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ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

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SERIES Z: LANGUAGES AND GENERAL SOFTWARE
ASPECTS FOR TELECOMMUNICATION SYSTEMS

Formal description techniques (FDT) – Testing and Test
Control Notation (TTCN)

**Testing and Test Control Notation version 3:
TTCN-3 language extensions: Extended TRI**

Recommendation ITU-T Z.165.1



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Recommendation ITU-T Z.165.1

Testing and Test Control Notation version 3: TTCN-3 language extensions: Extended TRI

Summary

Recommendation ITU-T Z.165.1 defines the Extended TRI package of TTCN-3. TTCN-3 can be used for the specification of all types of reactive system tests over a variety of communication ports. Typical areas of application are protocol testing (including mobile and Internet protocols), service testing (including supplementary services), module testing, testing of CORBA based platforms, APIs, etc. TTCN-3 is not restricted to conformance testing and can be used for many other kinds of testing including interoperability, robustness, regression, system and integration testing. The specification of test suites for physical layer protocols is outside the scope of this Recommendation.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T Z.165.1	2012-05-29	17
2.0	ITU-T Z.165.1	2013-07-14	17

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

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Recommendation ITU-T Z.165.1

Testing and Test Control Notation version 3: TTCN-3 language extensions: Extended TRI

1 Scope

Recommendation ITU-T Z.165.1 defines the Extended TRI package of TTCN-3. TTCN-3 can be used for the specification of all types of reactive system tests over a variety of communication ports. Typical areas of application are protocol testing (including mobile and Internet protocols), service testing (including supplementary services), module testing, testing of CORBA based platforms, APIs, etc. TTCN-3 is not restricted to conformance testing and can be used for many other kinds of testing including interoperability, robustness, regression, system and integration testing. The specification of test suites for physical layer protocols is outside the scope of this Recommendation.

TTCN-3 packages are intended to define additional TTCN-3 concepts, which are not mandatory as concepts in the TTCN-3 core language or in its interfaces TRI and TCI, but which are optional as part of a package which is suited for dedicated applications and/or usages of TTCN-3.

This package defines a more efficient handling of software values by a version of TRI, that does not use binary encoded messages for the communication with the system under test (SUT), but uses the values as they are; meaning e.g., that software objects or serialized data can be passed directly between the SUT and the test equipment (TE).

While the design of TTCN-3 package has taken into account the consistency of a combined usage of the core language with a number of packages, the concrete usages of and guidelines for this package in combination with other packages is outside the scope of this Recommendation.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ETSI ES 202 789 V1.2.1] ETSI ES 202 789 V1.2.1 (2013-04), *Methods for Testing and Specification (MTS); Testing and Test Control Notation version 3: TTCN-3 Language Extensions: Extended TRI*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

None.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

CORBA	Common Object Request Broker Architecture
SUT	System Under Test
TCI	TTCN-3 Control Interface
TE	Test Equipment
TRI	TTCN-3 Runtime Interface
TTCN	Testing and Test Control Notation

5 Conventions

None.

6 Endorsement

[ETSI ES 202 789 V1.2.1] was approved by ITU-T as the basis for Recommendation ITU-T Z.165.1.

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