

网络演进与无线服务 Network Evolution & Wireless Services in China

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网络演进与无线服务

Network Evolution & Wireless Services in China

一、网络演进的背景：电信改革

**I. The Background of China Network
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一、网络演进的背景：电信改革

I. The Background of China Network Evolution : Telecom Reform

中国电信业今天已成为世界同行业中发展最快、规模最大的电信业之一。回顾过去的廿多年，它大约经历了以下四个阶段：

China's telecom industry is one of the largest and fastest-growing telecom industries in the world.

The 4 phases of China telecom's reform:

- ⌘ 政策激活 **Phase 1: Policy Activation**
- ⌘ 探索改革 **Phase 2: Experiment in Telecom Reform**
- ⌘ 全面改革 **Phase 3: Overall Reform**
- ⌘ 深化改革 **Phase 4: Furthering the Reform**

1. 政策激活

Phase 1: Policy Activation

- ⌘ 邮电部通过在20世纪80年代制定的“三个倒一九”、初装费和地方附加费等经济扶持政策，使电信业取得了高速发展，并基本形成了进入市场所需要的经济规模和网络规模，为以后引入市场机制后的更大发展奠定了基础。
- ⌘ In 1980s, the former Ministry of Post and Telecommunications of China adopted favorable policies in the tax, installation fee and local additional fee, etc. The principle idea was to use all resources to boost the development of the post and telecommunications industry, prepare for the introduction of market system later.
- ⌘ 主要运营模拟的电话交换传输通信网，主要收入来自于话费收入。
- ⌘ Analog Signal Based Transmission Network; Major revenue: fixed line voice income.

2. 探索改革

Phase 2: Experiment in Telecom Reform

- ⌘ 1994年中国联通的成立
- ⌘ The establishment of China Unicom in 1994
- ⌘ 中国电信（后改名为中国移动）1997在香港、美国上市；
- ⌘ The listing of China Telecom (later split into China Telecom and China Mobile) in Hong Kong and the U.S. Stock Exchange Markets in 1997.
- ⌘ 以瀛海威为代表的民营企业及中国电信建设的互联网络开始运行。
- ⌘ Internet Introduced to China: state owned China Telecom and the private enterprises such as InfoHighway started to provide Internet Services to Chinese consumers.

2. 探索改革

Phase 2: Experiment in Telecom Reform

- ⌘ 中国联通的成立引入了竞争机制，带来了以下影响：
- ⌘ The establishment of China Unicom broke up the monopoly of China telecom industry.
 1. 促进了技术进步：中国联通1994年率先在北京、天津、广州、上海建设GSM移动通信网；中国电信1995年在全国范围内开始建设GSM移动通信网。
Lead to technical advancements: China Unicom is the first one to build a GSM network in China 4 major cities; later China Telecom started to roll out the GSM network nationwide in 1995.
 2. 提高了服务质量； Improve the service quality.
 3. 使服务价格趋于合理。 Lower the price.

2. 探索改革

Phase 2: Experiment in Telecom Reform

- ⌘ 中国电信上市激活了电信金融市场，国有电信企业开始向国际一流电信企业的目标前进。
- ⌘ The IPO of China Telecom activated the telecom finance market, enabling the telecom operators aiming at becoming first-class global players.
- ⌘ 在国有电信企业之间引入竞争付出的代价是重复建设。
- ⌘ The price for introducing competition among the state-owned operators was the overlapping in constructions.

3. 全面改革

Phase 3: Overall Reform

- ⌘ 1998年国务院进行电信全面改革：政企分开；邮电分营；制定新的电信法规；分拆中国电信；扶持中国联通尽快成为移动通信领域的竞争主体.....
- ⌘ In 1998 the State Council of China carried out an overall reform in telecom sector: separating the government functions from enterprise management, and post from telecom; formulating new telecom regulations; restructuring China Telecom(split China Mobile from China Telecom); and supporting China Unicom to become a main body in mobile business, etc...
- ⌘ 政府制定了通过信息化带动工业化，促进经济发展的政策。
- ⌘ The Chinese government rolled out the policies to drive the industrialization through informatization, and promote the economic development.
- ⌘ 政府积极推动电子政务、电子商务、电子社区的建设。
- ⌘ The government aggressively promoted the construction of e-Government, e-Commerce and e-District.

3. 全面改革

Phase 3: Overall Reform

成果 Results:

- ⌘ 中国建成了世界最先进、规模最大的通信网络。
- ⌘ China built the world's largest, and the most advanced telecommunication networks.

- ⌘ 信息服务初具规模*。
- ⌘ Information Services started to grow.

- ⌘ 同一投资主体的几大国有电信公司之间的无序竞争和大规模的重复建设给国有资产带来重大损失。
- ⌘ The disorderly competition among the state owned operators, and the large-scale overlapping infrastructures brought huge losses to the state assets.

4. 深化改革

Phase 4: Furthering the Telecom Reform

现时中国电信业已进入深化改革阶段，在总结前阶段经验的基础上，它应处理好发展道路上的一系列重大问题：

Currently China's telecom industry has entered the stage of deepening the reform. It should, based on the experience and lessons drawn from the previous stages, deal with the following critical issues:

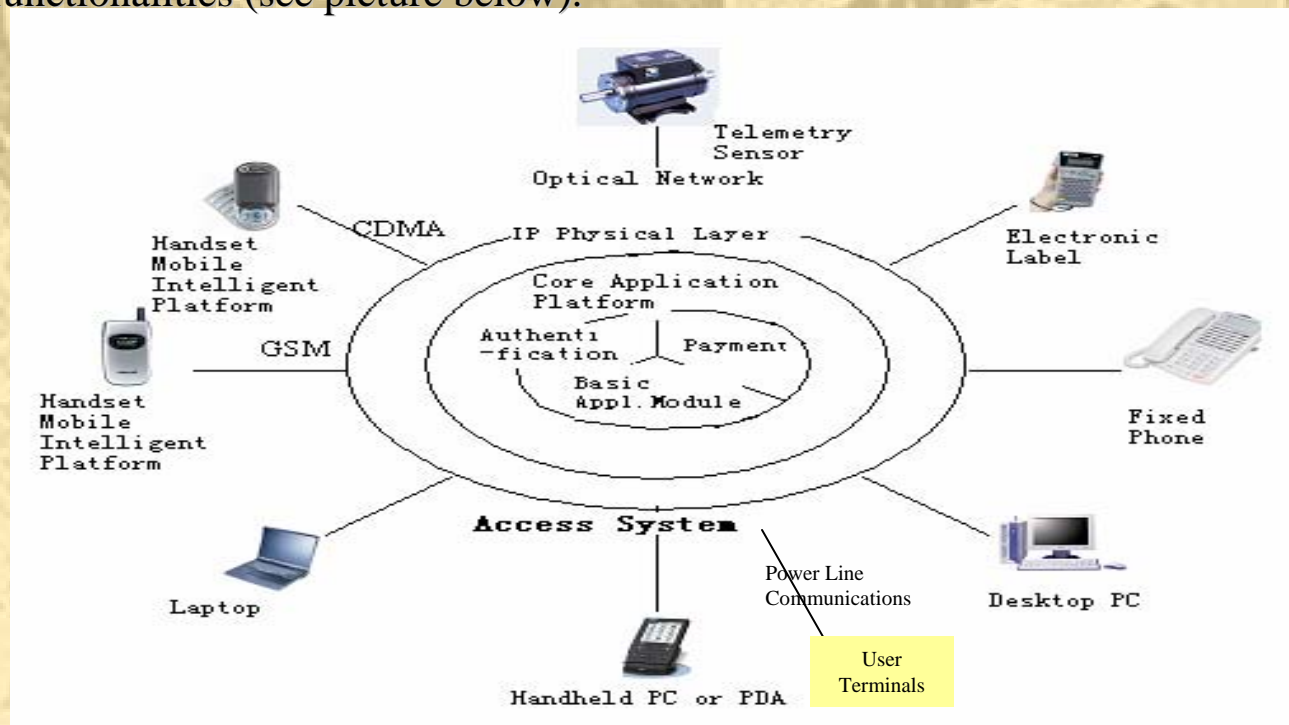
1. 制定一部既能进一步规范电信市场又体现新的市场环境的电信法以及一系列法规；
Need a Telecom Law and a series of regulations to regulate telecom industry under the the new market environment.
2. 重组国有电信公司，避免重复建设；形成不同投资主体相互竞争的规范的电信市场；
Restructuring state-owned telecom operators, avoiding the overlapping constructions; promoting a regulated telecom market which allow various investment entities to compete within.
3. 制定更有利于发展信息服务的政策，为从事信息服务的民营企业进入市场创造更宽松的条件，从而改变应用大大落后于容量过剩、技术先进的网络的局面。
Setting down policies to promote information services, creating a more favorable environment for private businesses to enter. This is to change the current status of China telecommunication networks, which have the characters of over-capacity, advanced technologies, but the applications lag far behind.
4. 国有电信公司要集中必要的资金加强通信网络的安全建设和为发展信息服务提供完善的核心应用平台。
The state-owned telecom operators need to focus on enhancing the network security, and building core application platforms for information services.

二、网络演进与无线服务

II. Network Evolution & Wireless Services

中国现时的网络已相当先进，具有下一代网络的基础功能（见图）。

China's current telecom networks are state-of-the-art in terms of technologies, with basic NGN functionalities (see picture below).



二、网络演进与无线服务

II. Network Evolution & Wireless Services

- ⌘ 在此一网络中我们一定能看到三个世界，即从服务层面上，我们看到一个IP世界；从传送层面上，我们看到一个光的世界；从接入层面上，我们看到的是一个无线的世界。
- ⌘ 3 Layers we can tell from the current networks -
 - ⌘ An IP World at service layer;
 - ⌘ An Optical World at transmission layer;
 - ⌘ A Wireless World at the access level.

二、网络演进与无线服务

II. Network Evolution & Wireless Services

网络演进对行业发展提出了3个要求:

Network Evolution asks 3 changes in China telecommunication industry:

1. 运营商: 要从单纯的通信传送公司变为信息服务公司。
Telecom Service Providers: from a pure operator that transmits voice, data and multimedia only, to the one that provides information services as the core of its business model.
2. 网络: 从纯粹的通信网络向提供各种应用的、由通信网、计算机网、和自动控制系统三合一的综合服务网络转变。
Networks: from a pure telecom network to one that combines current telecom networks, computer networks, and automatic control systems all together, and provides integrated services.
3. 服务: 无线与互联网的紧密结合, 使网络能够提供无时不在、无处不在、无所不能的服务。
Services: The convergence of wireless and Internet enables a network that can provide services whatever, whenever, and wherever.

三、无线服务的无限发展

III. Limitless Development of Wireless Services

中国现阶段的无线服务主要为两方面：个人信息服务，和行业服务。

Currently China Wireless Services are comprised by Personal Information Services, and Industry Services.

1. 个人信息服务市场 **Personal Information Service**

- ⌘ 中国移动1995年GSM移动通信系统运营，同时开展语音与短信服务，2000年与2002年分别推出“梦网”和彩信。2003年移动总收入约1600亿，信息服务总收入约6%。2004年总收入约2100亿，信息服务占15%。
- ⌘ China Mobile rolled out its GSM network in 1995, offering voice and SMS services. In 2000 and 2002 it launched “Monter Net” and MMS services. The total revenue of 2003 was RMB160billion (\$19B), with Information Service accounting for 8% (\$1.55B); in 2004, the total revenue reached 210 billion RMB (\$25B), with 15% (\$3.80B) from Information Service.

三、无线服务的无限发展

III. Limitless Development of Wireless Service

- ⌘ 中国联通2002年CDMA移动通信系统运营，同时有语音与短信息服务，2003年推出彩e。

China Unicom launched its CDMA network in 2002 with voice and SMS services, and launched U-Max value added services in 2003.

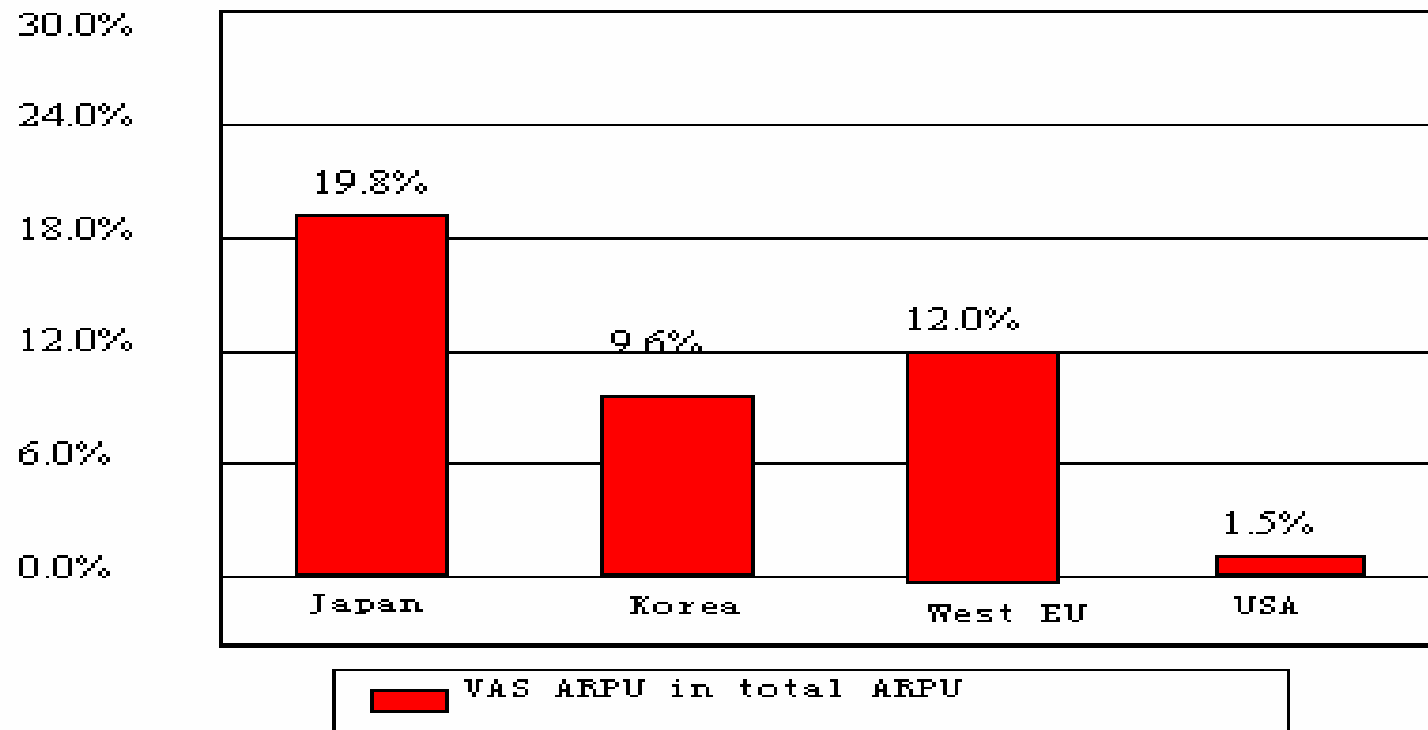
Year	CDMA Total Revenue (billion RMB)	Information Service Revenue (billion RMB)	(%)
2002	4.620	0.068	1.5
2003	16.880	0.860	5.1
2004	22.00	2.55	11.6

三、无线服务的无限发展

III. Limitless Development of Wireless Service

世界主要通讯市场移动用户增值服务ARPU值所占比例：见图“移动用户增值服务ARPU值所占比例”。

Charts below shows the proportion of the mobile Value Added Services ARPU with total ARPU in major telecom mobile markets.



Graph: VAS ARPU in Total ARPU

(Source: Long-vision)

三、无线服务的无限发展

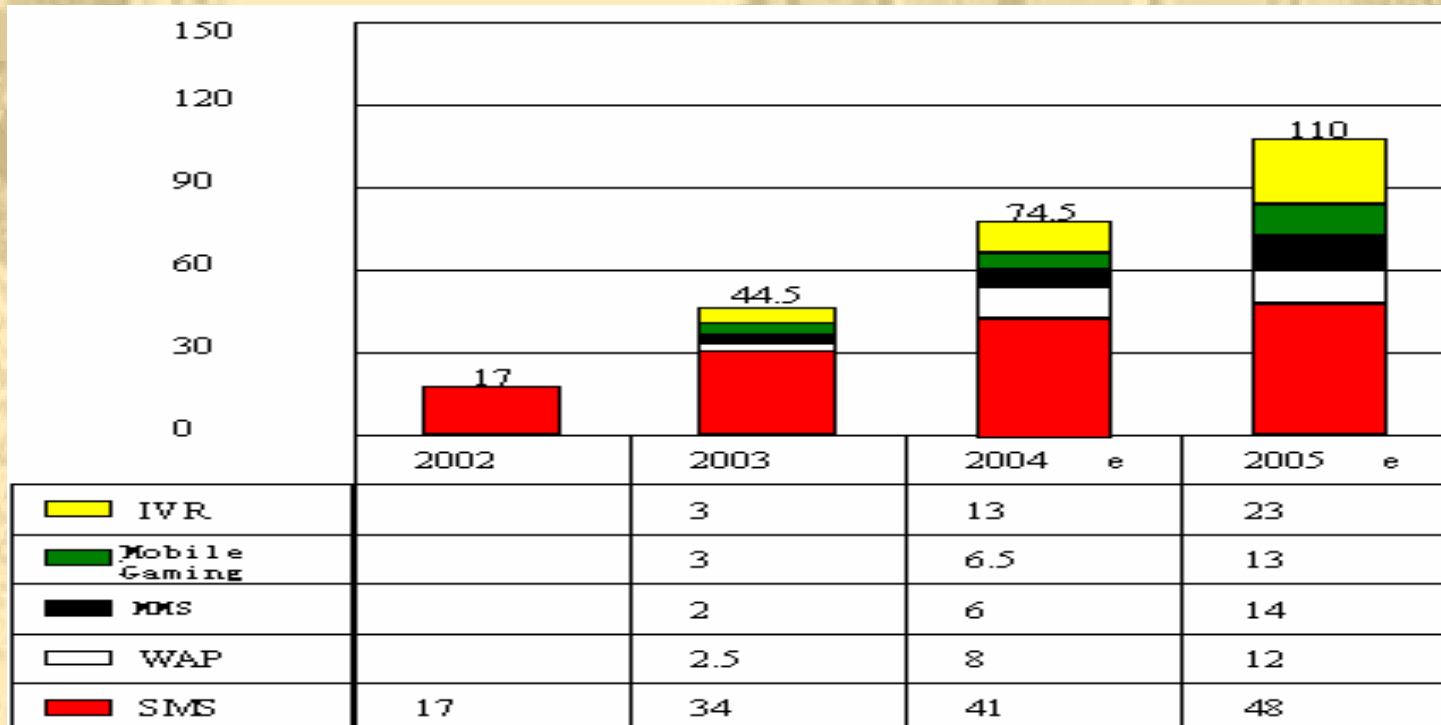
III. Limitless Development of Wireless Service

- ⌘ 中国移动、中国联通的无线服务主要集中在短信与网络上的聊天、观看与下载图片、下载铃声和游戏等个人信息服务上。
- ⌘ China Mobile and China Unicom major wireless services are SMS, online chatroom, picture and ringtone downloading, and personal information services.

三、无线服务的无限发展

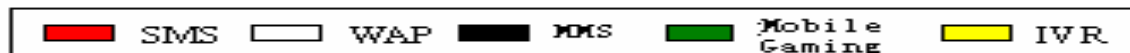
III. Limitless Development of Wireless Service

中国SP增值市场整体规模 (Overall Scale of Chinese SP VAS market)



Unit (000, million)

(source: Long-vision)



Graph: Overall Scale of Chinese SP VAS market

三、无线服务的无限发展

III. Limitless Development of Wireless Service

个人信息服务是无线互联网信息服务市场上最有活力的部分。

Personal information service is the most dynamic part in Wireless Internet Information Service market.

- ⌘ 无线互联网使社会上的每个人都能以很低的代价跨过进入网络世界的门槛，去尽情发挥想象力，并通过与他人合作，不断为社会创造价值，从而真正体验到作为自然界最高生灵的人的自我价值。这就是互联网产生的网络文化的实质。

The essence of the Network Culture generated by Wireless Internet— it enables every one in the society to cross the threshold of the network world, to collaborate with others, to create value for the society, and experience the self-value as a human being.

- ⌘ 互联网与无线技术将某一目的、某些特征、某些兴趣的人群分别聚合起来，并以生命自组织规律迅速发展，网络的价值随即按照迈特卡夫定律：按用户数的平方而增加，因此它的发展是无可限量的。

Internet and wireless technology group people together based on their goals, characters and interests. The “society” expand rapidly according to Metcalfe's Law: the usefulness, or utility, of a network equals the square of the number of users, therefore its development is limitless.

- ⌘ 无线技术与PLC的结合提供了新的个人服务
Wireless and PLC together provide new personal information services.

三、无线服务的无限发展

III. Limitless Development of Wireless Service

2. 行业服务 (Industry Service)
RFID将是中国最有潜力的应用技术之一。
RFID has huge potential in China

实现信息化首先要将社会元素代码化

To realize the informatization requires the coding of all social elements first

⌘ 1988年中国制定了个人身份的编制标准；1989年中国制定了机构代码的编制标准；2003年中制定了商品与服务代码的编制标准。

⌘ In 1988 China set the coding standard for personal identity; in 1989 China set the coding standard of institutions; in 2003 set the coding standard of commodities and services.

⌘ 无线技术与个人身份IC卡结合将实现社会劳动人员的全信息管理。

⌘ The combination of wireless technology and personal identity IC card will realize the all-information management on whole society.

⌘ 商品与服务代码的推行将大大促进电子商务的发展。特别是未来利用无线通道的电子标签的普遍使用将极大地提高生产流程和物流管理的效率。

⌘ The promotion of commodity and service code will largely accelerate the development of e-Commerce. Particularly the future utilization of wireless-based electronic label will considerably improve the efficiency of manufacturing and logistics.

三、无线服务的无限发展

III. Limitless Development of Wireless Service

- ⌘ 企业管理中互联网管理与无线技术结合将完全实现空间、流程、要素的全信息化管理。
- ⌘ The combination of Internet and wireless technology will enable the all-information management in space, process and elements in the business.
- ⌘ 无线遥测、遥控及无线定位在互联网中的使用将使生产流程管理与企业管理紧密结合起来；同时将改变医疗、交通等许多领域的工作方式。
- ⌘ The adoption of wireless telemetry, telecontrol and wireless positioning technologies in Internet will connect the manufacturing management and organizational management closely; meanwhile change the ways of work in many industries such as healthcare and transportation.

几年前“互联网将改变这个世界的一切”是喊得最响得口号，今天我们应将它稍做改变，即：

互联网与无线结合将改变这个世界的一切！

A few years ago, we were all talking about “Internet will change everything in this world”, now I would like to make a little revision to it:

The combination of Internet and Wireless technology will change everything in this world!



谢谢!
Thank You!