Compatible at Last? —
Open Mobile Internet for the 4G Era
Openness, Simplicity and Cleanness

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IPv6 over OWA
What’s 4G Mobile Technologies

Open Wireless Architecture (OWA)

- On the device side

Cost-effective and spectrum-effective high speed wireless transmission

- On the network side

Theory: No single wireless standard can provide both broadband high-speed transmission and seamless mobility

Solution: Convergence and Integration by IPv6 over OWA
ICT Open Architecture Law

“The reason we had Personal Computer is because it defined the Open Computer Architecture,

The reason we had Cisco Systems is because it defined the Open Network Architecture,

The world is at the edge to define the Open Wireless Architecture (OWA) to liberate the whole wireless industry.”
IPv6/OWA Enables Personal Communications Back to Life Again

- @ office
  - Voice / Corporate Network
- In-flight
  - Voice / Internet
- @ home
  - Voice / Internet / IPTV
- Wireless
  - Voice / Multimedia
- Wireless
  - Data / Corporate / Personal
China Long-term Strategy

Besides China Moon mission, one of the most important special programs is to construct an open-architecture based broadband wireless (including mobile) communication system to meet the nation’s future IT infrastructure development.

China WINE Regulations
China future mobile communications development whitebook, Rel.12/2007

Focus on B3G and 4G mobile technologies
Focus on open architecture and converged platform
Focus on industrial standards targeting emerging markets
Encourage deployment by private sectors
Encourage shared business models
Encourage frequency sharing and dynamic allocation
Government’s Role in China Wireless/Mobile Industry

Missions and Objectives

- Open system architecture
- Open spectrum planning
- Open OS and Application platform

Truly User’s Phone, not Provider or Vendor’s Phone

Powered by Open Wireless Architecture (OWA) Technology
China Open Mobile Internet Strategy for the 4G Era

- Heavily deploy WiFi (WLAN) networks
- Deploy 3G networks for mobile
- Deploy hotspot BWA networks
- Deploy Special networks
- Slow down GSM expansion
- Limit Single Standard Solutions

Towards future OWA Infrastructure
4G Smartphone – Separate OS with RTT

Convergence with IPv6 over OWA
OWA Virtualization for Open MM Applications

One Device
One Number
One Dream

FIG. 2 OWA-Based Wireless Mobile Terminal Architecture
Open Wireless Architecture (OWA) Virtualization Layer

- Open Operating System (OS) BIOS
  - Principal OS
  - Supplemental OS
- Host OS Interface
- Virtual Machine Manager 1
- Visitor OS Interface
- OWA Baseband Processing Sub-Layer
- Signals
- Open Interface Parameters (OIP)
- Wireless Adaptation & Virtualization Sub-Layer
- Data/Control
- Baseband signals (I/Q)
- OWA BIOS Interface & Framework
- OWA BIOS Interface & Framework
- Software Defined Module (SDM)
- Internal Modules
- External Modules
- Portable Air-Interface Modules
- OWA Baseband Chip
- Multiple RTTs Transceiver(s)
Call Processing Management System in Mobile Switching Center or Gateway

Connection Table (Conn_Table)
- Visitor IP Address: x.x.x.x
- CDMA/TDMA Channel Mapping
- Home IP Address: x.x.x.x

Incoming Mobile Call
- Voice, Message, Data or Video

Call_Proc Request

Search Conn_Table

Is Visitor IP available?

Y

Communication with "Visitor_IP"

N

Is Regular CDMA/TDMA available?

Y

Communication Through CDMA/TDMA Channel

N

Dial Home_IP

Forward the Call to Home Server (Virtual Mobile Server)

IPv6

Incoming Mobile Call

Communication with "Visitor_IP"

(IPv6)

IPv6

(IPv6)

We need IPv6 for complete 4G solutions – global IP for each device
One Device · One Number · One Dream