

# ITU-T

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

# Z.165

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SERIES Z: LANGUAGES AND GENERAL SOFTWARE  
ASPECTS FOR TELECOMMUNICATION SYSTEMS

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

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## Testing and Test Control Notation version 3: TTCN-3 runtime interface (TRI)

Recommendation ITU-T Z.165

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# Recommendation ITU-T Z.165

## Testing and Test Control Notation version 3: TTCN-3 runtime interface (TRI)

### Summary

Recommendation ITU-T Z.165 provides the specification of the runtime interface for TTCN-3 (*Testing and Test Control Notation 3*) test system implementations. The TTCN-3 runtime interface provides the recommended adaptation for timing and communication of a test system to a particular processing platform and the system under test, respectively. This Recommendation defines the interface as a set of operations independent of target language.

The interface is defined to be compatible with Recommendation ITU-T Z.161. This Recommendation uses the CORBA Interface Definition Language (IDL) to specify the TTCN Runtime Interface (TRI) completely. Clauses 6, 7 and 8 of ETSI ES 201 873-5 V4.5.1 specify language mappings of the abstract specification to the target languages Java and ANSI-C. A summary of the IDL-based interface specification is provided in Appendix A of ETSI ES 201 873-5 V4.5.1.

This revision of the Recommendation contains amendments, clarifications, corrigenda and editorial corrections.

### History

| Edition | Recommendation | Approval   | Study Group |
|---------|----------------|------------|-------------|
| 1.0     | ITU-T Z.144    | 2006-03-16 | 17          |
| 2.0     | ITU-T Z.165    | 2007-11-13 | 17          |
| 3.0     | ITU-T Z.165    | 2011-03-16 | 17          |
| 4.0     | ITU-T Z.165    | 2012-05-29 | 17          |
| 5.0     | ITU-T Z.165    | 2013-07-14 | 17          |

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

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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**

## **Testing and Test Control Notation version 3: TTCN-3 runtime interface (TRI)**

### **1 Scope**

Recommendation ITU-T Z.165 provides the specification of the runtime interface for TTCN-3 test system implementations. The TTCN-3 runtime interface provides a standardized adaptation for timing and communication of a test system to a particular processing platform and the system under test, respectively. This Recommendation defines the interface as a set of operations independent of target language.

The interface is defined to be compatible with the TTCN-3 standard. The present document uses the CORBA Interface Definition Language (IDL) to specify the TRI completely. Clauses 6, 7 and 8 of [ETSI ES 201 873-5 V4.5.1] present language mappings for this abstract specification to the target languages Java, ANSI C, and C++. A summary of the IDL-based interface specification is provided in Appendix A of [ETSI ES 201 873-5 V4.5.1].

### **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 201 873-5 V4.5.1] | ETSI ES 201 873-5 V4.5.1 (2013-04), <i>Methods for Testing and Specification (MTS); Testing and Test Control Notation version 3: TTCN-3 Runtime Interface (TRI)</i> . |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### **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 |
| TRI   | TTCN Runtime Interface                    |
| TTCN  | Testing and Test Control Notation         |

## **5 Conventions**

None.

## **6 Endorsement**

[ETSI ES 201 873-5 V4.5.1] was approved by ITU-T as the basis for Recommendation ITU-T Z.165.



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