

Research on the Technical Policy of China Telecom Development

Kong Guo-qiang

School of Economics and Management, BUPT, Beijing

Abstract: Focusing on the telecom development scale and science & technology development goal, this paper analyzes and discusses some technical policies, such as NGN, 3G, Triple Play and others that China telecom will stress in the future.

Key words: Technical policy, NGN, 3G, Triple Play

Telecom network is the infrastructure of national economy. Information is a natural choice for accelerating industrialization and modernization. Information technology stimulates industrialization, while industrialization promotes information technology. Adhere to innovate on their own, exploring a way of information and new industrialization with high-tech, good economic returns, less resource consumption, and a full usage of human resources, is the important strategy of China national economic and technology development.

To strengthen the independent innovation and technological innovation to support telecom development, exert the macro-guidance of technology policy to telecom network management, comply with the development of the world telecom technology, China telecom should be more market oriented, promotes technical innovation to ensure its sustainable development.

1、 Telecom Development Scale

In 2005, Chinese telecom service revenue reaches to 584 billion RMB, increased 11.4% from 2004. The telephone household and industrial users goes to 740 million, which is the highest worldwide: 350 million fix network users and 393 million mobile network users. The popularization rate is already 57.3%. There are 111 million Internet users, which is the second in the world, and the popularization rate of Internet is 8.5%.

The total optical cable network is up to 4073k km; Switch capacity of the fix network is 472 million gates, and the mobile network's is 482 million gates. Installation rate of switch equipment is 74.2% and 81.5% respectively.

2、 The Goal of China Telecom Technology

Communication and telecommunication technology is so far one of the key technologies that has the fastest development, the strongest penetration and the widest application in the human society progress, It has become the important indicator of a nation's modernization and the basic element of integrative national strength. It has also become the focus of increasingly intense international competition.

The goal is to build national information infrastructure platform of innovation, to provide basic research and open test environment, to develop basic and key technology to NGN, 3G, Internet and

next generation network convergence and their application, to promote and implement next generation telecom industrialization.

The telecommunication technology development policy must be visionary. Strengthen basic skills, strategic technology, applied technology and network information security technology research, deepen the reform technology system to enhance our capability for independent innovation. The establishment of enterprises and market-oriented, industrial, academic, research, combined with the innovative system to enable enterprises to become the main body of research and development

3、 The Technology Policy of NGN Development

NGN is an integrated network applying high technology, using IP as the core, compatible with voice, data and multimedia.

Now, ITU-T, 3GPP, EISI and IETF are the four international standardization organizations who study the next generation network NGN. Among them, the IETF is recognized as the only international standardization organization who developed the core technology of NGN network--IP technology and its application.

Technique products with pure independent innovation are relatively small in the fields of high and top end in China. As a big country in the international telecom industry, China begins to participate in technology evolution and dialogue, which is a good start.

The NGN next generation study should shift to the formulation of IETF standardization. In this field our experts also actively submit their manuscripts and design standardization proposal to ITU. In July, 2006, International Telecommunications Union, ITU-T passed 5 items of NGN standards that are dominantly designed by China, which is the latest result we achieved in NGN international standards. After years of experiment, at the point of the NGN system framework open and distributing structure has been initially complete, and omni-directional coverage has also been fulfilled at the network. With the view of technical and economical analysis, NGN has broader network spectrum and higher intelligent, able to provide multi-factory environment and interoperability. NGN technology can be used to reduce the operating costs, shorten the investment return, and strengthen the ability to resist risk. According to foreign calculations,, the maintenance cost can drop 50%, the cost of collocating and expanding capacity can lower 60-70%, the area and electricity consumption can save 40-50%.

The NGN technology relates to many high and new techniques, such as Broad Band Access, Soft switch, IMS, Router, metropolitan area network, optical switching, optical transmission and so on. Its promotion and application will certainly bring tremendous social and economic benefits of China's information and industrialization.

4、 The Technology Policy of 3G Development

ITU has approved three 3G standards, namely, WCDMA,CDMA2000 and TD-SCDMA. MII

(The Ministry of Information Industry)'s policies of China's 3G development are reviewing standards, assigning frequencies, issuing licenses and monitoring operation. The principles should be insisted on: "Active tracking, first test, cultivate the market and support the development". MII also clearly indicates that they will support the research and development of China's 3G equipment and system, support and coordinate the development and promotion of 3G business actively.

In 2000, TD-SCDMA has been included as a key item of national technology standardizations. In 2004, TD industry group were displayed firstly at an international telecommunications exhibition, which indicates the initial formation of the complete industry chain of TD-SCDMA.. In 2005, Nokia, Nortel and Alcatel stepped into the TD field. Technique experiments have been carried out in 5 cities in China. During the experiments, key technical standards have been verified, operation are stable, and be able for larger-scale network application..

Through the experiments, the third generation mobile communication network has shown some important features: improve the degree of network standardization, increase the efficiency of spectrum use,, implement global user roaming, capable for various kinds of services, informative, user-friendly, remarkable scale economics benefit. It will full realize the communications among people, and between people and computers, and will further promote the process of China's information technology.

TD-SCDMA should become an important force in the 3G era. China's future mobile communications market will show the three standard co-existent situation. In the near future 3G operating licenses will be issued at a proper time. Appropriate regulations and limits will be adopted to ensure the effective competition of the mobile telecommunication market.

5、 The Policy on Triple Play

Triple Play (Combination of telecom network, computer network and TV network) has been recognized worldwide as the future development trend. From the point of macro-policy, currently, IPTV is the best opportunity to carry out Triple Play. IPTV refers to the transmission of television signals, video, text, images, data on IP network. It also provides comprehensive, secure, reliable, and manageable multimedia services.

IPTV will break the isolated status of Broadcasting and telecom industries respectively. It will encourage the integration between telecom network and Broadcast & Television network.

According to the overseas management experiences, separated control of network operations and contents is a scientific approach. That is to say, network construction, operation and access will be supervised by the telecom department, and the contents of internet and cable television network will be controlled by another organization. However, from the long run, a management institution of Triple Play should be established and it will be responsible for different network technological economy systems that include Telecom, Broadcast & Television and Internet. Applying relevant laws and policies to eliminate barriers, which will further accelerates independent innovations of information industrialization.

The technique that related to Triple Play is to formulate Internet IPv6 standard. China MII attaches great importance to the research and development of technical standards for IPv6. Including Router protocol, eight telecom standards have been established. The works on the operating equipments, technique requirements and checking standards are in process. According to the overseas experiences, IPv6 address offers more space, and coding will be more flexible, the cost of networking is lower than the traditional one. The combination of IPv6 with mobile communication can realize mobile Internet. IPv6 network can fulfill all the services provided by IPv4 with higher quality and more diversity. IPv6 will be the foundation of future network, and will be the core technique of NGN and NGL.

References:

1. Bureau of Science and Technology, Ministry of Information Industry (MII). "Technical Policy of Telecom Network Development" Telecom Technology Journal, 2004, 5
2. Bureau of Plan, MII. "Anthology on Netcom Industry Plans for 2006-2010" People's Post and Telecom Press, 2005,1
3. MII. "Summary of Telecom Industry Technical Development Plans in 5-20 years" People's Post and Telecom News, 2006, 8
4. Lu Ting-Jie. "3G and Telcom Enterprises' Innovation" Anthology of Annual Conference of China Science Association, 2006,9