NGN + CDMA WLL Solution

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AGENDA

- Why NGN + CDMA WLL
- NGN + CDMA WLL Advantage
- Application
Why CDMA WLL?

Rural communication need a quick and cost-effective construction mode,

**CDMA, especially CDMA450 is the best choice!**
Why NGN?

• **PSTN Networking**
  – Mesh-like construction, complicated connection relation
  – Usage of bandwidth is very inefficient

• **PSTN Services**
  – Control nodes are dispersed, services are hard to deploy
  – Only voice services are available

• **PSTN O&M**
  – Complex network, high OPEX

**PSTN is weak for future!**

**PSTN must stop!**
NGN is Ready Now

Competitive NGN equipment price

Standardization of NGN protocols

More and more commercial NGN applications worldwide

Maturity and Openness of NGN services

Settlement of QoS/Security problems

More successful interoperability test
Advantages of converged network

- Open system, integrated multimedia service
- Flat network, easy operation and management
- Fast deployment to catch opportunity
- Investment centralized in the unified network platform

- ↓ Less O&M cost
- ↓ Less fixed asset investment
- ↑ More Revenue
- ↑ Higher ROI
Ideal Object Mode for NGN + CDMA WLL

- Fixed and mobile converged!
- Voice and data converged!

Home and small corp.

Integrated AG

Big enterprise

Fixed and mobile converged!
Voice and data converged!

Universal MG

CDMA WLL

Internet

PSTN

Rural, suburban area...

In this diagram, the network architecture includes various components such as Softswitch, App Server, IN, NMS, Packet Core, IP Core, Internet, PSTN, SG/TG, and Home and small corp. It illustrates the convergence of fixed and mobile services, as well as voice and data services.
What are Benefits of NGN + CDMA WLL?

• Provider’s View
  – NGN + CDMA WLL convergence increases efficiency
  – Low cost, fast networking, easy deployment, more revenue
  – Advanced technology in independent CN and AN area, Future-oriented, smooth evolution

• Consumer’s View
  – Convergence brings more convenience
  – More abundant experiences
  – Various services can be paid by only one account.
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UMG: Hairpin Function

Various levels of hairpin abilities help carrier to save expensive transmission resources greatly!
Seamless Coverage Wireless Broadband Network

- CDMA WLL 1X: Overall coverage for wireless Basic data access
- CDMA WLL 1xEV-DO: Wireless Broadband access in Urban and Dense Urban
- WiFi: Hot spots
Services provided by Huawei NGN

Traditional Switch
• Basic Voice services
• Supplementary services
• Centrex Services
• IN Services

Huawei NGN
• Traditional switch Services
  100% inherit existing services
• What is NEW ?
  • Traditional service enhancement
    Wide Area IP CENTREX...
  • Multimedia service
    Video call, conference, IM, UM...
  • Data services
    VOD, Internet surfing, White board ...
  • Internet Related services
    CTD, CTF, WEB800, ICW, Voice Internet ...
  • IT convergence services
    UC Workspace (with IBM/Microsoft)...
  • Personalization services
    PCA, Only, Simultaneous ringing, Sequential
    ringing...
  • Wireless services
    SMS, Interactive Customer Care Services,
    Location Services...

All of these services can cover where CDMA WLL can cover!
Unified VAS Solution for NGN + CDMA WLL

Unified VAS for voice and data, fixed and mobile!
Typical Service 1 - Integrated Prepaid Solution

Solution Highlights

- Universal platform
- Universal prepaid service features
- Universal prepaid cards
- Universal AAA server
- Abundant prepaid services
  - Prepaid Data Service
  - Prepaid Card Service
  - Prepaid Telephony Service
  - Intelligent Payphone Service
  - Prepaid broad band service
  - Prepaid narrow band service

Universal Prepaid Cards and Universal AAA Server

Universal Prepaid Card Base Functions

PPS Service
PPT Service
IPP Service
Prepaid Data Service
Prepaid Broad Band Service
Prepaid Narrow Band Service

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

Prepaid Narrow Band Service

Universal Prepaid Cards and Universal AAA Server

PPS Service

PPT Service

IPP Service

Prepaid Data Service

Prepaid Broad Band Service

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Universal Prepaid Cards and Universal AAA Server

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Prepaid Narrow Band Service
- **ONLY**: One Number Link You

- One number for one person, easy to be contacted

**Typical Service 2 - ONLY Service**

The ONLY service number can be independent virtual number or same to real number.
Typical Service 3 - Color Ring Back Tone Service

CRBT: Show your true colors through the telephone network

Wait for answer

Caller hear melodies before called picking up

Advantages:

- Replace boring “du du” RBT with various popular songs
- Let the caller hear beautiful melodies while call waiting
- Play different melodies for different callers
- Fashion, No restriction of handset
- Target youth generation and fashionist

All of NGN/CDMA WLL/PSTN/ONLY subscribers can enjoy CRBT service

CRBT Service drives the increase of ARPU

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Flexible Evolution to Mobile Network

- Mobile Network & WLL share the same Wireless Access technology - *Use existing Radio Access part*

- WLL Interface(V5.2) ⇒ Mobile(IOS series STANDARD) - *Software upgrade in existing system*

- Fixed Softswitch ⇒ Mobile Softswitch - *Same hardware platform, Software upgrade*

- No Roam or Limited Roam ⇒ Full Roam - *Add HLR*
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Deployed more than 100 commercial sites for over 30 operators in over 20 countries worldwide (including UK, Germany, Portugal, US, Canada, Russia, Brazil, etc.)

- Largest C4 VoIP toll network: China Mobile with 1 million VoIP ports.
- Largest IP CENTREX application, 19,000 lines for China Telecom
- One of the largest cross-country VoIP network, Canada Convergia, 17 countries
Huawei, Major CDMA Vendor in the World

- Wide deployment in over 50 countries
- First to deliver CDMA networks in Western Europe
- Complete CDMA solutions in the world
- Worldwide leading CDMA450 provider

CDMA450 Global market share: **66.7%**

Data Source: IDC, 2004
Huawei NGN + CDMA450 WLL in PTCL, Pakistan

- **System capacity**: 2.75M subs (0.05 Erlang per sub)
- **Softswitch core network**
- **450MHz+1900MHz CDMA wireless access system**
- **End to end solution: RAN, core network and terminal.**
Thank you for your attention.