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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 44866.1-2024

**Technical requirements of 4over6 technology in IPv6-only
network-Part 1: Interconnection of IPv4 networks based on IPv6
backbone networks**

面向单栈IPv6网络的4over6技术要求 第1部分：基于IPv6骨干网的IPv4网络互联

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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.

GB/T 44866 "4over6 Technical Requirements for Single-Stack IPv6 Networks" and GB/T 44887 "Technical Requirements for IPv6 Evolution", GB/T 44598 "General Technical Requirements for Multi-domain IPv6 Single Stack Networks" together constitute the national standard system for IPv6 evolution technology.

This document is Part 1 of GB/T 44866 "Technical requirements for 4over6 for single-stack IPv6 networks".

The following parts are published.

- Part 1: IPv4 network interconnection based on IPv6 backbone network;
- Part 3: Dynamic allocation of IPv4 addresses over IPv6 networks.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

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Introduction

According to the Notice on Accelerating the Scale Deployment and Application of Internet Protocol Version 6 (IPv6), in order to promote the integration of IPv6 technology, In order to integrate and build an IPv6 technology system and promote the standardization of IPv6 scale deployment and application results, China has formulated a series of IPv6 technology standards.

GB/T 44866 "Technical Requirements for 4over6 for Single-Stack IPv6 Networks" was issued at a critical time for China to launch large-scale IPv6 deployment.

The standard formulated to specify the technical requirements for the 4over6 transition consists of three parts.

- Part 1: IPv4 Network Interconnection over an IPv6 Backbone. The purpose is to standardize the interconnection of IPv4 networks over an IPv6 backbone network.
- Part 2: IPv4 network interconnection based on IPv6 access network. The purpose is to standardize the use of IPv4 public land in IPv6 access network.

The two-way interconnection between users and IPv4 networks is achieved through the use of IPv4 addresses and address reuse.

- Part 3: Dynamic allocation of IPv4 addresses based on IPv6 networks. The purpose is to standardize the support of IPv4 addresses by IPv6 network users.

The mechanism of dynamic address allocation.

4over6 Technical Requirements for Single-Stack IPv6 Networks Part 1: IPv4 network

interconnection based on IPv6 backbone network

1 Scope

This document specifies the technical requirements for the 4over6 mechanism for interconnecting IPv4 networks on a single-stack IPv6 backbone network.

This document is applicable to the transition phase from IPv4 network to IPv6 network, where users of IPv4 access network use the single stack IPv6 backbone network.

Scenario of interconnection using 4over6 technology.

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. tion)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1

The transition technology to IPv6 network evolution realizes the interconnection and interoperability of IPv4 network on IPv6 network by extending the network protocol.

3.2 4over6 routerIPv4overIPv6router

Routers that support the 4over6 function.

4 Abbreviations

The following abbreviations apply to this document. CE. Customer Edge