



The Standards People

ETSI MTS Open Session on TTCN-3 new major release

Presented by: **TTF T056**

For: **TTCN-3 experts**

03.06.2026

Agenda

1. **Welcome** and review of the Open Sessions
2. New **structure** for TTCN-3 language specification
3. TTCN-3 Migration **Guide**

4. **Working** approach
5. Questions/Discussion with **participants**
6. **Next** steps

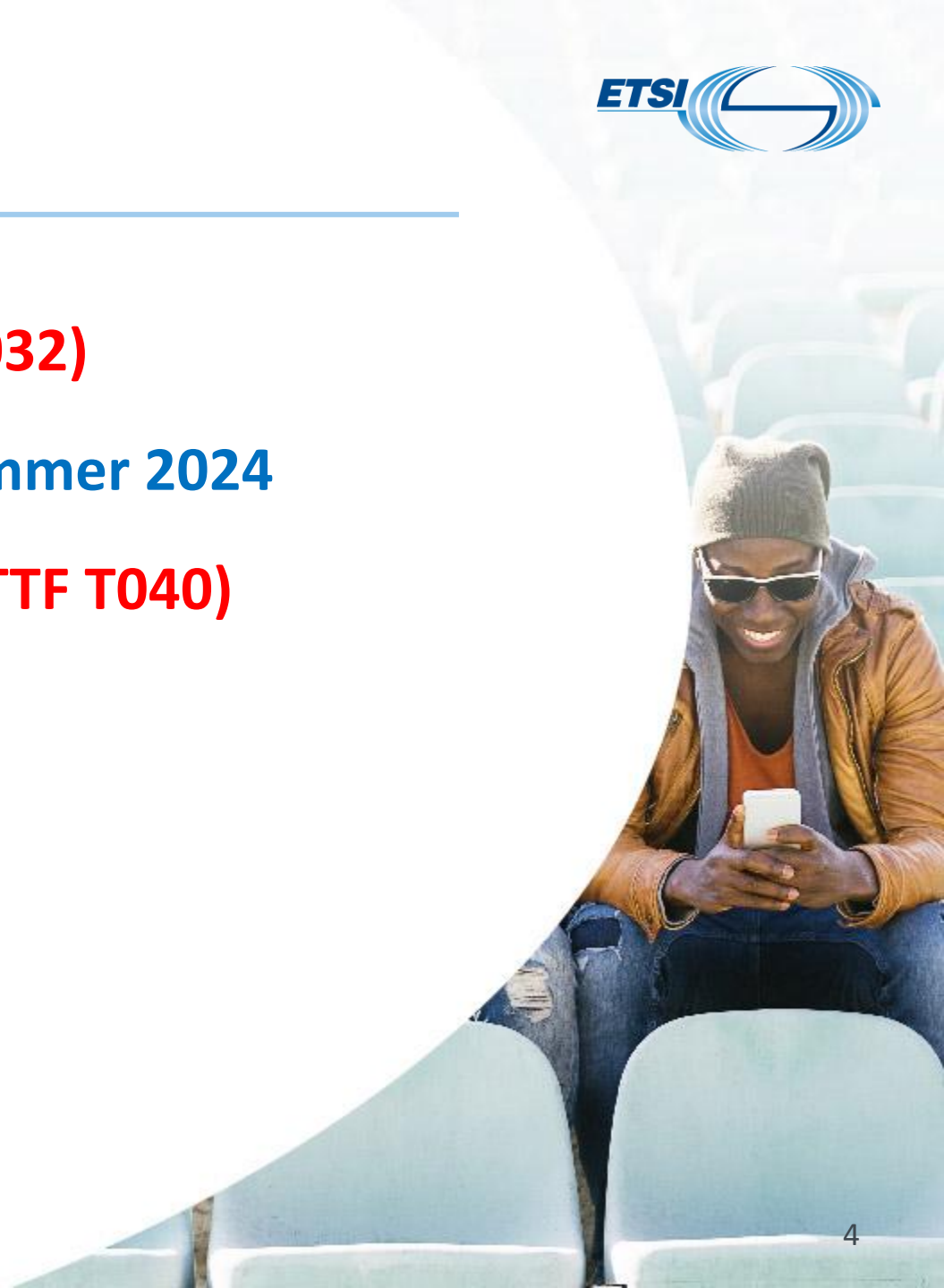




Welcome and review of the Open Sessions

Motivation and history (1)

- **TTCN-3 workshop 23. January 2024 (TTF T032)**
- **Questionnaire started with TTF T040 in summer 2024**
- **TTCN-3 Open Session 9. September 2024 (TTF T040)**
- **TTF working session in November 2024**
- **TTCN-3 Open Session 28. January 2025**
- **TTF working session in March 2025**




Motivation and history (2)

- **TTF presentation at UCAAT in April 2025**
- **TTCN-3 Open Session 20. May 2025**
- **TTF working session in September 2025**
- **TTCN-3 Open Session 21. October 2025**
- **TR 104 081: Guide for the Migration to TTCN-3 V5**
 - **Final draft endorsed by MTS (2026-01-05)**
 - **Publication in April 2026**



Motivation and history (3)

- New **TTCN-3 TTF T056** was set up Jan/Feb 2026. ToR:
 - **Implementation** of a new major **revision** of TTCN-3 and
 - **Adaptation of TTCN-3 tool conformance tests**
- **TTCN-3 Open Session 18. February 2026**
- **TTF working session in March 2026**
- ***This week:* TTF working session in June 2026**

A close-up photograph of a person's hand typing on a silver laptop keyboard. The laptop is open and positioned on a white surface. The background is blurred, showing a window with light coming through.

New structure for TTCN-3 language specification



New structure for TTCN-3 language specification

Deliverables from ToR of TTF T056

Deliv.	Work Item code Standard number	Working title	Expected date for publication
D1	ETSI ES 201 873-1	TTCN-3 Core Language (Major Revision)	2027-02
D2	ETSI ES 201873-12	TTCN-3 Extensions (Major Revision)	2027-07
D3	ETSI ES 201873-13	TTCN-3 TRI and TCI (Major Revision)	2027-07
D4	ETSI ES 201 873-7	Using ASN.1 with TTCN-3	2027-02
D5	ETSI ES 201 873-9	Using XML schema with TTCN-3	2027-02
D6	ETSI ES 201 873-10	TTCN-3 Documentation Comment Specification	2027-02
D7	ETSI ES 201 873-11	Using JSON with TTCN-3	2027-02

Note: Handling of OO extension ES 203 790 needs to be clarified

- **Option 1:** Keeping ES 203 790 as separate document
- **Option 2:** Features of ES 203 790 are moved to extensions

New structure for TTCN-3 language specification

Deliverables from ToR of TTF T056

Deliv.	Work Item code Standard number	Working title	Expected date for publication
D8	TR 104 081	Guide for the Migration to TTCN-3 (<i>update</i>)	2027-02
D9	TR 104 873	TTCN-3 Semantics Description (new)	2027-07

New structure for TTCN-3 Conformance Tests for TTCN-3 Tools

Deliverables from ToR of TTF T056

Deliv.	Work Item code Standard number	Working title	Expected date for publication
D10	TS 102950-1	Methods for Testing and Specification (MTS); TTCN-3 Conformance Test Suite ; Part 1: Implementation Conformance Statement (ICS)	2027-07
D11	TS 102950-2	Methods for Testing and Specification (MTS); TTCN-3 Conformance Test Suite ; Part 2: Test Suite Structure and Test Purposes (TSS&TP)	2027-07
D12	TS 102950-3	Methods for Testing and Specification (MTS); TTCN-3 Conformance Test Suite ; Part 3: Abstract Test Suite (ATS) and Implementation eXtra Information for Testing (IXIT)	2027-07
D13	TS 103253	Methods for Testing and Specification (MTS); TTCN-3 Conformance Test Suite for use of XML and JSON schema; Part 1: Implementation Conformance Statement	2027-07
D14	TS 103254	Methods for Testing and Specification (MTS); TTCN-3 Conformance Test Suite for use of XML and JSON schema; Part 2: Test Suite Structure and Test Purposes (TSS&TP)	2027-07
D15	TS 103255	Methods for Testing and Specification (MTS); TTCN-3 Conformance Test Suite for use of XML and JSON schema; Part 3: Abstract Test Suite & IXIT	2027-07
D16	TS 104240-1	Methods for Testing and Specification (MTS); Conformance Test Suite for TTCN-3 Language Extensions ; Part 1: Implementation Conformance Statement (ICS)	2027-07
D17	TS 104240-2	Methods for Testing and Specification (MTS); Conformance Test Suite for TTCN-3 Language Extensions ; Part 2: Test Suite Structure and Test Purposes (TSS&TP)	2027-07
D18	TS 104240-3	Methods for Testing and Specification (MTS); Conformance Test Suite for TTCN-3 Language Extensions ; Part 3: Abstract Test Suite (ATS) and Implementation eXtra Information for Testing (IXIT)	2027-07

TTCN-3 Migration Guide

Publication

- ETSI (TC MTS) published **TR 104 081**:
Guide for the Migration to TTCN-3 V5
- You may download the free PDF version using https://www.etsi.org/deliver/etsi_tr/104000_104099/104081/05.01.01_60/tr_104081v050101p.pdf

ETSI TR 104 081 v5.1.1 (2026-04)



Methods for Testing & Specification (MTS);
Guide for the Migration to TTCN-3 V5

Table of contents (reminder)

Standard clauses	1	Scope
	2	References
	3	Definition of terms, symbols and abbreviations
Technical contents	4	Not supported TTCN-3 standards
	5	New structure of TTCN-3 language specifications
	6	Features of new core language document
	7	Features in extensions
	8	Changes of features (<i>backward compatible or not</i>)
	9	Deleted features
	10	Working procedures



Working approach

TTF Agreements for new text (selection 1/2)

- **Table of Contents** (order): *General order* should be *kept*, some language elements may be put to some other place
- **Section structure** (*introductory* description, *syntactical* structure, *semantic* description, *restrictions*, *examples*) should be kept
- **BNF terms** in syntactical structure should be *reused* in the text. (section “Syntactical structure” should be in sync with BNF)
- **Highlighting** of language elements need to clarified.
- *Check/reduce interference of restrictions*
- *Reminder: NOTES* cannot include binding rules

TTF Agreements for new text (selection 2/2)

- **Examples:**
 - Examples in one chapter should be *self-contained*
 - *Coverage* of examples should be *sufficient*
 - Always *explain* examples
 - Simple *naming conventions* should be followed
- Harmonization/extension of **terms** and **definitions**
- **BNF** discussion:
Working assumption: one BNF for Core and extensions
- **Keywords/reserved words:** One list for extensions and Core



Questions/ Discussion

Questions/Discussion with participants (overview)

- (1) Expectation:
No changes for language mappings (parts 7, 9, 10, 11)
- (2) Interleave to be changed/restricted
- (3) import of “import” statements (used/needed?)

(1) Language mapping extensions

No technical changes for language mappings (parts 7, 9, 10, 11)

ETSI ES 201 873-7 Using ASN.1 with TTCN-3

ETSI ES 201 873-9 Using XML schema with TTCN-3

ETSI ES 201 873-10 TTCN-3 Documentation Comment Specification

ETSI ES 201 873-11 Using JSON with TTCN-3

(2) Interleave (situation)

Interleave to be changed/restricted

Proposal in the migration Guide was:

The proposal is to disallow reception statements in the *StatementBlock* below:

Syntactical Structure

```

interleave [ @nodefault ] "{ "
{ "[ ]" ( TimeoutStatement |
      ReceiveStatement |
      TriggerStatement |
      CheckStatement |
      DoneStatement |
      KilledStatement ) StatementBlock

```

(2) Interleave (example 1)

```
// Handling 2 independent client requests at a server
interleave {
  [] pCO1.receive(mw_mySig1) {
    PCO1.send(m_mySig2);
    PCO1.receive(mw_mySig3);
  }
  [] pCO2.receive(mw_mySig4) {
    pCO2.send(m_mySig5);
    pCO2.send(m_mySig6);
    pCO2.receive(mw_mySig7);
  }
}
```

(2) Interleave (example 2)

```
// Handling parallel activities on lower and upper interfaces
interleave {
  [] keyboard.receive(dialledNumber) {
    radio.send(callEstablishmentRequest);
    radio.receive(callEstablishmentAccept);
    . . .
  }
  [] radio.receive(Paging) {
    display.send(callerName);
    display.receive(callAccept);
    . . .
  }
}
```

(2) Interleave (conclusion)

Proposal:

Keep the semantics

Provide better explanation of the interleave StatementBlock

(3) Import of import statements

- **Only “import all” will be supported**
 - Import statements are *private*, so they are not imported
 - Is **import of “import”** used/needed?

Feedback from participants

Participants declared

1. Default handling in interleave is required for filtering
2. No need of import of „import“
3. „Rotate“ and „shift“ operators are needed in the core



Next steps

Timeline for TTCN-3 Version 5.x Development



ETSI TTF T040

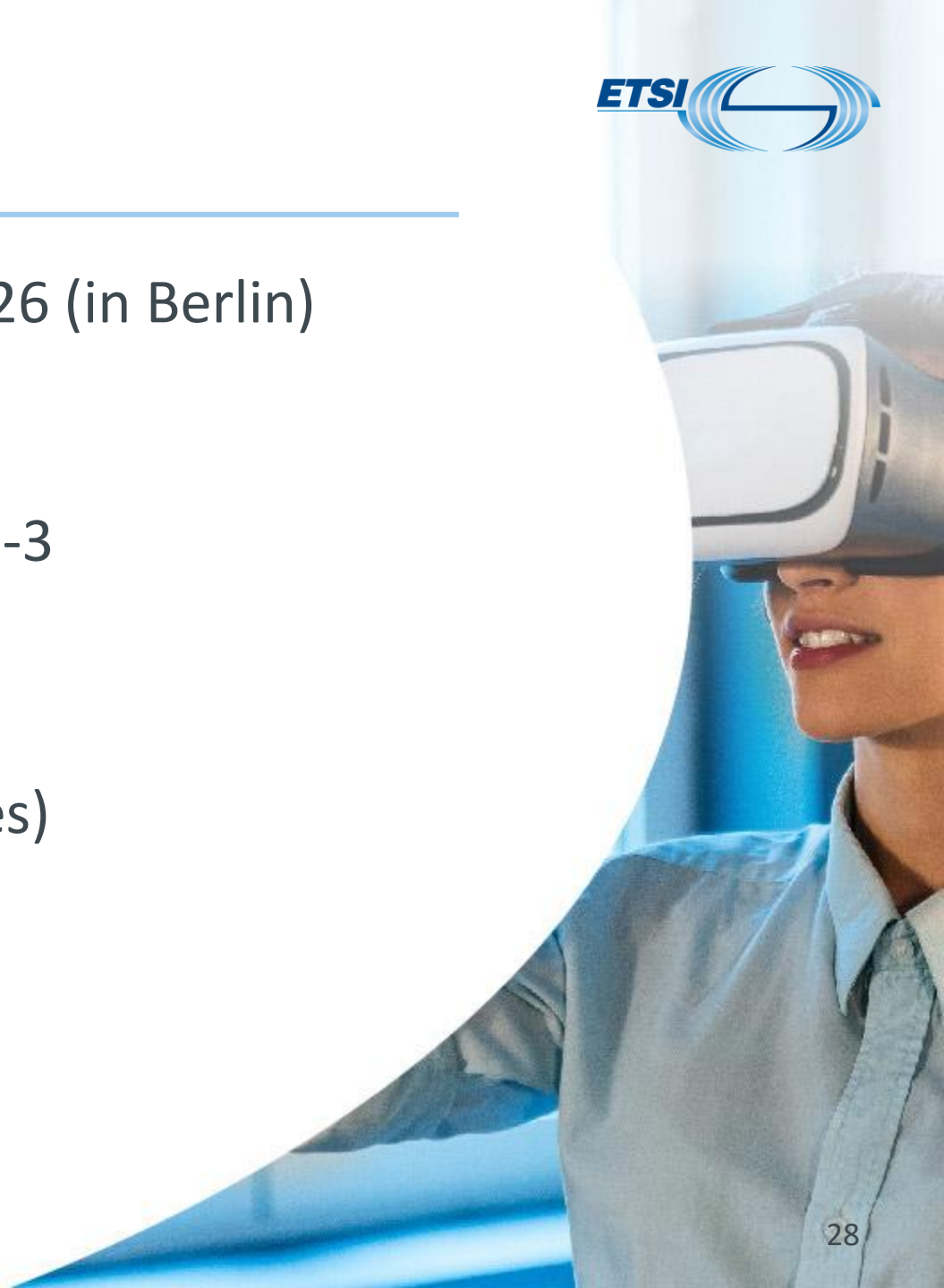
- Analysis of Current State
- TTCN-3 Migration Guide


ETSI TTF T056

- **TTCN-3 Standard Implementation**
- **Update of TTCN-3 conformance tests**

Time schedule

- Ongoing TTF T056 **working session** June 2026 (in Berlin)
- **Report** to MTS#98 in June 2026
- *Follow-up* ETSI MTS **Open Sessions** on TTCN-3
(before MTS plenaries: **2026-10, 2027-01**)
- *Follow-up* **TTF working sessions**
(plan: to be synchronized with MTS plenaries)



A circular inset image showing a close-up of blue network cables plugged into a server rack. The cables are bundled and connected to RJ45 ports. The background is a blurred server room with more racks and cables.

Thanks for
your
participation!