



# Cloud-to-edge next-gen PON solution suite

Future-ready by design

COMMScope®



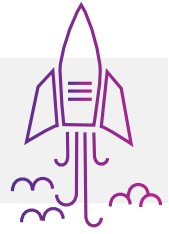
# Next-gen gigabit broadband for the now

By 2025, more than 200 zettabytes of data will be housed in cloud storage worldwide. A zettabyte is a trillion times bigger than a gigabyte. That's like comparing the weight of a tiny ant to the weight of the space shuttle...

## How big is a trillion?



At over 4.4 million pounds, the space shuttle is **one trillion times heavier** than a tiny ant.



The global gigabit revolution has begun. Hyper-fast broadband connectivity is bringing the technologies of tomorrow to homes and businesses today. Fiber networks with the fastest speeds and exponential capacity can move vast amounts of data instantly and seamlessly.

Gigabit internet corresponds with a stunning jump in data usage. People created approximately 1.7 megabits of data every second in 2020. By 2025, it's expected that more than 200 zettabytes will be housed in cloud storage worldwide. This data affects nearly all facets of daily living, from how we live, work and play, to how we connect with others around the world.







## Technology and market challenges

To achieve global success, service providers are looking to next-generation passive optical network (PON) technologies, including XGS-PON. It delivers 10 Gbps now and will accommodate future 25G and 50G, while meeting bandwidth and capacity demands and the new wave of data growth.

Adopting new technologies doesn't come without hurdles. Integrating legacy networks and new technology strains limited operating resources with high CapEx and has inherent complexities and delays due to decades of tightly coupled arrangements between vendor hardware and software.

## Why take the same approach to build a new network?

Recent advances in software-defined networking (SDN) and network disaggregation make possible a complete shift from traditional fully coupled and integrated platforms to disaggregated and open architectures. These new architectures will reduce capital and operational costs, accelerate time to market for new services and pave the way for new "pay-for-use" models.

# Introducing CommScope's cloud-to-edge next-gen PON solution

CommScope's new cloud-to-edge next-gen PON solution is built with the future in mind. We designed the technology from the ground up to address longstanding issues around vendor lock-in, legacy technologies, and flexible deployment scenarios. CommScope's cloud-to-edge hardware and software suite is the flexible, open, dynamic solution that will help you build your next-generation network.

Born from decades of PON actives and passives expertise and the DNA of a trusted global access layer innovator, CommScope's next-gen PON cloud-to-edge hardware and software suite is the flexible, open and dynamic solution that will keep you ahead.

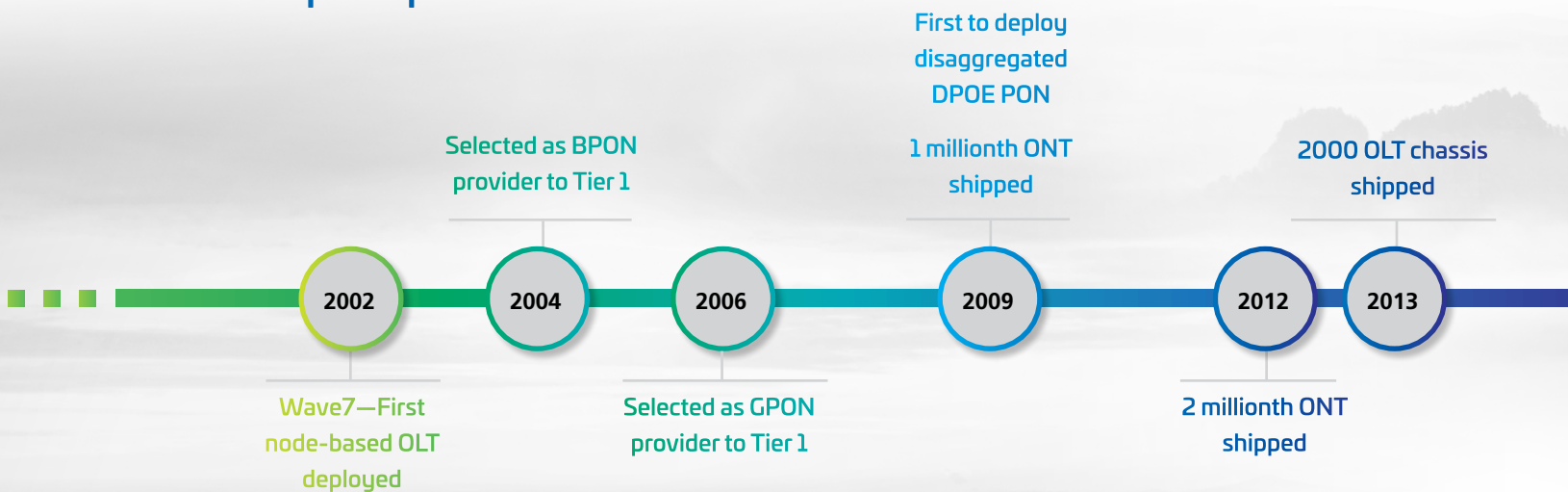
We have an unmatched broadband network portfolio and the breadth and depth of in-house expertise to help communication service providers understand and solve their unique challenges with an end-to-end approach.

## Faster time to revenue and optimized CapEx

Accelerate time to market with an architecture and software approach that can be deployed in private or public clouds. Configure and provision services quickly and efficiently, thanks to a standardized approach and API.

Our solution delivers a comprehensive, end-to-end standard interface to support an open, multi-vendor strategy. Add gear easily, while reducing infrastructure costs through competitive dynamics and by using commercially off-the-shelf (COTS) products for control/storage and switching in a cloud environment.

## CommScope expertise over time



# Lower OpEx, reduced risks and complexities

Increase efficiencies, reduce risks and better prioritize services with one system—the CommScope Assurance Platform. The platform provides a flexible network management solution across network access types, equipment vendors, and geographic regions.

Move from reactive to predictive operations with enterprise-class software that's powered by machine learning and artificial intelligence. CommScope has a deep big-data advantage derived from cable access system analysis in real-world broadband deployments.

Using a microservices approach, you can deploy fixes and new features efficiently—without adversely affecting the network or causing downtime.

# Push technology changes further faster

Accelerate hardware and software integration and be prepared to pivot in any direction with CommScope's flexible PON solution suite. These may include integrating BNG or adding wireless backhaul and other services.

Enjoy faster time to market while increasing the velocity for new features with our solution and partner ecosystem.

We're among the first vendors to offer a progressive architecture road map and a modern pay-for-use model. Extend service capabilities and get to revenue faster than ever before with custom-built incremental features.



CommScope  
released 10G EPON  
disaggregated OLT

2000th 10G  
EPON remote OLT  
deployed

2016

2018

2020

2021

2022

Transforming  
what's next

3 millionth OLT  
shipped

CommScope  
signed 25G MSA

Launch  
XGS-PON



# CommScope FLX™ portfolio—the ultimate flexibility in PON architecture

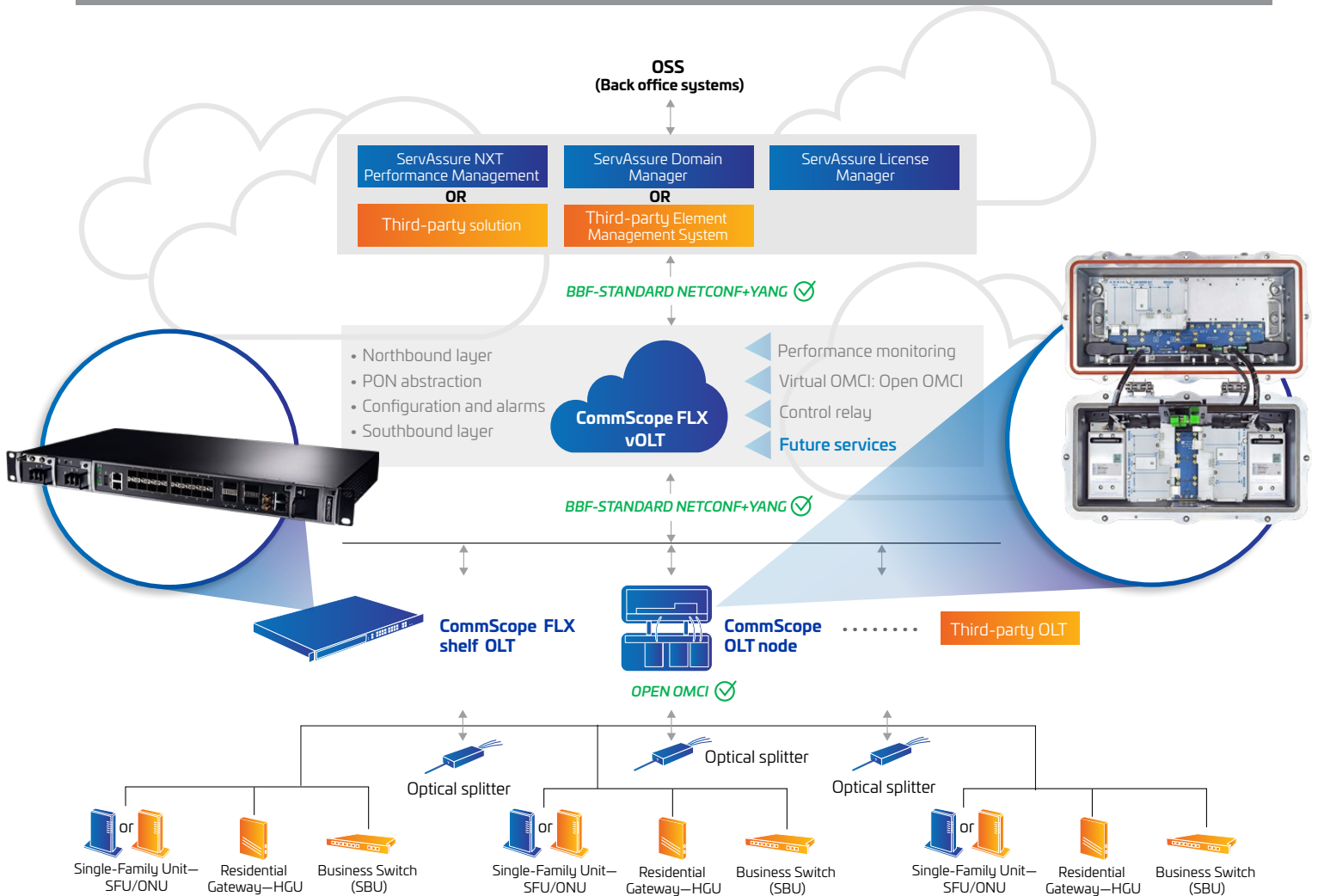
CommScope’s fully disaggregated next-gen PON solution provides the ultimate benefits of a modern SDN architecture and the flexibility needed today and tomorrow. If necessary, you can deploy using an aggregated model first and later move to a disaggregated architecture, which provides ease of scalability to meet market demand.

The new CommScope FLX™ optical line terminal (OLT) shelf can run the software on it, similar to a traditional, aggregated model. In a disaggregated architecture, the CommScope FLX virtual OLT (vOLT) is separated from the physical OLT (pOLT) and can run in the data center or in a hosted environment.

Open OMCI 3.0 is CommScope’s default virtual OMCI (vOMCI) in the vOLT, and its services provide the capability to manage CommScope’s FLX optical network units (ONUs) or third-party vendors.

CommScope’s ServAssure® Domain Manager allows service providers to pull together different device types, including legacy implementations, under a single network and service management and control. It also collects performance monitoring (PM) data from managed devices and stores the translated data in a data lake that’s accessible to SDN management and control elements for their specific functions (e.g., analysis and troubleshooting).

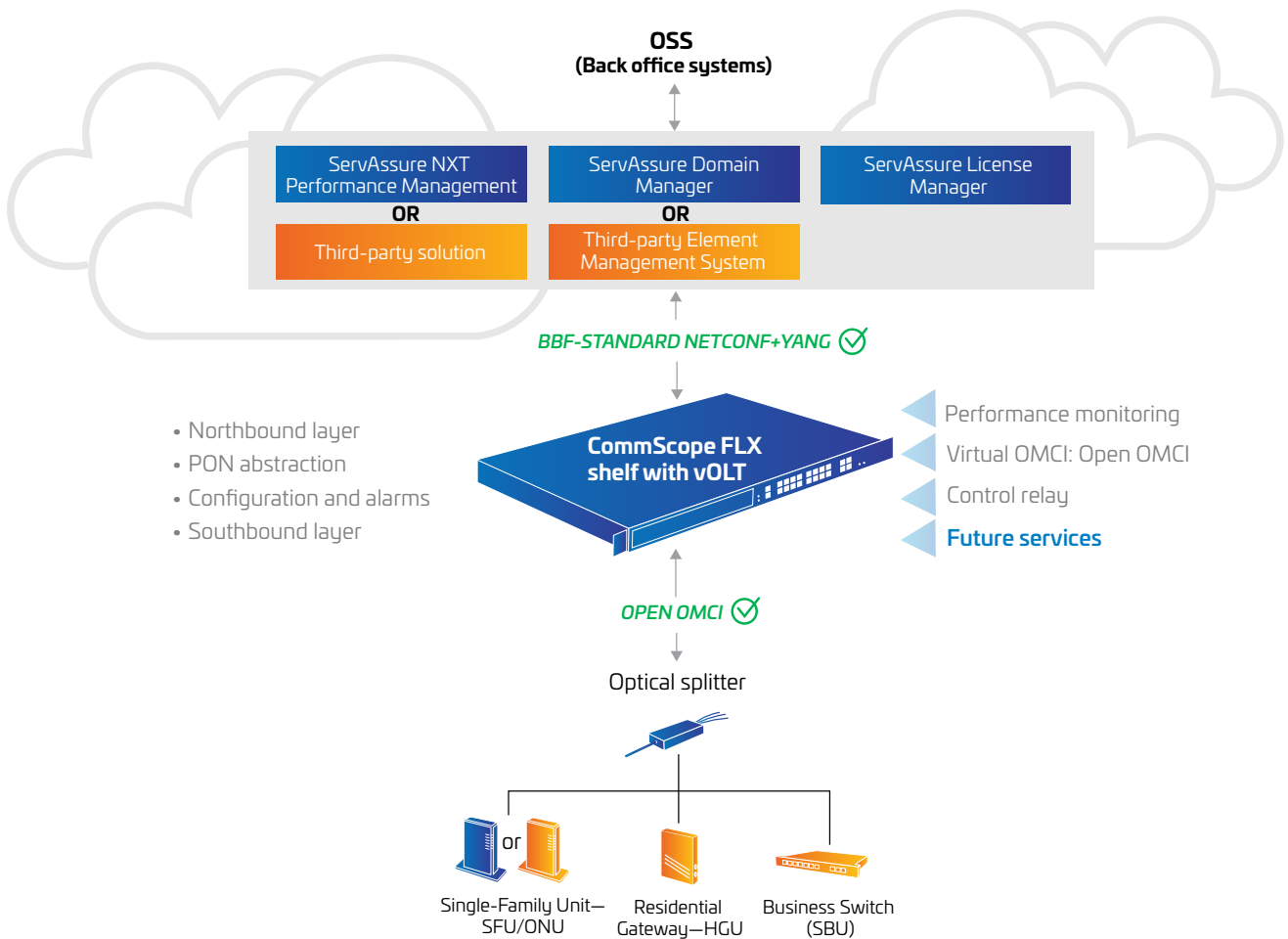
## Disaggregated PON architecture



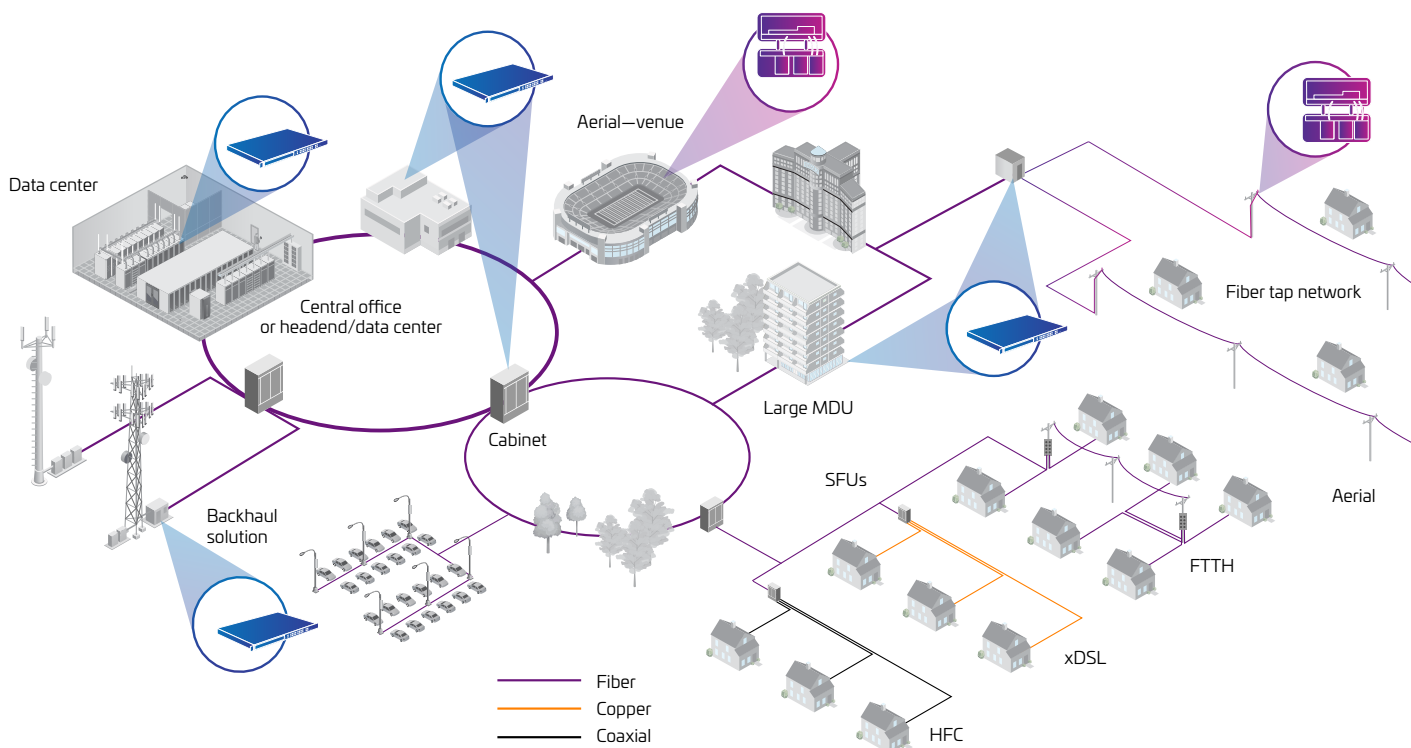
CommScope's FLX portfolio provides complete flexibility for PON deployments. Service providers that aren't quite ready to move to a fully virtualized, disaggregated architecture can use the aggregated model as a starting point. Transitioning to a disaggregated environment any time in the future is easy.



**Aggregated PON architecture**



## CommScope FLX portfolio—the ultimate flexibility in deployment



### FLEXIBLE



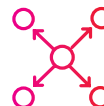
- On-site or hosted
- Disaggregated or centralized architectures with ease of transitioning as needs evolve
- Serve any application and environment from one platform

### TRULY OPEN



- Designed from the ground up as open, day one
- Multi-vendor interoperability
- No vendor-proprietary lock-in

### DYNAMIC



- Cloud-native solution
- Monetize the investment faster
- New features acceleration
- Move toward pay-for-use model

- Add vendors easily while reducing infrastructure costs through competitive dynamics. Optimize cloud-based infrastructure and COTS products using CommScope's end-to-end standard interfaces that support an open, multi-vendor strategy.
- Increase efficiencies, reduce risks and better prioritize resources with one system. The cloud-native ServAssure provides a flexible network management solution across network access types, equipment vendors, and geographic regions.
- Deploy fixes and features that reduce type approval cycles within a production network without triggering negative effects to the network or adding downtime, thanks to CommScope's microservices approach.

- Accelerate hardware and software integration and be prepared to pivot in any direction with CommScope's flexible PON solution suite. Future technologies could integrate BNG, wireless backhaul and other services.
- Extend service capabilities and get to revenue faster than ever before with custom-built incremental features.
- Adopt a modern pay-for-use model with a path to software as a service (SaaS).
- Upgrade to 25G technology and beyond easily.



# Work smarter, not harder. Resolve network service disruptions before they occur.

More elements on your network doesn't need to translate to more work. We know you have limited precious resources, so we're committed to providing a "single pane of glass"—a hardware and vendor-agnostic platform with the tools to give you control and stay on budget. With ServAssure® solutions, you can reduce OpEx and keep your subscribers satisfied by detecting and preventing outages before they occur.

ServAssure Domain Manager and ServAssure NXT Performance Manager provide a comprehensive network and device management monitoring platform. This modular solution can be customized to meet various operational needs. While the ServAssure software suite is optimized to work with CommScope's DAA and PON hardware, operators have the flexibility to deploy any vendor's hardware and manage it from the same system.

## ServAssure Domain Manager: Future-ready, universal infrastructure

ServAssure Domain Manager is a standards-based platform that gives service providers a single location from which to manage hardware and services. Automated workflows and tools provide continuous visibility and control across domains and vendors. The Domain Manager is modular and extendable with a variety of platform deployment options (cloud/virtualization) and supports CommScope and third-party vendor equipment.

### Key benefits

- Optimize operations with a centralized, universal platform
- Simplify device onboarding, configuring and licensing with secure access
- Save time managing devices with automation
- Improve performance with event and telemetry logging, visibility and export tools
- Reduce IT costs with automated, agile deployment options

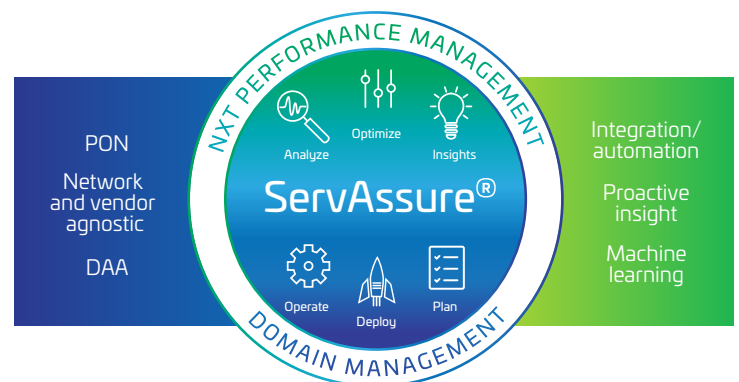
## ServAssure NXT Performance Manager: Anticipate and solve tomorrow's problems today

The system uses artificial intelligence (AI), machine learning (ML) and domain-specific analysis to predict and help remediate service disruptions, often before they affect subscribers. Reduce customer calls, truck rolls and service costs. Ideal for large system deployments, it's also available as a hosted service for smaller to midsize service providers.

CommScope has deep expertise in network management software, with thousands of subscriber termination systems that represent all major brands. CommScope's solutions help service providers unleash the power of data to prevent and solve performance issues.

### Key benefits

- Accelerate diagnosis/resolution times and enhance quality of technician visits with AI and ML
- Identify and minimize risks proactively with actionable, detailed insights
- Monitor network performance proactively and continuously with real-time service alarms
- Simplify troubleshooting with advanced tools for field technicians and network operations centers
- Improve situational awareness using geo and logic map views



# Why CommScope?

**CommScope offers a comprehensive portfolio of solutions—one that spans many network architectures—and combines products with engineering and product management services.**

Simply put, we have all the “parts” in-house and, in partnership with you, we deliver fiber-to-the-home (FTTH) solutions that are built on more than the sum of their individual parts. It’s all part of ONE CommScope, which helps you anticipate and solve tomorrow’s challenges today.

## Deepest industry expertise

- One of the largest-scale deployments of disaggregated management in the broadband industry. We’ve been building FTTH networks for decades.
- We’ve deployed thousands of OLTs and millions of ONTs and have gained significant experience in the deployment of GPON, EPON and 10G EPON. We pioneered and delivered existing GPON architectures that are running in major operator systems today.
- We operate one of the largest PON development, testing and interoperability labs in the networking industry, and have become a leading advocate for open, standards-based PON solutions.
- Industry-recognized network management software expertise for even the largest-scale deployments with more than 4,800 subscriber termination systems under management, representing all major brands.

## Standards-forward approach

- We test to the highest standards for reliable operation and interoperability in PON and cable.
- Longstanding standards industry membership with contribution and representation in the Broadband Forum, Linux Foundation, ONAP, IEEE, ITU, and 25G MSA.

## Flexible and scalable

- Worldwide leaders and innovators in FTTH passive solutions, with more than \$1 billion annual revenue globally.
- Factories throughout the world and sophisticated business continuity presence to protect deployments.

**We know PON**



**We serve operators globally**



**We advance standards**



**We accelerate innovation**



**We scale**



## Big data advantage

- Deep expertise in broadband and enterprise-class software powered by machine learning and artificial intelligence.

## Lifecycle support

CommScope will help you plan, design, implement and operate your PON network.

- With more than 1,100 service professionals in 30 countries and a diverse skill set, our Professional Services team has a track record of supporting small- and large-access network deployments worldwide.



We transform  
what's next



We leverage  
big data



We partner  
for success

Contact CommScope

CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at [commscope.com](https://commscope.com).

**COMMSCOPE®**

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