

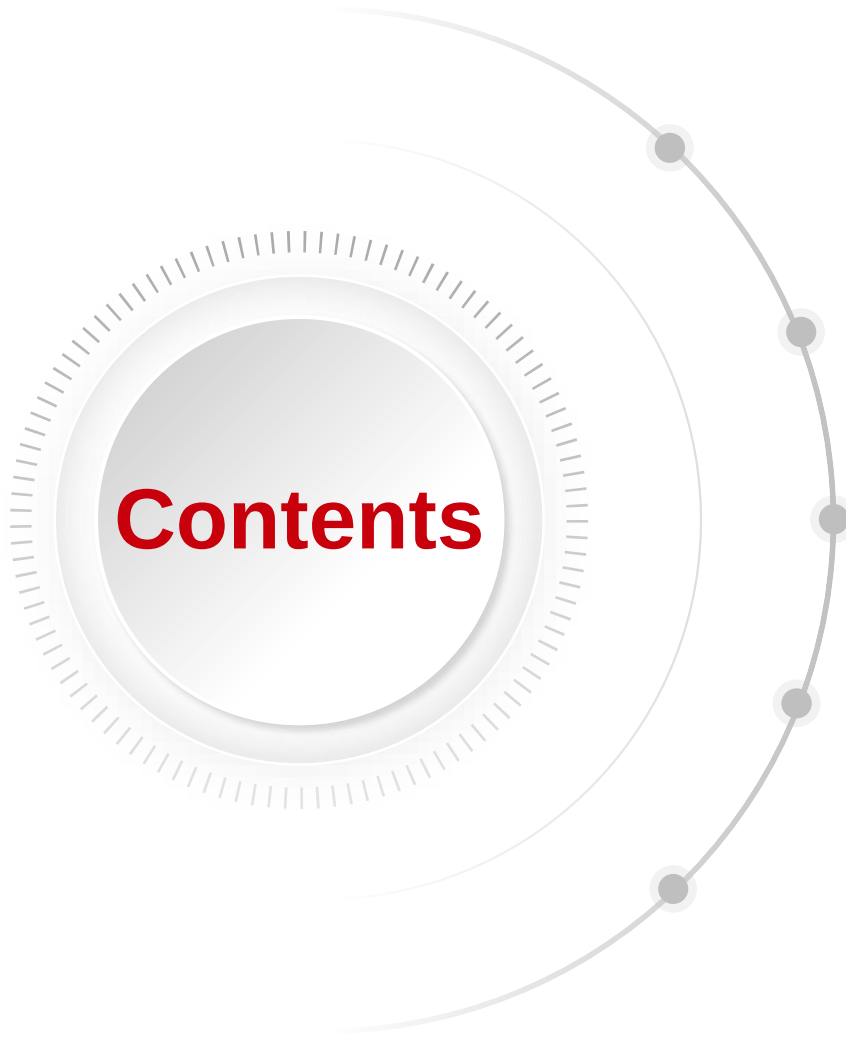


Unleashing Network Value Through Architecture Innovation

2025.11

**Accelerate Industrial
INTELLIGENCE**





Contents

1

ISP Industry Trend

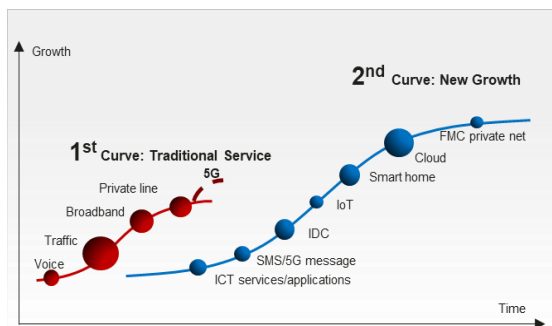
2

Next-Generation Intelligent Network

Driving sustainable growth through transformation

1 2H + 2B

90% ISPs provide 2H+2B

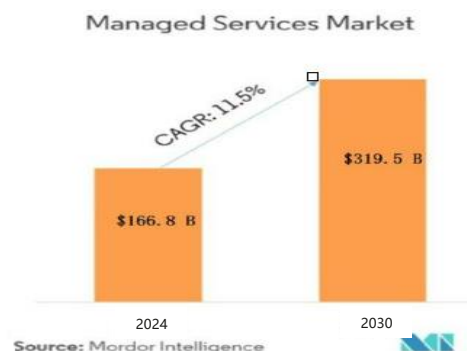


- Multiple services over One fiber (IP + Optical)
- Value-added services (FTTR/FTTO)
- Private line + X (Services)
- Cloud service

2 MSP

80% (Europe) 50% (Asia Pacific)

ISPs extend business to MSP



- Networks and fibers resources ready
- private line ready
- DC ready

3 Wholesale

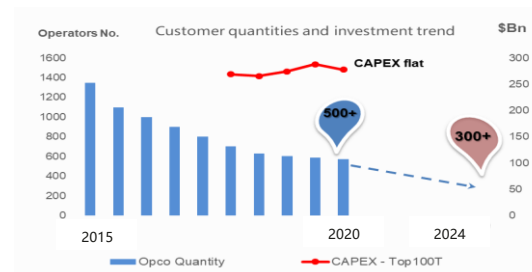
Germany: Glasfaser nordwest

Spain: Lyntia

Italy: open fiber

- The government takes lead in wholesale model, reducing deployment cost by 30%
- By 2026, 53% of FTTH ISP in Europe will buy access from wholesale operator

4 Company Merge



- Reduce OPEX and increase subscribers, reduce business risk
- Quick resource integration

Source: Huawei MI

AI Drives Broadband Upgrade to More Connections and Faster Speed

AI services popularize

AI terminal Large-scale sales in 2025



AI phone
proportion

16%



AI PC proportion

19%

+



ChatGPT
MAU

100+M

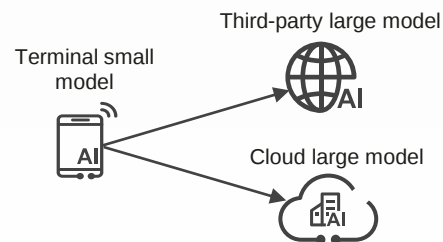
+



AI home guard
MAU

10M

AI deployment Accelerated device-cloud synergy



AI drives optical broadband to 10Gbps

Bandwidth
1Gbps → **10Gbps**

Experience
Best effort → **Deterministic**

Awareness
Service unaware →
App-level precise forwarding

Connections
X 10 → X 100

Network architecture evolves

Connection centric People-to-people



Voice, Webpage
Latency tolerant

Fast network coverage and user development



DC centric People-to-content



Video
0 freezing

100Mbps → 1Gbps



AI centric People-to-computing-power



AIGC
Deterministic Exp.

1Gbps → 10Gbps

B2B Service Challenges Drive ISPs' Network Transformation

93%

Enterprise adopting multi-cloud

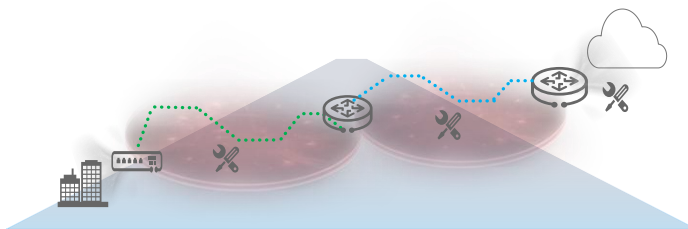
75%

Production Systems Cloudification

① Slow TTM and Complex O&M

Manual Configuration

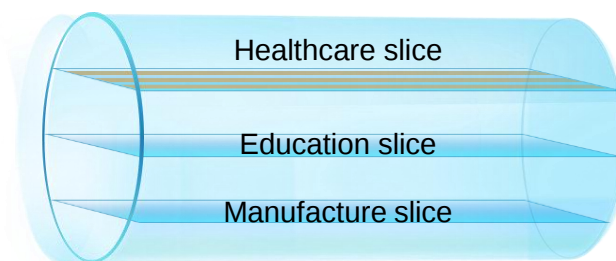
Multi-Division
Cooperation



Slow Service
Provisioning

Low O&M
Efficiency

② Differentiated SLA Guarantee



Slicing
Isolation

Committed
SLA

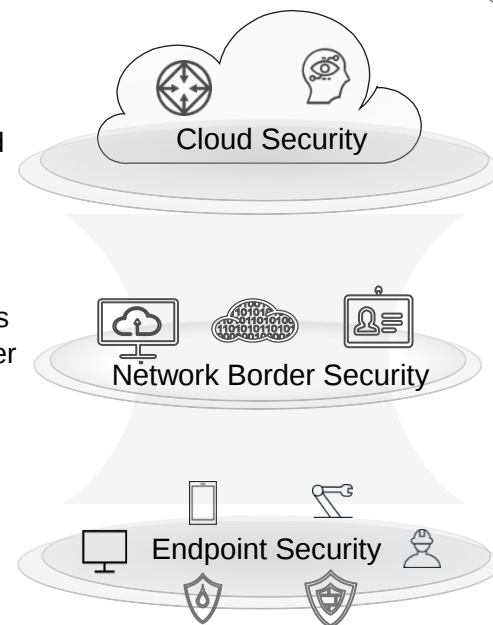
Visualized &
Automatic

③ Security Protection

1100M+/year
Attacks to Cloud
Sever

75% Enterprises
experienced cyber
attacks

480M
Ransomware
attacks in 2022



Three Waves of ISP Monetization, Coverage, Bandwidth and Experience

Boosting user growth

- **Fast network** construction at minimum cost
- Bandwidth: 200 M → 1 G
- **Promotional package** flexible payment, expanded coverage

Reducing churn rate

- MTTR < 4 hours
- Churn rate < 1%

Accelerating ToB transformation

- Network utilization > 50%
- Take-up rate > 50%
- ROI < 3 years



Coverage monetization



- Selecting a valuable area
- Extending to Low-density areas
- **Low-cost** and fast network construction



Bandwidth monetization



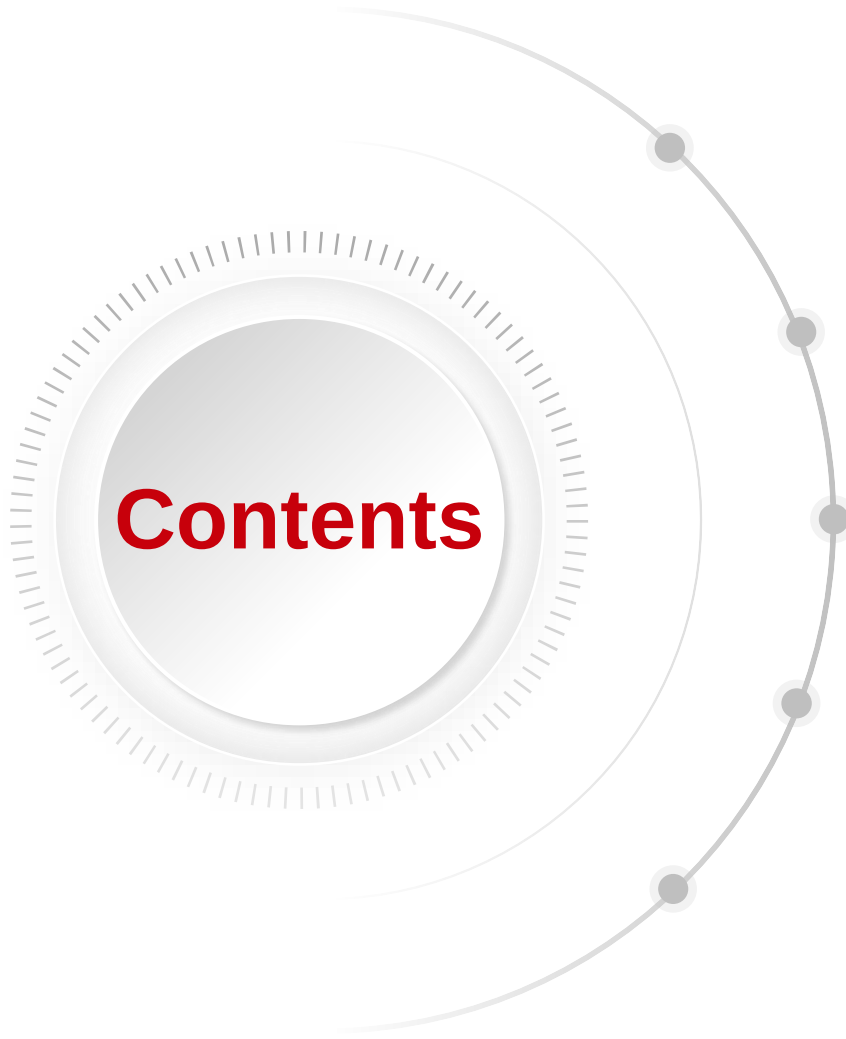
- **Speed up** and seize the market
- **Automated** Operation



Experience monetization



- **Smart home**
- SLA **differentiation**



Contents

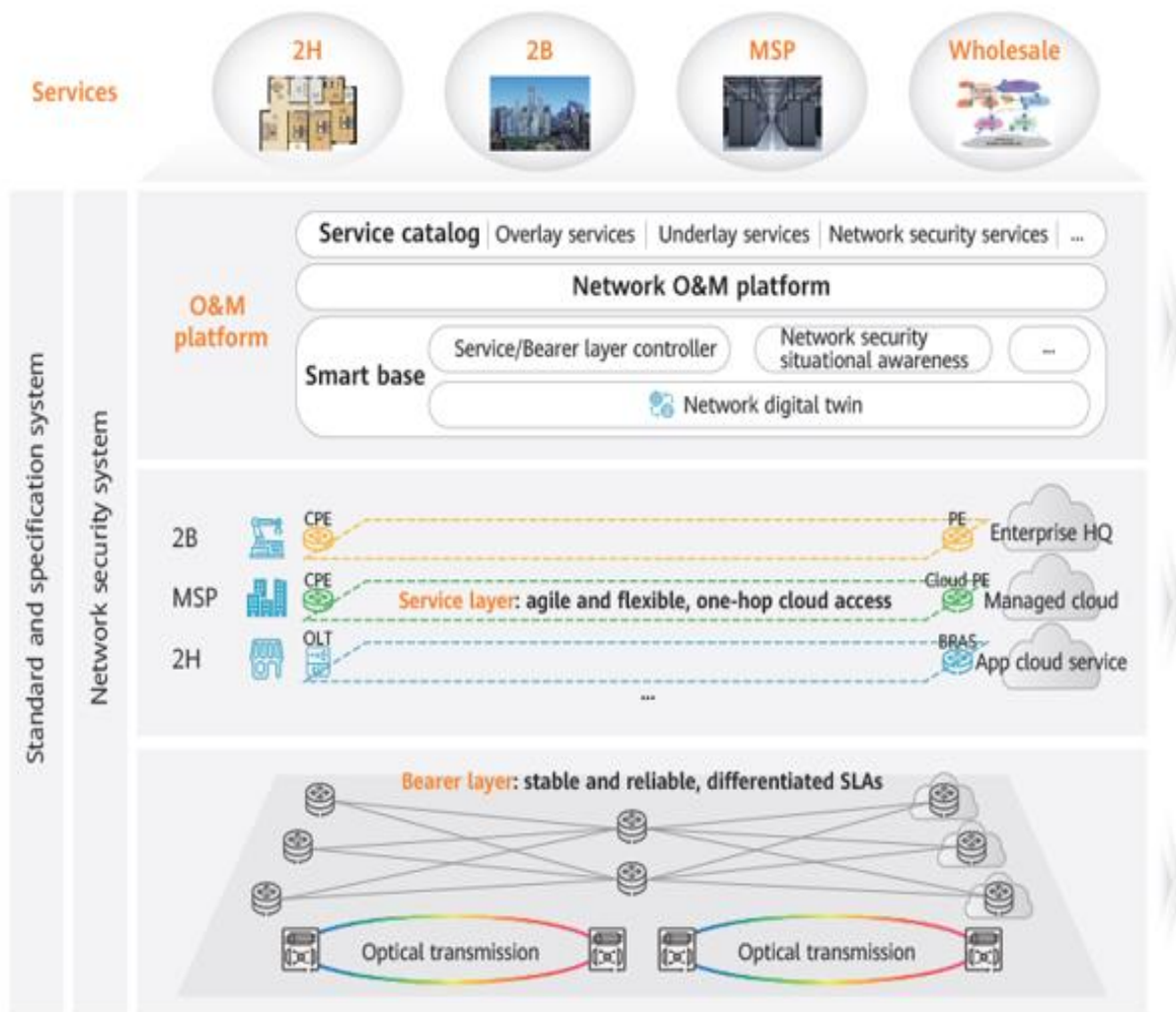
1

ISP Industry Trend

2

Next-Generation Intelligent Network

Next-Generation Intelligent Network Empower ISP Business Success



Business/Solution Key Factor

Automation and intelligence with smart platform

- Managed WAN/LAN/Access
- Intelligent management, control, analysis, prediction and optimization

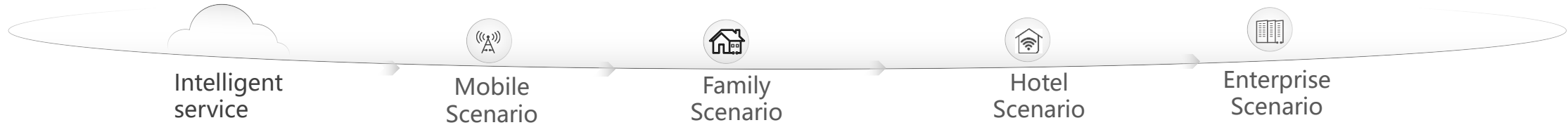
Flexible service with best experience

- Fast and stable HBB
- Agile and flexible leased line, one hop to cloud and SLA Guaranteed

Always online with resiliency network

- Ultra broadband and simplified architecture
- Network resiliency against multiple fiber cuts

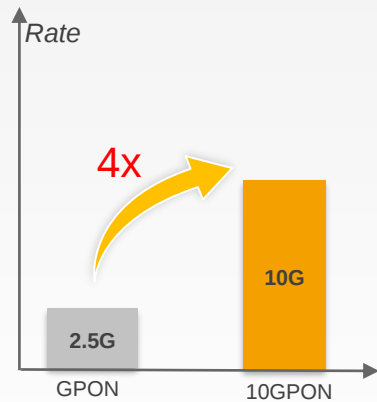
Improve Home Experience by Fast and Stable Connectivity



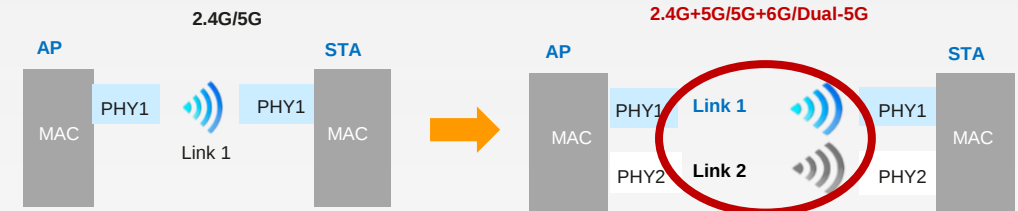
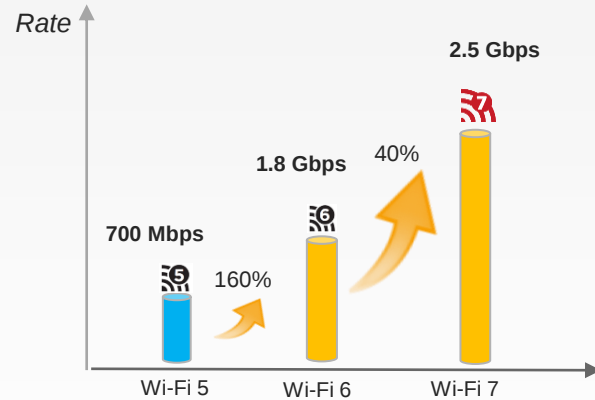
Fast Broadband

Stable Connectivity

GPON → 10GPON

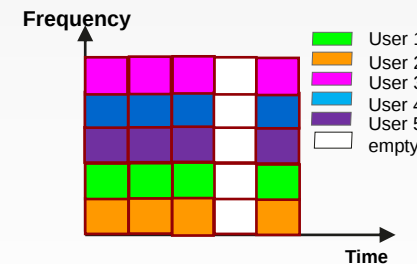


Wi-Fi 5 → Wi-Fi 6/7



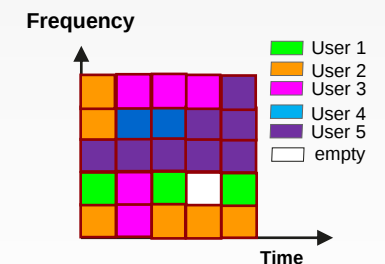
Wi-Fi 5/6 single connection

Wi-Fi 7 dual connectivity



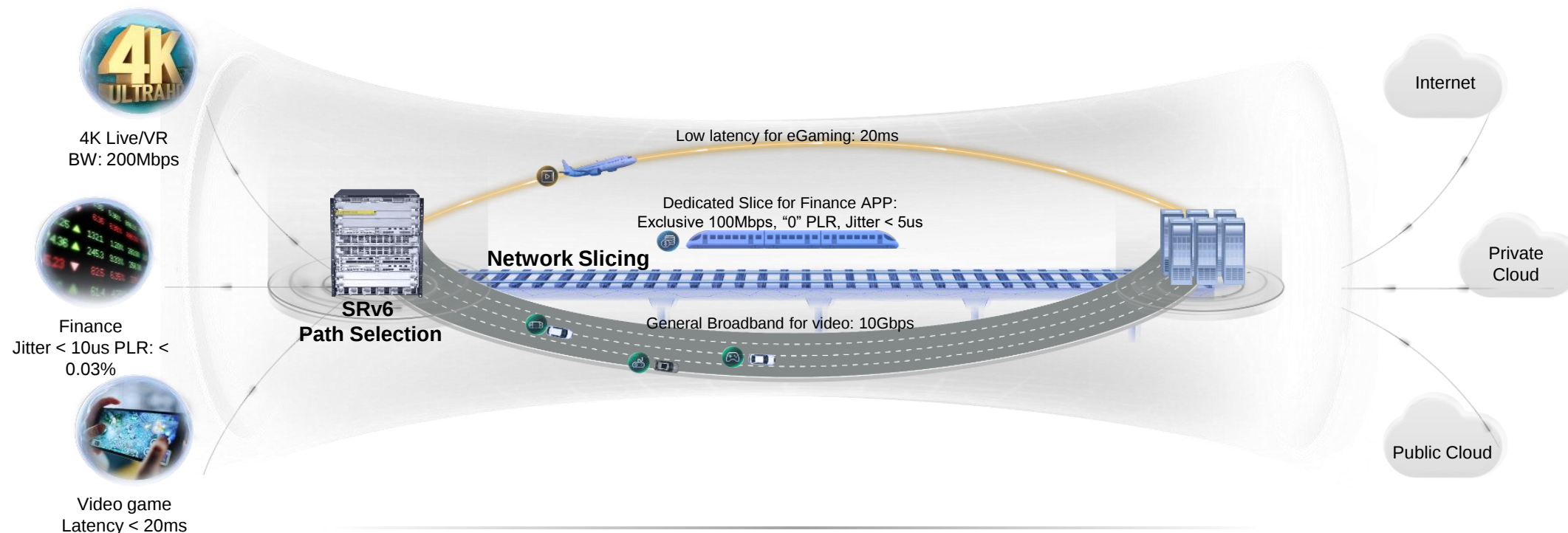
Wi-Fi 6 S-RU per user

anti-interference

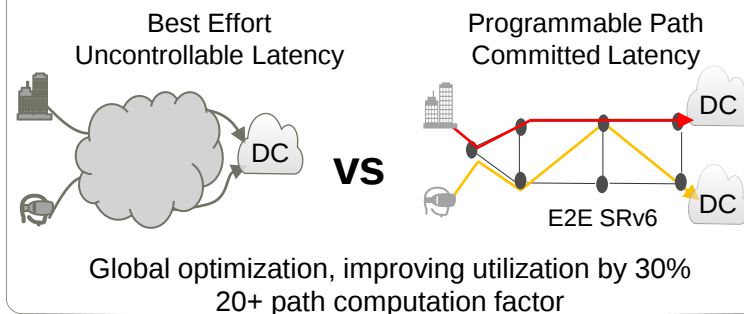


Wi-Fi 7 Multi-RU per user
Maximize resource utilization

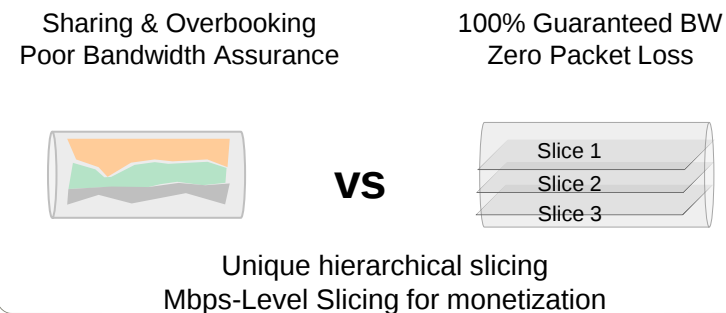
Maximize Network Value through Differentiated SLA Guarantee



Committed Latency with SRv6



Guaranteed Bandwidth with Network Slicing

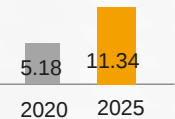


E2E Large Capacity and Simplified Network Architecture Meet Needs for Next Decade

Business trends

Rapid traffic growth

Monthly average data usage per user (GB)

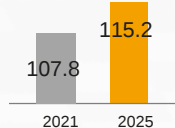


GAGR: **26%+**

Video Proportion: 80% in 2025

Rapid growth of private lines

Number of connections (mn)



CAGR: **1.57%**

Market space: US\$120B in 2027

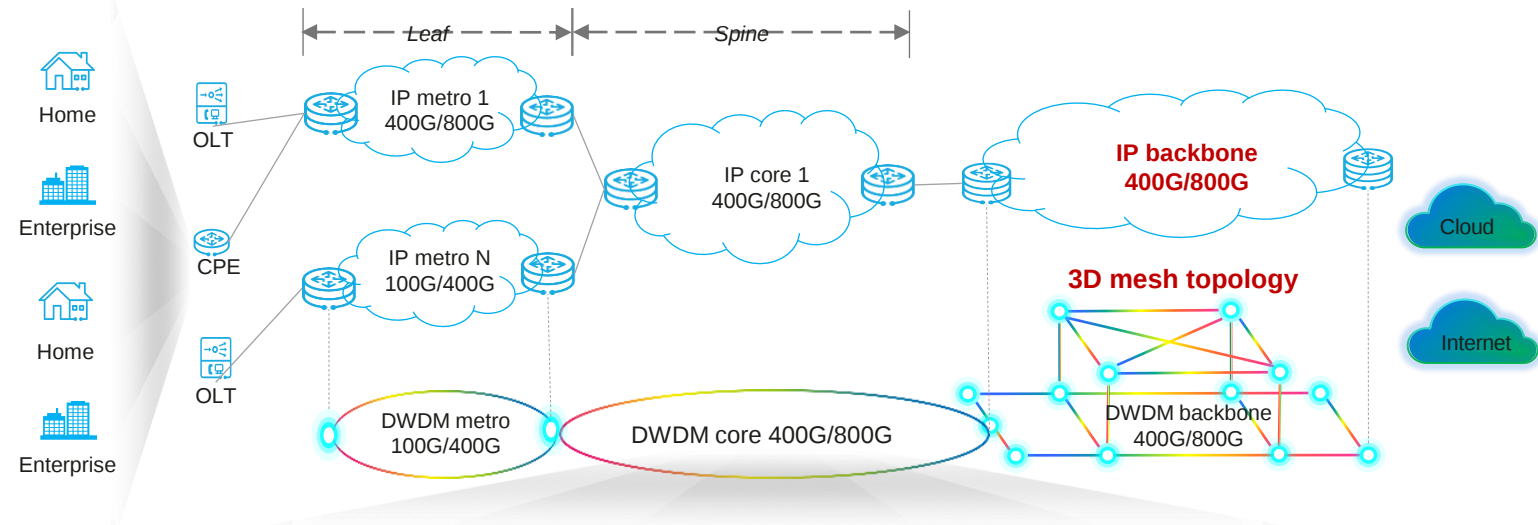
Enterprise cloud migration

85%

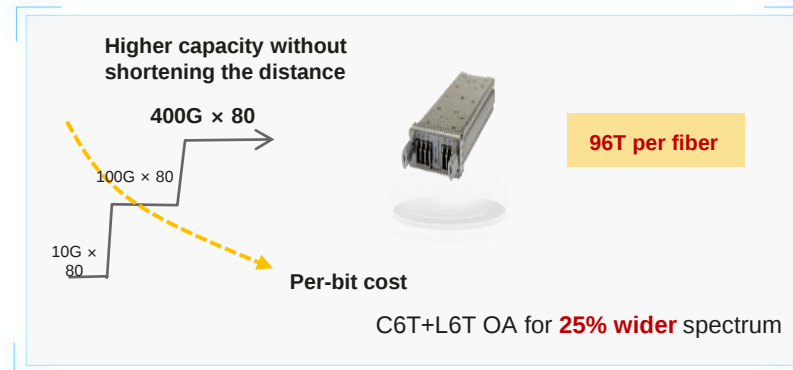
Source: IDC Research Reports

By 2025, 85% of enterprise applications will be migrated to the cloud.

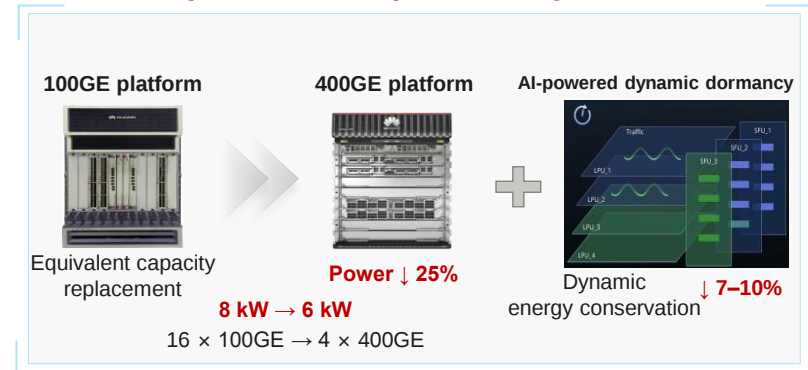
Converged and layered network construction, national backbone + spine-leaf architecture, ultra-broadband and simplified



Optimal per-bit cost of 400G & 800G WDM



IP 400GE platform + AI-powered dynamic dormancy



Resilient Network: No Service Interruption even Fiber Cuts



Challenge: Service interrupt despite protection existed

Source: Carrier G



Challenge: Around 1,000 times fiber cuts/year
Around 10,000 users affected per cut

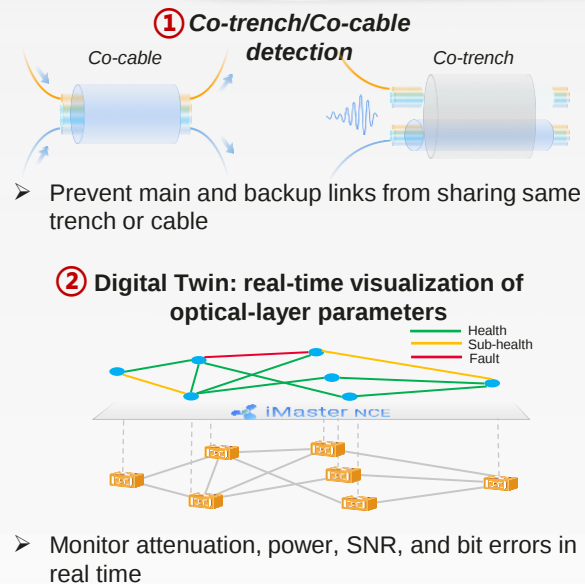
Source: Carrier P



Challenge: Fault localization, repair, verification,
3 teams, duration > 12 hours

Source: Carrier C

Risk Identification and Optimization



Potential risks ↓40%

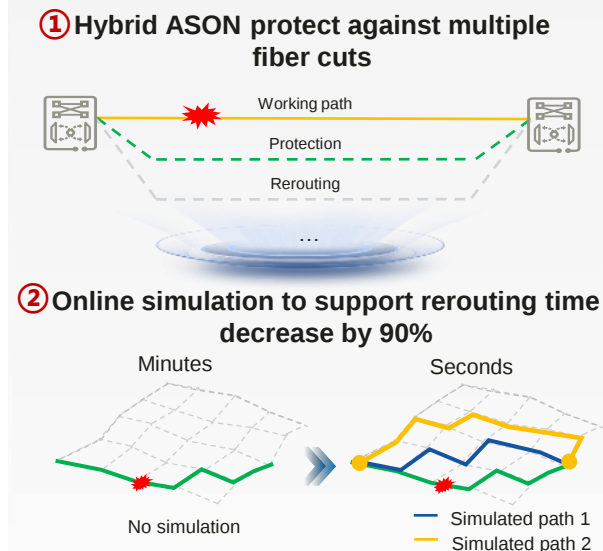
Pre-event

Architectural optimization: tickets ↓ 4,500

Huawei Confidential

Source: Customer A

Automatic Service Recovery



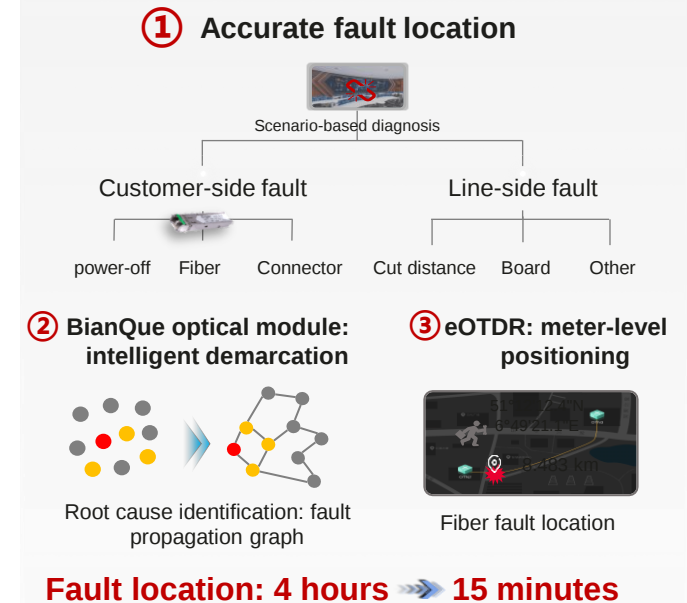
99.9999% reliability

During-event

Protection against 5+ fiber cuts/day: costs ↓33%

Source: Customer P

Automatic Fault Localization



Fault location: 4 hours → 15 minutes

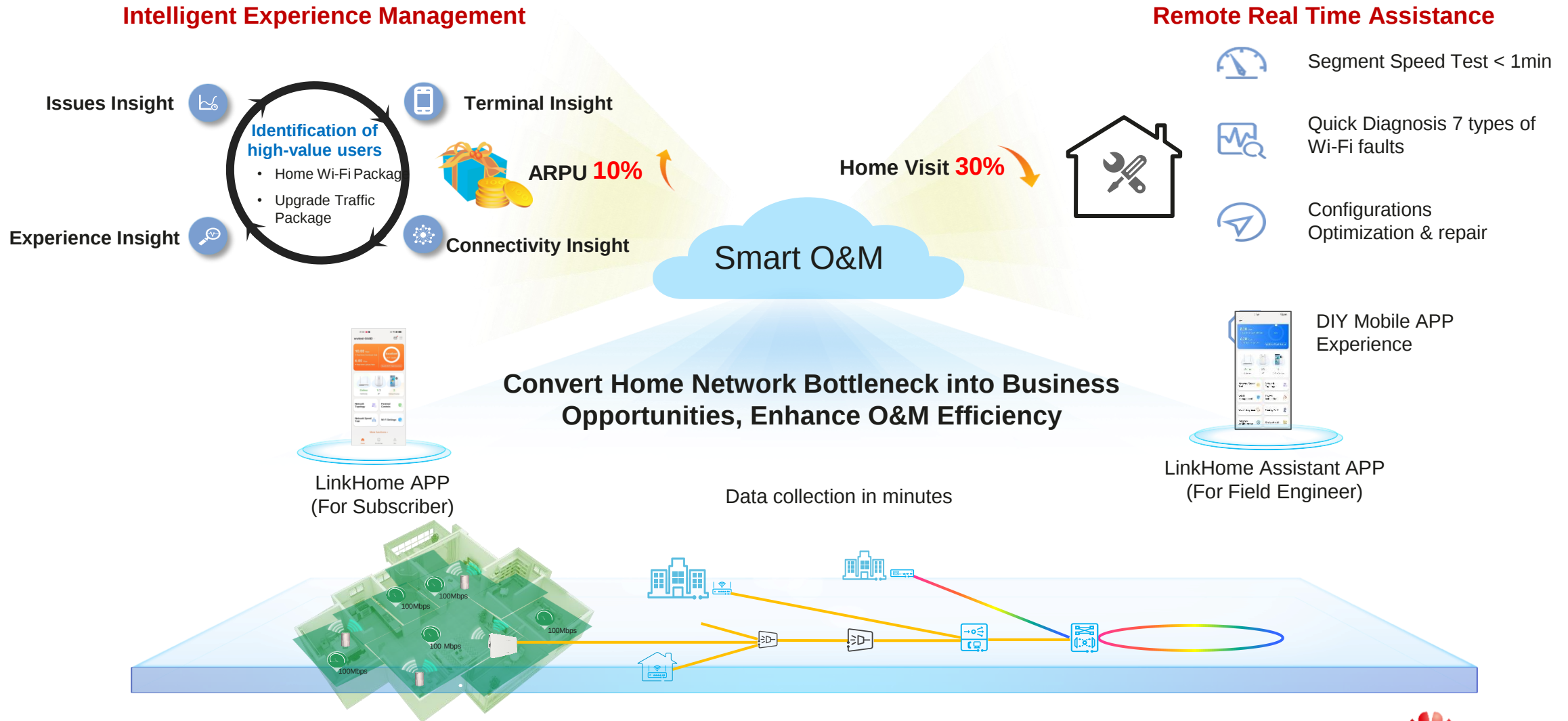
Post-event

Service is timely and complaints ↓40%

Source: Customer O



Enables Home Broadband Smart O&M and Experience Monetization



AI-based Network Operation Ensures Efficient and Stable Network

Challenges

Homogeneous competition of ToB services



Black-box network with no SLA visualization
Homogeneous competition

Difficult and time-consuming troubleshooting



Time-consuming troubleshooting
Difficult to detect silent faults

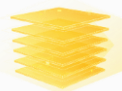
Digital map: SLA visualization and differentiated assurance



Network Digital Map provides views of six layers:

Multi-dimensional network visualization

- Unified network management, online precise network planning
- 6-layer** network visualization, SLA perception within **seconds**



No visibility into the route layer, no AB path
Before

VS.

6-layer network visualization
Now

Automatic optimization upon faults

- Implements **performance measurement for real service flows** through IFIT to accurately locate faults
- Automatically optimizes service paths **within minutes**



Only E2E measurement
Before

VS.

Hop-by-hop in-band measurement with IFIT
Now

Benefits

Application-level differentiated assurance



Differentiated service assurance drives ToB service growth

More efficient O&M



Demarcates and locates faults **within minutes**



**Let' s work together to Unleash Network Value
Through Architecture Innovation**