Explore the Potential of CDMA450
Maximizing CDMA 450 Network Value
Agenda

- Explore the Potential of CDMA 450
- Case Study
What's the Potential of CDMA450?

Better User Experience
- Good Choice for Rural Coverage
- Network Intelligent Center

More Revenues
- Integrated Services Support
- Machine to Machine Applications
- Trunking Services

Evolution to the Future
- Uni-RAN Solution
- EV-DO Rev.B
- CDMA/LTE Dual Mode Solution
Enhancing User Experience

- **Dynamic Network Status Monitor**
- **Prospective Network Capacity Analysis**

**Network Intelligence Center**
- **High-Efficiency Network Optimization**
- **User Oriented Evaluation Method**
- **Planning**
- **O & M**
- **Deployment**
- **Optimization**

- **CDMA2000 1x Advanced Technology** Ensures High Quality Voice Experience and Quadruples the Voice Capacity

- **450M - Lower Frequencies** Provides Greater Coverage and Reduce Sites Number

- **ZTE CDMA Super Far Coverage Technology** - Decreasing Sites, Reducing Power Consumption of Whole Network

- **CDMA 450** is used in several counties to increase phone and internet penetration as fixed line and DSL replacement

- It sounds like you’re next door
### Gaining More Revenues

#### Mobile Office
- Sensor
- Data collection
- DTU

#### Data Application
- Wireless

#### Wireless Data Application
- Mobile Office
- WEB browser
- Email
- Video on demand

### Application

<table>
<thead>
<tr>
<th>Application</th>
<th>Wireless broadband</th>
<th>Mobile data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>Broadband internet access</td>
<td>Mobile data, Remote data collection, Mobile VAS</td>
</tr>
<tr>
<td>Terminal</td>
<td>Data card, CPE model</td>
<td>Mobile phone</td>
</tr>
<tr>
<td>Advantage</td>
<td>Faster deployment, low cost</td>
<td>Easy to upgrade, save investment</td>
</tr>
<tr>
<td>Business model</td>
<td>Wireless DSL</td>
<td>Complement and upgrade of mobile network</td>
</tr>
<tr>
<td>Revenue source</td>
<td>Internet access charge</td>
<td>Subscriber growth, mobile VAS revenue, revenue sharing with 3rd party</td>
</tr>
</tbody>
</table>
Gaining More Revenues (Cont.)

- Harbor Research survey data:
  - In 2008, M2M market capacity as USD 60 billion
  - In 2010, 1.5 billion sets of machines will be connected around the world, and M2M market capacity will be USD 125 billion, and in 2013, it will be over USD 300 billion.

- ABI Research data: In 2008, mobile SIM cards for M2M was 60 million, while in 2013 it will be 220 million.
Gaining More Revenues (Cont.)

Trunking Applications

- Rescue
- Harbor
- Transport
- Police
- Fire
- disaster relief
- Mining enterprise
- Logistics
- Business customer

Trunking Services Creates Revenue

ARPU has been increased by 40%!

<table>
<thead>
<tr>
<th>Province</th>
<th>Indirect ARPU</th>
<th>Direct ARPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hainan</td>
<td>37.00</td>
<td>52.00</td>
</tr>
<tr>
<td>Yunnan</td>
<td>28.78</td>
<td>51.00</td>
</tr>
<tr>
<td>Sichuan</td>
<td>37.00</td>
<td>49.00</td>
</tr>
</tbody>
</table>

Indirect ARPU brought by GoTa
Direct ARPU brought by GoTa
You Get More Than A Conventional PMR

Mobile Services

Trunked Radio Services

Advanced Radio Services

Basic Radio Services

Phone Services

SMS

Mobile Phone

Group Call

Private call

Broadcast Call

Emergency Call

More than 30 Professional Trunking services: Encryption, VPN, Call Priority, Member Priority, Service Priority, Floor Control, Dynamic Regrouping, BTS Fall back, DMO ……

High Speed Data Services

Location Services

High-speed Data Access

Future Interface

E - Police

Video Monitor

An all-around system
Integrated Command & Dispatch System by GoTa

Command Headquarters

Surveillance

Location

Trunking Dispatching

Fixed Wireless Video Monitoring

Mobile Wireless Video Monitoring

Handsets

GPS Vehicle Station

In emergencies:
Integrated Dispatch

Peacetime:
Dispatch Independent
Smooth Evolution to the Future

- **Convergence**
- **Evolution**
- **Saving TCO**
- **Green**

3G system

LTE with MIMO support

3G/4G system

Add LTE Modules

- Indoor Macro BTS
- Outdoor BTS /Micro BTS
- Distributed BTS
- BS8800
- BS8900
- BS8906E
- BS8906
- BS8900
- R8840  R8860  R8880

BS8900

BS8906

R8880

BS8906E

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Improving Industry Chain Based on Business Plan

- Winning users by means of (ultra-) low-end terminals
- Further lowering terminal cost to reduce the gap between CDMA and GSM terminal costs
- Enriching terminal types

Low-end user
- Developing DO data cards
- Developing DO terminals to promote mobile high-speed data service
- Developing CDMA + WiFi data cards and handsets to provide seamless coverage

High-end user
- Focusing on dual-mode (CDMA/GSM) and single-standby high-end handsets that support international roaming service
- Developing middle to high-end handsets

Data service user
- Exploring industry terminals such as GoTa terminals
- Developing GoTa terminals to win differentiated competition
- Building “work-oriented handset” for government or enterprise users

Industry user
Agenda

- Explore the Potential for CDMA 450
- Case Study
Global Applications of ZTE CDMA

ZTE CDMA Application in China
ZTE has got a CDMA market share over 43.20% (number of carrier-sectors) and was ranked first in China.

ZTE CDMA Global Application
Ranked first on global CDMA market with a global share of 30.3%.
Source: IDC research (2010)

ZTE CDMA Serving:
70+ countries  120+ operators
250+ million users
ZTE World-wide CDMA Success Stories

China China Telecom
Large-scale successful swapping; full-service quality network.

India Reliance
Biggest gateway office and Ap interface office to reduce TCO in the world

India TATA
Largest BSC commercial traffic record in the world

USA Aircell
Built the first ATG EV-DO in-flight radio network in the world for Aircell

Czech Mobilkom
Fulfilled 450M L-band customization for Mobilkom within 3 months

Indonesia Smart
Assist operation, operation & maintenance trusteeship to improve operators’ competitiveness
CDMA450 is a technically – and commercially – viable mainstream solution for providing affordable telephony and broadband Internet access to small businesses and consumers, particularly in emerging markets. The efficiency of CDMA450 has enabled TELMEX to reap returns from the large volume of geographically scattered users while decreasing time-to-market and reducing operating expenses. Accordingly, TELMEX has expanded its commitment to provide CDMA450 voice and data services to Mexico's low income population."

Marco Antonio Galvan, Vice President of Innovation, TELMEX

- TELMEX built hundreds of BTSs and serving more than 20,000 users/subscribers in north rural areas of Mexico, covering 2000 villages.
- Network KPIs were enhanced with network optimization tools of ZTE independent IPR.

ZTE, a world leader in telecommunications. After considering several technology options, TELMEX chose CDMA450 to expand coverage to the rural and low population density areas of Mexico.

TELMEX launched its service at the end of 2007, and is now providing telecommunication services to 180,000 CDMA450 subscribers.
The first CDMA450 rural services in Peru. The government project. Phase I will cover Piura. Whole Peru in the future.

To achieve network of good performance in rural area. To search for strategic partners to win long-term development. Voice is the main requirement.

In 2010, ZTE helped Cenet to get the frequency from the government. In May 2011, ZTE’s CDMA ALL-IP system successfully implemented in Piura. In June 2011, ZTE and Cenet focus their sight in all Peru.

Compact outdoor solution: To guarantee network quality, easy engineering, Low TCO solution.

Flexible Solution: Facing a variety of terrain, From 0m-4000m, From mountain to plain to forest.

Project implementation totally meet the schedule.
ZAPP Portugal, Success with ZTE CDMA450 Solution

Background & Requirement

- Required CDMA network in the 450MHz band, Do Rev B with nomadic restriction
- SWAP solution
- To construct a customized 450MHz network
- To SWAP 296 BTSs in 2 months
- To provide end to end QoS solution
- To build a differentiated, stable and efficient network

Benefits & Highlights

- Customized outdoor BTS solution, low CAPEX
- SDR CDMA/WiMAX solution and uni-RAN, uni-Core solution
- Optimized SWAP solution, minimized the impaction to current network
- End to end QoS solution, robust CDMA network

LOW CAPEX
LOW OPEX
Mobilkom, Successful Transformation

Established in 1993, got national 410M license
With the successful transformation, MobilKom jumped to become No.4 mobile carrier
To customize CDMA solution in 450M L band (410M)
To attract EV-DO data subscribers with high ARPU
In October 2005, MobilKom selected ZTE as its partner. In less than six months, built the first customized CDMA450 L band network in the world
Q1 of 2009, the total online subscribers +100,000, of which +200,000 are EV-DO Rev.A high-speed data subs

“By using advanced technologies, the All-IP CDMA2000 network, supplied by ZTE, greatly decreases the network construction costs, and allows us to deliver high-quality and low-cost services to users.”
—Lubos Borik, CEO of Mobilkom

Benefits & Highlights
- Fast system customization in only three months
- Amazing increase of EV-DO data subscribers in fierce telecom market
- The first customized CDMA450 L band network in the world, also the first CDMA EV-DO Rev.A network in Europe
- From single trunking network to an integrated service supplier - Ufon service brand, combining CDMA2000 1X voice service, EV-DO Rev.A high-speed data and GoTa (PTT) trunking service

Background & Requirements
- Established in 1993, got national 410M license
- With the successful transformation, MobilKom jumped to become No.4 mobile carrier
- To customize CDMA solution in 450M L band (410M)
- To attract EV-DO data subscribers with high ARPU
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MOBILINK Grow and Win with CDMA 450

Focus on large and medium enterprises

Move up to ultra large enterprise, project by project model

Stage 1

Stage 2

GoTa Package Structure

- Basic
  - Private Call
  - Group Call

Head Group

- Private Call
- Group Call
- Broadcast Call
- Status Query
- Dynamic Grouping

Additional Services

- Emergency Call
- Cellular Call
- Internal Wireless
- Telephony Service
GoTa Servered 2008 Beijing Olympic Game

- Game Organizing Committee
- Referee, Spot coordinator
- Electric power/logistics support
- Security guard, volunteer

Network Provider: China Telecom
Shanghai Expo. 2010 Bus Monitoring Project

M2M-Powered Transportation Surveillance at World Expo 2010 Shanghai

Abundant Services
- SMS Wake UP
- 3G Video Monitoring
- Vehicle Management
- Real Time Location
- Over speed Alarm
- Door Alarm
- Smoke/Fire alarm
- Manual Alarm
- Station automatic announcement
- ......

October 2010, at the global Smart wireless workshop held by CDG, the World Expo M2M solution provided by ZTE and China telecom won the 2010 Smart Wireless Award.
ZTE Leading CDMA/LTE Dual Mode Solution

Oct, 2009, ZTE built CDMA/LTE dual mode lab in Dallas, U.S.A.

Oct, 2009, ZTE first completed the LTE lab test with China Telecom.

Apr, 2010, ZTE presented dual mode BBU+RRU end-to-end service demo in CTIA, U.S.A.

Abundant C/L Dual Mode Terminals:
- AL660
- IL760
- XL990
- XL991
- XL996
Maximizing Customer Value

Customizing and differentiating solutions to explore new market

Abundant Services such as wireless data, remote monitor, M2M, Gota services improve operators’ profits.

ZTE Uni-RAN Solution Ensuring environment protection to build a low TCO and quality green ecological network

ZTE Leading the technology development and smoothly evolving into LTE.
Thanks!

Talking to the future