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Power systems management and associated information exchange – Data and communications security – Part 13: Guidelines on security topics to be covered in standards and specifications

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POWER SYSTEMS MANAGEMENT AND ASSOCIATED INFORMATION EXCHANGE – DATA AND COMMUNICATIONS SECURITY –

Part 13: Guidelines on security topics to be covered in standards and specifications

FOREWORD

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IEC TR 62351-13, which is a Technical Report, has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

The text of this Technical Report is based on the following documents:

Enquiry draft	Report on voting
57/1678/DTR	57/1727/RVC

Full information on the voting for the approval of this Technical Report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62351 series, published under the general title *Power systems management and associated information exchange – Data and communications security*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document provides guidelines on what security topics should be covered in standards and specifications (IEC or otherwise) that are to be used in the power industry. These guidelines cannot be prescriptive for every standard, since individual standards and specifications may legitimately have very different focuses, but it should be expected that the combination of such standards and specifications used in any implementation should cover these security topics. These guidelines could therefore be used as a checklist for the combination of standards and specifications used in implementations of systems.

The security requirements for human users and software applications are different from the purely technical security requirements found in many communication and device standards. For user security standards, more emphasis should be on “policy and procedures” and “roles and authorization” rather than “bits and bytes” cryptographic technologies that should be included in Information and Communications Technology (ICT). In addition, engineering practices and system configurations should be taken into account, since no cryptography can compensate for poor design.

Figure 1 illustrates the relationships between security requirements, threats, and attacks.

This document is structured into four sections:

- Clause 5: Security requirements for standards and specifications which do not address specific cybersecurity technologies but where interactions between human users, software applications, and smart devices should be secured.
- Clause 6: Security requirements for standards and specifications that address information and communication technologies (ICT).
- Clause 7: Engineering design and configuration requirements that provide system reliability, defence in depth, and other security threat mitigations.
- Clause 8: Security requirements related to the OSI reference model.

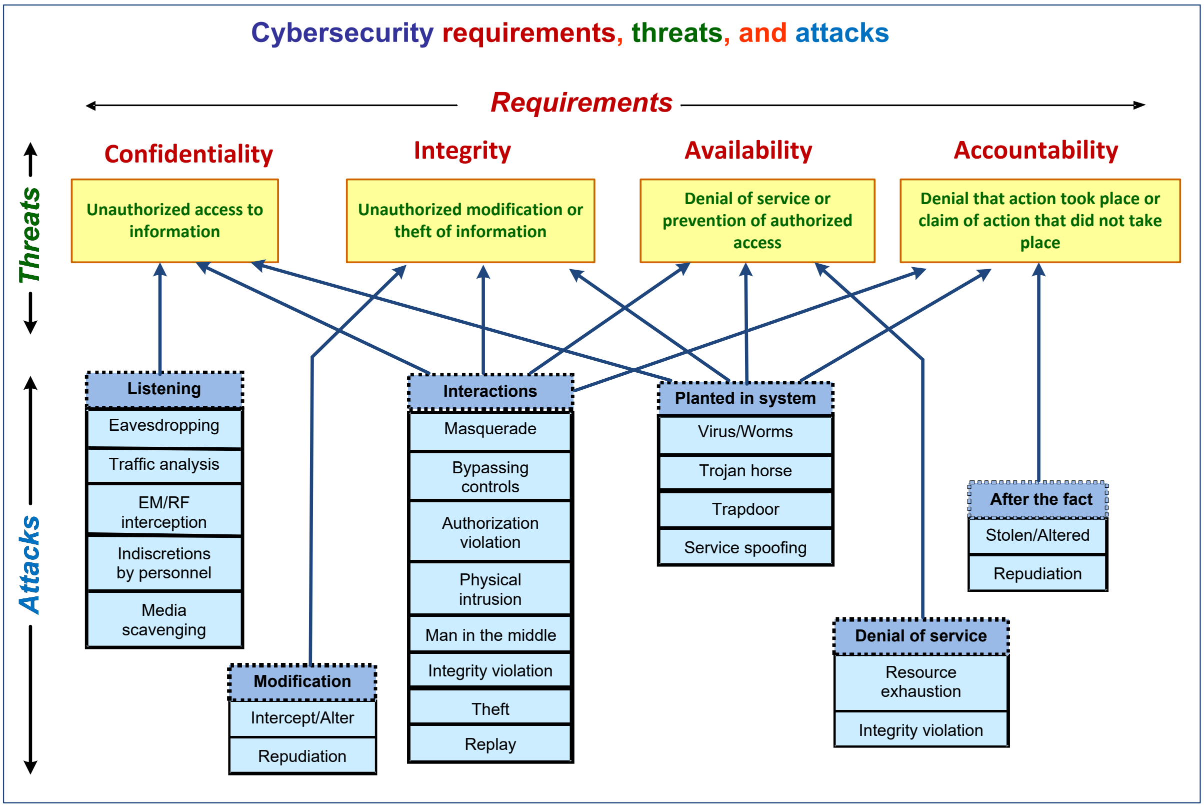

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Figure 1 – Security requirements, threats, and possible attacks

POWER SYSTEMS MANAGEMENT AND ASSOCIATED INFORMATION EXCHANGE – DATA AND COMMUNICATIONS SECURITY –

Part 13: Guidelines on security topics to be covered in standards and specifications

1 Scope

This part of IEC 62351, which is a Technical Report, provides guidelines on what security topics could or should be covered in standards and specifications (IEC or otherwise) that are to be used in the power industry, and the audience is therefore the developers of standards and specifications.

These guidelines cannot be prescriptive for every standard, since individual standards and specifications may legitimately have very different focuses, but it should be expected that the combination of such standards and specifications used in any implementation should cover these security topics. These guidelines are therefore to be used as a checklist for the combination of standards and specifications used in implementations of systems.

Out-of-scope are explicit methods for cyber security in product development, implementations, or operations.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TS 62351-2, *Power systems management and associated information exchange – Data and communications security – Part 2: Glossary of terms*