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Cybersecurity technology - Requirements for the representation of elements of a cyberspace security knowledge graph

网络安全技术 网络空间安全图谱要素表示要求

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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. 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 and is under the jurisdiction of the National Cybersecurity Standardization Technical Committee (SAC/TC260). This document was drafted by: Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences; First Research Institute of the Ministry of Public Security; and Institute of Software, Chinese Academy of Sciences. Tsinghua University, 360 Digital Security Technology Group Co., Ltd., Qi An Xin Technology Group Co., Ltd., and Beijing Venustech Information Security Technology Co., Ltd., Industrial and Commercial Bank of China Limited, State Grid Siji Network Security Technology (Beijing) Co., Ltd., Yuanjiang Shengbang Security Technology Group Group Co., Ltd., Hangzhou Zhonger Network Technology Co., Ltd., Beijing Winut Technology Co., Ltd., Beijing Zhongke Anwei Testing Technology Co., Ltd. The company, the Fifth Research

Institute of Electronics of the Ministry of Industry and Information Technology, the Third Research Institute of the Ministry of Public Security, the People's Public Security University of China, and Beijing University of Aeronautics and Astronautics. Beijing Institute of Technology, Beijing University of Posts and Telecommunications, SDIC Finance Co., Ltd., and Beijing Shengborun High-Tech Co., Ltd. The main drafters of this document are. Guo Qiquan, Jiang Dong, Hao Mengmeng, Hu Guangjun, Chen Shuai, Dong Jiping, Li Haiwei, Zhang Haixia, Sun Donghong, and Hu Zhenquan. An Jincheng, Jiang Faqun, Su Jianming, Li Shu, Quan Xiaowen, Lü Ping, Wang Changyu, Wang Chunxia, Su Junfeng, Ding Fangyu, Zhuo Jun, Li Kun, Zhang Jing, Peng Yuanyuan Liu Shiming, Fan Jun, Pan Zhuting, Wang Sijie, Jiao Bin, Ma Qiang, Sun Lei, Jiang Fan, Li Xinzheng, Liu Haiying, Li Yangpu, Shi Lingzhi, Lu Jun, Fu Jingying Lin Gang, Chai Siyue, Tao Yuan, Du Yanhui, Yang Liqun, Zheng Jun, Guo Sanchuan, Jiang Rui, Li Xiaochuan. Network security technology Requirements for the Representation of Elements in the Cyberspace Security Graph

1 Scope

GB/T 46902-2025 is the Chinese national standard covering the knowledge graph of security - the assets, vulnerabilities, threats, actors, techniques and incidents as entities, and the relationships between them, represented so that reasoning across sources becomes possible. At 26,000 words, first edition. It was issued on 31 December 2025 and has been in force since 1 July 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the classification, code, and graphic symbol representation of elements in the cyberspace security map. This document is applicable to cybersecurity regulators, industry leaders, network operators, and network service providers in developing a cybersecurity landscape. Build and visualize representations.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 cyberspace Networks, services, systems, people, processes, organizations, and the interconnected digital environment in which one resides or traverses. [Source: GB/T 25069-2022, 3.622]

3.2 geospatial A spatial region on Earth with a specific location and extent is a distribution,

combination, and interrelationship of various natural elements and human phenomena on the Earth's surface. The carrier.

3.3 network topology The physical layout of various devices interconnected by transmission media, that is, the specific physical or logical arrangement among the members that make up the network.

3.4 knowledge graph A collection of knowledge elements and their relationships described in a structured form. [Source: GB/T 42131-2022, 3.6]

3.5 In the field of cybersecurity, based on four types of data-geographic environment, network environment, actors, and business environment-knowledge modeling and acquisition are employed. The knowledge graph is constructed by extracting key elements such as entities and attributes and establishing relationships through steps such as acquisition, fusion, storage, reasoning, and updating.

3.6 Using digital geospatial scenarios as a carrier and cyberspace security knowledge graphs as a foundation, this study explores the mapping between cyberspace and geospatial spaces. The project generates a series of maps, including a geographical base map, a physical network map, a logical network map, and various application scenario graphics.