

IPv6 Progress in China Mobile





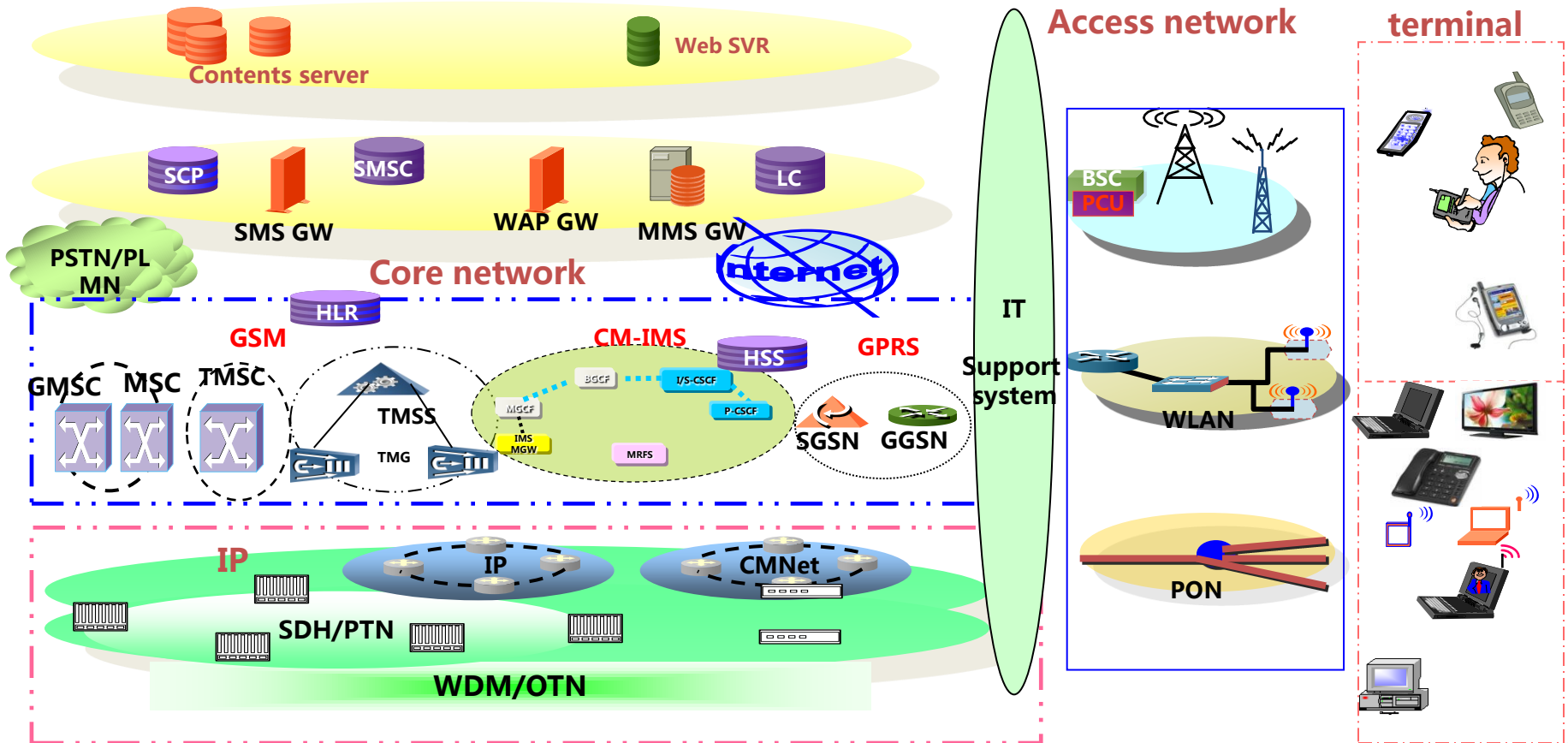
Overview of IPv6 Progress

IPv6 Solutions and Problems

IPv6 Working Plan

- We have finished IPv6 Network trail in 10 provinces
- We have developed over 3M IPv6 subscribers
- All TD-LTE terminals we bought support IPv6
- Over 10 of our own applications support IPv6

- 800 bearer network equipments
- 100 core network equipments
- 400 BRAS, 1000AC, 10000 AP





Overview of IPv6 Progress



IPv6 Solutions and Problems



IPv6 Working Plan

IPv6 Solution – Mobile Service

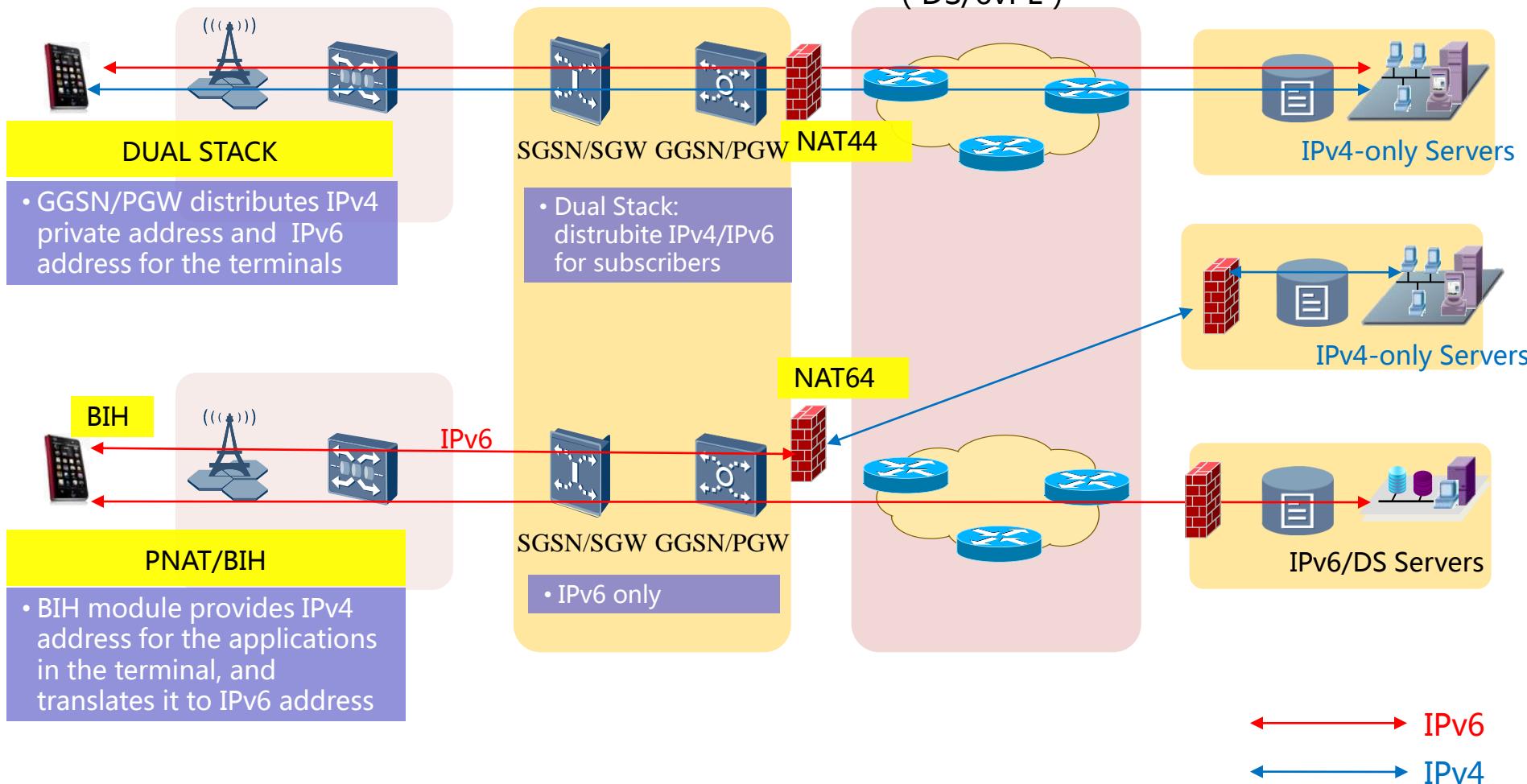
Terminal

RAN

Core Network

IP Backbone
(DS/6vPE)

Content Servers

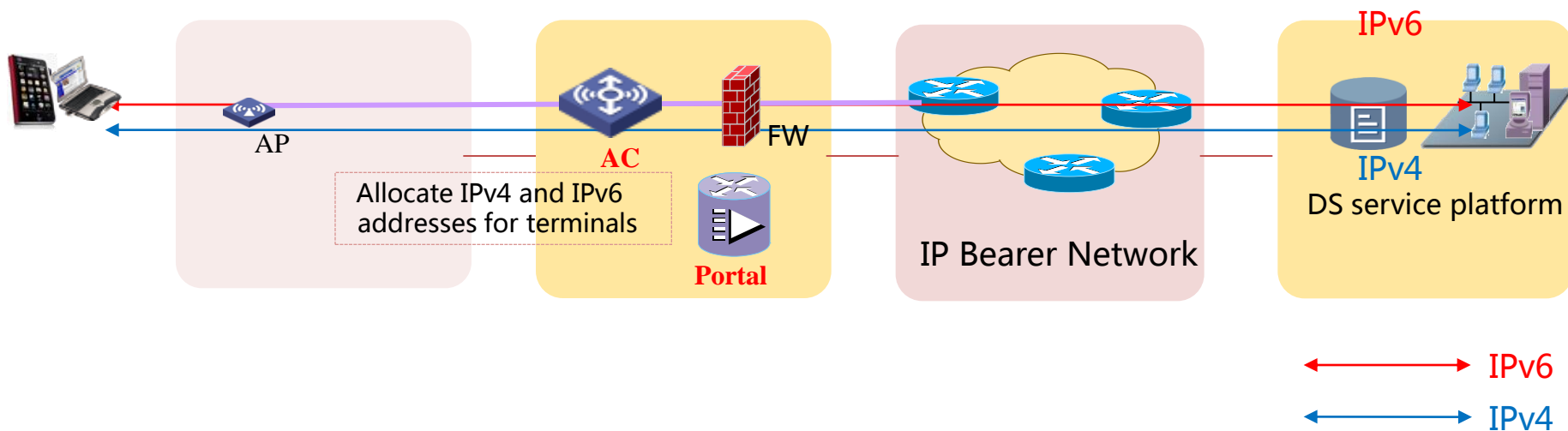


IPv6 Solution - WLAN

WLAN terminals can obtain an IP address before authentication, that means only 20%-40% IP-obtainers are the active users in China Mobile's WLAN network. The mechanism of WLAN result in the waste of IP addresses. So IPv6 must be imported to WLAN.

IPv6 Solution: based on dual stack

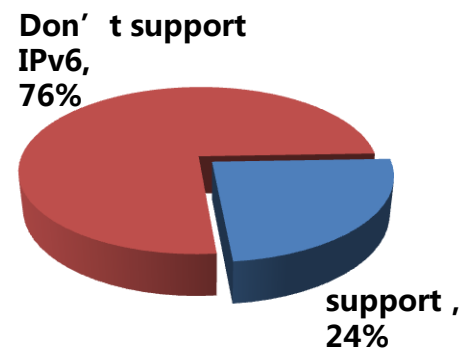
- dual-stacked ACs to support IPv4/IPv6 access.
- Portal system is also to be rebuilt or upgraded to realize IPv6 authentication.



Applications are not Ready

Most of Applications and software are still in IPv4-only

- We tested 50 kinds of popular clients and applications running on PC in our lab, about 76% Clients are just developed for IPv4-only
- Unfortunately, most of the 12 dual stack applications are browsers and mail clients, none of IM, online music or video, online-maps support IPv6



Type of Apps	Quantity	Results
Browser	7	Support
IM	7	none
Mail Client	6	3 support(Core Mail、 outlook2007、 thunderbird)
FTP	2	1 support (FileZilla)
Download	6	1 support (utorrent)
Online musis	7	none
Online Game	3	none
Online Map	3	none
Micro-Blog	4	none

Agenda



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China Mobile requires IPv6 as a mandatory condition of VoLTE

- IPv6 has been included as a basic feature of VoLTE related network equipment requirements
- Require VoLTE terminal must support IPv6
- We will provide VoLTE users IP address in IPv6-only mode

- China Mobile will promote IPv6 in the E2E industrial chain and carry out commerciality in the next few years
- We have finished the task of startup period , but the promotion period need to speed up

Start-up Period (2011-2013)

- To 2013:
- Do IPv6 experiments, trials in related provinces, develop about 3M subscribers
 - Produce more and more LTE UE supporting IPv6 with the association of manufacturers

Promotion Period (2014 - 2015)

- To 2015:
- complete network IPv6 transition
 - Start IPv6 commercial deployment
 - Develop more IPv6 subscribers

Application Period (2016 - 2020)

- To 2020:
- All the increased subscribers and service can use IPv6 address
 - All the backbone and MAN can use IPv6

Thank You



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