ITU-T

Z.169

TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU (10/2015)

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: Using XML schema with TTCN-3

Recommendation ITU-T Z.169



ITU-T Z-SERIES RECOMMENDATIONS

LANGUAGES AND GENERAL SOFTWARE ASPECTS FOR TELECOMMUNICATION SYSTEMS

| FORMAL DESCRIPTION TECHNIQUES (FDT) | |
|--|-------------|
| Specification and Description Language (SDL) | Z.100-Z.109 |
| Application of formal description techniques | Z.110–Z.119 |
| Message Sequence Chart (MSC) | Z.120-Z.129 |
| User Requirements Notation (URN) | Z.150-Z.159 |
| Testing and Test Control Notation (TTCN) | Z.160-Z.179 |
| PROGRAMMING LANGUAGES | |
| CHILL: The ITU-T high level language | Z.200-Z.209 |
| MAN-MACHINE LANGUAGE | |
| General principles | Z.300-Z.309 |
| Basic syntax and dialogue procedures | Z.310-Z.319 |
| Extended MML for visual display terminals | Z.320-Z.329 |
| Specification of the man-machine interface | Z.330-Z.349 |
| Data-oriented human-machine interfaces | Z.350-Z.359 |
| Human-machine interfaces for the management of telecommunications networks | Z.360-Z.379 |
| QUALITY | |
| Quality of telecommunication software | Z.400–Z.409 |
| Quality aspects of protocol-related Recommendations | Z.450-Z.459 |
| METHODS | |
| Methods for validation and testing | Z.500-Z.519 |
| MIDDLEWARE | |
| Processing environment architectures | Z.600-Z.609 |
| | |

For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T Z.169

Testing and Test Control Notation version 3: Using XML schema with TTCN-3

Summary

Recommendation ITU-T Z.169 defines the mapping rules for W3C Schema to TTCN-3 to enable testing of XML-based systems, interfaces and protocols.

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

History

| Edition | Recommendation | Approval | Study Group | Unique ID* |
|---------|----------------|------------|-------------|--------------------|
| 1.0 | ITU-T Z.169 | 2008-11-29 | 17 | 11.1002/1000/9625 |
| 2.0 | ITU-T Z.169 | 2011-03-16 | 17 | 11.1002/1000/11071 |
| 3.0 | ITU-T Z.169 | 2012-05-29 | 17 | 11.1002/1000/11604 |
| 4.0 | ITU-T Z.169 | 2013-07-14 | 17 | 11.1002/1000/11966 |
| 5.0 | ITU-T Z.169 | 2015-10-29 | 17 | 11.1002/1000/12601 |

^{*} To access the Recommendation, type the URL http://handle.itu.int/ in the address field of your web browser, followed by the Recommendation's unique ID. For example, http://handle.itu.int/11.1002/1000/11830-en.

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.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

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/.

© ITU 2015

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

Recommendation ITU-T Z.169

Testing and Test Control Notation version 3: Using XML schema with TTCN-3

1 Scope

This Recommendation defines the mapping rules for W3C Schema to TTCN-3 to enable testing of XML-based systems, interfaces and protocols.

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 201 873-9 V4.6.1] ETSI ES 201 873-9 V4.6.1 (2015-06), Methods for Testing and Specification (MTS); The Testing and Test Control Notation version 3; Part 9: Using XML schema with TTCN-3.

3 Definitions

3.1 Terms defined elsewhere

None.

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

TTCN Testing and Test Control Notation

W3C World Wide Web Consortium

XML Extensible Markup Language

5 Conventions

None.

6 Endorsement

[ETSI ES 201 873-9 V4.6.1] was approved by ITU-T as the basis for Recommendation ITU-T Z.169.

SERIES OF ITU-T RECOMMENDATIONS

| Series A | Organization of the work of ITU-T |
|----------|---|
| Series D | General tariff principles |
| Series E | Overall network operation, telephone service, service operation and human factors |
| Series F | Non-telephone telecommunication services |
| Series G | Transmission systems and media, digital systems and networks |
| Series H | Audiovisual and multimedia systems |
| Series I | Integrated services digital network |
| Series J | Cable networks and transmission of television, sound programme and other multimedia signals |
| Series K | Protection against interference |
| Series L | Environment and ICTs, climate change, e-waste, energy efficiency; construction, installation and protection of cables and other elements of outside plant |
| Series M | Telecommunication management, including TMN and network maintenance |
| Series N | Maintenance: international sound programme and television transmission circuits |
| Series O | Specifications of measuring equipment |
| Series P | Terminals and subjective and objective assessment methods |
| Series Q | Switching and signalling |
| Series R | Telegraph transmission |
| Series S | Telegraph services terminal equipment |
| Series T | Terminals for telematic services |
| Series U | Telegraph switching |
| Series V | Data communication over the telephone network |
| Series X | Data networks, open system communications and security |
| Series Y | Global information infrastructure, Internet protocol aspects and next-generation networks |
| Series Z | Languages and general software aspects for telecommunication systems |
| | |