

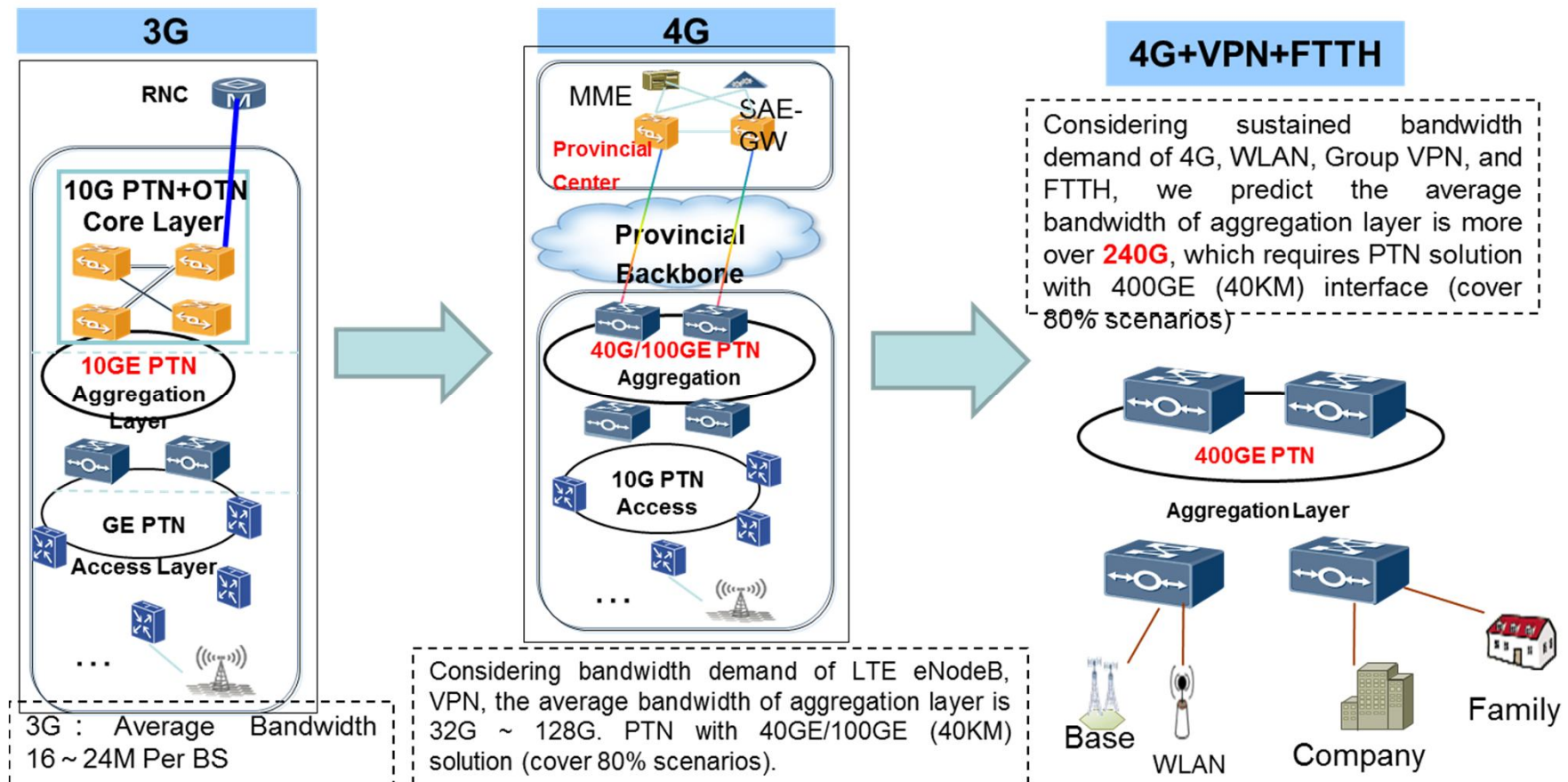
# 400GE requirement forecast

Lu Huang, China Mobile ([huanglu@chinamobile.com](mailto:huanglu@chinamobile.com))

Weiqiang Cheng, China Mobile ([chengweiqiang@chinamobile.com](mailto:chengweiqiang@chinamobile.com))

# Link Scenario in Mobile Broadband Backhaul Network

- Based on Ethernet technology, we choose PTN to build the mobile backhaul networks of China Mobile
- Because backhaul network is in metro area, where is usually lack of OTN, most of link between PTN nodes are direct fiber connection
- With the large scale deployment of TD-LTE, PTN is evolving from 10GE to 40GE/100GE, and we believe 400GE will be necessary in the near future



## Link Scenario in Fixed Broadband Backhaul Network

- China Mobile will begin to scaly deploy Fixed broadband access. As predicted, in 2018 the access rate will be more than 50Mbps

Access rate (bps)	50M	100M	1G
ratio	50%	45%	5%
Average rate (bps)	120M		

- Based on stability consideration, we usually bear 30,000 subscribers on one BRAS device. So the uplink speed will be about 400GE

Subscribers	Average rate (Mbps)	concurrent	Traffic ratio	Link peak thread	Uplink speed (Gbps)
30,000	120	50%	15%	70%	400

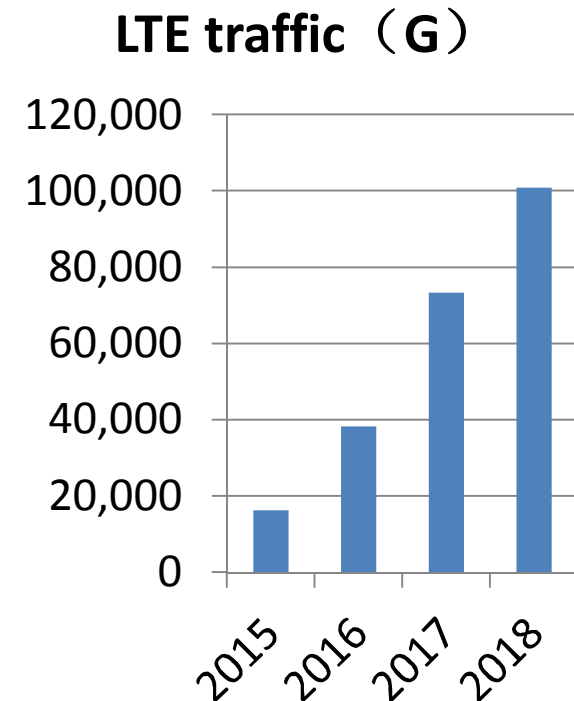
- In our network, when we use fiber to connect BRAS and metro core routers directly, the distance is usually more than 40km.

## Present status and forecast

- According to our survey, long distance module is a mandatory requirement for us

Statistics for 10GE & 100GE Modules used in PTN, as of June, 2016				
Transmission Distance	<2km	10km	40km	80km
10GE distribution	0.28%	44.46%	44.05%	11.20%
100GE distribution (more than 15K modules)	0	56.43%	34.59%	8.97%

- According to the increase of LTE traffic, as LTE backhaul network, PTN will face 4~5 times traffic in 2017 or 2018.
- Then we will have to use 400GE interface in the same scenario and take the same percentage with 100GE and 10GE.
- In 2018~2019, we expected the requirement for 400GE ER modules will be more than 10K.



# Proposal

- We hope 400GE has the 40km and above modules in near future.
- Work on 400GE ER should begin as soon as possible. Could it be possible to arrange CFI in September or November?

Thank you  
Q&A