LED.

**Parameter name: “**defaultColor”

**Parameter values:** “black”, “blue”, “red”, “yellow” and “green”

### EnableValueInLEDText

It is possible to show the value of the source data in the label of the status LED.

**Parameter name:** enableValueInLEDText

**Parameter values:** “yes”, “no”

# General usage

The following GUI xml creates a table of two columns with a column of type statusLED and one of type string. Let’s take a look at the highlighted part:

<Widgets xmlns='http://ttcn.ericsson.se/protocolModules/xtdp/xtdl'>

<window height='300.000000' id='Window' orientation='vertical' title='tc\_EPTF\_StatManager\_Test\_base' width='800.000000'>

<hbox flex='1.000000' orientation='horizontal'>

<tree flex='1.0' hidecolumnpicker='true' id='myTable'>

<treecols>

<treecol label='Status' widgetType='statusLEDWithText'/>

<treecol label='Value' widgetType='string'/>

</treecols>

<treechildren>

<treeitem>

<treerow>

<externalvalue id='srcVar' element='sourceVar' source='StatManagerTest'>

<treecell>

<externaldata element='LEDlimit' source='StatManager' ptcname='StatManagerTest'>

<params>

<dataparam name='VarId' value='%srcVar::ref%'/>

<dataparam name='redLimit' value='25.0' />

<dataparam name='yellowLimit' value='50.0' />

<dataparam name='greenLimit' value='75.0' />

<dataparam name='defaultColor' value='black'/>

<dataparam name='enableValueInLEDText' value='yes'/>

</params>

</externaldata>

</treecell>

<treecell label='value0'/>

</externalvalue>

</treerow>

</treeitem>

</treechildren>

</tree>

</hbox>

</window>

</Widgets>

It specifies the first cell of the table which is a statusLED. It uses the StatManager feature to retrieve a statusLED that is connected to a source variable specified by the external value. The color of the LED will be red if the source variable’s value exceeds 25.0, yellow above 50.0 and green above 75.0. The default color is set to black and the value of the source parameter will be printed in the label of the statusLED widget.

Note! If we wanted to specify a reference data, we could do that the same way as we did it in case of the source data. We specified it via externalvalue and queried the id( ‘%srcVar::ref%’) of it in the ‘VarId’ parameter of the ‘LEDlimit’ externaldata.

# Functional Interface

Apart from this description a cross-linked reference guide for the TitanSim CLL Functions can be reached for on-line reading ‎[5].

## Naming Conventions

All functions have the prefix f\_EPTF\_StatManager\_

## General Public Functions

### Initialization

Before using the EPTF Statistics Manager feature the

f\_EPTF\_StatManager\_init\_CT(componentName)

function should be called. This initializes the EPTF Statistics Manager feature. Currently this is the only API function of the feature. No other functions need to be called to use it.