



**CYBER;  
Methods and protocols;  
Part 1: Method and pro forma for Threat,  
Vulnerability, Risk Analysis (TVRA)**

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# Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Cyber Security (CYBER).

The present document is part 1 of a multi-part deliverable covering methods and protocols for security standardization, as identified below:

**Part 1: "Method and pro forma for Threat, Vulnerability, Risk Analysis (TVRA)";**

Part 2: "Protocol Framework Definition; Security Counter Measures".

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# Modal verbs terminology

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# Introduction

The present document is one of a set of documents that addresses standardization of security protocols and mechanisms within the context of the eEurope 2005 programme and which, within ETSI, has been considered as a tool in the "Design for Assurance" approach to achieving security in ICT systems. The suite of documents is composed as follows:

- ETSI EG 202 387 [i.1]: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Security Design Guide; Method for application of Common Criteria to ETSI deliverables".
- ETSI ES 202 383 [i.23]: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Security Design Guide; Method and proforma for defining Security Targets".
- ETSI ES 202 382 [i.24]: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Security Design Guide; Method and proforma for defining Protection Profiles".
- **ETSI TS 102 165-1: "CYBER; Methods and protocols; Method and pro forma for Threat, Vulnerability, Risk Analysis (TVRA)" (the present document).**

- ETSI TS 102 165-2 [i.25]: "CYBER; Methods and protocols; Protocol Framework Definition; Security Counter Measures".
- ETSI TS 102 556 [i.5]: "Telecommunication and Internet converged Services and Protocols for Advanced Networking (TISPAN); Protection Profile".
- ETSI EG 202 549 [i.6]: "Telecommunication and Internet converged Services and Protocols for Advanced Networking (TISPAN); Design Guide; Application of security countermeasures to service capabilities".

These documents are developed based on the objectives of the eEurope programme and are also developed to ensure they comply with the overall objectives of the European regulatory framework as defined in the following documents:

- Directive 2002/19/EC [i.16] of the European Parliament and of the council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive).
- Directive 2002/20/EC [i.17] of the European Parliament and of the council of 7 March 2002 on the authorization of electronic communications networks and services (Authorization Directive).
- Directive 2002/21/EC [i.18] of the European Parliament and of the council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive).
- Directive 2002/22/EC [i.19] of the European Parliament and of the council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive).
- Directive 2002/58/EC [i.20] of the European Parliament and of the council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications).

The eEurope 2005 action plan has been drawn up to focus on "*the widespread availability and use of broadband networks throughout the Union ... and the security of networks and information, eGovernment, eHealth and eBusiness*" requiring a supporting infrastructure, which is truly pan-European. To quote COM(2002)263 [i.8]: "*By 2005 Europe should have ... a secure information infrastructure*".

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# 1 Scope

The present document defines a method primarily for use by ETSI standards developers in undertaking an analysis of the threats, risks and vulnerabilities of an Information and Communications Technology (ICT) system.

NOTE: The method described has been tailored to apply to pre-production but can be applied to production devices with due attention given to possibility that the application of countermeasures may be unachievable for a re-design strategy.

The method described in the present document builds from the Common Criteria for security assurance and evaluation defined in ISO/IEC 15408 [i.27], [i.28], [i.29] and specifically targets the means to build a Threat Vulnerability and Risk Analysis (TVRA) to allow its reference by an ETSI specification developed using the guidelines given in ETSI EG 202 387 [i.1] and ETSI ES 202 382 [i.24]. The TVRA forms part of the documentation set for the Target Of Evaluation as specified in ETSI ES 202 382 [i.24] with its intended audience being a developer of standards based Protection Profiles.

The use of the method described in the present document for application outside the "Design for Assurance" paradigm described in ETSI EG 202 387 [i.1] is supported but some of the examples and stages of evaluation may not be appropriate.

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## 2 References

### 2.1 Normative references

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI EG 202 387: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Security Design Guide; Method for application of Common Criteria to ETSI deliverables".
- [i.2] ETSI TR 187 011: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Security; Application of ISO-15408-2 requirements to ETSI standards - guide, method and application with examples".
- [i.3] ETSI TR 187 002: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); TISPAN NGN Security (NGN-SEC); Threat, Vulnerability and Risk Analysis".