

CU smart home network challenge and solution

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中华人民共和国工业和信息化部

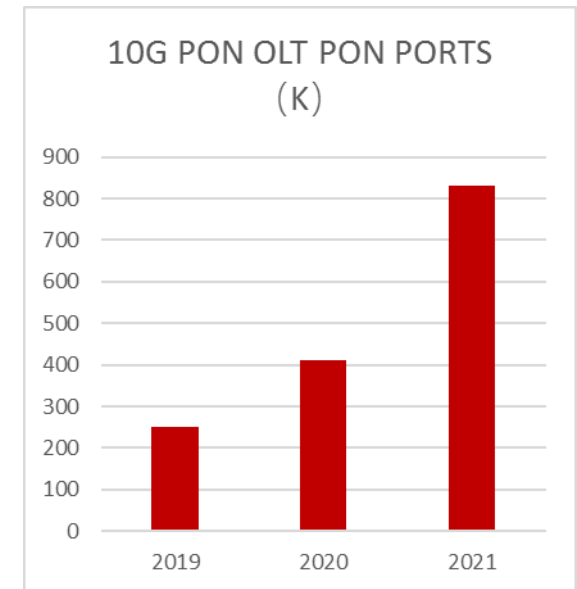
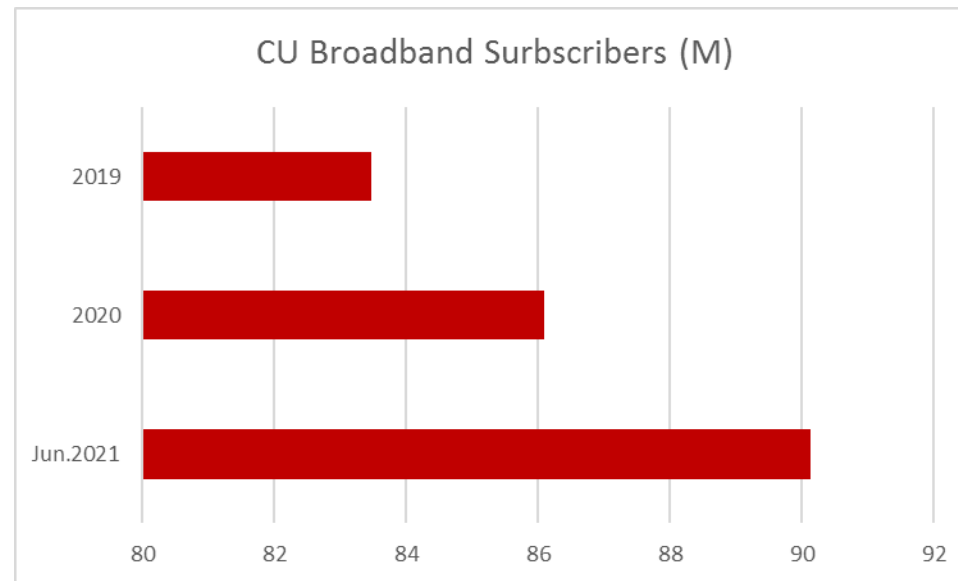
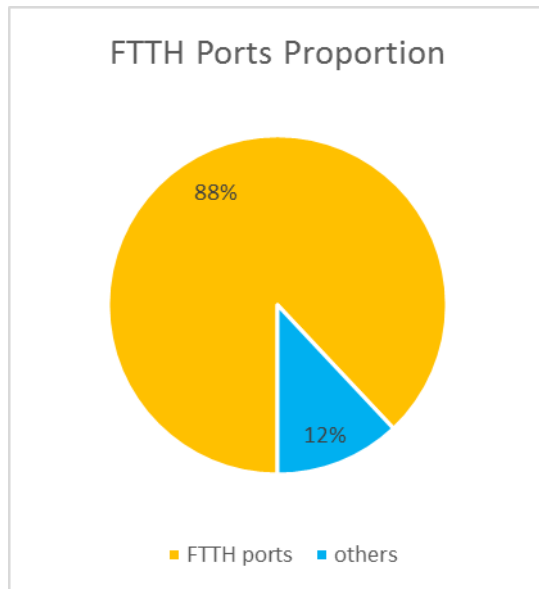
Ministry of Industry and Information Technology of the People's Republic of China

□ The Ministry of Industry and Information Technology (MIIT) of China has also released an Action Plan for Collaborative Development of Dual-Gigabit Networks (2021–2023) , which specifies the construction standards and development direction of gigabit broadband networks in China.

- At the end of 2021, China will deploy more than **5 million 10G PON ports** and acquire over **10 million gigabit users**
- At the end of 2023, China will deploy more than **10 million 10G PON ports** and acquire over **30 million gigabit users**

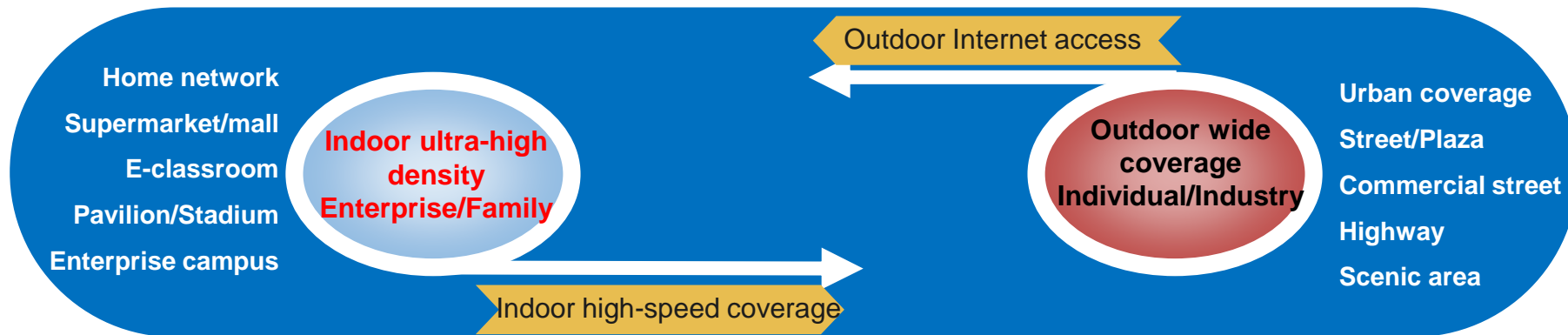
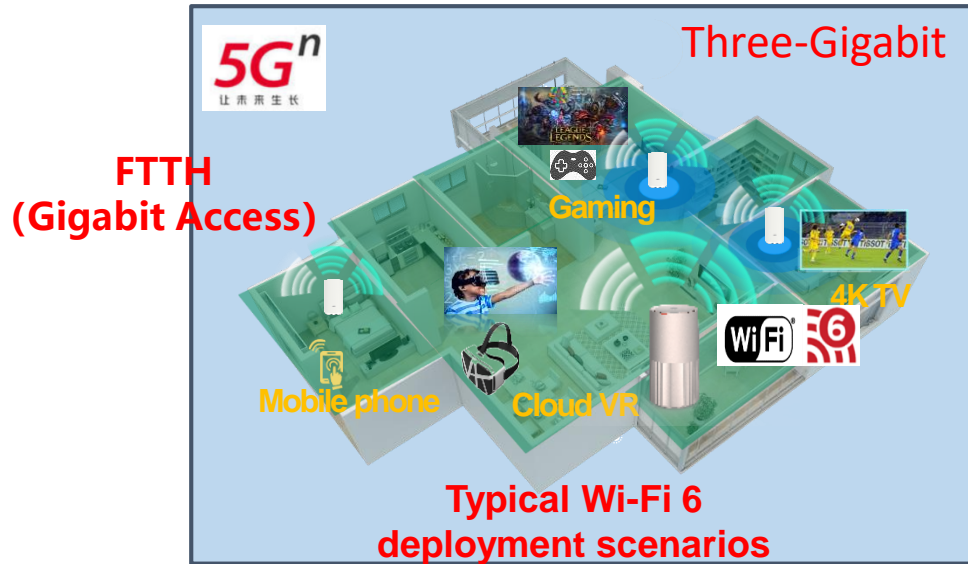
FTTH/Broadband deployment status

- ❑ The total number of broadband access ports reached 225 million, of which FTTH ports accounted for 88% at the end of 2020;
- ❑ At the end of Jun.2021, the number of broadband subscribers increased to 90.123 million;
- ❑ At the end of 2021, 10G PON OLT ports will be 0.83 million and the number of gigabit broadband access ports will reach 63.28 million.



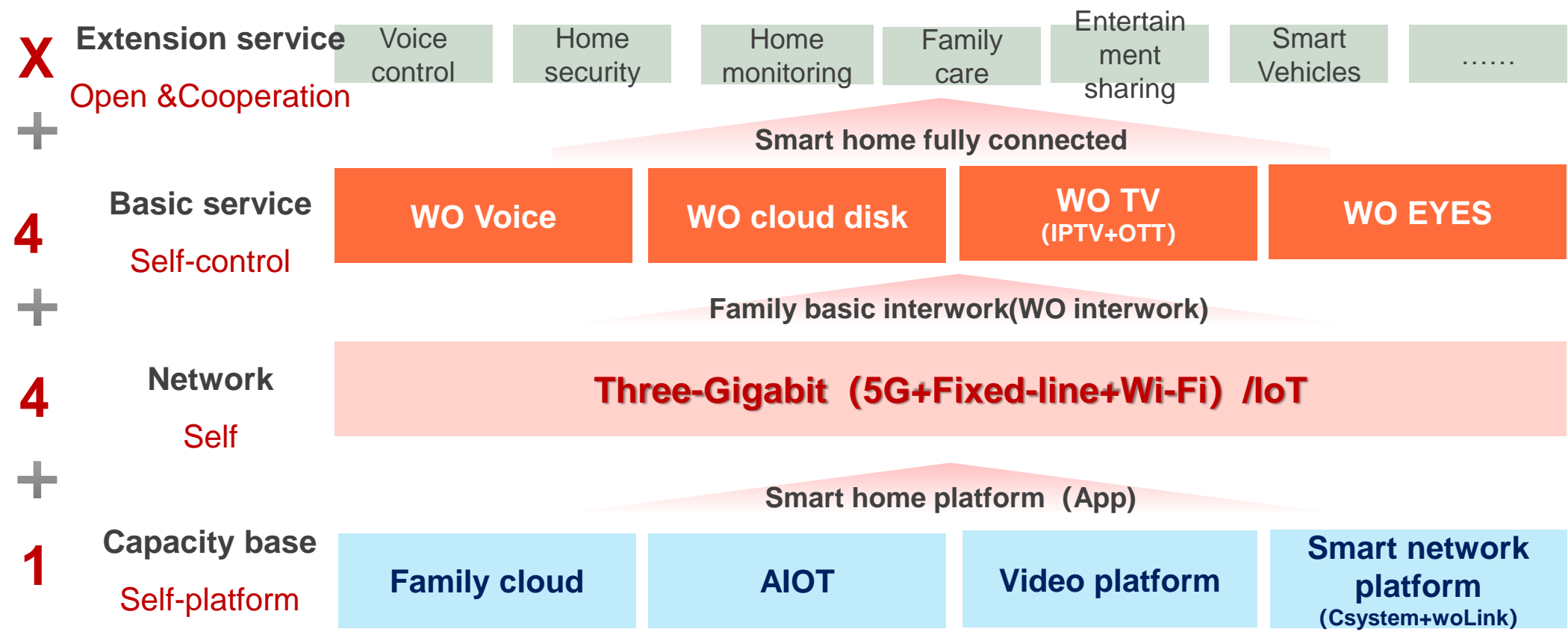
Source: Annual Report 2020&Monthly Operating Data

Three-Gigabit: Wi-Fi 6 Indoor High-Speed Coverage & 5G Outdoor Scenarios



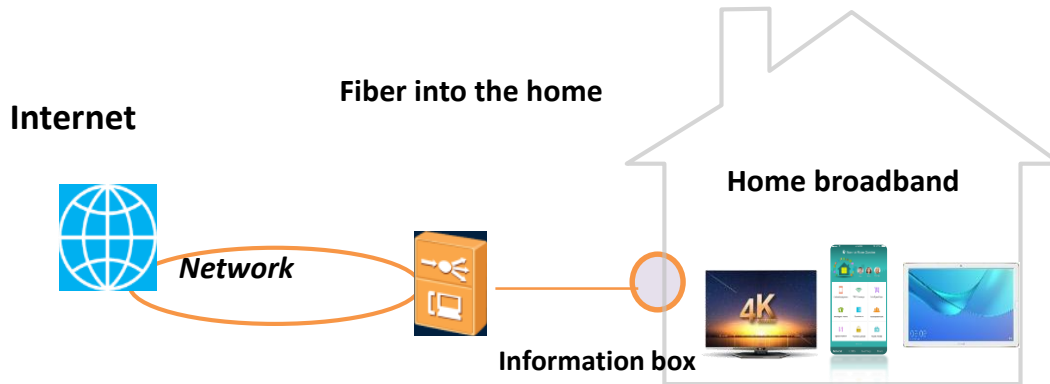
Smart home products and services

□ Adhering to the core strategy of “1+4+4+X” and leading by “ Three-GigabitT ” products, the company focused on four fundamental products and realized scale development of smart home products.



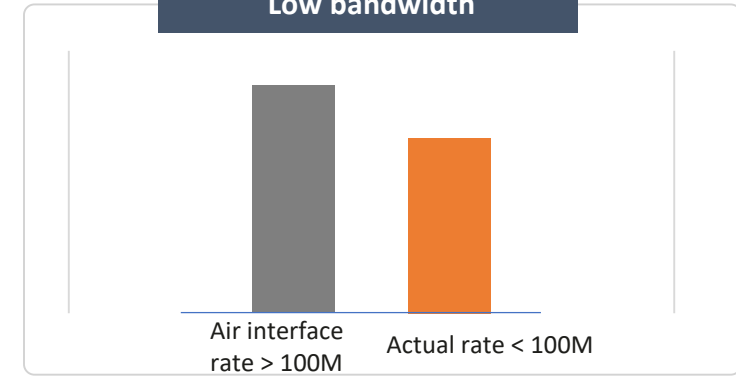
Gigabit Wi-Fi is a big challenge

FTTH does not bring high speed to every room

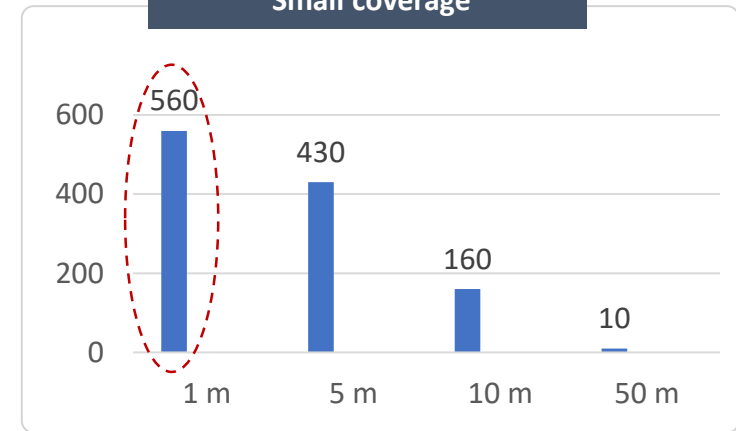


Wi-Fi 5 TOP issues: low bandwidth, Small coverage

Low bandwidth



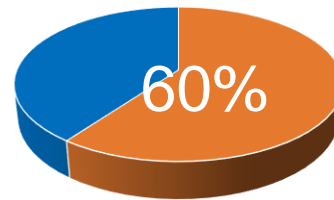
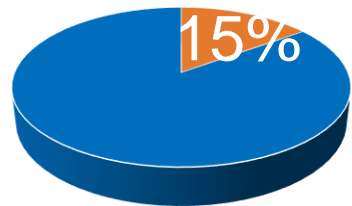
Small coverage



Only the 15% home networks have the 200M Wi-Fi bearing capability

1. 15% homes have access to 200M Wi-Fi

2. 60% home network issues related to Wi-Fi

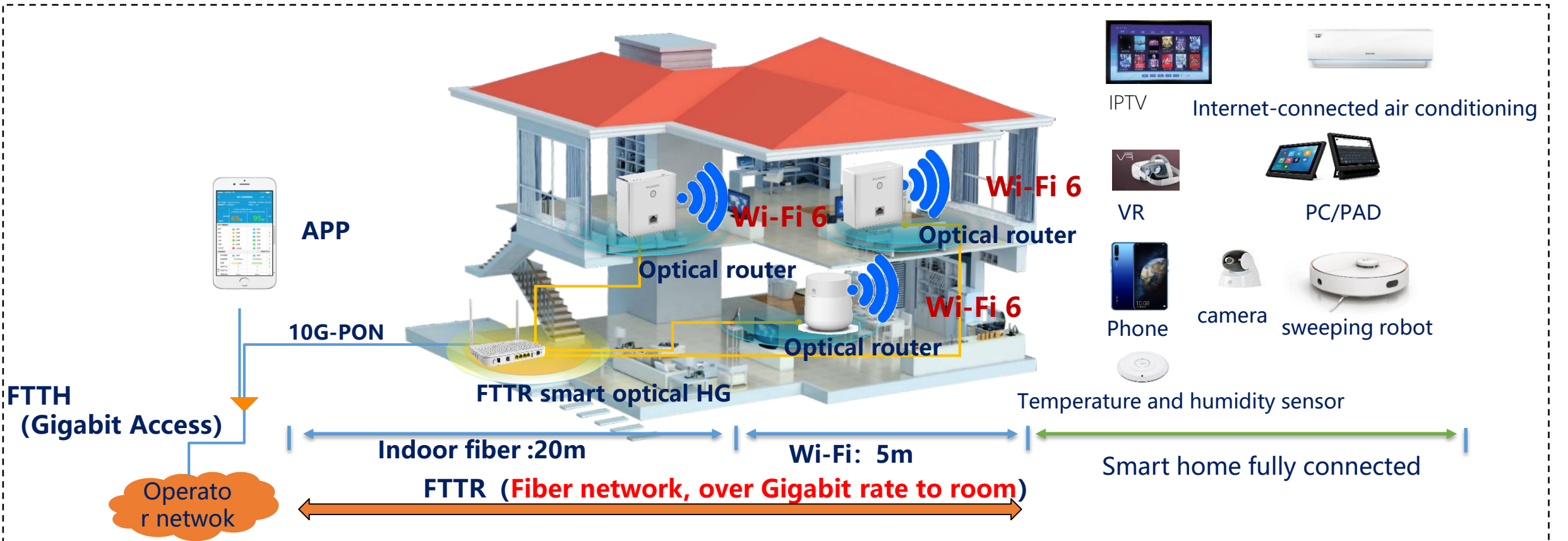


■ Wi-Fi >= 200M ■ Wi-Fi < 200M

■ Wi-Fi issues ■ Others

Data source: data of a carrier

FTTR: Ultimate Home Basics Network Solution



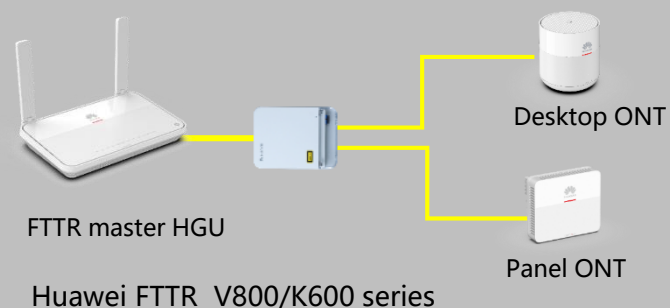
	Protocol	Master and slave gateway coupling	Optical router performance	advantage scenarios	Marketing
P2MP	Similar PON	High	DL/2.5G;UL/1G	Big house (double door type) 、 villa	operator
P2P	Ethernet	Low (MESH interworking available)	DL/1G;UL/1G	DIY	Internet

FTTR Deployment status

- 12 subcompanies launched FTTR products, such as Beijing,Shandong,Liaoning,Henan,Shanghai.....
- Some subcompanies have promised Wi-Fi speed for new three-Gigabit integrated subscribers.

Beijing subcompany FTTR products Fee

FTTR standard RMB 3,000 / year



target market: own broadband subscribers,
focusing on the high-end market, such as decoration
markets、 big houses、 small and medium-sized
enterprises

China Unicom overall progress of FTTR

2019

- Start FTTR technology tracking;
- Propose a technical paper on 'Analysis for FTTR technology research and application' in CCSA.

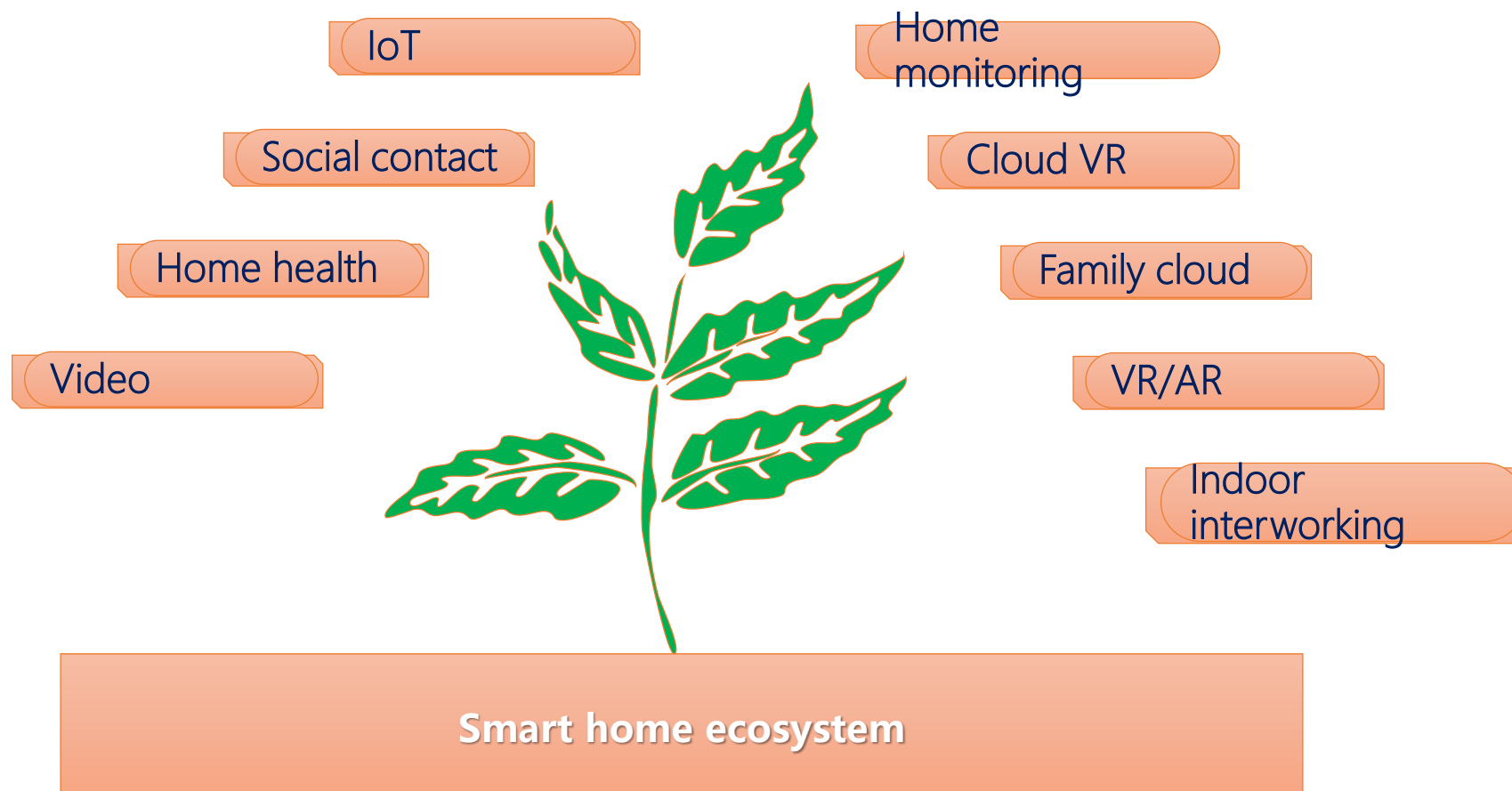
2020

- Cooperate with Huawei to propose the FTTR project-G.fin.
- China Unicom promote the converged services—3 gigabit services, include gigabit 5G, gigabit broadband, gigabit Wi-Fi. The FTTR is considered the solution to ensure gigabit broadband and Wi-Fi.

2021

- Completed the test of FTTR equipment in laboratory;
- Propose to promote G.fin project through series standard with 4 parts at ITU-T SG 15 Q18;
- Propose to start FTTR standard work in CCSA;
- Some provincial branch began to officially launch FTTR services as a pilot project.

Building open, win-win cooperation smart home ecosystem





北京 2022 年冬奥会官方合作伙伴
Official Partner of the Olympic Winter Games Beijing 2022

Thank You