中华人民共和国国家互联网信息办公室
Cyberspace Administration of China

WWW.CAC.GOV.CN

请输入检索关键词

| Home | Authoritative | Office work | cyber | Informatization | Internet | International | Local | Law | Policies | interaction | Education | Industry | Work |

Location: Home>   text   security   broadcast   exchange   network   enforcement   and   course   and   News   topics

Wechat QR code

Scan the code to enter the mobile version

Construction of sign analysis nodes, construction of new infrastructure, full support for innovative applications of the Industrial Internet

January 19, 2020 10:43   Source: People's Post and Telegraph   [Print] [Error Correction]   A⁻ A⁺

In December 2018, the Central Economic Work Conference redefined the infrastructure construction, and included Industrial Internet with 5G, artificial intelligence, and the Internet of Things as one of the key contents of "new infrastructure construction". The Industrial Internet Logo Analysis System is an important part of the Industrial Internet. The industrial Internet logo analysis nodes at all levels of "unified management, interconnection, security and controllability" will serve various sub-sectors in the industry, and promote network connection and industrial data Interoperability. This article will focus on the construction significance, construction status, and future development trends of the sign analysis node, hoping to provide a reference for promoting the construction of the industrial Internet sign analysis node and industrial development.

Significance of identification analysis node

Judging from the economic development experience of countries around the world, whenever the economy is facing downward pressure, infrastructure construction has become an important driving force for economic development. 2019 is at such a historical stage. Under the circumstances that China's traditional infrastructure construction is relatively complete and the marginal benefits of construction are diminishing, the traditional "iron public base" infrastructure needs to be redefined. In December 2018, the Central Economic Work Conference redefined the infrastructure construction, defining 5G, artificial intelligence, industrial Internet, and the Internet of Things as "new infrastructure", and listed infrastructure as one of the key tasks in 2019. This means that the development of new infrastructure and the support of data-driven industrialization of new technologies will be an important driving force for China's endogenous economic growth in the future.

The Industrial Internet logo resolution node is an important part of the logo resolution system. China's industrial Internet logo analysis system consists of international root nodes, national top nodes, secondary nodes, enterprise nodes, and public recursive analysis nodes. The national top node is the key link for realizing internal and external data interconnection in China's Industrial Internet logo analysis system, that is, the international gateway for external interconnection, and the core hub for internal and external coordination. The secondary node is the core link of the direct service industry enterprises in China's industrial Internet logo analysis system. It is not only an important driver to promote logo applications, but also an important engine for creating a logo ecology. Enterprise nodes are an important part of promoting the internal and external data circulation of enterprises in China's industrial Internet identification analysis system. They are not only the main content of the enterprise's own information development, but also a powerful prompt to promote the entire supply chain upgrade. Public recursive parsing nodes are the main link to ensure the performance of the parsing service in China's industrial Internet sign parsing system. It is not only an important facility for maintaining the normal operation of the sign parsing service, but also a key growth point for the independent innovation of sign parsing technology in China.

Status of construction of logo analysis system

The industrial Internet logo analysis aims to solve the problem of interconnection of various elements of industrial systems, realize communication between physical entities, enable upper-layer data to perform end-to-end flow and deep-level applications, provide data resources, and collect information from industrial elements, Network services, information sharing, security, and applications are described in multiple dimensions. The industrial Internet identity analysis architecture is divided into four perspectives: business view, function view, implementation view, and security view. Among them, the implementation architecture of industrial Internet logo analysis is divided into enterprise side, public platform side and application side.

The international root node and its mirror node refer to the highest-level service node managed by the identification system, and provide global-level root-level identification services, and are not limited to specific countries or regions. China's identification analysis system has realized the integration with the Handle system, OID / GS1 system and DNS system, which is a fusion architecture compatible with multiple identification systems.

National top-level nodes refer to the top-level identification service nodes within a country or region. They can provide top-level identification analysis services, as well as management capabilities such as identification filing and identification certification. The top national node must not only maintain the connection with the international root nodes of various identification systems, but also various domestic secondary and below identification service nodes.

In order to improve the analysis efficiency and security stability, and comprehensively consider factors such as business needs, network distribution, and geographical location, China has selected eastern (Shanghai), western (Chongqing), southern (Guangzhou), northern (Beijing), and central (Wuhan) construction. National top node. As of November 11, 2019, the top national nodes have been connected with the Handle parsing system and the OID registration system, and the global interconnection of industrial Internet logo resolution has been achieved. The daily top parity analysis of national top nodes has exceeded 10.33 million times (of which 560 thousand resolutions, 9.77 million domain name hosting resolutions).

With the steady increase in the number of logo registrations and resolutions, standardizing the industrial Internet logo management system has become an important task. At present, relevant units are drafting and formulating the Industrial Internet Logo Management Measures, which are mainly aimed at the industrial Internet logo management scope, management objects, and logo operations. The establishment of the institution and its service capabilities, the responsibilities and management methods of the management subject, the scope of supervision and punishment measures are required.

The secondary node is a public node that provides identification services for a specific industry or multiple industries. The secondary node must not only connect upwards with the top national nodes, but also assign identification codes and provide identification registration, identification analysis, identification data services, etc. for industrial enterprises, while meeting the requirements of security, stability, and scalability.

Industrial Internet logo analysis secondary node construction is a comprehensive system engineering, which involves logo resource allocation and management, information system construction and operation, logo application docking and promotion, etc., and access to the entire logo analysis through interconnection and interoperability with top national nodes system. As of November 11, 2019, 26 secondary nodes have been deployed and entered the trial operation phase, covering 11 provinces (autonomous regions, municipalities) such as Beijing, Shanghai, Guangdong, Zhejiang, and Jiangsu, with a total of more than 800 million logos registered .

On June 25, 2019, the "Guidelines for the Construction of Industrial Internet Logos Analysis of Secondary Nodes" was released, explaining the connotation and structure of the Industrial Internet Logos analysis system, describing the positioning and role of secondary nodes, and clarifying the types of secondary nodes. And naming rules, summarized the core content of the secondary node construction, proposed the construction mode of the secondary node, and clarified the operational requirements of the secondary node.

Recursive nodes refer to the entrance facilities of the identity analysis system, which can improve the overall service performance through technical means such as caching. When receiving the client's identity resolution request, the recursive node will first check whether there is a query result in the local cache. If not, it will query through the response path returned by the identity resolution server until the address or information associated with the identity is finally queried. It returns to the client and caches the result of the request. As of November 11, 2019, the construction of public recursive nodes in China has begun, which will comprehensively improve China's industrial Internet logo analysis service capabilities.

The enterprise identification analysis system provides identification registration and analysis services for specific industrial enterprises, and can define the networking form of the identification analysis system in the factory and the identification data format in the enterprise according to the scale of the enterprise. The enterprise identification resolution system can be deployed inside the enterprise as part of the enterprise information system. As of November 11, 2019, the identification analysis system covers 16 fields including aerospace equipment, building materials, food industry, containers, home appliances, equipment manufacturing, cables, materials, and shipbuilding. The cumulative number of enterprises accessing secondary nodes is 740 homes.

Identification analysis node development trend

The government reasonably guided the construction of the logo analysis system. First, at the national level, actively do a good job of strategic planning and policy guidance for the development of the industrial Internet logo analysis system, and promote the development of standard specifications and infrastructure in the field of logo analysis. For example, it focuses on domestic responsibilities, entry thresholds, service requirements, management procedures, security guarantees, regulatory scope, and punishment measures for domestic and international root operating agencies, national top-level node operating agencies, second-level nodes, and lower operating agencies. The Industrial Internet Logo Resolution Management Measures were introduced to ensure the safe and reliable operation of China's industrial Internet logo resolution. Secondly, at the level of local government, give play to their respective advantages and formulate industrial policies for the industrial Internet logo analysis system that conform to the actual conditions of each region. Exchange and cooperation of small and medium-sized enterprises; promulgation of "local policies" supporting the development of the industrial Internet logo analysis system, supporting the transformation and development of enterprises; gathering innovative power to create an application ecology of the industrial Internet logo analysis system.

Enterprises are actively exploring the expansion of identity application scenarios. Enterprises actively explore internal resource integration, supply chain restructuring, and production model optimization to realize value circulation and business model transformation. For example, digging for innovative product application models such as key product traceability, supply chain management, and full product life cycle management of smart products based on identification analysis services within the enterprise. While large enterprises gather industrial resources, restructure supply chains, and optimize production models, they also provide data resources, technology platforms, and channels for industrialization transformation for SMEs to support SME innovation and help SMEs grow. Based on the Industrial Internet logo analysis system, SMEs can share innovative resources and capabilities with large enterprises, realize rapid product iteration, and return innovation results (technology, products, etc.) to large enterprises through the supply chain, injecting vitality into large enterprises. Based on the industrial Internet logo analysis system, large and small enterprises can realize the comprehensive development goals of collaborative innovation, collaborative production, capacity sharing, and resource sharing around the innovation chain and supply chain.

The platform gives full play to the role of supporting the government and service enterprises. Industry organizations and industry alliances should give full play to the role of bridges and ties supporting governments and service enterprises, and provide theoretical and practical foundations for industrial enterprises to access the identification analysis system. For example, combined with domestic and foreign theoretical systems and practical experience, organize research and release the Industrial Internet logo analysis knowledge system to form management guides, templates, tools and case sets. Actively promote the "industry-industry-research-use" cooperation, and encourage enterprises to carry out innovations in logo analysis and application. Accelerate the formulation of models, quality, security, and data circulation standards related to industrial Internet logo resolution, promote the innovative application of industrial Internet logo resolution technology, and provide a theoretical and practical basis for industrial enterprises to access the logo resolution system. (Juss Pool)