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Technical requirements of 4over6 technology in IPv6-only network - Part 2: Interconnection of IPv4 networks based on IPv6 access network

面向单栈IPv6网络的4over6技术要求 第2部分：基于IPv6接入网的IPv4网络互联

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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.

GB/T 44866 "4over6 Technical Requirements for Single-Stack IPv6 Networks" and GB/T 44887 "IPv6 Evolution Technical Requirements" 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 2 of GB/T 44866, "4over6 Technical Requirements for Single-Stack IPv6 Networks". GB/T 44866 has been issued.

The following parts were laid out.

- Part 1: Interconnection of IPv4 Networks Based on IPv6 Backbone;

- Part 2: IPv4 Network Interconnection Based on IPv6 Access Network;

- Part 3: Dynamic allocation of IPv4 addresses for IPv6 networks.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

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

This document is under the jurisdiction of the National Telecommunications Standardization Technical Committee (SAC/TC485).

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Introduction

According to the "Notice on Accelerating the Large-Scale Deployment and Application of Internet Protocol Version 6 (IPv6)," in order to promote the integration of IPv6 technology...

To integrate and build the IPv6 technology system and promote the standardization of large-scale IPv6 deployment and application results, China has formulated a series of IPv6 technical standards.

In China, GB/T 44866, "4over6 Technical Requirements for Single-Stack IPv6 Networks," was developed during a critical period of large-scale IPv6 deployment.

The standard, which is designed to regulate the transitional technical requirements of 4over6, is proposed to consist of three parts.

- Part 1: Interconnection of IPv4 Networks Based on IPv6 Backbone. The purpose is to standardize the interconnection of IPv4 networks on an IPv6 backbone.

- Part 2: IPv4 Network Interconnection Based on IPv6 Access Networks. The purpose is to standardize the use of IPv4 public land in IPv6 access networks.

The method of address reuse enables bidirectional interconnection between users and the

IPv4 network.

- Part 3: Dynamic Allocation of IPv4 Addresses in IPv6 Networks. The purpose is to standardize IPv6 network user support for IPv4 addresses.

The mechanism of dynamic address allocation.

4over6 technical requirements for single-stack IPv6 networks Part 2: IPv4 Network Interconnection Based on IPv6 Access Network

1 Scope

This document specifies the technical requirements for implementing the 4over6 mechanism for IPv4 network interconnection on a single-stack IPv6 access network, including public...

Technical requirements such as 4over6 access network and lightweight 4over6 access network.

This document applies to IPv4 user equipment or network equipment in a single-stack IPv6 access network, using the 4over6 mechanism with IPv4.

A scenario of network interconnection.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document. tion) IETF RFC 6333 (2011) Dual-Stack Litebroadband Deployment After IPv4 Depletion IETF RFC 6334 (2011) Dual-Stack Simplified Version of IPv6 Dynamic Host Configuration Protocol (DHCPv6) Options [Dynamic] tion(MAP-E)] IETF RFC 7598 (2015) Configuring DHCPv6 Options for Softwire Address and Port Mapping Clients [forport-setalocation]

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 4over6 IPv4overIPv6

The transition technology to IPv6 enables interconnection and interoperability of IPv4 networks over IPv6 networks by extending network protocols.