Open TTCN-3 workshop for discussing a new major revision of the TTCN-3 standards suite

Organization by TTF T032

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Agenda

- Why is a major revision of the TTCN-3 standards suite needed?
- TTCN-3 documents – Which documents will survive?
    - Handling of extension packages
- New structure of TTCN-3 standards suite?
- Core language features revisited
    - Which features should be moved out of the core or moved into the core?
    - Which (core) features should be simplified?
    - Harmonization issues?
- Miscellaneous and Working Methods
- Participation of tool vendors and users in TTF work
- AOB
- Closing

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Do we need a major revision of the TTCN-3 standards suite?

- Many (partially interdependent) standards
- Complex maintenance (due to interdependence of standards)
- Some standard documents are not or only partially supported by tools (unclear which features are supported)
- Some language design decisions may be reconsidered:
  - Simplification of some core features (e.g., import statement)
  - Handling of strings
  - Syntax harmonization?

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Questions (1)

- What do you expect from a new major revision?

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TTCN-3 Parts

ETSI Number	Version	Title
ES 201 873-1	4.15.1 (2023)	TTCN-3: Core Language
ES 201 873-2	3.2.1 (2007)	TTCN-3: Tabular Presentation format (historical)
ES 201 873-3	3.2.1 (2007)	TTCN-3: Graphical Presentation Format
ES 201 873-4	4.6.1 (2017)	TTCN-3: Operational Semantics
ES 201 873-5	4.9.1 (2022)	TTCN-3: TTCN-3 Runtime Interface
ES 201 873-6	4.14.1 (2023)	TTCN-3: TTCN-3 Control Interface
ES 201 873-7	4.10.1 (2022)	TTCN-3: Using ASN.1 with TTCN-3
ES 201 873-8	4.8.1 (2021)	TTCN-3: The IDL to TTCN-3 Mapping
ES 201 873-9	4.12.1 (2021)	TTCN-3: Using XML schema with TTCN-3
ES 201 873-10	4.5.1 (2013)	TTCN-3: TTCN-3 Documentation Comment Specification
ES 201 873-11	4.10.1 (2023)	TTCN-3: Using JSON with TTCN-3

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TTCN-3 Extensions

ETSI Number	Version	Title
ES 202 781	1.9.1 (2022)	TTCN-3: Extensions: Configuration and Deployment Support
ES 202 782	1.4.1 (2022)	TTCN-3: Extensions: TTCN-3 Performance and Real-time Testing
ES 202 784	1.9.1 (2022)	TTCN-3: Extensions: Advanced Parameterization
ES 202 785	1.9.1 (2022)	TTCN-3: Extensions: Behaviour Types
ES 202 786	1.5.1 (2022)	TTCN-3: Extensions: Support of interfaces with continuous signals
ES 202 789	1.6.1 (2022)	TTCN-3: Extensions: Extended TRI
ES 203 022	1.5.1 (2022)	TTCN-3: Extensions: Advanced Matching
ES 203 790	1.4.1 (2022)	TTCN-3: Extensions: Object-Oriented Features

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TTCN-3 Parts
(not maintained/needed anymore?)

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ES 201 873-1	4.15.1 (2023)	TTCN-3: Core Language
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TTCN-3 Parts
(will survive as separate document?)

ETSI Number	Title	Separate document
ES 201 873-1	TTCN-3: Core Language	Yes
ES 201 873-2	TTCN-3: Tabular Presentation format	No
ES 201 873-3	TTCN-3: Graphical Presentation Format	No
ES 201 873-4	TTCN-3: Operational Semantics	No
ES 201 873-5	TTCN-3: TTCN-3 Runtime Interface	Yes
ES 201 873-6	TTCN-3: TTCN-3 Control Interface	Yes
ES 201 873-7	TTCN-3: Using ASN.1 with TTCN-3	Yes
ES 201 873-8	TTCN-3: The IDL to TTCN-3 Mapping	No ?
ES 201 873-9	TTCN-3: Using XML schema with TTCN-3	Yes
ES 201 873-10	TTCN-3: TTCN-3 Documentation Comment Specification	Yes
ES 201 873-11	TTCN-3: Using JSON with TTCN-3	Yes

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ES 202 784	TTCN-3: Extensions: Advanced Parameterization	
ES 202 785	TTCN-3: Extensions: Behaviour Types	
ES 202 786	TTCN-3: Extensions: Support of interfaces with continuous signals	
ES 202 789	TTCN-3: Extensions: Extended TRI	Yes
ES 203 022	TTCN-3: Extensions: Advanced Matching	
ES 203 790	TTCN-3: Extensions: Object-Oriented Features	

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Questions (2)

- Which documents are (partially)
  - supported by TTCN-3 tools and/or
  - used by TTCN-3 users?

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Question: Shall only features from extension packages survive?

ETSI Number	Title	Documentation, Identification, What to move where?
ES 202 781	TTCN-3: Extensions: Configuration and Deployment Support	
ES 202 782	TTCN-3: Extensions: TTCN-3 Performance and Real-time Testing	
ES 202 784	TTCN-3: Extensions: Advanced Parameterization	
ES 202 785	TTCN-3: Extensions: Behaviour Types	
ES 202 786	TTCN-3: Extensions: Support of interfaces with continuous signals	
ES 202 789	TTCN-3: Extensions: Extended TRI	
ES 203 022	TTCN-3: Extensions: Advanced Matching	
ES 203 790	TTCN-3: Extensions: Object-Oriented Features	

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New structure of TTCN-3 standards suite?

- Possible structure
  - TTCN-3 language definition
    - Core Language
    - Extensions (only features and libraries that should survive)
      - Libraries (e.g., useful types, useful functions)
      - Compatability to sections of the extensions document?
    - Usage of other languages
      - Separate Documents for ASN.1, JSON, IDL (?), XML, …
  - TTCN-3 implementation
    - TRI, TCI, Extended TRI
  - TTCN-3 explanation and usage guidelines (ETSI Guidline or ETSI Technical Report?)
    - Style guidelines
    - Explanation of features (e.g., Automata diagrams for timer, ports etc.)

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Revision of Core language 1

- Moving language features from extension packages into core language

- Moving language features out of core language

- New language features (Language feature aspects in CR 8180)

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Revision of Core language 2

- Harmonization (Technical/Structural Aspects in CR 8180)
  - String handling
  - BNF
  - Syntax (Style, Simplification)
  - Shorthand notations
  - Keywords/reserved words

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Miscellaneous and Working Methods

- Miscellaneous
  - Removal of deprecated features
  - Handling of annexes
    - Matching values
    - Predefined TTCN-3 functions
    - Preprocessing Macros
    - Library of useful types
    - Operations on TTCN-3 active objects

- Working Methods
  - Better method to specify dependent parts of the standard, e.g., combining BNF in different documents
  - Moving to new issue tracking system

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Participation of tool vendors and users in TTF work

- Further workshops in combination with TB MTS meetings?
- Webinar to advertise new major revision?

- Next steps
  - TTF ToR finalization
  - First year (until end of 2024/beginning of 2025)
  - Second year

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Thank you for your participation!

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