
FTTR standard progress in CCSA TC6

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CAICT

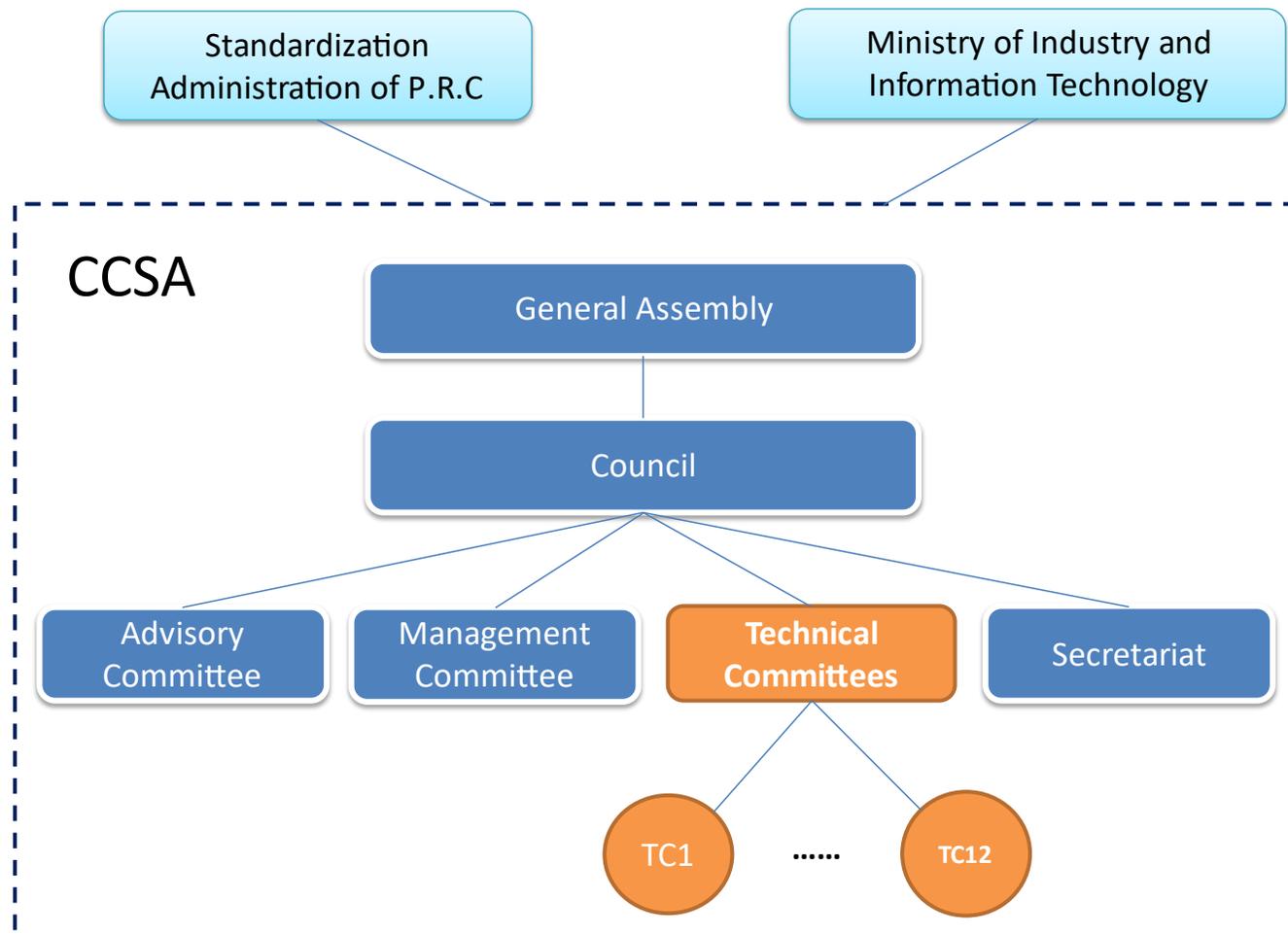
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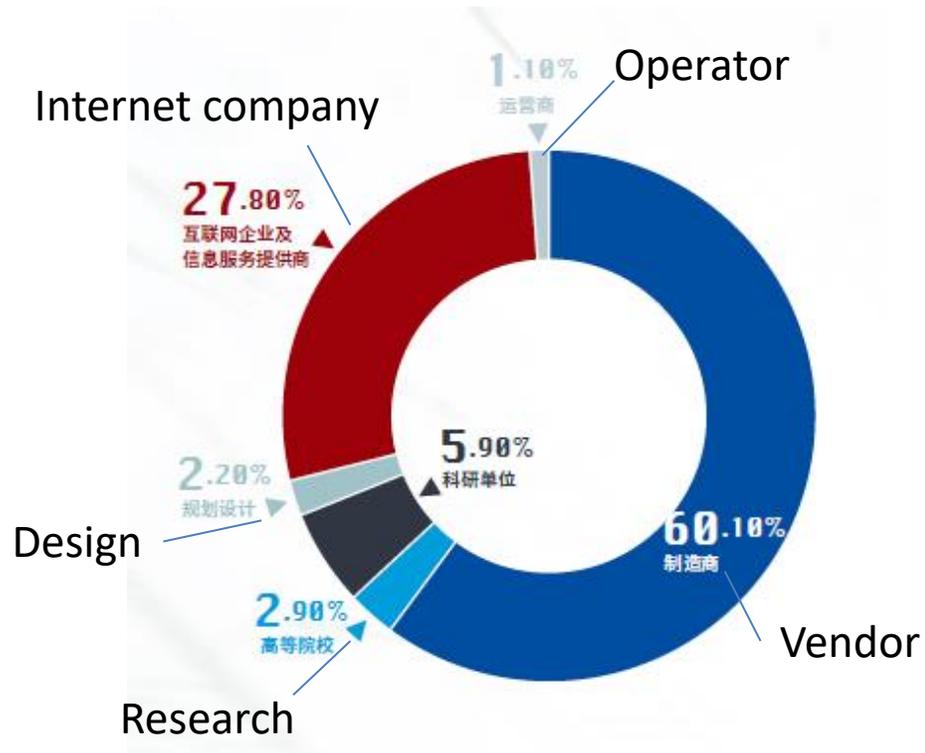
China Communication Standards association (CCSA)

- CCSA is a non-profit organization established by enterprises and institutes in China for carrying out standardization activities in the field of Information and Communications Technology (ICT) across China.
- CCSA was established on 18 December 2002
- CCSA is organized with the approval of Ministry of Information Industry and registration in the Ministry of Civil Affairs.



Members of CCSA

By the end of 2020, CCSA has more than 700 members



CCSA TC structure and WGs related to FTTR

TC1: Internet and applications

TC3: Network and service

TC4: Power and station Environment

TC5: Wireless communication

TC6: Transport and access network

TC7: Network management and operation

TC8: Network and information security

TC9: EMC and Safety

TC10: Internet of things

TC11: Mobile internet and terminal

TC12: Aerospace communication

WG1: Transport network

WG2: Access and home network

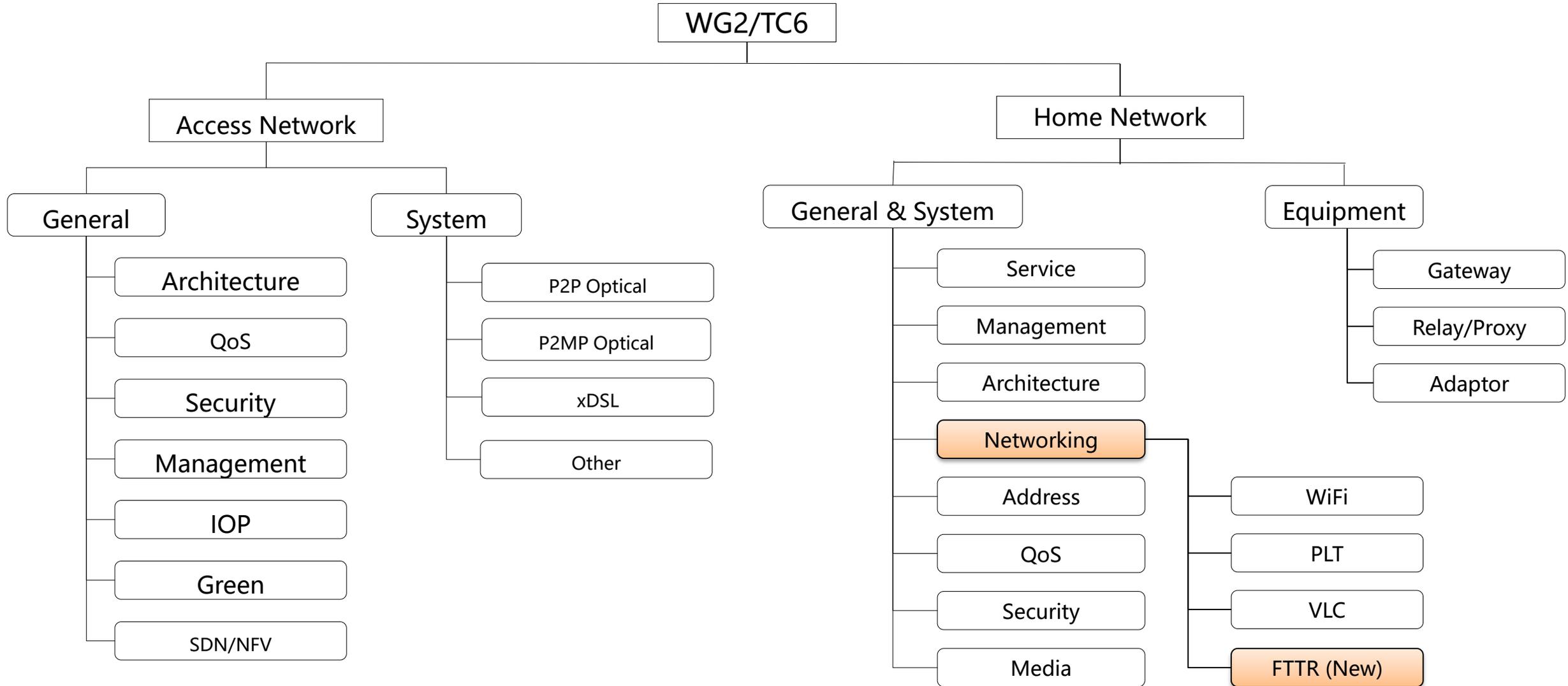
WG3: Optical fiber and cable

WG4: Optical devices

Response for
standardization of
system and
equipment of FTTR

Standardization of FTTR related technologies is in the scope of WG2/TC6. And some extra requirements to fiber cable will be processed in WG3/TC6.

Standard structure of WG2

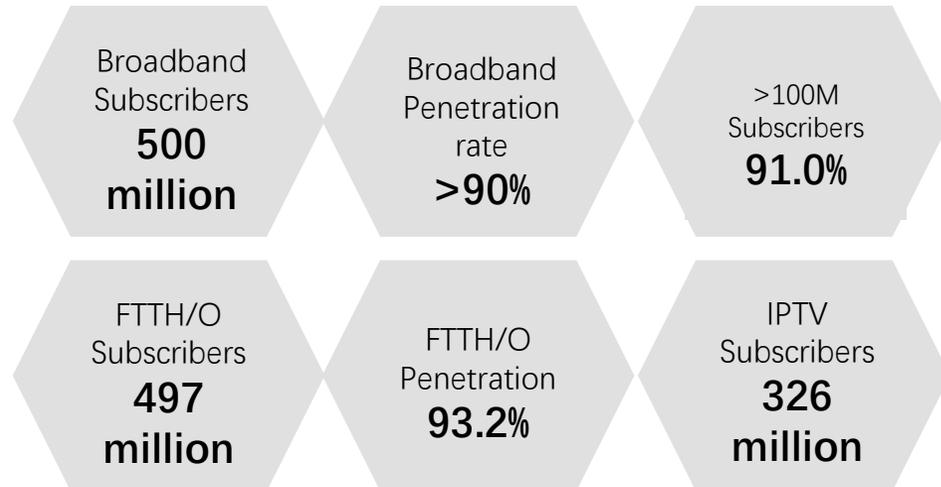


Projects related FTTR in CCSA

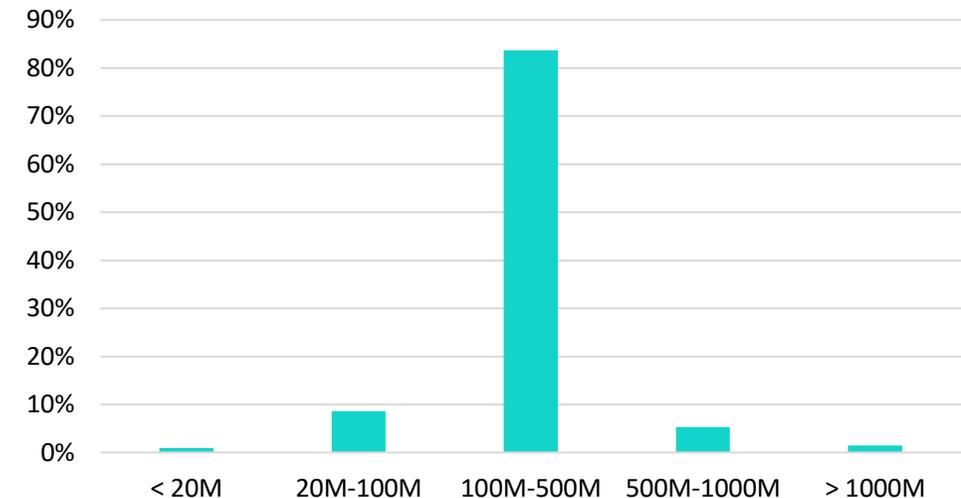
- Technical Report
 - Analysis for FTTR technology research and application (Finished in WG2)
 - Research on Indoor ODN Routing and Technology of FTTR (Under developing in WG3)
- Standard
 - On the 81th meeting of WG2 (8-11, June 2021) , 4 new projects of FTTR standard was agreed to be started, the preliminary names of the projects are:
 - Technical requirements for broadband customer networking based on public telecommunication network - FTTR - General requirements
 - Technical requirements for broadband customer networking based on public telecommunication network - FTTR – Physical layer
 - Technical requirements for broadband customer networking based on public telecommunication network - FTTR – Data link layer
 - Technical requirements for broadband customer networking based on public telecommunication network - FTTR – Management

China's broadband infrastructures are still in rapid evolution

China Broadband infrastructure got great success in last few years

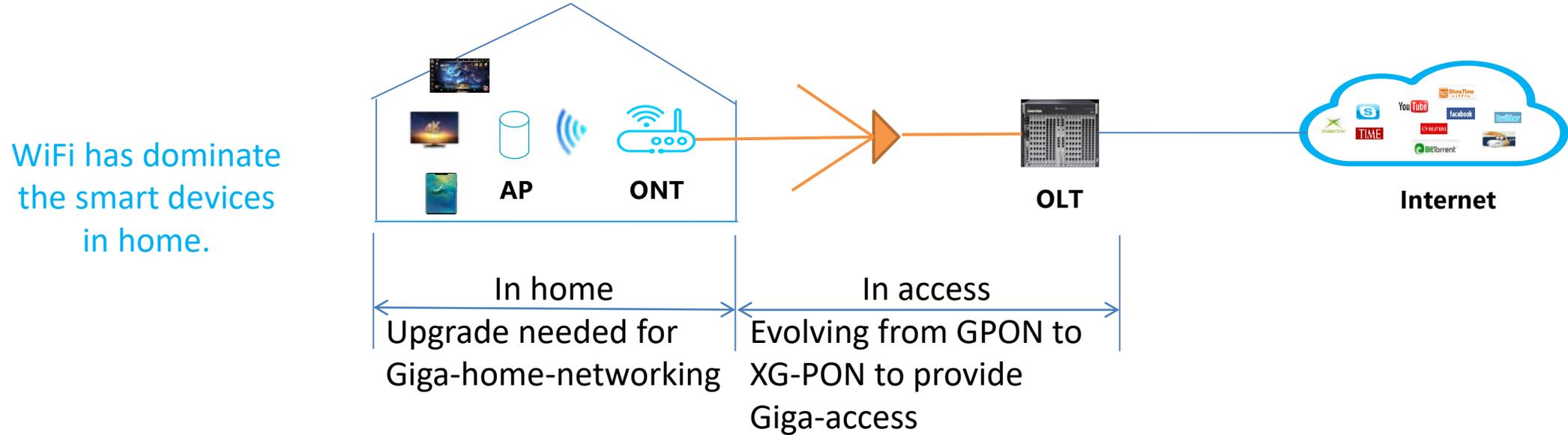


Most of the broadband subscribers are using 100Mbps-500Mbps service



- MIIT published “Dual-Gigabit network collaborative development action plan (2021-2023)” with target of:
 - Gigabit subscribers: 10 million by end of 2021, 30 million by end of 2023
 - Gigabit-capable service coverage: cover 200 million subscribers by 2021, and 400 million subscribers by 2023 (about 80% of all FTTH/O)
- 30 province have announced Gigabit broadband service providing home-fiber installation

Home network has become a significant bottleneck for E2E broadband service



- Because of working in 5GHz band, penetration of WiFi6 signal is worse than 2.4GHz, and installation of multi-APs is more and more popular in home.
- Because of non-professional installation and setup, quality issues of home WiFi (e.g. signal strength, interference, seamless roaming) are usual
- More than half of tickets related to in home problem.

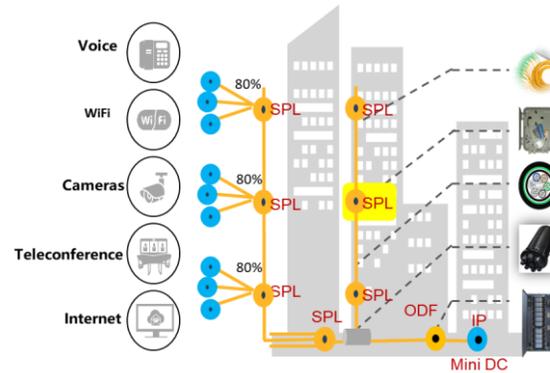
FTTR is competitive for home WiFi backhauling

	FTTR	Ethernet (UTP)	Wireless
Transmission Stability	High	High	Low
Bandwidth	High (Speed upgrade independent to ODN)	High (Speed upgrade dependent to UTP cable)	Medium
Range	Sufficient for home (To be defined)	< 100m	Uncertain (depends on channel)
Manageable	Could be managed (To be defined)	No	No

FTTR is also useful for many other scenarios



Dense apartment



Smart office



Smart factory

- FTTR means a serial of new technologies
- High-speed, high-quality short range optical fiber network
- Advantage of reuse part of the industry of fiber access

Collaboration between SDOs

- SDOs should collaborate to form the global standard for FTTR
- ITU-T SG15 will lead the development of core specifications of FTTR
- Keeping exchange the progress and viewpoint when developing the specifications
- Other document should also be developed hereafter, e.g. testing\IOP\Installation etc.

Next meeting of WG2/TC6

- Next meeting of WG2/TC6 will be hold on 24-27 August 2021, Chengdu

Thanks