IPV6 in China Telecom: Policies and Try

Cancan Huang, China Telecom
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Outline

 pólices deployment IPV6

 CT’s try
Introducing IPV6 involves the fundamental network, service network, terminal, support system, CP, SP, government and media.
CT’s goal in the next two years

- All the purchased terminals are equipped with IPV6
- 1~2 self-running services fulfill end-to-end IPV6 service
- 1~2 sample MANs are able to provide end-to-end IPV6 services
- TOP 10 ICPs are IPV6 ready
- IPv6 access ready in some MANs
- IPv6 ready
What are the principles?

1. Protecting Investment
   - Keeping user experience
   - Reducing impact on network
   - Minimizing price

2. Fundamental Networks come first
   - Service Networks soon after
   - CP/SPs come later

3. Conducting tests at selected points come first
   - Popularizing all-around come after

4. Existing services need to be seamlessly moved
   - New services need to be IPV6 enabled directly

Target: Network-wide IPV6
The details of deployment policy--network

**Backbone**
- Backbones use dual-stack for transiting, both core and aggregation network;

**MAN**
- MAN use dual stack for transition. Most of the subscribers will use dual stack connection and a small number of subscribers will use tunnel in case they don’t have IPV6 ability.
- For small number of applications, protocol translation mechanisms will be put into use.

**Support System**
- Old DNS software system’s need to upgrade to support IPV6 record. The new built DNS are required to support IPV6 access.
- The new built dual-stack Network management system should support IPV6 MIB database.
- AAA system doesn’t need be changed, only need supporting IPV6 subscriber certification by software upgrading.
The details of deployment policy--service

- **Self-running service**
  - New services should be IPV6 enabled as early as possible, while existing service should be support IPV6 gradually by upgrading.
  - For those platforms which are directly exchanging information with the client terminals should be IPV6 ready as quickly as possible. On the other hand, back-end management systems are not so urgent.

- **Mobile core Network and Soft-switching Network**
  - Mobile core Network and Soft-switching Network should be transited to IPV6 gradually according to the requirement of services.
  - The new built IMS system should be equipped with IPV6 directly.

- **Third-party CP/SP**
  - CT should push the government to work out mandatory policies to give incentives to the CP/SP to introduce IPV6.
The details of deployment policy— IT support system

- Existing system should be equipped with IPV6 gradually
- New system supports IPV6 directly

- The subsystem of MSS uses dual-stack to enable the IPV6 function step by step
- OSS should be IPV6 enabled simultaneously according to the fundamental network.
- BSS keeps pace with services to provide IPV6 ability

// MSS: Management support system
// OSS: Operation support system
// BSS: Billing support system
The detailed deployment policy – terminal

The existing terminal

Continually using IPV4

using bridge mode to transparently transmit IPV6 datagram.

The one doesn’t support IPV6 continue using IPV4

Support IPV6 by upgrading

Enable IPV6 function directly

The new terminal
Outline

- The policies of IPV6 introducing
- CT’s try
CT’s trial--CNGI

CT started CNGI since 2003

- Network testing platform includes core network, management center, exchange center and 7 residential network;

- Applications on Service gateway, service platform and P2P have been researched on the testing platform;

- CT made some studies on IPV6 introduction solutions collaborating with suppliers (eg. cisco, huawei)
CT’s trial- Commercial Trial

- Various types of access methods, including ADSL, EPON and WLAN;
- Upgrading the access network and IT system.

World University Games, Shenzhen, 2011

- Network-wide IPV6, covering 67 competition facilities, serving 75000 clients.
- Carrying Multi-media application based on IPV6.
CT’s trial—Product Development

Industry Chain dead lock

Content Provider

Network Provider

End-users

IPV4 Internet

IPV6 Internet

IPV4 ICP

IPV6 ICP

Wait for each other!!
For those who is willing to install the software, the dial-up web client can automatically probes user’s operation system, network environment, even what website they want to browse and help users accessing the internet intelligently.
CT’s trial—Product Development

Industry Chain dead lock

Content Provider

Wait for each other!!

Network Provider

End-users

IPV4 Internet

IPV6 Internet

Content Translation Gateway

For those who will not install dial-up client, we provide a dual-stack “Content Translation Gateway” to help users to access the website with different IP address version through a guide portal.

Without Dial-up Client
The IPv6 introduction of ICP faces many difficulties, the “ICP IPv6 upgrading gateway” aims to help the ICPs transit to IPv6 quickly and simply.
The policies of IPV6 introducing

Who will be involved?

CT’s goal for next 2 years

What are the principles?

Detailed deployment Policies
( fundamental network/ service network/ support system/ terminal)
Outline

- The policies of IPV6 introducing
- C T ’ s t r y
  - C N G I
    - Commercial trial – World sports Game/ Metro network
  - Product development
    - Intelligent communication assistant
    - Content translation gateway
    - ICP IPV6 upgrade helper
Thanks!