ETSI Test Specifications for IP-Based Protocols

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Anthony Wiles

PTCC

ETSI TC MTS-IPT

❑ **TC MTS = Methods for Testing and Specification**
  ➢ **Chair: Prof. Dieter Hogrefe**
  ➢ **TC MTS developed and standardised TTCN-3**
  ➢ **Mandate to develop generic test specifications**
❑ **IPT = IP Testing group**
  ➢ **Currently led by Anthony Wiles (ETSI PTCC)**
❑ **IPT main focus**
  ➢ **Methodologies and techniques for IP testing**
    • **Incorporating TTCN-3**
  ➢ **Development of test specifications for IP and IP-related technologies**
    • **IPv6**
    • **SIGTRAN**
    • **VoIP**

IPT-SIGTRAN

❑ **Transport of SS7 over IP networks**

❑ **Conformance tests for SCTP (RFC2960, RFC3309)**
  ➢ **MTS/DTS-00086**
  ➢ **Based on ETSI subset of SCTP (TS 102 144)**
  ➢ **Test purposes (ready April 2004)**
  ➢ **TTCN-3 Test Suite (due to start Q3 2004)**

❑ **Conformance tests for M3UA (RFC 3332)**
  ➢ **MTS/DTS-00087**
  ➢ **Based on ETSI subset of M3UA (TS 102 142)**
  ➢ **Test purposes (ready April 2004)**
  ➢ **TTCN-3 Test Suite (due to start Q3 2004)**

❑ **Conformance tests for M2UA (RFC 3331)**
  ➢ **MTS/DTS-00093**
  ➢ **Test purposes (work to start Q2 2004)**
  ➢ **Undecided whether or not to produce test suite**
    • **If yes then TTCN-3 will be used**

IPT-VoIP

❑ **Conformance test specifications for SIP (RFC3261)**

➤ **Test Purposes (published: TS 102 027-1)**

➤ **TTCN-3 Test Suite (published: TS 102 027-2)**

➤ **Now in the maintenance phase – feedback welcome**

❑ **Conformance test specifications for H.323**

➤ **H.225**

➤ **H.245**

➤ **H.248**

➤ **For historical reasons (Q.931) written in TTCN-2**

➤ **Now in the maintenance phase – feedback welcome**

IPT- IPv6 Project

❑ **Project proposal submitted by MTS under eEurope program**

  ➢ **50/50 funding ETSI/EC**
  ➢ **Member States and DG Information Society have expressed their strong support**
  ➢ **Currently producing the full technical proposal**

❑ **ETSI Testing IPv6?!**

  ➢ **To satisfy the European Commission's mandate**
  ➢ **To meet ETSI members' needs**
  ➢ **To add value to the IPv6 Forum's label program "IPv6 Ready"**

The European Commission's Mandate

- ❑ **Complement the Commission's IPv6-dependent initiatives for e-Government, e-Business, e-Health, e-Learning, and e-Procurement**
- ❑ **Provide a key element in ensuring deployment, interoperability, security, and reliability of the IPv6 infrastructure; i.e.**
  - ➢ **A sound test development framework and no-cost, publicly available standardized interoperability test packages for critical IPv6 functions**
- ❑ **Provide an even stronger European representation in the IPv6 Forum's "IPv6 Ready" label program**

ETSI Members' Requirements

❑ **Provide publicly available no-cost standardized IPv6 test specifications in a standard testing language for core functions including:**
  - ➤ **RFC requirements**
  - ➤ **Industry practice requirements**
  - ➤ **Other requirements (ETSI-specific, IPv6 logo-specific)**

❑ **Provide a framework for efficient development within ETSI of future IPv6 test specifications such as 3G and NGN**
  - ➤ **This project will not write 3G or NGN test suites**

❑ **Develop a testing methodology tailored to IPv6**

❑ **Profit from the TTCN-3 community's synergy**

Adding Value to the "IPv6 Ready" Label Program

❑ **Publicly available, no-cost, standardized test specifications that the user can extend**

❑ **Interoperability and conformance tests for both mandatory and optional requirements**

❑ **Mechanism for selecting test cases according to the implementation's type**

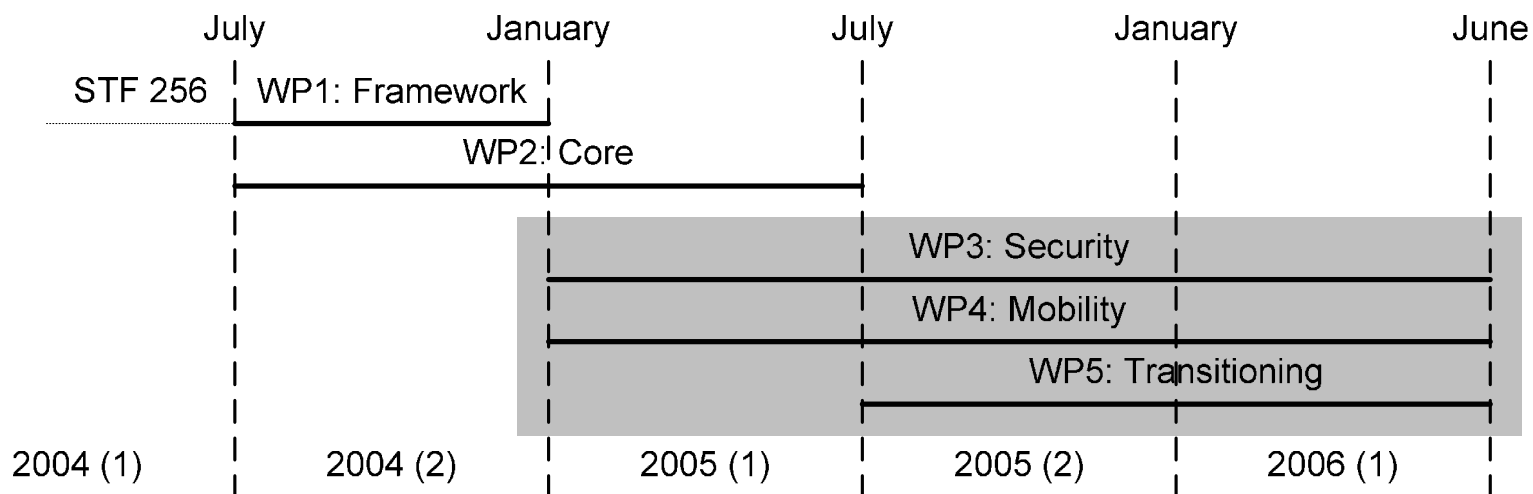❑ **A catalogue of the core's RFC, industry practice, and logo requirements**

Five Work Packages

- [ ] **WP 1: IPv6 TTCN-3 Test Development Framework**
- [ ] **WP 2: IPv6 Core test specifications**

- [ ] WP 3: IPv6 IPv6 Security (IPSEC) test specifications
- [ ] WP 4: IPv6 IPv6 Mobility test specifications
- [ ] WP 5: IPv6 IPv6 Transitioning test specifications

IPv6 Project Timeline

IPv6 Test Development Framework
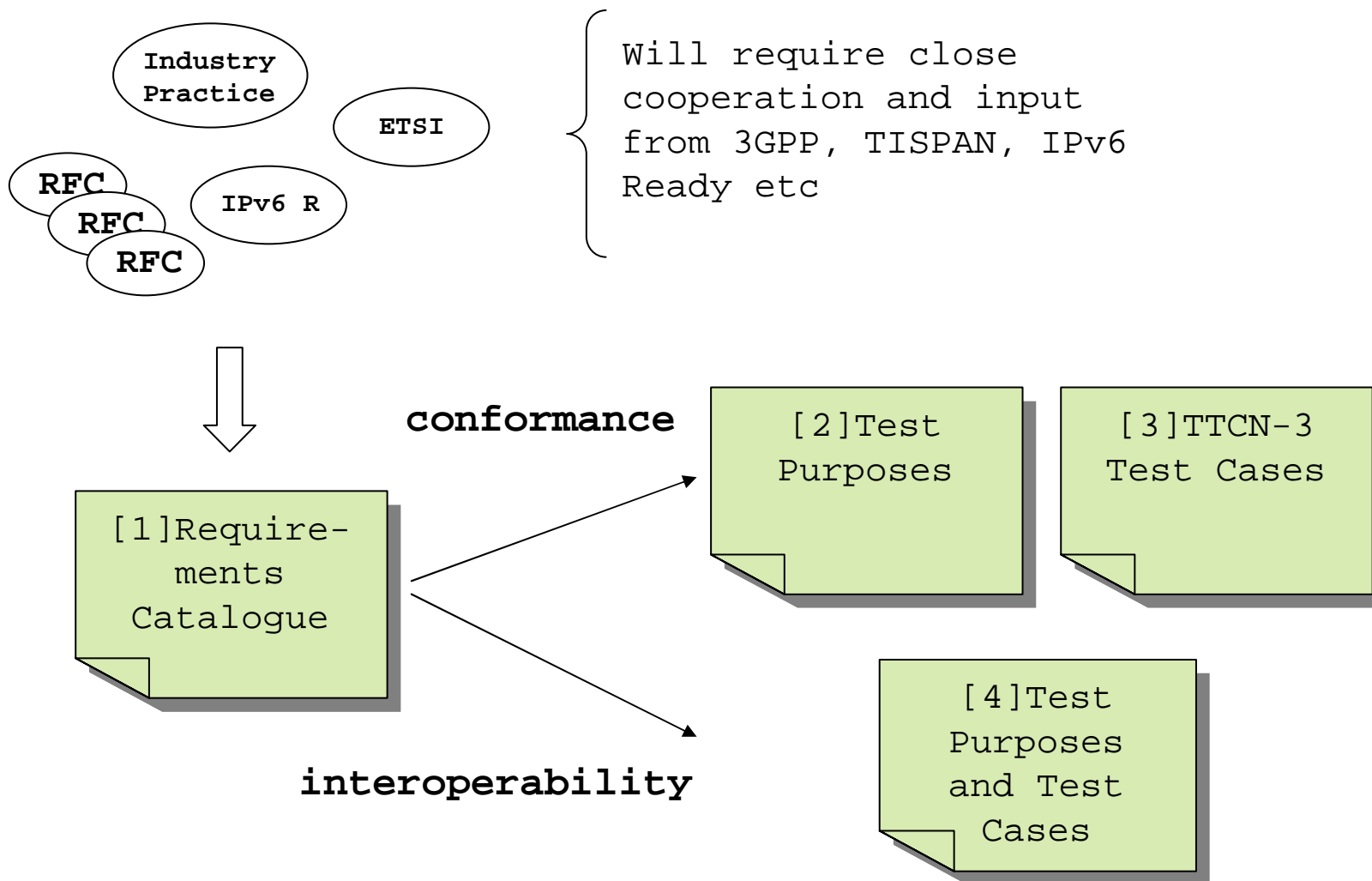
❑ **IPv6 Testing Methodology**
  - ➤ **(Slight) adaptation of ISO 9646 to include current practices/needs (in the IP world)**
  - ➤ **Simple and pragmatic**

❑ **IPv6 TTCN-3 module library**
  - ➤ **Will probably concentrate on**
    - • **types, values and templates**
    - • **preambles/postambles**
    - • **generic behaviour**
  - ➤ **Naming conventions**
  - ➤ **Style guide**
  - ➤ **Synchronisation conventions**
  - ➤ **Will be available on ETSI server**
    - • **extensible (with rules)**

WP 2: IPv6 Core Test Specification

Industry Practice

ETSI

RFC
RFC
RFC

IPv6 R

Will require close
cooperation and input
from 3GPP, TISPAN, IPv6
Ready etc

conformance

[1]Require-
ments
Catalogue

[2]Test
Purposes

[3]TTCN-3
Test Cases

interoperability

[4]Test
Purposes
and Test
Cases

Standards for Business

Contacts/Downloads

❑ **Contact person for all IPT activities**
  ➢ **anthony.wiles@etsi.org**
  ➢ **www.etsi.org/ptcc/home.htm**

❑ **Mailing lists**
  ➢ **MTS-IPT**
  ➢ **MTS-IPT-IPv6**
  ➢ **MTS-IPT-SIGTRAN**
  ➢ **MTS-IPT-SIP**
  ➢ **MTS-IPT-H323**

❑ **Published documents**
  ➢ **http://pda.etsi.org/pda/**
❑ **Drafts**
  ➢ **http://docbox.etsi.org/MTS/MTS/07-Drafts/**

The End
Thank you!

Anthony Wiles

PTCC