miit.gov.cn/n1146295/n1146592/n3917132/n4062109/c6154621/content.html

(after translating with Google translate from Chinese)

Notice of the Ministry of Industry and Information Technology on Implementing the Action Plan for Promoting the Scale Deployment of the Internet Protocol Version 6 (IPv6)

Release time: 2018-05-02

The provinces, autonomous regions, municipalities directly under the Central Government and cities with separate plans, the industrial and information management departments of the Xinjiang Production and Construction Corps, the communication administrations of the provinces, autonomous regions and municipalities directly under the Central Government, the subordinate units and subordinate universities, China Telecom Group Co., Ltd., China Mobile Communications Group Co., Ltd. China United Network Communications Group Co., Ltd., China Radio and Television Network Co., Ltd., Alibaba (China) Co., Ltd., Shenzhen Tencent Computer Systems Co., Ltd., Baidu Online Network Technology (Beijing) Co., Ltd., Beijing Jingdong Century Information Technology Co., Ltd. Beijing Jinshan Cloud Network Technology Co., Ltd., NetScience Technology Co., Ltd., Beijing Lancome Communication Technology Co., Ltd., Shanghai Dilian Information Technology Development Co., Ltd., Huawei Technologies Co., Ltd., Guangdong Opal Mobile Communications Co., Ltd., Vivo Mobile Communications Co., Ltd., Beijing Xiaomi Technology Co., Ltd., Meizu Technology Co., Ltd., Shanghai Youzhe Information Technology Co., Ltd., Wuxi Huayun Data Technology Service Co., Ltd., Beijing Xunda Yuncheng Technology Co., Ltd., Beijing Youfan Branch Co., Ltd., Zhongshan University, East Network Technology Co., Ltd., Dalian Neusoft Thinking Technology Development Co., Ltd., Ningxia Yucheng Yunchuang Data Investment Co., Ltd., Lanyi Xinrun Technology (Beijing) Co., Ltd., Guiyang Zhongdian High-tech Data Technology Co., Ltd. Guiyang Comprehensive Bonded Zone Big Data Technology Co., Ltd., Runze Technology Development Co., Ltd., Wuhan Huofeng Cloud Computing Service Co., Ltd., Hunan Shangrui Information Technology Co., Ltd., Qiming Information Technology Co., Ltd., Dalian Yida Mingqitong Data Service Co., Ltd. Shenyang Railway Bureau, Wanguo Data Service Co., Ltd., Chengdu Zhongli Data Technology Co., Ltd., Guanghuan Yungu Technology Co., Ltd., Zhangbei Yunlian Data Service Co., Ltd., Shanghai Data Port Co., Ltd., Alibaba Cloud Computing Co., Ltd. (Wanwang), Beijing Xinwang Internet Software Service Co., Ltd., China Internet Information Center (CNNIC), Government and Public Interest Domain Name Registration Center (CONAC), Chengdu Xiwei Digital Technology Co., Ltd., Xiamen Sanwu Internet Technology Co., Ltd., Xiamen Yiming Technology Unit Co., Ltd., Jiangsu Bangning Technology Co., Ltd., Zhejiang Hao Network Co., Ltd., Foshan Yidong Network Co., Ltd.,

Xiamen Shangzhong Online Technology Co., Ltd., Guangdong Times Internet Technology Co., Ltd., Beijing Qihu Technology Co., Ltd., Century Connected Data Center Co., Ltd., Dr. Peng Telecom Media Group Co., Ltd. and other related companies:

Accelerate network infrastructure in order to implement the Action Plan for Promoting the Scale Deployment of the Internet Protocol Version 6 (IPv6) issued by the General Office of the CPC Central Committee and the General Office of the State Council (Hall [2017] 47 , hereinafter referred to as the Action Plan) And the pace of application infrastructure upgrades to promote the integration of innovation in the next generation of Internet and economic and social fields, the following is the organization and implementation of the relevant tasks involving the Ministry of China.

I. Implementing end-to-end IPv6 transformation of LTE network

(I) LTE network IPv6 transformation. By the end of 2018 , the basic telecommunications enterprise has completed the IPv6 transformation of the national LTE core network, access network, bearer network, and service operation support system, and enabled the IPv6 service bearer function to allocate IPv6 addresses for mobile terminal users' data services . The IPv6 access channel to the end .

(2) The IPv6 transformation of the self-operated business system of the basic telecommunications enterprise . By the end of 2018 , the basic telecommunications companies completed the IPv6 transformation of the portal website and the online business hall website , and completed the top 10 mobile Internet applications (APP) and the corresponding system server IPv6 upgrades of the active user scale , enabling mobile Internet applications. (APP) supports IPv6 access priority; guides users to complete mobile Internet application (APP) updates through promotion measures such as traffic-free upgrade .

By the end of 2018 , the mobile Internet IPv6 users will be no less than 50 million users (basic telecommunications companies have allocated IPv6 addresses and have IPv6 Internet access records within one year), among which China Telecom Group Co., Ltd. (China Telecom) users Not less than 10 million households, China Mobile Communications Group Co., Ltd. (China Mobile) has no fewer than 30 million users , and China United Network Communications Group Co., Ltd. (China Unicom) has no fewer than 10 million users .

(3) The mobile terminal fully supports IPv6 . Promote the factory default configuration of the new production mobile terminal to support IPv 4 / IPv 6 dual stack, and gradually promote the inventory mobile terminal to open the IPv6 function through system software upgrade . Mobile terminals customized and centrally procured by basic telecommunications companies should fully support IPv6 .

(4) Interworking between the basic telecommunications enterprise network and the application IPv6 . By the end of the first quarter of 2019 , all basic telecommunications companies have completed the interoperability of the LTE network with the top 10 mobile Internet application system servers of other basic telecommunications enterprises , and realized the selected 30 mobile Internet applications (APP) IPv 6 Inter-network access.

Second, accelerate the transformation of fixed network infrastructure IPv6

(5) IPv6 interconnection and interoperability of the backbone network . By the end of 2018 , the IPv6 transformation of the Internet backbone direct connection points in Beijing, Shanghai, Guangzhou, Zhengzhou and Chengdu will be completed, and the interconnection bandwidth between IPv6 networks will be no less than 1 Tbps . By the end

of 2020 , complete the IPv6 transformation of all Internet backbone direct links , and open IPv6 network interconnection bandwidth of not less than 5 Tbps .

(6) Urban area network and access network IPv6 transformation. By the end of 2018 , the basic telecommunications enterprise completed the IPv6 transformation of the metropolitan area network and the access network and opened the IPv6 service bearer function, allocated IPv6 addresses for fixed broadband users , and provided IPv6- based leased line services to government and enterprise customers , and issued corresponding Tariff measures.

(7) The fixed terminal fully supports IPv6 . Fixed terminals such as home gateways, enterprise gateways, and routers that promote new production support IPv6 and default configuration supports IPv4 /IPv6 dual stack. Fixed terminals for basic telecommunications enterprise customization and centralized procurement should fully support IPv6 .

(8) Transformation of business operation support system. By the end of the third quarter of 2018 , the basic telecommunications enterprise will complete the upgrade of the business operation support system, establish an operation and maintenance management system and business management process for IPv6 services, and have IPv6 user statistics, traffic statistics, and IPv6 service acceptance and opening. Ability to run maintenance.

Third, promote the application infrastructure IPv6 transformation

(IX) Data Center IPv6 transformation. Basic telecommunications enterprises and data center operators should complete the IPv6 transformation of the data center internal network and export equipment to support IPv6 service access and bearer. By the end of 2018 , China Telecom, China Mobile, China Unicom completed the IPv6 transformation of the ultra-large data center , the National Supercomputing Guangzhou Center, the Northeast Regional Big Data Center, the Neusoft Software Park Data Center, the Yucheng Yunchuang Data Center, and Baidu Cloud Computing Technology. (Shanxi) Co., Ltd. and Lanchong Shouming International Data Center completed IPv6 transformation and provided users with IPv6- based Internet Data Center (IDC) business. The data center newly launched in 2018 should support IPv6 . By the end of 2020 , all major data center operators have completed IPv6 transformation.

(10) Content Distribution Network (CDN) IPv6 transformation. By the end of 2018 , Aliyun, Tencent Cloud, Jinshan Cloud, NetScience Technology, Lancome, and Dilian Technology completed the content distribution network (CDN) IPv6 transformation.

(11) The IPv6 transformation of the cloud service platform . By the end of 2018 , China Telecom, China Mobile, China Unicom's cloud service platform for providing services to the public completed 50 % of cloud products IPv6 transformation, Alibaba Cloud, Tencent Cloud, Jinshan Cloud, UCloud , Huawei Cloud, Huayun, Schindler Cloud, Baidu Cloud, Jingdong Cloud, Qingyun and other cloud service platform enterprises completed the transformation of IPv6 of 50 % cloud products . By the end of 2020 , the above-mentioned enterprises have completed the transformation of all cloud products IPv6 . Encourage cloud service enterprises to provide IPv6 technical consultation and website transformation services to users.

(12) Domain name system IPv6 transformation. By the end of 2018 , China Telecom, China Mobile, China Unicom completed the IPv6 transformation of the recursive domain name resolution server, Wanwang , Xinwang Internet, China Internet Information Center (CNNIC), government and public domain organization domain name registration management center (CONAC), western Digital, Sanwu Internet, E-Name China, China Data, Ai

Ming.com, Linkage World, Business China, Times Interconnect completed IPv6 transformation, and built domain name registration, analysis and management of IPv6 support capabilities.

Fourth, carry out the IPv6 transformation of the government website and the IPv6 application of the industrial Internet

(13) The IPv6 transformation of the government website . Advance the IPv6 transformation of the industrial and information system portal . By the end of 2018 , the Ministry of Industry and Information Technology completed the IPv6 transformation of the portal ; by the end of 2019 , the subordinate units, subordinate universities, and the communication administrations of provinces, autonomous regions, and municipalities directly completed the IPv6 transformation of the portal .

(14) Industrial Internet IPv6 application. Encourage typical industries and key industrial enterprises to carry out industrial Internet IPv6 network transformation, innovate industrial Internet application practices, and build an industrial Internet IPv6 standard system.

V. Strengthening IPv6 network security

(15) Strengthen IPv6 network security management. Incorporate IPv6- related network infrastructure and application infrastructure security protection into telecom and Internet network security protection systems, improve network security-related management and technical requirements in IPv6 environment, and conduct network security level protection, risk assessment, and notification for IPv6 Early warning and other work.

(16) Do a good job in upgrading and renovating IPv6 network security measures. All basic telecommunications enterprises and data centers, content distribution networks (CDNs), cloud services and other operating enterprises should simultaneously upgrade the existing network security system in the transition from IPv4 to IPv6 to ensure IPv6- based security. Support capacity.

(17) Strengthen the construction of IPv6 network security capabilities. Strengthen the construction of network security protection methods based on IPv6 fixed network infrastructure and application infrastructure, and support research on network security technologies and management mechanisms in emerging areas such as industrial Internet, Internet of Things, and artificial intelligence in IPv6 network environment. Encourage enterprises, research institutions, universities and other parties to strengthen coordination and accelerate the development, application and integration of IPv6 security technologies.

6. Implement supporting measures

(18) Strengthen organizational leadership. Local communications administrations, industrial and information administration departments should strengthen communication and coordination with relevant departments and establish a cooperative working mechanism. All basic telecommunications enterprise group companies, equipment manufacturing enterprises, as well as data centers, content distribution networks (CDNs), cloud services, domain name services, etc., should set up a special promotion working group led by the company's leadership, and formulate specific implementations in accordance with each target task. The program and work plan will be submitted to the Ministry of Industry and Information Technology (Information and Communication Development Division) before May 15 .

(19) Implement the main responsibility. All enterprises must increase capital investment to ensure that all targets and tasks are completed on time. In the

performance appraisal of each provincial (sub) company, each basic telecommunications enterprise group company should also regard the completion of IPv6 related tasks as an important evaluation indicator, and arrange funds to guarantee the implementation of IPv6 tasks. All enterprises should submit relevant work progress to the Ministry of Industry and Information Technology (Information and Communication Development Division) at the end of June , September and December 2018 .

(20) Strengthening normative management. Improve the Internet information service filing management system, encourage Internet access service providers and Internet information service providers to provide IPv6- based services, explicitly request IPv6 related information when filing Internet information services ; strengthen the construction of IPv6 address filing system And record management, supervise the enterprise to strictly implement the IPv6 access address coding plan; improve the relevant telecommunication service management requirements, and require operating companies such as data centers (including cloud services) and content distribution networks (CDNs) to provide IPvF support when submitting annual reports. 6 Relevant situation; Revise the relevant regulations for the detection of telecommunications equipment into the network, and clarify the requirements for IPv6 detection in the network and terminal equipment entering the network . In the examination and approval of projects such as e-government systems, information systems and service platforms, local industrial and information administration departments shall support IPv6 as a necessary condition and be responsible for assessment and implementation; they shall make overall arrangements for special funds and increase the transformation of IPv6 in the region. Support for work.

(21) Strengthen supervision and assessment. The Ministry of Industry and Information Technology will set up an IPv6 supervision work expert group to study and formulate assessment criteria for the completion of tasks related to the promotion of IPv6 scale deployment, and will organize regular supervision work on the LTE network IPv6 end-to-end. Key tasks such as fixed network infrastructure transformation, application infrastructure transformation, and enhanced network security assurance are evaluated. The China Institute of Information and Communications should study and build an IPv6 development monitoring platform to form real-time monitoring and analysis capabilities for key development indicators such as networks, applications, terminals, users, and traffic, and release IPv6 development indicator data to the public.

Ministry of Industry and Information Technology

April 25 , 2018

(Contact: 010 - 68206159)