ICS 35.030
CCS L80

# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA



# GB/T 43844-2024

## IPv6 address assignment and coding rules - Interface identifier

IPv6地址分配和编码规则 接口标识符

**Issued on: April 25, 2024** **Implemented on: November 1, 2024**

**Issued by: State Administration for Market Regulation;**
**Standardization Administration of the PRC**

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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: 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 was proposed by the National Information Security Standardization Technical Committee (SAC/TC260): This document was prepared by the National Information Security Standardization Technical Committee (SAC/TC260) and the National Communications Standardization Technical Committee (SAC/TC485): Centralized: This document was drafted by: National Computer Network Emergency Response Technical Coordination Center, Tsinghua University, Sichuan University, Huawei Technologies Co:, Ltd: ZTE Corporation, China Information and Communications Technology Group Corporation, East China Normal University, Beijing Baidu Netcom Technology Co:, Ltd: Co:, Ltd:, Qi'anxin Wangshen Information Technology (Beijing) Co:, Ltd:, and Beijing Zhongguancun Laboratory: The main drafters of this document are: Chen Xunxun, Wang Wenlei, Cui Mufan, Li Gaochao, Liu Ying, He Lin, Chen Xingshu, Zeng Xuemei, Xiao Dianyan, Zhou Jihua, Wang Hui, Zhou Zhen, Wang Xuan, Chen Kai, Guo Jianling, Zou Xin, Zhang Wei, Li Xiangxue, Shi Xingang, Wu Ping, An Jincheng, and Sun Jie: IPv6 address allocation and encoding rules interface identifier

## 1 Scope

GB/T 43844-2024 sets the rules for coding the interface identifier of an IPv6 address - the lower 64 bits that identify the interface within its subnet. The original EUI-64 method derives them from the MAC address, which is convenient and privacy-destroying: the same identifier follows the device from network to network, so the host can be tracked wherever it goes. The standard covers both approaches, setting out the EUI-64 encoding method and a cryptographic transformation encoding method that produces a stable identifier within a subnet without exposing the hardware address, with an informative annex working a

calculation of the cryptographic method through. It took effect on 1 November 2024.

This document specifies the encoding rules for IPv6 address interface identifiers: This document is applicable to Internet access service providers, application infrastructure service providers, self-use network operators, network terminal manufacturers, network equipment Interface identifier encoding and allocation when manufacturers and others dynamically allocate IPv6 addresses on the network:

## 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:

GB/T 25069-2022 Information Security Technical Terminology

## 3 Terms and definitions

The terms and definitions defined in GB/T 25069-2022 and the following apply to this document: 3:1 interface identifierinterfaceidentifier;IID On a link, an identifier used to identify a specific interface within a network (the low-order part of an IPv6 address): 3:

2 Own a national or regional user access network, providing end users with dedicated lines, dial-up Internet access and other Internet access services and limited Provider of information services: 3:

3 Provide national and regional Internet data center services, cloud computing services, content distribution network services, domain name registration and resolution services service provider of the service: 3:

4 Self-operating network In addition to Internet access service providers and application infrastructure service providers, those who obtain addresses from domestic address allocation agencies or from Asia Pacific Internet The network where addresses are obtained from international organizations with the right to manage IP addresses, such as the Information Center: 3:5 network terminalnetworkterminal A terminal device with network access function that can realize human-machine interaction: [Source: GB/T 36465-2018] 3:6 A dynamic configuration protocol for configuring network configuration parameters of IPv6 nodes, IPv6 addresses, and scalable IPv6 address prefixes: