



Mobile/Wireless Opportunities in China

- What the government initiatives may bring to us?

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About SVCWireless

- Leading high-tech non-profit professional organization
 - Founded in 2000 in Silicon Valley
- Focus on mobile/wireless industry
 - Bridging US and China
 - SIGs
 - Mobile Application
 - Smart Grid
 - Mobile Location Based Services
 - ...
- About 4000 members
 - Engineer, Entrepreneur, executive, VC, lawyer etc.
- Events
 - Annual conference
 - Business/technical mixer, seminar
 - Business delegations to and from China
- More information: www.svcwireless.org



China Geographic Map



Coast line

Developed, dense population, less nature resources

Inner land

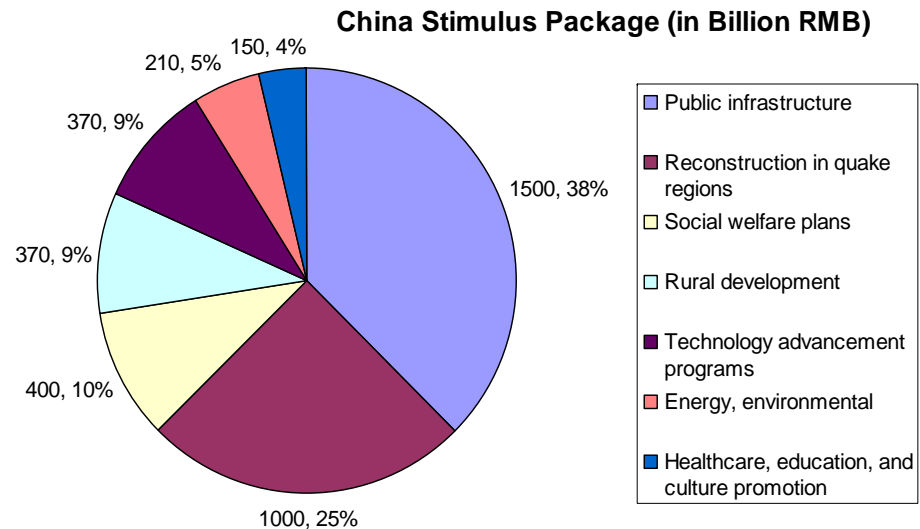
Un-developed, sparse/dense population, rich nature resources

- Beijing: Capital of China
 - Political
 - Central government, HQ of big SOEs
 - IT: ZhongGuanCun
- Shanghai: Economic center
 - Finance, advanced manufacture
- Hongkong
 - International, finance
- Shenzhen
 - Telecom, IT, finance
- Hangzhou
 - eCommerce (Alibaba), IT, private enterprise
- WuXi
 - Internet-of-Things
 - Electronic manufacturing



China Stimulus Plan

- Nov. 5, 2008: China Stimulus Package announced
 - 4 trillion RMB (\$586 billion) investment in 2 years
 - About 13% of 2008 GDP
- Mar. 6, 2009: Package adjusted and details revealed
 - Public infrastructure: Railroad, expressway, power grid modernization
 - Technology advancement
 - Energy and environmental
 - Healthcare and education
- Aggressive matching of local governments
 - Scale of 10+ trillion RMB





China 3G – Telecom Re-org and 3G License

- May 24, 2008: Start China telecom re-organization
 - 6 telecom carriers -> 3 full service carriers (Fixed line & Mobile) + China Satcom
- Jan. 7, 2009: Three 3G licenses issued to the Big 3 after a decades' waiting





China 3G – Massive Investment in 3G as Part of Stimulus Plan

- 2009 – 2011: 450 billion RMB in 3G deployment
 - Network construction, network equipments, terminals, handsets, 3G application

- In 5 years: 1 trillion RMB of direct & indirect spending
 - 400 billion RMB on 3G terminals by 2011 (Source: RNCOS)

- By the end of 2012
 - 180 – 240 million 3G subscribers

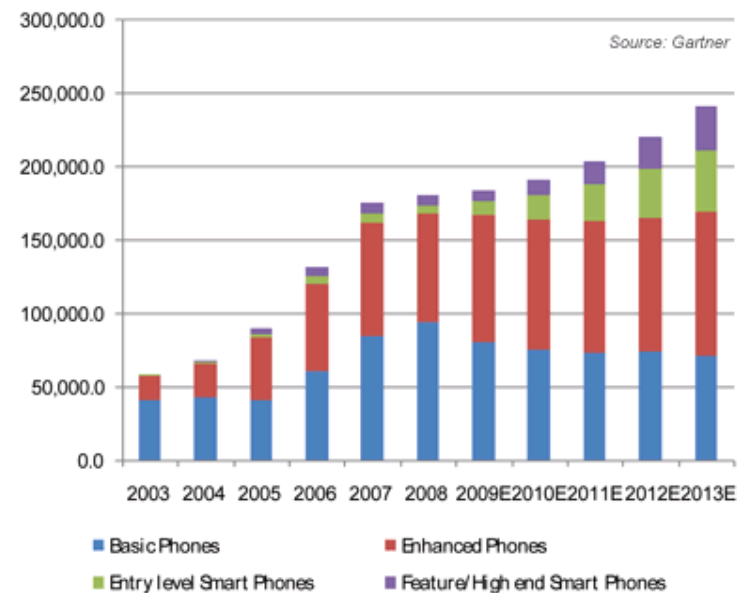
- October 2009
 - 3G users jumped to 9.77 million
 - China telecom: 117,000 base stations established
 - Cover 342 prefecture-level cities, 2,055 county-level cities and counties, and over 6,000 developed towns and villages



China 3G – What could be the opportunities?

- More competition and balanced market
- Mobile Internet era means less control of carriers
- Everyone is looking for the future growth area

- Mobile broadband?
- Mobile (application) market?
- Mobile gaming?
- Mobile payment?
- Mobile reading?
- Mobile social networking?
- Mobile advertisement?
- Location based service?
- ...



China wireless handset market (In thousand)

Network Convergence

- What is “Network Convergence”?
 - Technically: Coexistence of telephone, video and data communication within a single network
 - **Business wise:** Application and service convergence of telecommunication network, internet, and cable TV networks
- Two separate divisions in the past
 - Telecom and internet under MIIT
 - Cable TV under SARFT
- Jan. 13, 2010: “Network convergence” a decision of China central government
 - Breakthrough after ten years of waiting
 - Two-way entrance
 - Trial projects/cities first
 - Regulatory systems might be reformed in the future





Network Convergence – Challenges and Opportunities

- Massive investment on the way
 - Cable TV
 - One-way broadcast to two-way communication
 - Aggregate scattered sources
 - Telecommunication carriers
 - More competition in their traditional domain
 - Need new business areas to ramp up revenue

- Opportunities for China domestic players
 - Internet companies: pplive, ppstream, 迅雷 (XunLei), etc.
 - IPTV solution companies: CNTV, 上海文广 (SMG), 华数 (hzcnc) etc.

- US has gone through this already
 - Migrate US experience, solutions and business models to China?



Internet-of-Things (IoT)

- A connected world around us
 - 7 trillion wireless devices by 2017 (Dr. Rabaey, UC Berkeley, Vision of the Future, 2008)

- China Premier Wen Jiabao
 - Aug. 7, 2009: Speech in Wuxi calling for rapid development of IoT
 - Series of interviews afterward
 - “I learned Internet of Things is a network that can be applied to infrastructure and services. The program will have a rosy prospect,”

- Internet-of-Things now a strategic industry in China
 - Central government package in progress
 - Aggressive plans from local governments



Internet-of-Things (IoT): Where are the opportunities

- Complex system
 - Front-end sensing, collecting, and controlling
 - Infrastructural support of internet and mobile internet
 - Backend information processing

- Taking off in vertical markets first
 - Smart grid
 - Smart home/building
 - Intelligent Transportation System (ITS)
 - Healthcare
 - Public safety
 - Logistics
 - ...

