MTS

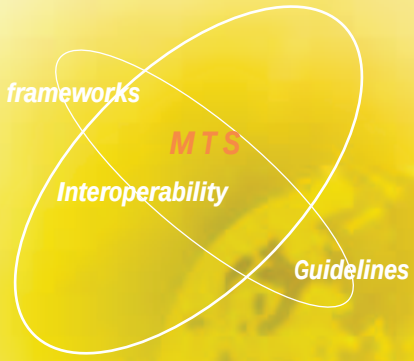
METHODS FOR TESTING AND SPECIFICATION

overview

MTS

As Standards and interoperability become crucial factors in market success, the way that standards are written becomes increasingly important. ETSI's aim is always to produce documents that are clear and easy – easy to understand and easy to use. TC MTS (Methods for Testing and Specification) provides the frameworks and methodologies necessary to enable the other ETSI Technical Bodies to achieve this goal.

MTS meetings are attended by experts from the major telecommunications companies of Europe. Most large international telecoms businesses operate their own competence centres or at least have dedicated staff responsible for testing and specification. These organizations make decisions about which specification languages to use, how to use them and how they are to be supported by various tools. They come to MTS meetings to ensure that ETSI develops complementary guidelines for the use of these languages within standards.



MTS has had a number of significant achievements in the development and use of specification languages. Many of the well-known base standards such as GSM, UMTS and TIPHON, have accompanying test suites to ensure that devices can be tested for conformance to the appropriate standards. These test suites are normally written in TTCN (Testing and Test Control Notation), a standardized test specification language that is maintained by MTS.

> *“ MTS meetings are attended by experts from the major telecommunications compagnies of Europe. ”*

A number of tools are already available for the latest version of TTCN, TTCN-3, which has been published not only by ETSI but also by the ITU as Recommendation Z.140.

Because of the richness of the language, SDL specifications can become very complex and, thus, difficult to read by non-experts. TC-MTS has developed guidelines which show how SDL can be written in a way that is easy to read and understand. Protocol standards following these guidelines can still make use of the powerful simulation and validation facilities that are available in specialised commercial software tools. Similar guidelines have been published for the use of UML, MSC, ASN.1 and TTCN.

benefits

Careful use of specification languages can improve the accuracy and clarity of standardized protocols, particularly when this is done within a framework of well thought-out guidelines.

Because the main use of these languages is in the development of software products which are often complex in nature, they are very powerful specification tools. Protocol standards need to be specified in a much simpler way. MTS's primary function is to provide methods and guidelines to help standards writers to make use of these languages to express complicated issues simply.

> “MTS primary function is to provide methods and guidelines.”

In order to ensure a common understanding of the meaning and use of specification languages, MTS actively contributes to their development and standardization.

market penetration

MTS does not address a commercial product market.

Rather, our market is the range of other Technical Bodies working within ETSI. These include :

- EP TIPHON
- TC SPAN
- EP BRAN
- TC AT
- 3GPP

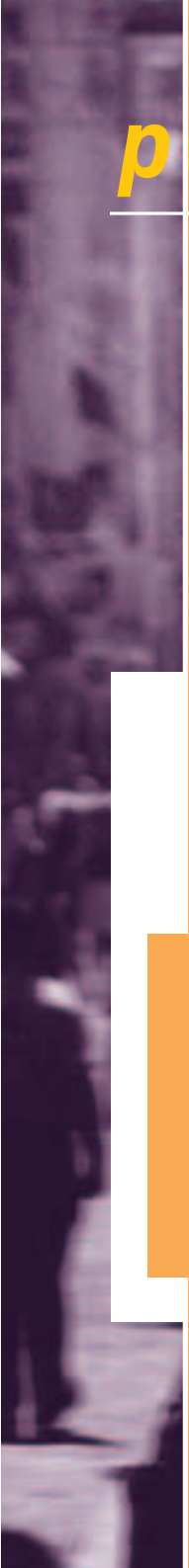
In addition, MTS's TTCN language standards have been implemented by many of the leading global suppliers of protocol testing tools.

scope

The scope includes

- ***Evaluation*** of available method and techniques for the formal specification of standards with particular respect to technical quality and testability,
- ***Development*** of guidelines on the use of selected methods,
- ***All aspects of testing*** methods for IP-related protocols,
- ***Methodologies*** for the development of standardized test specifications,
- ***Field trials*** and pilot applications of new methods in order to make sure that they are ready for use at ETSI.
- ***Methodologies*** for the generation, processing and verification of test suites,
- ***Maintenance*** of a technical liaison with ITU-T SG17 and other relevant bodies.
- ***Maintain a close co-operation*** with other ETSI bodies on conformance and interoperability testing methodology, including joint interests in selected work items and Specialist Task Forces.

In addition, MTS works very closely with ETSI's 'Protocol and Testing Competence Centre (PTCC) to develop the background material which they then use in their support of other TBs.



potential

TC-MTS sees for itself a very busy future supporting existing initiatives and embracing the newer methods that are emerging from the standardization and development of IP. Whereas our testing focus has previously been on conformance, the growing interest in interoperability will certainly require consideration, as will all aspects of IP testing.

The specification of the TTCN language and the development of guidelines for its use will continue to be major MTS's activities as new testing requirements are identified. Performance and real-time testing, for instance, are interesting areas of potential development.

UML has not been used extensively in standards yet but there is certainly a growing interest. MTS has already developed some guidelines on how it could be incorporated into the ETSI standards-making process. In addition, MTS is beginning to take an active part in two UML developments. The first is the definition of an UML profile for communication systems specification and description which will provide users with a means of specifying behaviour in an SDL-like way within UML. The second is the specification of a UML testing profile based upon TTCN-3.

SDL, MSC and ASN.1 are all likely to be further developed and MTS will continue to keep its related guidelines up to date. We will also be studying the applicability of new languages, such as XML, to standardization and, if required, developing further practical guidelines on their use.

ETSI's MISSION

ETSI plays a major role in developing a wide range of standards and other technical documentation as a contribution to world-wide standardization in telecommunications, broadcasting and information technology. ETSI's prime objective is to support global standards harmonization by providing a forum in which all the key players can contribute actively.

AboutETSI

ETSI's STRUCTURE

Based in Sophia Antipolis (France), ETSI is a non-profit making organization which unites nearly 900 members from 54 countries inside and outside Europe, representing administrations, network operators, manufacturers, service providers, technical bodies and users. The Institute's work programme is determined by its members, who are also responsible for approving its deliverables. As a result, ETSI's activities are maintained in close alignment to the market needs expressed by its members.

ETSI is an independent organization, but operates in close collaboration with many other organizations, notably the ITU, CEN and CENELEC, the European Commission and the EFTA Secretariat, plus numerous other regional and world-level bodies with the ultimate goal of achieving common global standards.

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