

FTTR Technology Exploration and practice in Business Scenarios

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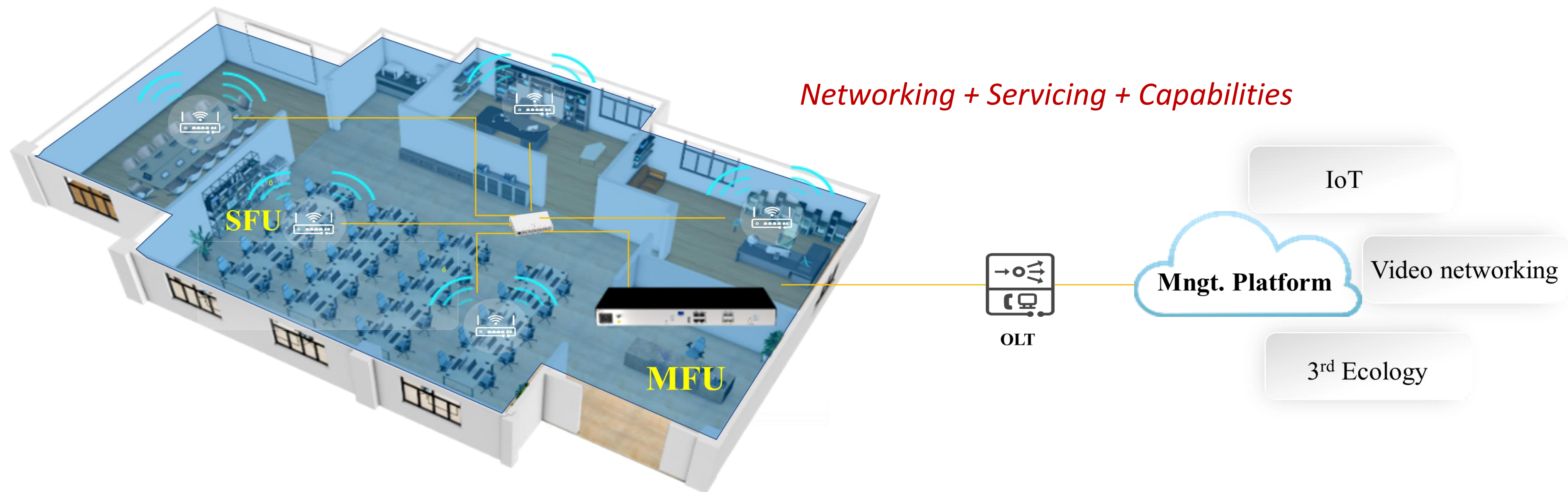
FTTR technology - bridge the “Golden 10 metres” for business



FTTR extends the **fibre connections into every ROOM**, ensuring an indoor high-quality wired and wireless networking.

Providing customers with “**all-in-one**” high-quality fibre-based services

- Full-scene, standardised integrated solution
- Expanding “one wire” to “one network”
- Integrating AI, security and other capabilities



Commercial Buildings



business office



- ✓ Concurrent
- ✓ Security
- ✓ Management

Livestream e-commerce



- ✓ Concurrent
- ✓ Stability
- ✓ Management

Education organisation



- ✓ Concurrent
- ✓ Isolation
- ✓ HQ video/E-meeting

Movie/Animation/Game workshop



- ✓ Large upload
- ✓ Cloud required

... ..

Consumption



Restaurant



- ✓ Concurrent
- ✓ Camera monitoring
- ✓ Smart Order/Payment
- ✓ Delivery robot

Leisure (Karaoke, Bar, Teahouse ..)



- ✓ Concurrent
- ✓ Camera monitoring
- ✓ Network security

Chain Stores



- ✓ Advertising
- ✓ Camera monitoring
- ✓ Flow statistics

... ..

Cluster Market



Public Affairs



- ✓ Camera monitoring
- ✓ Wired/Wireless Isolation
- ✓ Enhanced network security

Campus Dormitory



- ✓ Extreme Concurrent
- ✓ Ultra-wide coverage
- ✓ Management

Hotel



- ✓ Concurrent
- ✓ Seamless roaming
- ✓ Camera monitoring
- ✓ Flow statistics

... ..

Requirements

- **High concurrent**, seamless **roaming** experience, stability, and smooth Internet access during peak hours
- Network **security** (automatically block malicious websites, prevent external attack like trojans and worms)
- Beautiful cabling deployment, wired & wireless integration

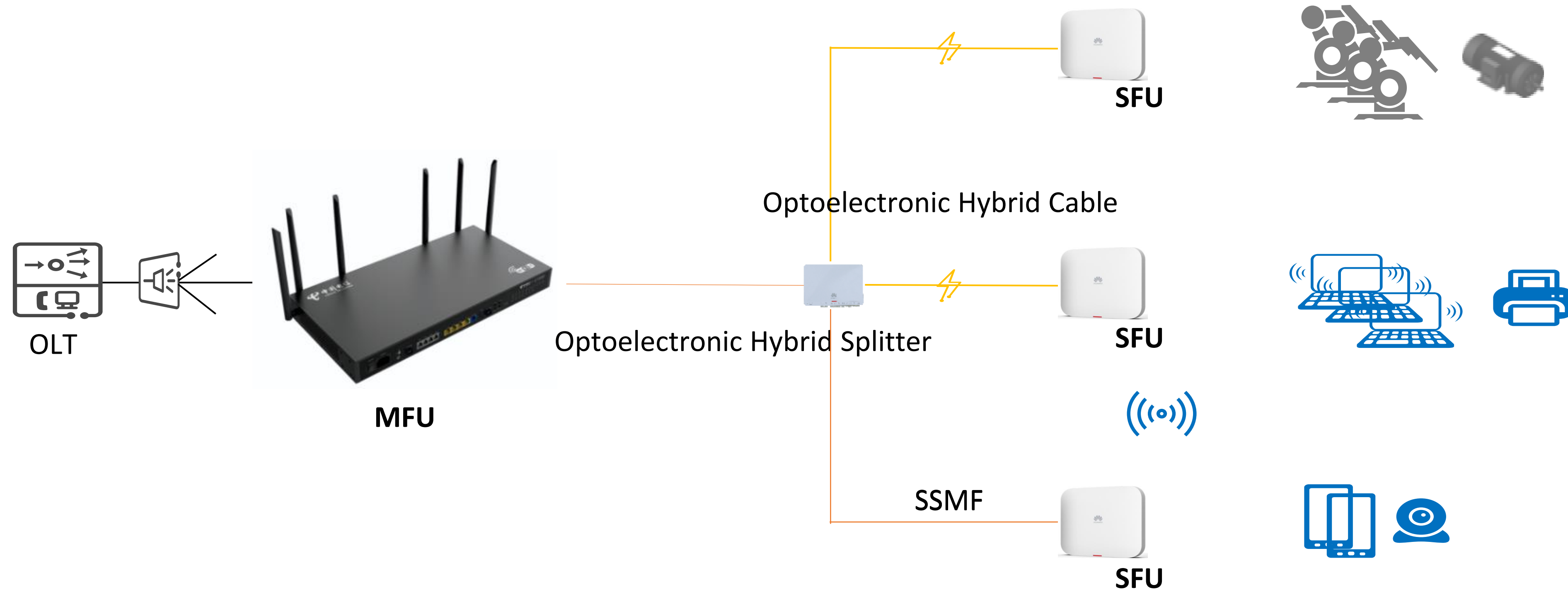
- Large signal **coverage**, stability, and smooth Internet access during peak hours, **robust cashier network**, Security camera required
- Network security (automatically block malicious websites and actions)
- Beautiful cabling deployment, wired & wireless integration

- **High concurrent**, ultra wide coverage with video surveillance, stability
- Staff/Guest network isolation
- Seamless **roaming** between guest and public area
- Networking upgrade friendly, remote power supply
- Remote authentication access

Different business development models



Business model	Broadband Type
Package model (business buildings/stores/shops)	Enterprise Broadband
	Business Express / Business Enterprise Line
Pre-coverage model (cluster market)	Office building for public affairs
	Dormitory building
	Hospital public area
	Hotel public area
	Industrial manufacturing



Experience

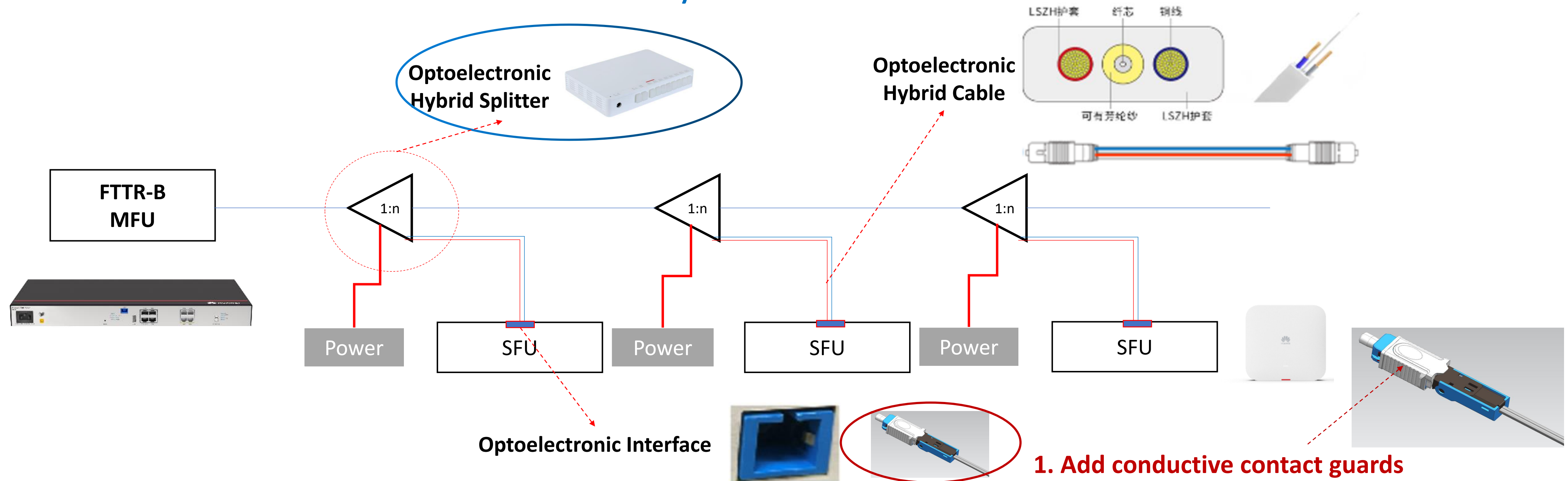
- Large bandwidth: Wi-Fi 6, up to Gigabit rate, **co-optimisation of Wi-Fi and optical links**
- Full Coverage: Flexible switching, seamless roaming, no dead zone coverage

Deployment

- Minimalist architecture: P2MP, save wiring and easy to upgrade
- Simple device: **Integration** of Access/routing/switching functions
- Simple power supply: **Hybrid O-E**, SFU free of local power supply

Higher safety and reliability for remote power supply scenarios - Development of SC-compatible optoelectronic hybrid interfaces with **protection and security detection mechanisms**

2. Add security detection mechanism



1. Add conductive contact guards

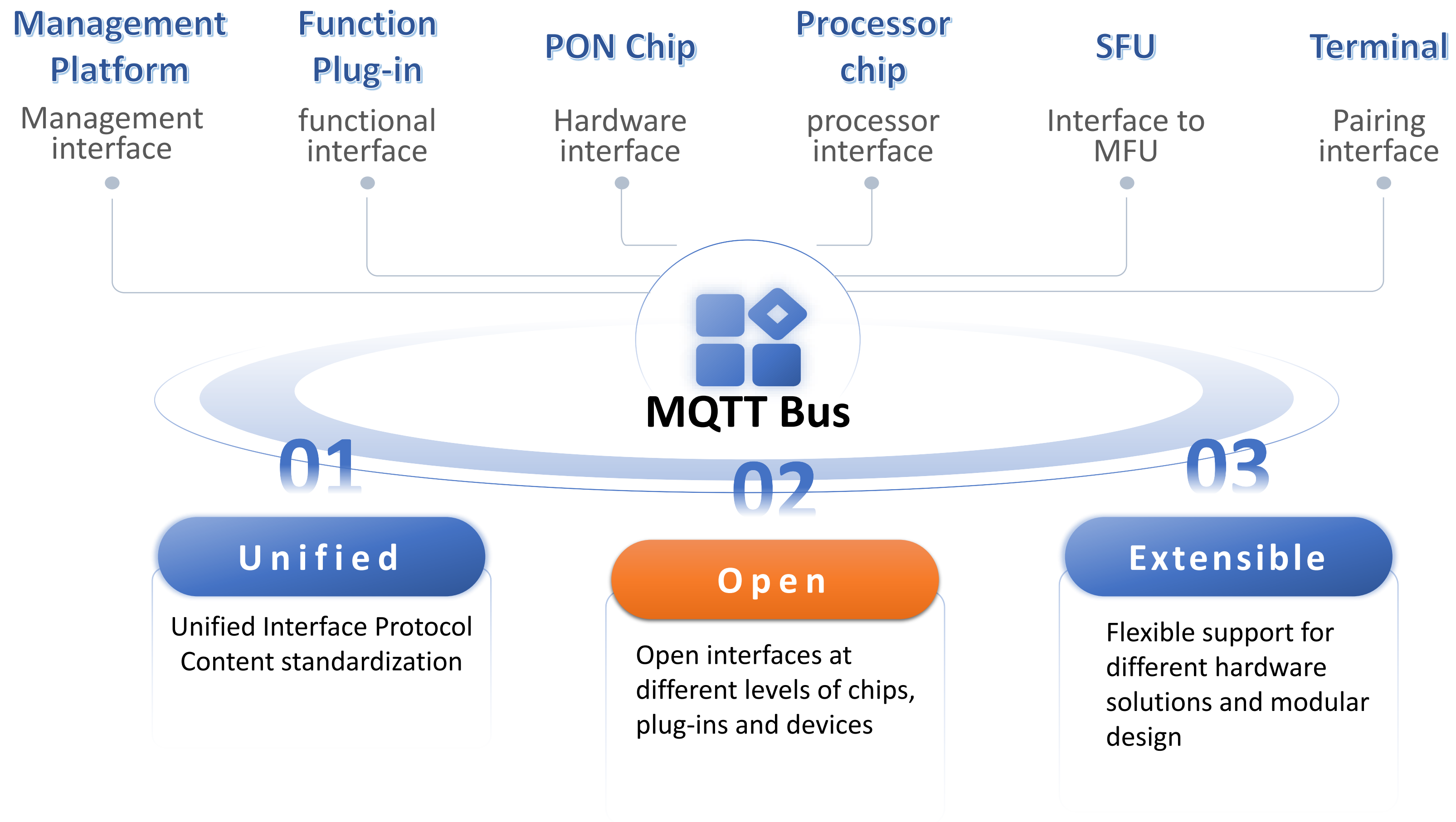
Increased guarding of conductive contacts on optoelectronic hybrid connectors; **improves operator safety and connector life**

Increase the security detection mechanism to **improve the security of remote power supply** through short-circuit protection, no-load detection and other mechanisms

MFU/SFU capability expansion based on unified protocol



Based on MQTT protocol, the **unification of interface protocols** for communication among devices, chip modules and function plug-ins can be realised - to support flexible expansion of hardware and software capabilities.



UC1 Office Building: full-optical with full Wi-Fi coverage



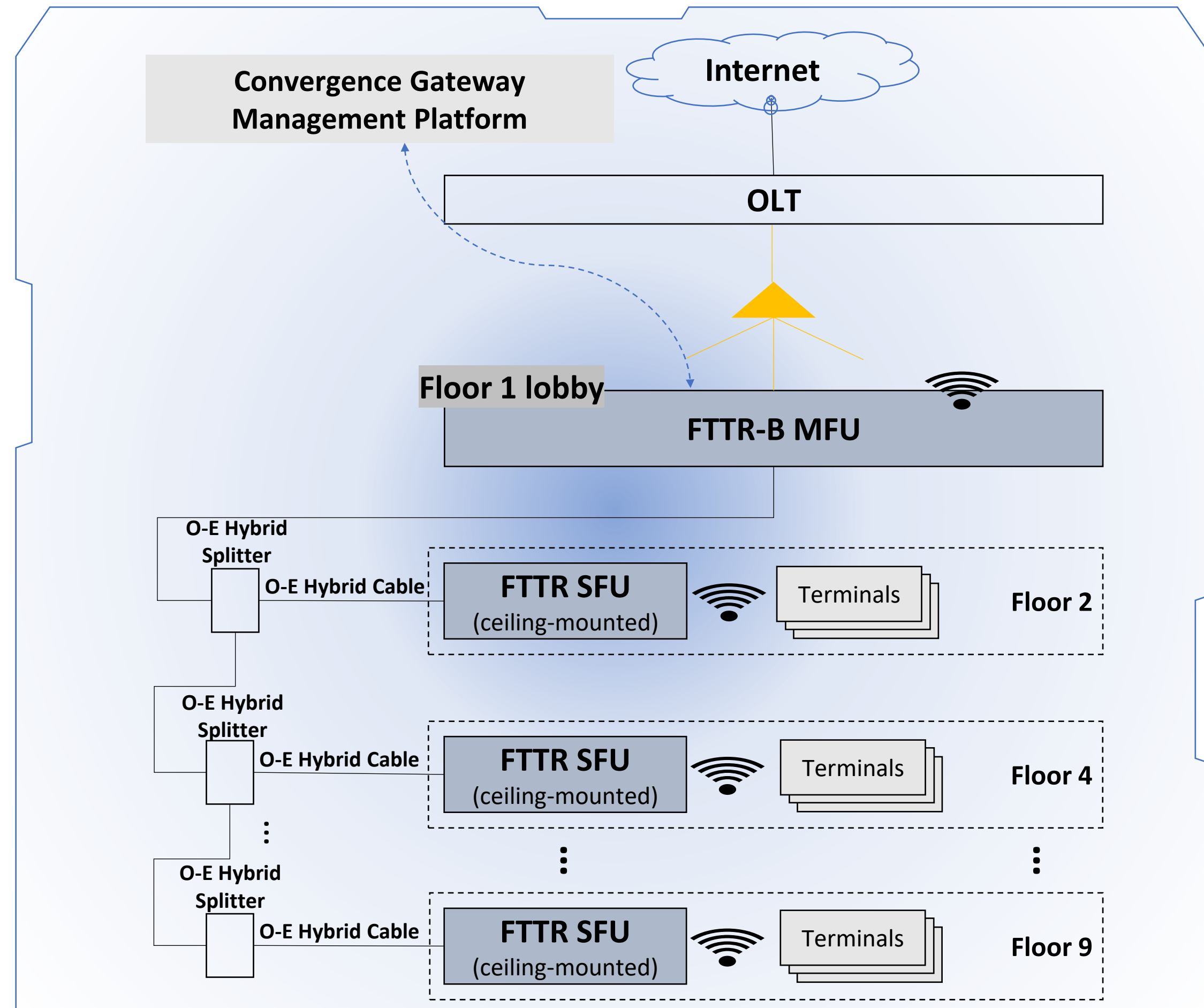
Adopting the Wi-Fi capability provided by FTTR-B to realize **multi-service unified bearer** and bring enterprise users a safer and more stable network experience

scale

4500m² area
9 floors, a service hall on the 1st floor
about 150 users

Value

- Flexible access to all kinds of office equipment
- Quality multi-services co-op
- Wireless roaming for laptop/phone/pad
- Built-in arithmetic module in the main device monitors and identifies the target area safety



UC2 School Campus: full-optical, high-Speed, seamless roaming



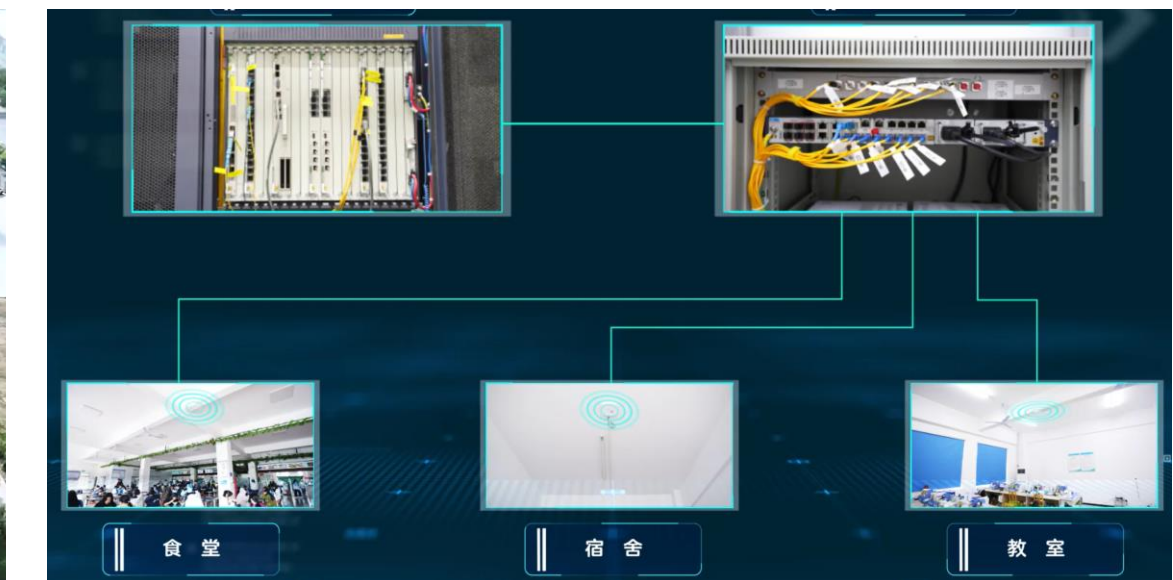
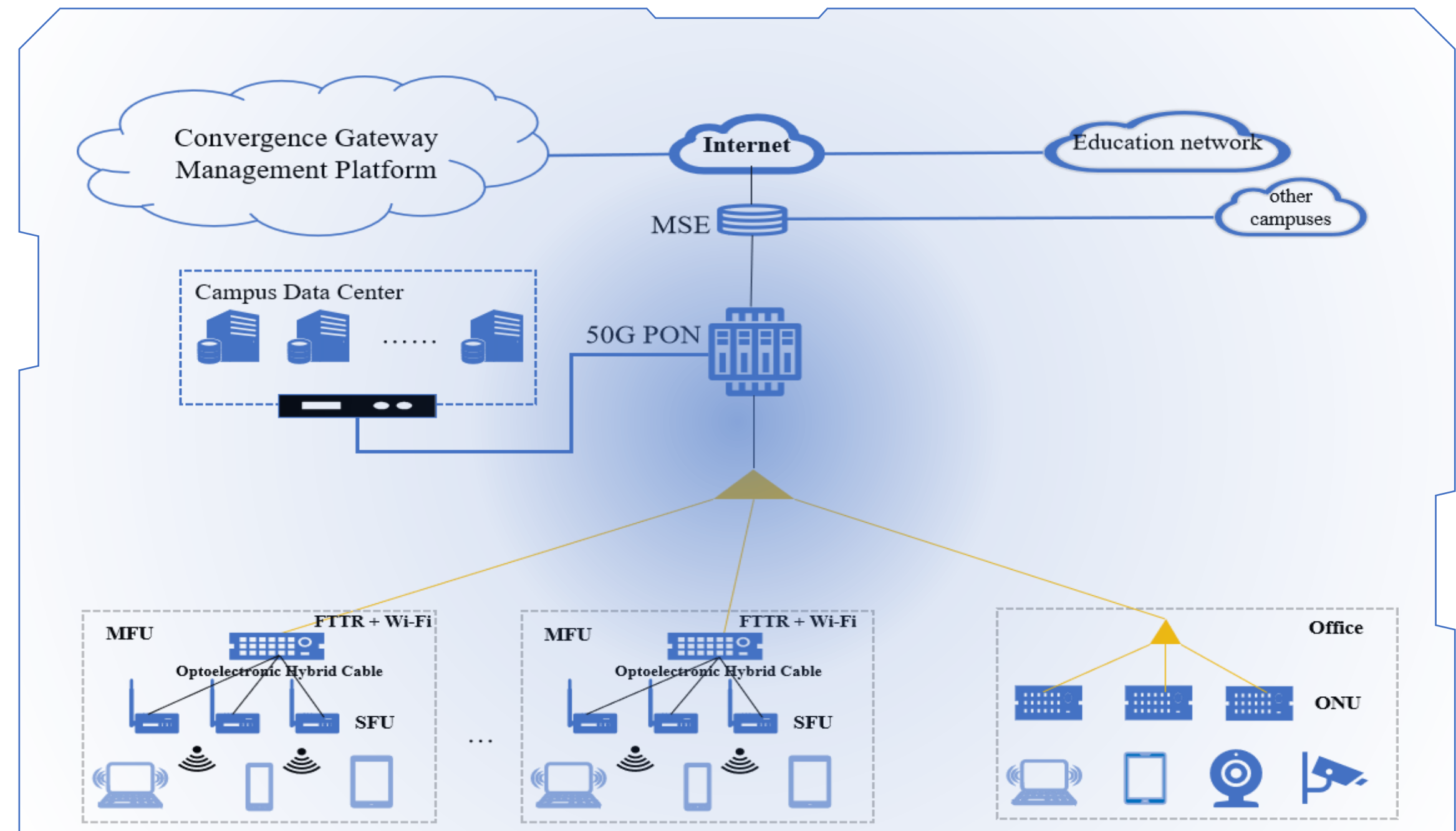
Adopting "Tri-mode 50G PON + FTTR-B" technology to create a **high-quality digital campus network** with "**Extreme Speed, Extreme Experience, Extreme Coverage, Extreme OAM**"

Scale

4 buildings
designed from the gateway 175 points

Value

- Full-optical access campus with 10G Wireless coverage, seamless roaming, multi-service converged
- Application access rate increased by 5 times
- High concurrency available



UC3 Smart Hotel: full-optical, AI, security



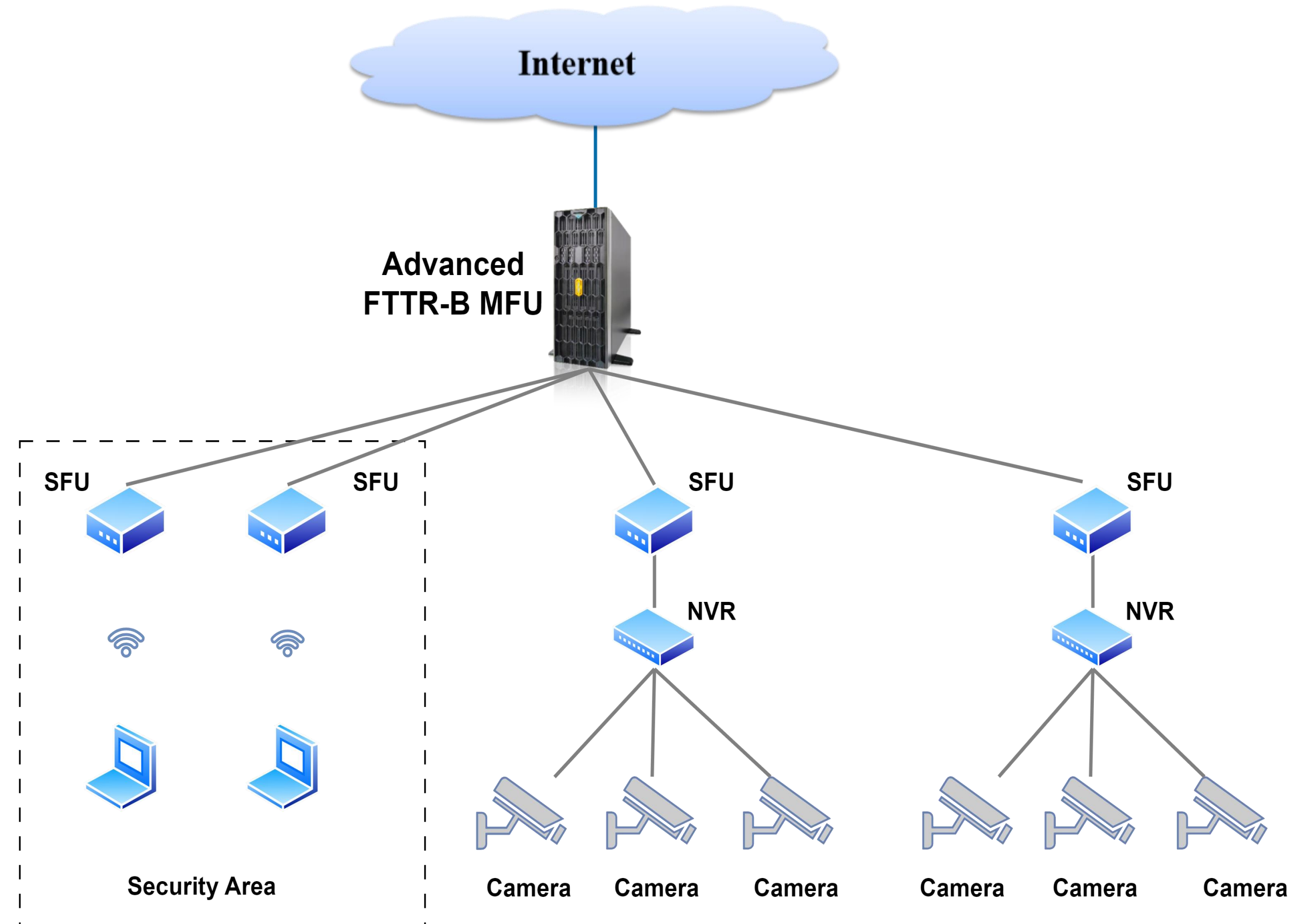
Adopting FTTR-B to integrate AI arithmetic, providing customers with integrated services such as high-speed connectivity + network security protection + AI video analytics

Scale

17 floors, 288 rooms
8 sets of NVR equipment covering the lobby, corridor, front desk, elevator, etc.

Value

- fast and stable network connection for customers and service robots
- Smart self-help check-in/out
- AI analysis application for area intrusion, fire escape occupancy, etc.
- network security protection capabilities, regular scanning for network risks and device vulnerabilities



- FTTR-B solution can **provide a high-speed, stable, and reliable network connection** to meet the needs of various enterprises for network upgrading, which has a broad application prospect.
- **Co-optimisation of Wi-Fi and optical links** is an important technical feature that needs to be emphasized to ensure enterprise-wide Wi-Fi network coverage stability and seamless roaming between multiple SFU, which may be attributed to multiple FTTR networks, with the help of O-E hybrid cables, users can enjoy an optimal network experience from any location.
- **The continuous progress of optical communication technology** also provides technical support for the development of FTTR-B solutions, enabling enterprises to enjoy faster and more stable network services.



Thank you!

