

China Telecom CDMA Development and Technology Evolution

March, 2010

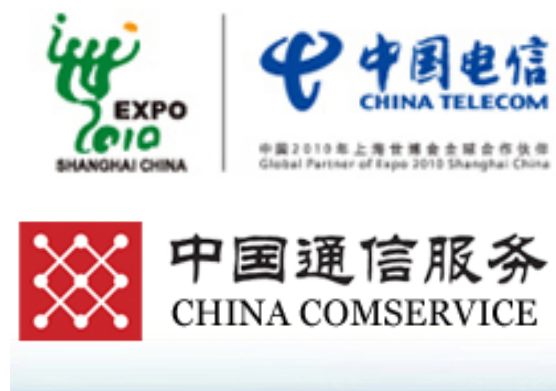


- China Telecom Introduction
- China Telecom's CDMA Development
- China Telecom's CDMA Technology Evolution

About China Telecom(1)



- China Telecommunications Corporation (the “Group”) is one of the largest telecom operators in the world.
- Strategic focus is to be an integrated information service provider.
- Awards and Recognitions:
 - 2009 Fortune Global 500 ranking: 263 (288 in 2008)
 - 2009 Forbes Global 2000: 139
 - Awarded Best CEO and CFO by *FinanceAsia*, May, 2009
 - Awarded "Asia's Best Managed Fixed Telecom Company" in the "Asia's Best Managed Companies 2009" for two consecutive years by *Euromoney*
- As a subsidiary of the Group, CHINA TELECOM CORPORATION LIMITED was co-listed at New York and Hong Kong stock exchanges in November 2002. *NYSE: CHA*
HKEx: 728
- Owned by the Group, CHINA COMSERVICE was listed at Hong Kong stock exchange in December 2006. *HKEx: 552*



About China Telecom(2)



- Mainly engaged in fixed telecom, mobile telecom, internet access and application information services. As of December 31st 2009, CT had 189M fixed subscribers, 56 M mobile subscribers and 53M broadband subscribers.
- Based on the enterprise's advantages and resources' characteristics, China Telecom implements the strategies of "Focus on customers for informatization innovation" with its rich network resources, abundant services and wide users' coverage. Simultaneously with the good implementation in voice communications, broadband data, Internet and voice value-added services, China Telecom is striving to promote the field of information services in IP communications, IT technology, information content and application integration.

- Introduction of China Telecom
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Fast Deployment, first to Launch



- In June 2008, China Telecom announced that it would purchase China Unicom's nationwide CDMA business and assets.
- In Jan 2009, China Telecom acquired the official 3G license for CDMA2000.
- On April 16th 2009, China Telecom launched 3G service in 122 cities all over China.
- In May 17th 2009, China Telecom's 3G network covered 342 cities.
- By the end of July, we accomplished 3G network coverage of 342 cities and more than 2,000 counties.

天翼 surfing 互联网手机

189

不只是手机号

开启移动互联网时代

综合办公
企业总机
手机对讲
全球眼
无线宽带

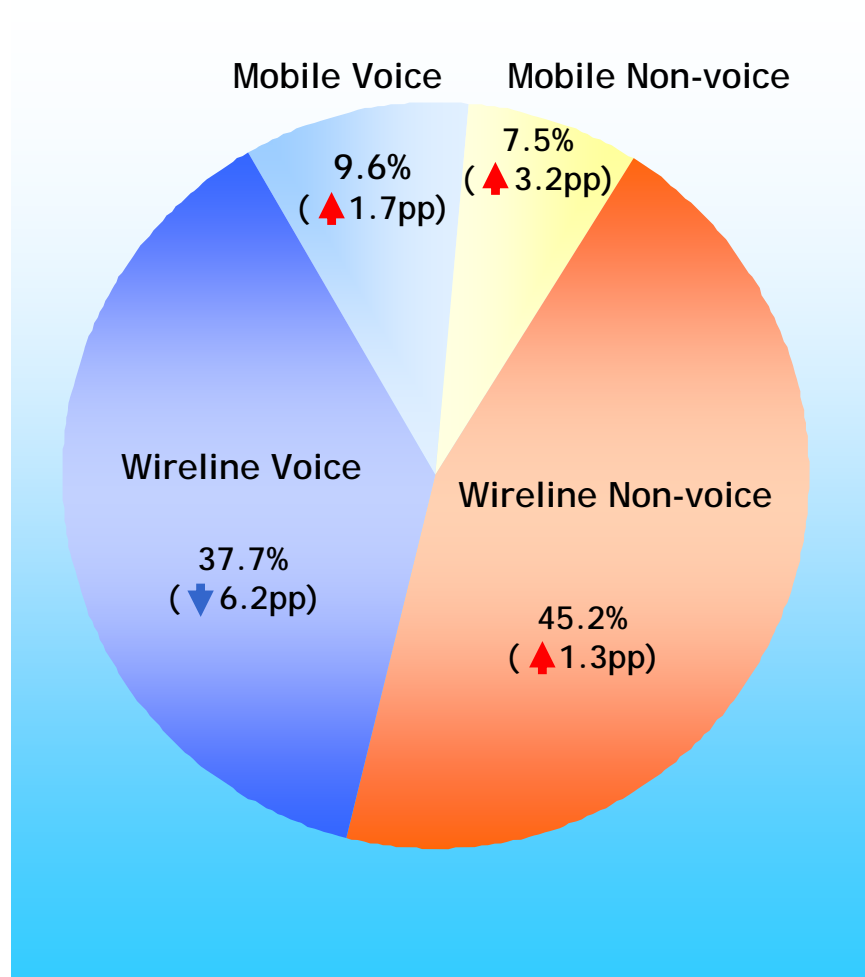
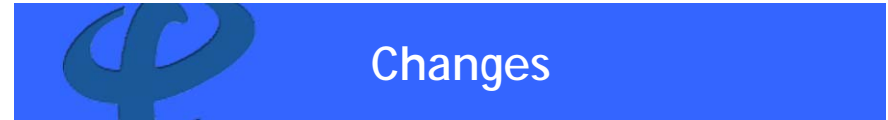
中国电信 CHINA TELECOM
世界触手可及

用户至上 用心服务 Customer First Service Foremost

www.ct10000.com

客户服务热线 10000 Customer Hotline

Optimized Revenue Structure



- Optimized full services revenue structure
 - Non-voice: 52.7%
 - Voice: 47.3%
- New revenue growth driver
Mobile revenue/Total revenue:
17.1% (▲ 4.9pp)
- Reduced wireline operating risk
Wireline non-voice/Total wireline revenue:
54.6% (▲ 8.6pp yoy)

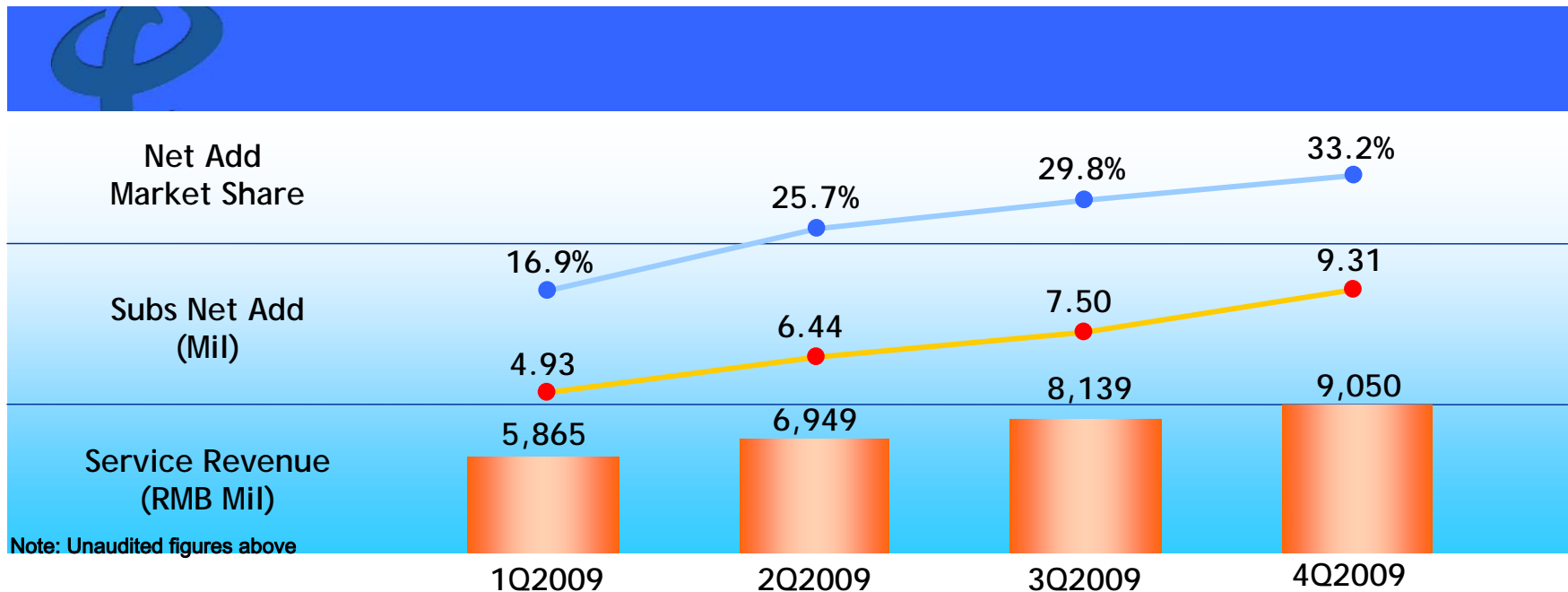
Note: ▲ pp vs 4Q08

Strong Mobile Growth



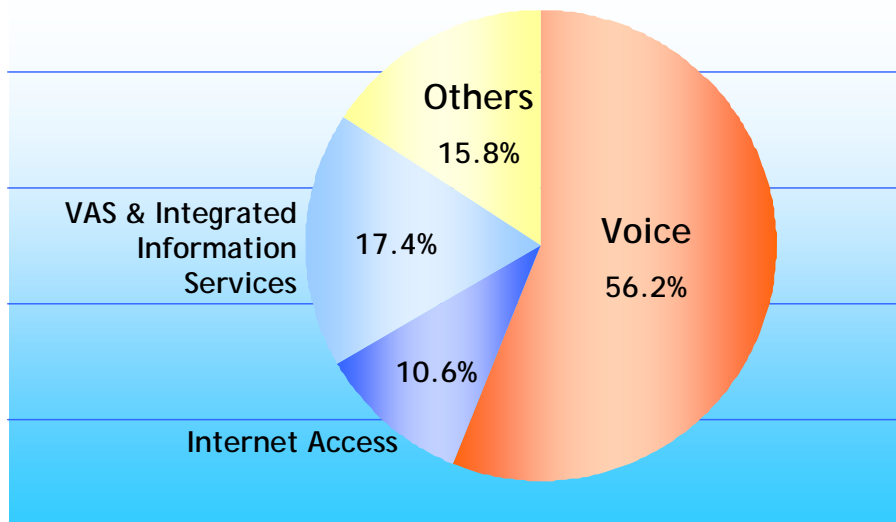
	2008	2009
Mobile Subs (Mil)	27.91	56.09
Mobile Subs Market Share	4.5%	7.7%
Mobile Service Revenue (Mil)	5,417	30,003
Mobile MOU (Min)	309	308
Mobile ARPU (RMB)	63.4	59.5

- ## Strengths
- Compelling "eSurfing" brand
 - Effective integrated development of mobile, wireline, Internet services
 - Superior 3G mobile network
 - Rapidly enhanced distribution channels & service quality
 - Ramped up terminal supply



Driving Rapid Mobile Expansion

Revenue Breakdown



Data Service	2009.12
3G subs (Mil)	4.07
Wireless Broadband Access subs (Mil)	6.33
"189 email" subs (Mil)	14.06
"eSurfing Live" subs (Mil)	4.31

Major Initiatives

- Cross-sell to existing government & enterprise and household customers to accelerate mobile sub growth
- Persist in mobile development strategy of profitable scale development with strategic priorities on targeting mid-to-high end customers; strengthen 3G core competitiveness to realize scale development of mid-to-high end customers
- Activate value chain
 - RMB1000 3G handset procurement: 68 models in supply progressively from 4Q09
 - Smartphone procurement: 32 models in supply progressively from 1Q10
 - Currently ~600 models of handsets in supply (incl ~100 3G models)
- Enhance network, distribution channels and customer services to improve customers' perception & loyalty
 - Open channel distribution points: ~540,000 (▲~4x)
 - Open channel terminal sales: 52% (▲40pp)

Network Construction

■ Wireless network construction

✓ Scale: CDMA Network

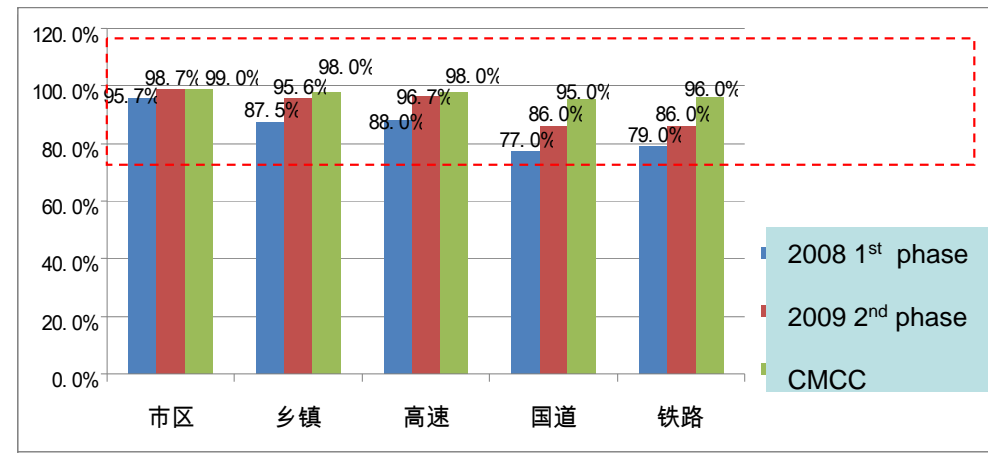
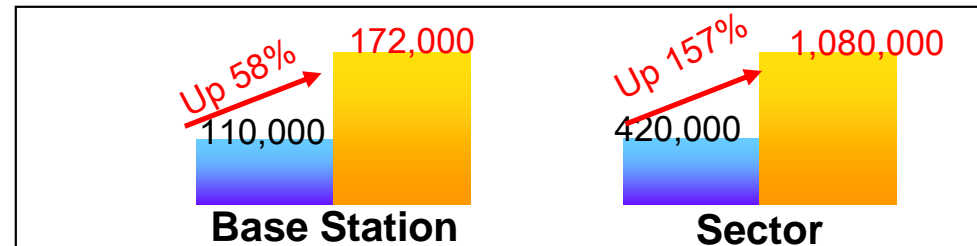
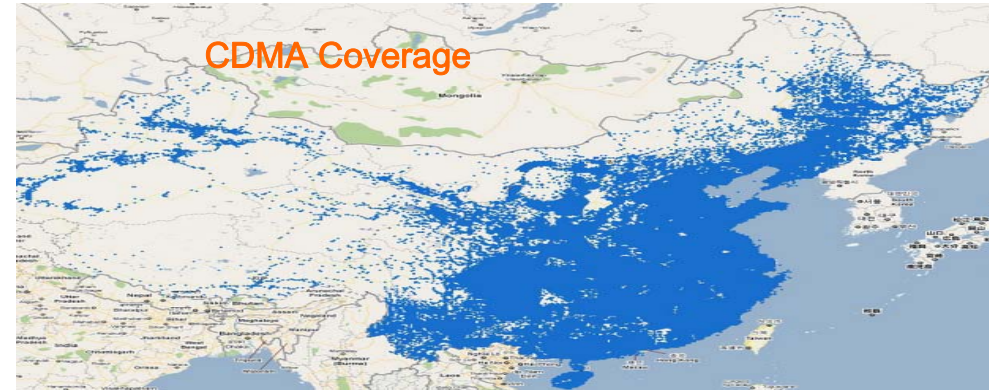
172,000 base stations

1,080,000 carriers

✓ CDMA core network capacity increase by 60 million, overall to 140 million.

✓ Coverage: 3G covers all the cities and most of countryside.

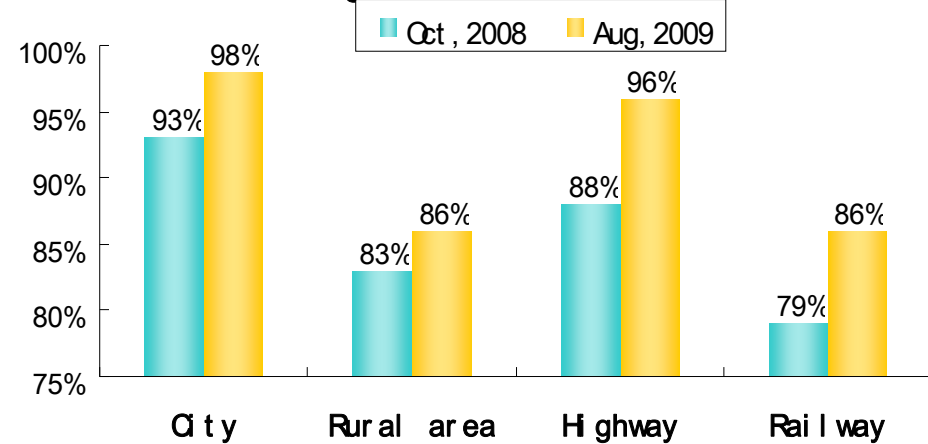
■ The gap of 2G network between other competitors is rapidly narrowed, the target area is fully comparable with competitors.



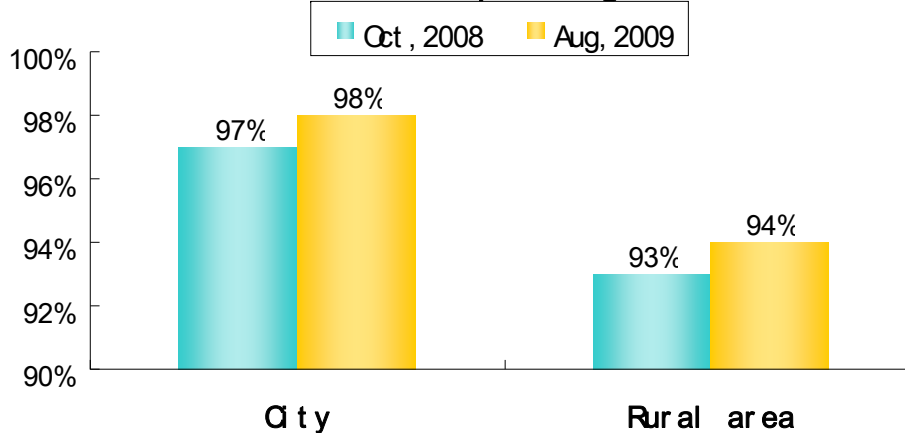
Improve the network quality

Special network optimization measures CT took give rise to the improvement of wireless network coverage and quality, which will satisfy user experience further.

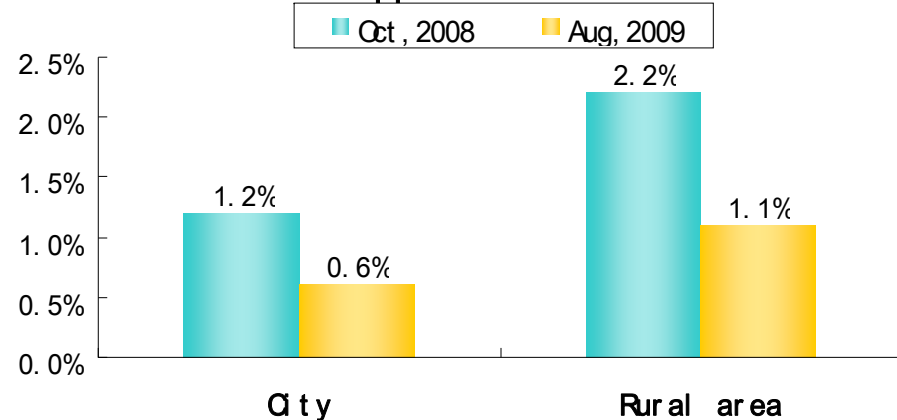
Coverage rate of wireless network



Call completing rate

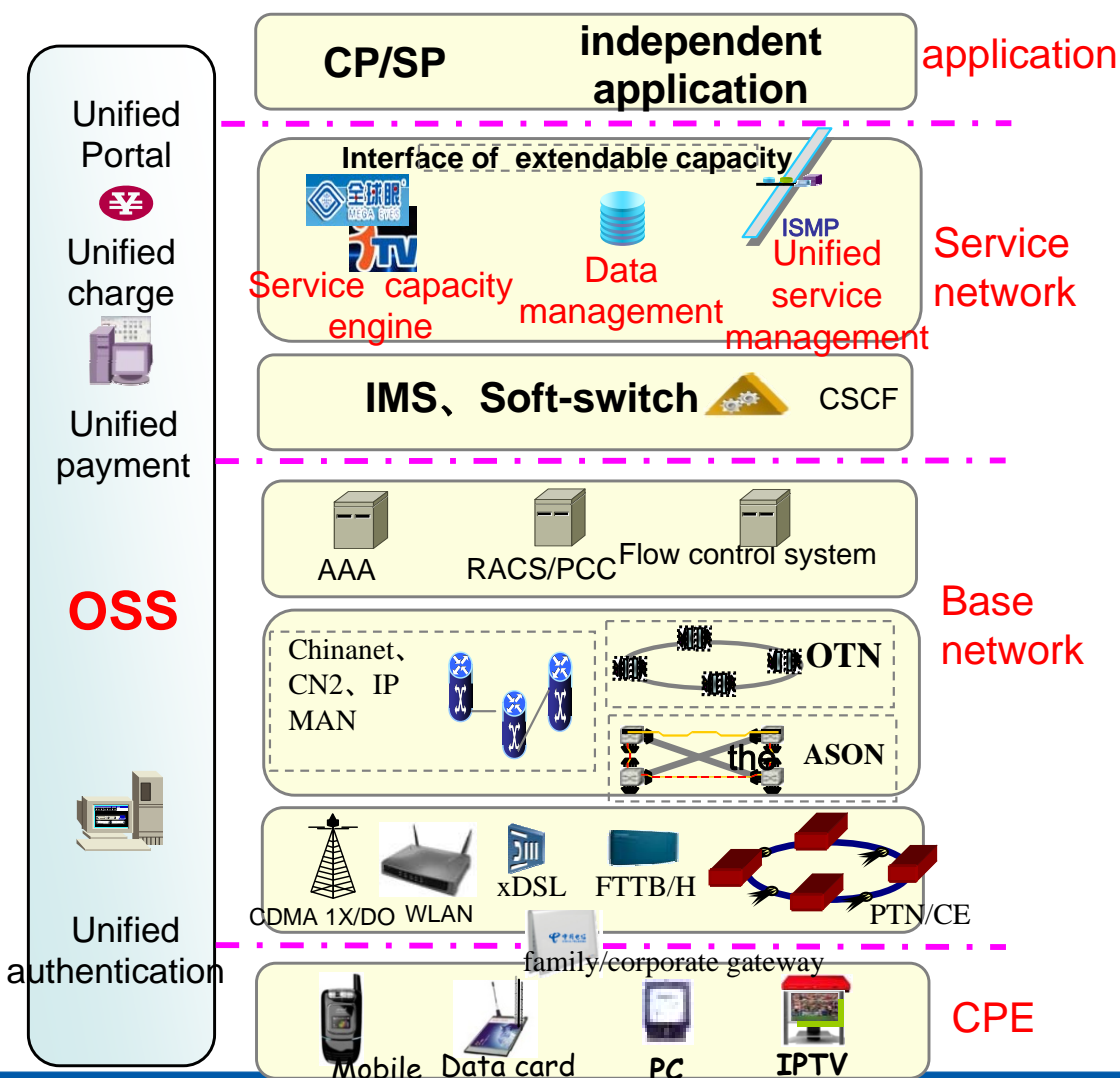


Dropped Call Rate



Objectives and Initiatives of integrated-service network

China Telecom in accordance with establishment of IP-based broadband and integrated network, promote the evolution of integrated-service network by restructuring the framework from vertical and separate to horizontal and integrated, forming the service network and the base network



Centralized service management extendable capacity

- Deploy ISMP and UDB, realize the unified management of customer, service and CP/SP
- Establish SCE and STE, extend service capacity, enrich applications
- Apply cloud computing, promote resource sharing and energy conservation

Integrated service controlling system

- Fixed, soft-switch framework, flat organization
- IMS, integrated control of mobile and fixed network service
- Gradually withdraw PSTN

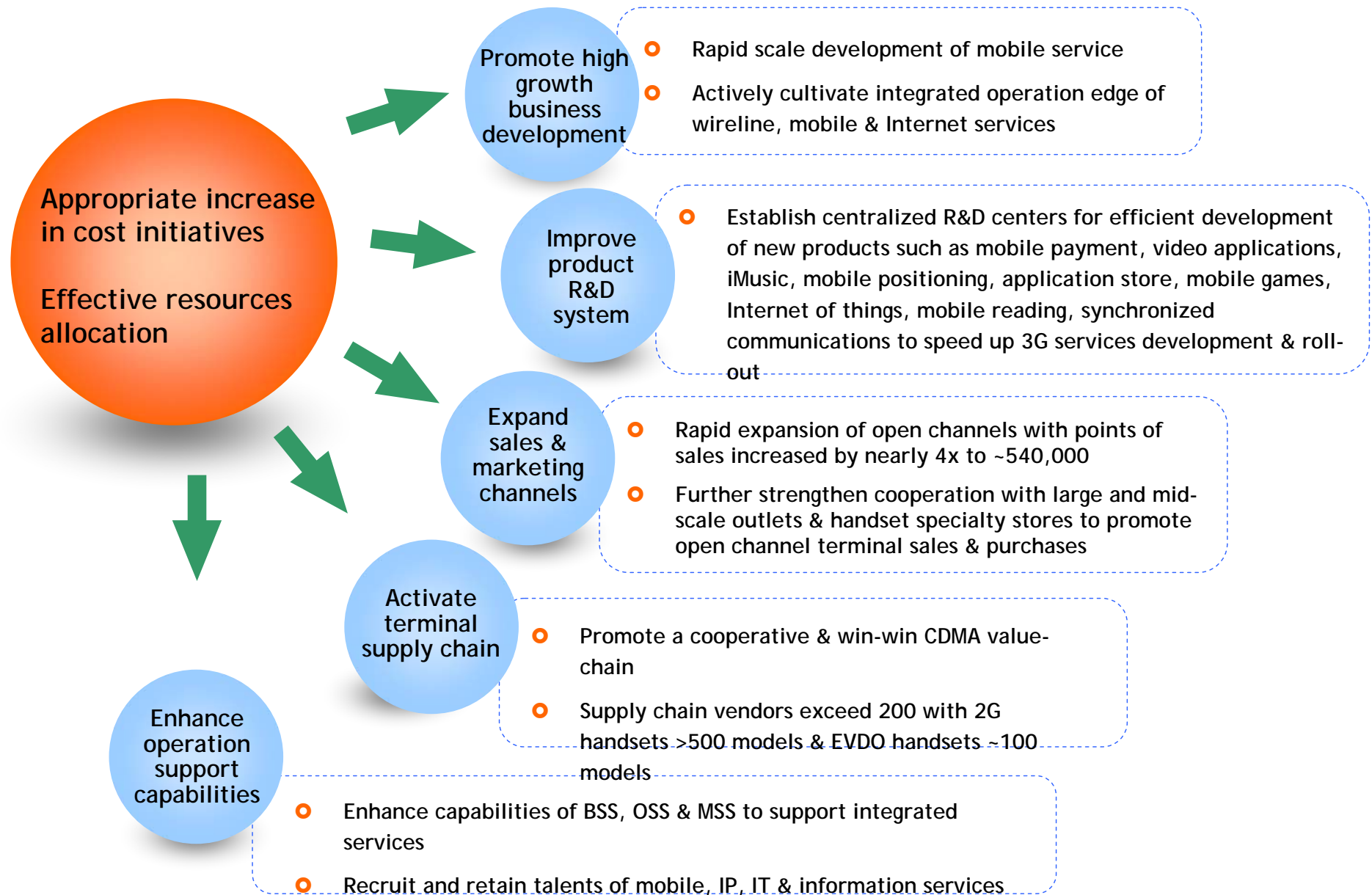
Unified, High QOS IP Network

- Backbone network deploy 40G link, improve CN2 structure, improve robust, deploy high quality platform in MAN, enhance the capacity of network and PSP QOS
- promote the integration of fixed network, mobile network AAA and bearer controlling system
- Initiate the NGN evolution based on IPv6

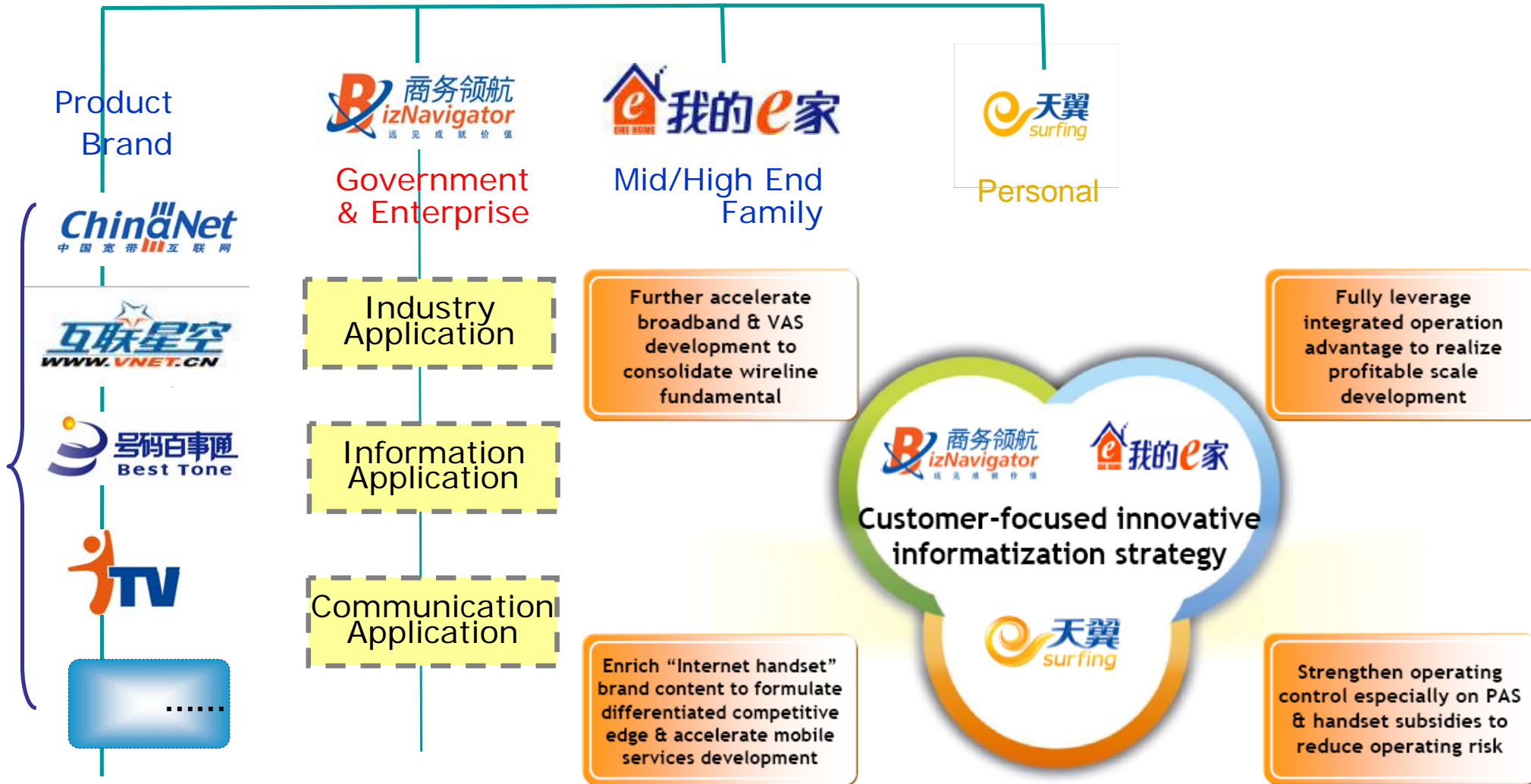
High broadband access Network

- Large-scale apply PON, deploy FTTB/FTTH. 20M access bandwidth in 2012, 50-100M later 2012. 3G cover cities and countries, deploy DOB, LTE evolution. Hotspot large-scale cover WLAN, initiate 802.11n, efficient collaboration of CDMA, WLAN and cable broadband.

Investing for Future Profitable Growth





Mobile Service Development Strategy: Encourage Brand Marketing and Take Advantage of Convergence




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Customer	Service
Government & Enterprise 	Telephone exchange service
	Integrated office application
	Mega Eyes (wireless video monitoring)
	Push To Talk (PTT)

Family 	Wireless broadband (C+W PC version)
	iMusic
	Wireless broadband (C+W cell phone version)
	Mobile IM (e home client cell phone version)

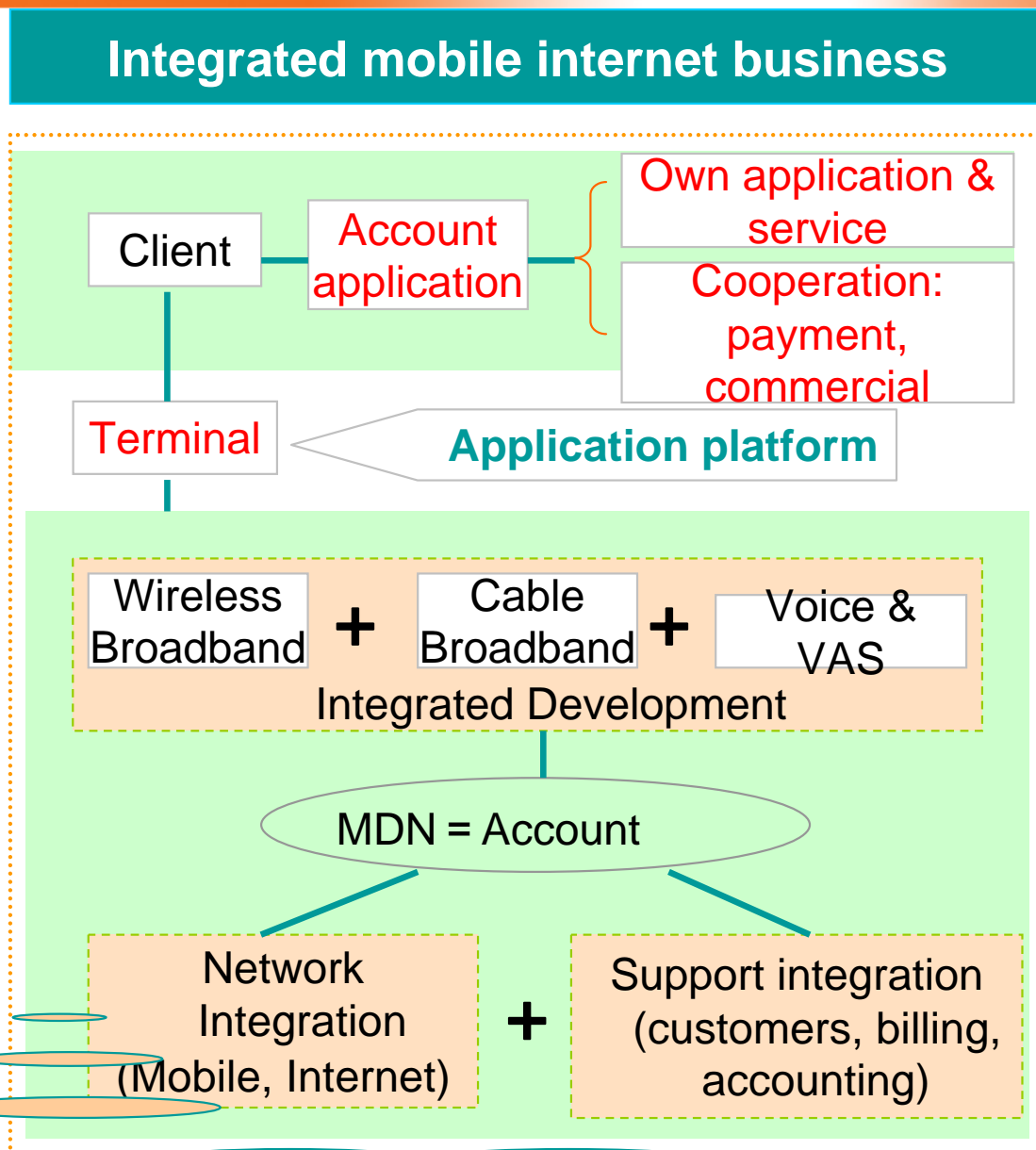
Personal 	Best Tone (Mobile version)
	Unified refillable payment card



Phase I Service together with launching 189 number segment

Mobile Internet the differential advantage for CT

- Mobile Internet is the key feature of 3G, based on Internet.
 - Network, customer and experience advantage.
 - The best 3G network coverage and Internet.
 - 3G mobile phones will take advantage of the internet.
- Promote the integration of Mobile and Internet business
 - Application is the goal : the point of strength in 3G
 - Integration is the basis : mobile terminal is the core
 - Account is the means : a unified account management
 - Terminal is the support : adaptable application



Achieve the integration of mobile internet operations , to build the point of strength in 3G

International Roaming Service



- International roaming service
 - 1) Voice
 - 2) SMS
 - 3) Data roaming (SKT, Verizon, Sprint, Telus etc.)
- C to C International Roaming
 - CDMA-800M
 - CDMA-1900M
- C to G International Roaming
 - GSM-1800
 - GSM-1900
 - 3G WCDMA
 - GSM-900
- Website:
 - manyou.ct10000.com

Key Product Introduction : Wireless BB



- Unified Access Platform for all (ADSL, LAN, Wi-Fi, CDMA);
- C+W integrated applications available anywhere anytime

■ China Telecom provides C+W Web Browsing Client

Account + Password → ChinaNet

■ WiFi Hotzone Roaming, Authorization by Account+Password

■ Government & Enterprise User logs in intranet via VPN

Features

- CDMA mobile phone number as unified account name for both CDMA & WiFi
- CDMA & WiFi Share Time
- Seamless Coverage



Key Product Introduction : 189 Email



- 189 Email is professional Email service provided to eSurfing (CDMA) and fixed broadband customers. It integrates mobile and internet service entirely.
- Using 189 Email, customers can send & receive email anytime & everywhere, through PC, SMS, MMS, WAP or Pushmail Client.

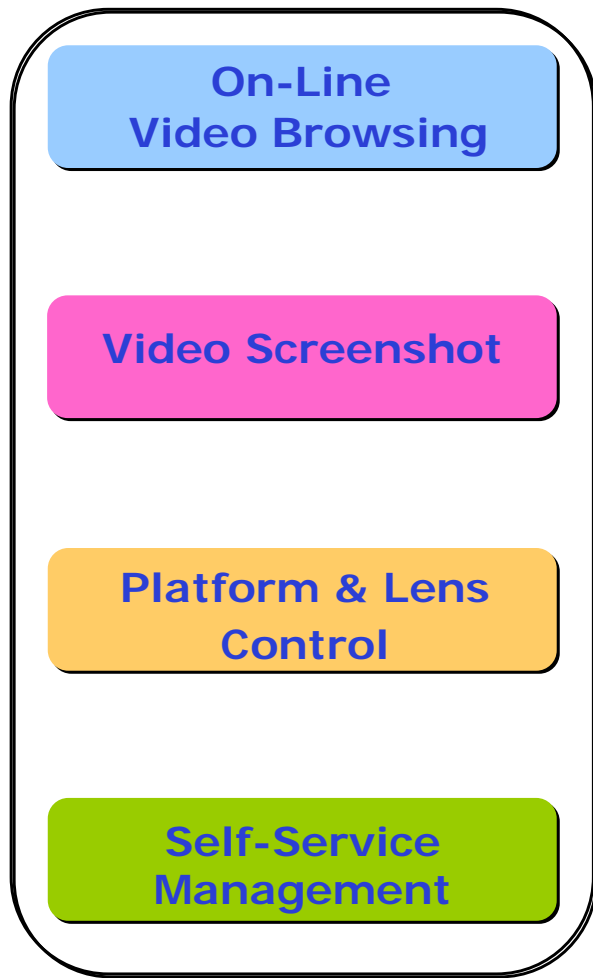


Mobile Phone is EMAIL Account

Key Product Introduction : MegaEye-Video Monitoring



- Based on Mobile Mega-Eye platform and CDMA network
- Built-in monitoring client software in CDMA Terminals
- Remote video browsing, remote platform & lens control, video screenshot to enrich enterprise management tool



Screenshot during On-line Browsing

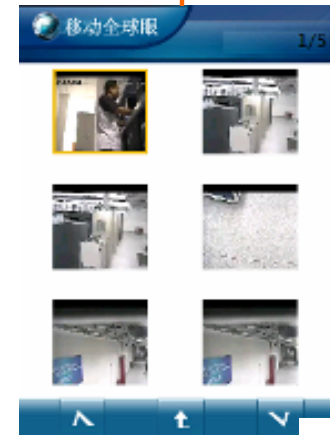


Photo Browsing



- Photo Enlarge/Shrink
- Photo Delete

Platform & Lens Control

Key Product Introduction :

Integrated Office



- Integrated office is an application system to provide integrated office for government and enterprise customers on PC or Mobile Terminals. It works for both fixed and mobile network.
- Integrated office extends OA to Mobile Terminals. Office work becomes more convenient and efficient to handle with its powerful functions, flexible configuration and high security.
- Integrated office provides features such as contacts, information applications, document processing, arrangement of work, information release, mobile e-mail, collaborative communications and others.



Mobile Office Everywhere
Easy, Fast and Secure
One-Stop Office
Keep Connected All the Time

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- 1. Enhanced EV-DO Technology
 - Feature: 2 Carriers Bundle to Enhance Data Throughput
 - Strategy: Trial & Introduction according to market requirement
- 2. Enhanced 1X Technology
 - Features: EVRC-B, Interference Cancelling, Diversity Reception to increase voice capacity without changing existing interface protocols
 - Strategy: Development according to need of actual frequency usage after technology maturity
- 3. LTE
 - Features: Flat Network Architecture, New Radio Technology such as OFDM, MIMO, CDMA & LTE Interoperability
 - Strategy: LTE will be the direction of CDMA Evolution
 - Actively research on LTE Network Technology & Application
 - Actively promote the process of commercial LTE

CDMA-LTE Evolution Requirements



- Maintain consistency with 3GPP in the framework and progress of the evolution. The integration and interoperability of each network element (including AAA / HLR) should be included in 3GPP system.
- Cooperate with 3GPP on the priority of CSFB Performance Optimization in voice service.
- Research CDMA-LTE multi-mode BTS technical specifications
- Research CDMA-LTE dual-mode terminals (including dual-radio) and dual-mode card technical specifications , Focus on the research of network selections on UICC card-based dual-mode terminals.
- Initiate the research of handover scenario in EHRPD-LTE data service and the establishment of specifications on EHRPD-LTE reverse handover scenario.



Thank You !