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Power systems management and associated information exchange - Part 200: Guidelines for migration from Internet Protocol version 4(IPv4)to Internet Protocol version 6(IPv6)

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Table of Contents

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1.Structure and drafting rules for standardization documents" Drafting.

This document is part.200 of GB /Z 43728 "Power system management and information exchange". GB /Z 43728 has published the following

part.

--- Part 1.Reference architecture;

--- Part.200.Migration Guide from Internet Protocol Version 4 (IPv4) to Internet Protocol Version 6 (IPv6).

This document is equivalent to IEC TR62357-200.2015 "Power system management and information exchange Part.200.Information exchange from the Internet

The document type was changed from IEC technical report to my country's national

National standardization guidance technical documents.

Introduction

GB /Z 43728 "Power System Management and Information Exchange" aims to improve the efficiency of power system management and information exchange.

Divided into components.

--- Part 1.Reference architecture. The purpose is to provide a reference architecture for this series of standards.

--- Part.200.Migration Guide from Internet Protocol Version 4 (IPv4) to Internet Protocol Version 6 (IPv6).

Definitions and guidelines for data communications protocol migration from Internet Protocol version 4 (IPv4) to Internet Protocol version 6 (IPv6)

And suggestions.

This document provides tutorials on IPv4 and IPv6 technologies relevant to migration.

This document describes the migration objectives and migration strategy issues in general and specific application areas of power communication systems.

This document provides recommendations for equipment manufacturers, network engineers, and standards organizations.

This document provides the following timetable for the organization of power system data communication standards.

a) Starting from.2015, all new or revised IEC documents support IPv6 as an option for authorized projects.

b) By 2030, all IEC documents will support both IPv6 and IPv4 as options.

c) After 2050, all IEC documents assume that IPv4 will be banned.

Power system management and information exchange

Part.200.From Internet Protocol Version 4 (IPv4)

Migration Guide to Internet Protocol Version 6 (IPv6)

1 Scope

This document is applicable to information exchange in power systems, including but not limited to substations, control centers, operation and maintenance centers, energy management systems,

Grid stabilization systems for synchronous phasers, large energy generation (including fossil fuel generation), distributed energy generation (renewable energy such as wind power, etc.)

and solar), energy storage, and load management (demand-side management and demand response for distribution-level consumption or production).

This document addresses the issues encountered when migrating from Internet Protocol version 4 (hereinafter referred to as IPv4) to Internet Protocol version 6 (hereinafter referred

to as IPv6).

The migration strategy is described, including the application, communication protocol stack, network node, configuration, address allocation, network security and related

Impact of management.

This document describes the concepts and necessary path for migrating from IPv4 to IPv6 and considers the migration of several protocols within the IEC 61850 framework.

Backward compatibility.

Review IEC standards and technical reports based on the reference architecture for information exchange in power systems (IEC 62357-1), taking into account the requirements for

In order to understand the impact of IPv6 on these files, this document supports the revision of these files due to the introduction of IPv6.

This document does not mandate the use of IPv6 technology in power communications.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to

This document.

Note. GB/T 16723-1996 Information technology - Protocol for providing OSI connectionless transport services (ISO /IEC 8602.1995, IDT)

IEC 60870-5-104 Telecontrol equipment and systems Part 5-104.Transmission protocol using the standard transmission protocol set IEC 60870-

Note. GB/T 25931-2010 Precision clock synchronization protocol for network measurement and control systems (IEC 61588.2009, IDT)

IEC 61850-6 Power automation communication networks and systems Part 6.In-substation communication configuration related to intelligent electronic devices