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**Methodology for communication network dependability
assessment and assurance**

通信网络可信性评估和保证方法

(English Translation)

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Table of Contents

Introduction

1 Scope

2 Normative reference documents

3 Terms, definitions and abbreviations 1

3.1 Terms and definitions

3.2 Abbreviations

4 Overview of network credibility methods

4.1 Requirements for network trustworthiness methods

4.2 Network credibility goal

4.3 Network service scenario

4.4 Network credibility assessment strategy

4.5 Network credibility assurance strategy

5 Application of network credibility method

5.1 Network life cycle processes

5.2 Network credibility characteristics

5.3 Network credibility assessment method

5.4 Network credibility assurance methods

Appendix A (informative) E2E network credibility assessment case

A.1 Objective

A.2 Network topology and E2E network service path description

A.3 E2E network service path construction

A.4 E2E network service path analysis

A.5 E2E network service path assessment

Appendix B (informative) Full-end network credibility assessment case

B.1 Objective

B.2 Network topology and full-end network description

B.3 Full-end network availability model analysis

B.4 Full-end network credibility assessment

Appendix C (Informative) Network Credibility Assessment for Field Operations

C.1 Objective

C.2 Data Analysis

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting.

This document is equivalent to IEC 62673:2013 "Communications Network Credibility Assessment and Assurance Methods".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

Communication networks aim to obtain user satisfaction with service performance, and their credibility is largely affected by the design and implementation of network service functions.

Impact.

The evolution of communication networks, the growth of services and the updating of functions are long-term challenges faced by network service providers. This is not only because of the the scope of storage services is broad and related to the activities that end users experience in connection with the services.

In order to maintain available business in network services, the communications industry needs to be careful to provide the following.

- Required network service functions;
- Sufficient network capacity and performance;
- Service security;
- service quality;
- Service credibility.

This document addresses one of the most important issues related to business trustworthiness assessment and delivery to ensure network service performance, while also it also solves the problem of application of network credibility assurance strategies and methods to enhance and maintain network operation.

This document describes a set of general methods for communication network credibility assessment and assurance, and provides relevant assessment and assurance means to support communication Trust network trust engineering applications. These methods are consistent with IEC 61907 and the International Telecommunications Union Telecommunication Standardization Bureau (ITU-T) concerning trustworthiness the recommended standards are consistent.

This document provides a network credibility analysis and evaluation method that can ensure the effective implementation of reliable network design.

The goal of this document is to formulate a set of cost-effective solutions that guarantee the trustworthy performance of the network and ensure the operation of the network from the service Gain from credibility.

Communication network credibility assessment and assurance methods

1 Scope

This document explains a set of general methods for communication network credibility analysis and evaluation from a life cycle perspective, and provides information for network topology analysis.

Network credibility assessment strategies and a complete set of methods for analysis, service path credibility evaluation and network configuration optimization to obtain network credibility and service Credibility. This document also focuses on network reliability assurance strategies and a complete set of methods, including network health check applications, network outage control Control and test case management to enhance and maintain the reliability of network service operations.

This document is applicable to network service providers, network designers and developers, and network operators engaged in network credibility assurance and service credibility assessment.

Network maintenance and operations personnel.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations for undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

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Note 1: GB/T 2900.99-2016 Credibility of electrical terminology (IEC 60050-192:2015, IDT)

Note 2: GB/T 37407-2019 Application Guide System Reliability Engineering (IEC 60300-3-15:2009, MOD)

3.1 Terms and definitions

The terms and definitions defined in IEC 60050-191 and the following apply to this document.

3.1.1

communication network communication network A system of communication nodes and links that provide analog or digital signal transmission.

Examples. telecommunications networks, the Internet, intranets, extranets, wide area networks, local area networks and computer networks utilizing information technology.

Note 1: A network has its boundaries. All nodes at the network boundary are called endpoints. In some applications, the term "node" is used instead of "endpoint" to refer to the network's Information access points, while representing connections between transmission links.

Note 2: A "backbone" communications network consists of a core network and high-speed transmission lines (domestic and international). These transmission lines connect a country or region's the interconnection of main switching network nodes, i.e. transmission lines, at different locations.

3.1.2

dependability

network dependability Ability to perform as required when required to meet specified communications and operational requirements.