



Telco home network solutions

Innovation for the well-connected home

COMMSCOPE®

Telco challenges in the ultra-broadband era

Consumers are seeking high-quality connected experiences that deliver ultra high-definition (UHD) streaming video, virtual reality, OTT services and large volumes of subscriber-generated content. To keep pace, you must be well equipped to handle massive traffic growth—investing in fiber to the home while maximizing the performance of existing copper access, and provide the in-home networking to connect the ever-increasing number of devices.

CommScope offers fiber, copper and fixed wireless access technologies to reach any subscriber with reliable, high-performance Wi-Fi to every corner of the house.





Diverse connectivity

You need the latest technologies in your armory to deliver maximum bandwidth—whether that is via fiber using GPON, XG-PON, XGS-PON, or existing copper using VDSL, or wireless using LTE, CBRS or 5G. No matter how subscribers are connected, whether they are in high-density urban or rural locations, you must be able to reach them with high-quality, consistent services.



Wi-Fi optimization

Today's consumers are streaming content on multiple screens in the home and they expect Wi-Fi that “just works” with bandwidth that complements the broadband data rates. A quality home Wi-Fi network improves consumer satisfaction and reduces the cause of costly helpdesk calls.



Video over Wi-Fi

Wireless connectivity is the preferred choice for set-tops, providing flexibility of location and freedom from cables. With subscribers paying for premium UltraHD/High Dynamic Range content, they expect video quality over Wi-Fi to be the same as wired set-tops.



The ultra-connected smart home

The complexity of the home network and the growth of smart home applications is an opportunity for service providers to simplify their customers' lives and expand their service offerings in the home.

An architecture for today's connected home

There is no one-size-fits-all approach to enabling the connected home. That's why CommScope has designed its architecture around quality of experience, while offering a full suite of technologies, management offerings and consumer self-service tools to support it. We offer a strong foundation on which you can build reliable, high-performance home networks that are easy to manage and unique to each subscriber for enhanced quality of experience.

Robust solutions built for operational efficiency

CommScope has developed a variety of tools that make it simple and streamlined to deploy and manage the ultimate connected experience. With flexible interfaces and wireless networks that virtually configure themselves, we're helping you reduce the complexities and operational costs of service delivery. The CommScope 9.x gateway firmware is a mature, proven platform with over 17 years of development and 20M+ devices deployed. We also work with other software platforms such as RDK. As well as ready-for-market products, CommScope offers bespoke solutions for tier-1 service providers supported by a full suite of professional services.

CommScope's
architecture is
designed around
the quality of the
consumer experience.

A platform for new services

The gateway has become the hub of service delivery in the home. CommScope gateways support Docker® containers to simplify and accelerate the introduction of new applications¹—for example, enhanced security or smart home services. Our gateways offer the option of IoT radios for wireless connected devices.

Bringing security to a whole new level

The need for security increases as connectivity increases and more sophisticated services are rolled out. CommScope applies our extensive knowledge of hardware and software security techniques to protect data, content and hardware integrity against malicious activity, including the signing of firmware images and the authentication of downloaded code. We have implemented strong authentication methods such as 802.1x to prevent service theft. Every software release has to pass our comprehensive security test suite that includes more than 2.8 million security checks.

¹ Dependent on memory configuration

Environmental sustainability

Using recycled plastics and reducing energy consumption are just some of the ways CommScope is addressing environmental sustainability. In 2019 CommScope achieved the EcoVadis Corporate Social Responsibility Gold rating for the fourth consecutive year.

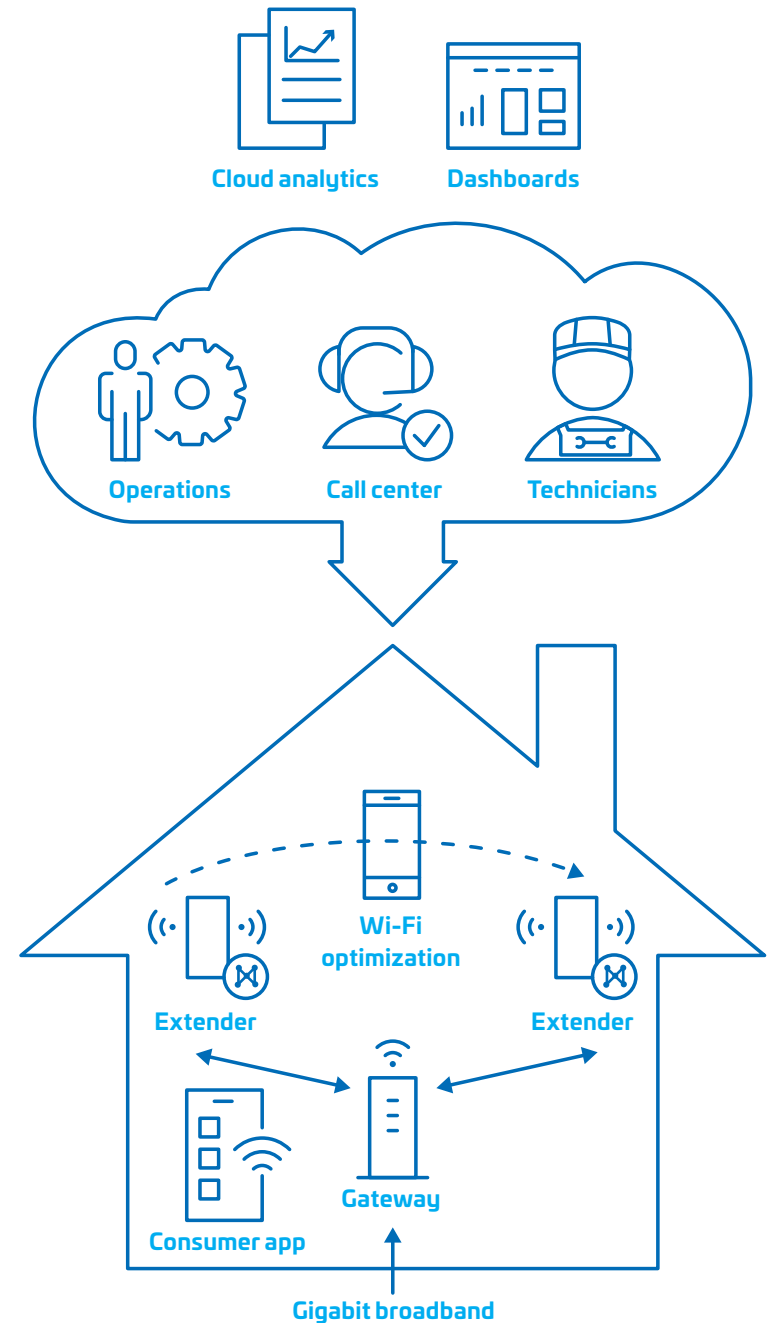


High-performance, reliable Wi-Fi throughout the home

Wi-Fi has become the primary means for connecting consumer devices to the internet. As service providers continue to deliver higher speed broadband services, it is becoming increasingly clear that Wi-Fi performance is the determining factor in the consumer experience. When Wi-Fi isn't reliable and ubiquitous, it causes consumer dissatisfaction and increases support costs. In a recent survey¹, 90 percent of consumers said high-speed internet through Wi-Fi is important to have in every room of their home.

For service providers, the **CommScope HomeAssure[®]** managed Wi-Fi solution is an opportunity to differentiate their broadband services while reducing the support costs and customer dissatisfaction arising from unreliable Wi-Fi.

¹ ARRIS Connectivity and Entertainment Index Survey 2018



Certified extenders and gateways

Devices that are Wi-Fi Certified EasyMesh™ have been validated by the Wi-Fi Alliance for conformance to the Multi-AP (MAP) standard. Certified extenders and gateways work together in a multivendor mesh Wi-Fi network. For service providers this aids multi-sourcing and opens up the opportunity to on-board and manage retail extenders.

CommScope was instrumental in developing the MAP standard and is active in developing Release 2. The CommScope VAP4641 extender was the first Wi-Fi Certified EasyMesh device.



CommScope's [Wi-Fi extenders](#) include the [X5](#), a compact extender with 4x4 dual-band Wi-Fi 6.

Improve coverage

A CommScope gateway/router with quality Wi-Fi addresses the coverage requirement in the majority of consumer homes. We offer options with tri-band Wi-Fi 6 and have demonstrated a 6 GHz Wi-Fi 6E gateway. For additional coverage, subscribers can add network extenders, which are auto-configuring. While extenders may connect to the home gateway over Ethernet or coaxial cables, Wi-Fi is often the preferred method for ease of installation and flexibility of location.

Maximize Wi-Fi performance

The performance of the multi-access point home network is optimized by the CommScope Home Network Controller software in the gateway. The autonomous capabilities of this intelligent software include steering devices to the Wi-Fi access point with the best signal, or to an alternative access point when one access point is congested. It ensures air-time fairness to stop low-performance devices at the edge of the network from excessive use of Wi-Fi resources.

Deep Packet Inspection identifies device types and applications. This information is used to make steering decisions—for example, to prioritize connectivity to a user watching a Netflix video.

Easy self-installation

Simple installation starts with the consumer app, which guides the user through the extender installation process. The configuration of the extender is done without any other consumer action. SSIDs and Wi-Fi passwords are automatically transferred from the gateway to the extender.

A CommScope gateway/router with quality Wi-Fi addresses the coverage requirement in the majority of consumer homes.

Enabling consumers to get the best from their Wi-Fi

End users can easily manage their own network with a choice of tools that suit them, such as the CommScope consumer app, web portal or voice control. Useful tasks that help assist consumers include:

- Viewing SSIDs, passwords, network topology, status and data usage of connected devices
- Configuring guest access and parental controls that limit children's use of the internet
- Measuring the Wi-Fi signal to map their Wi-Fi coverage around the home and identify if and where a Wi-Fi extender may be needed
- Assessing both Wi-Fi performance and broadband bandwidth in a two-stage speed test

Lower support costs

CommScope's Wi-Fi home solution delivers intelligent Wi-Fi that "just works" and is easy to install and manage, reducing calls to the helpdesk.



CommScope solutions for the well-connected home

CommScope has developed a range of products that includes modems, routers, residential voice gateways and network extenders to help you deliver Gigabit services with quality and performance, no matter what services you're offering or how your subscribers connect.



GPON gateways

For service providers looking for a cost-effective 2.5/1.25 Gbps gateway with Wi-Fi 6 and 2.5 Gbps Ethernet LAN support, the NVG578LX is ideal.

Features

- On-board 2.5 Gbps GPON optic
- Dual-band Wi-Fi 6
- 1x2.5 Gbps Ethernet port (WAN/LAN), 3x1 Gbps Ethernet ports (LAN)
- Support for Docker containers to accelerate application deployment (dependent on memory configuration)
- 2x primary line VoIP telephone service
- 1x USB 3.0 ports

Functionality

- TR-069/TR-098 remote management



NVG578LX

Fixed Wireless Access gateways

Fixed Wireless Access can be a cost-effective alternative to wired connections for mass-market broadband services in urban and suburban areas. Indoor home gateways that are installed by the consumer deliver a strong business case and good customer experience.

The CommScope NVG558 range of high-performance gateways supports voice, video, data and IoT services over LTE, 3.5 GHz CBRS (Citizens Broadband Radio Service) and sub-6 GHz 5G NR. mmWave 5G products are in development.

For best-in-class Wi-Fi connectivity there is the option of concurrent tri-band (2.4 GHz, 5 GHz / 5 GHz) Wi-Fi 6 and whole-home managed Wi-Fi.

Features

- 4G LTE Cat 16 and above, CBRS WAN with internal antennas
- Sub-6 GHz 5G NR options
- High-performance Wi-Fi, including choice of Wi-Fi 5 or Wi-Fi 6, tri-band options
- Support for Docker containers to accelerate application deployment

Functionality

- Primary line VoIP telephone service
- TR-069/TR-098 remote management
- 2x USB 3.0 ports

Options

- Optional external antennas
- Future option for mmWave 5G NR access



NVG558

Flexible VDSL home gateways

The CommScope NVG448X residential gateways enable you to cost-effectively deliver robust video and high-speed data over copper telephone lines. The gateways may be connected to an external fiber ONT or Active Ethernet media converter via a Gigabit Ethernet WAN port.

Features

- VDSL2, ADSL2+
- Ethernet WAN port for external modem
- Supports triple play (voice, video and data) and dual-play (video and data)
- Concurrent Wi-Fi 6 on 2.4 GHz and 5 GHz
- Serves as a high-performance converged services platform
- Support for Docker containers to accelerate application deployment

Functionality

- IPTV video
- Four Gigabit Ethernet ports for high-speed home networking
- TR-069/TR-098 remote management
- 802.1x WAN supplicant simplifies CPE authentication



NVG448X

Ethernet home gateways

The NVG568LX is ideal for Active Ethernet connections or for use with a separate fiber ONT/ONU.

Features

- Supports triple play (voice, video and data)
- 2.5 Gbps Ethernet WAN port
- Concurrent Wi-Fi 6 on 2.4 GHz and 5 GHz
- Support for Docker containers to accelerate application deployment (dependent on memory configuration)

Functionality

- IPTV video
- Three Gigabit Ethernet ports for high-speed home networking
- TR-069/TR-098 remote management
- 802.1x WAN supplicant simplifies CPE authentication
- Primary line VoIP telephone service

Options

- Replace 2.5 Gbps WAN/LAN with 1 Gbps port



NVG568LX

Powerful network extenders

With a diverse lineup of network extenders, CommScope enables you to extend the reach and performance of secure connectivity to deliver service offerings to the far reaches of every customer premises.

Using Wi-Fi to connect the extender back to the gateway offers the greatest flexibility in location and avoids the need to install wires around the home.

CommScope Wi-Fi extenders create a single high-performance, self-optimizing home network. They are easy to install—auto-configuring from the home gateway.

Our high-power extenders are designed to deliver coverage with the minimum number of devices for lower cost and ease of support. The CommScope X5 extender supports dual-band Wi-Fi 6. The VAP4641 offers the flexibility of desktop or plug socket installation and was the world's first Wi-Fi Certified EasyMesh device.

Customers with legacy or third-party gateways that can not be software upgraded can benefit from whole-home coverage by using an additional extender to be the controller in the mesh network.



The CommScope in-home portfolio

XGS-PON, XG-PON, GPON gateways

Model	GPON 2.5/1.25 Gbps	XG-PON 10/2.5 Gbps	XGS-PON 10/10 Gbps	Other WAN	5 GHz Wi-Fi	2.4 GHz Wi-Fi	LAN	USB/MoCA	VoIP
NVG578LX	Y onboard			1 GbE or 2.5 GbE	4x4 802.11ax	3x3 802.11x	3x1 GbE	1x USB 3.0 Optional MoCA2.5	Y
<u>NVG578S</u>	Y onboard optional	Y SFP+	Y SFP+	Y up to 10 GbE	4x4 802.11ac or 802.11ax dual-band or single-band	4x4 802.11n or 802.11ax	4x1 GbE plus one port up to 10G*	1x USB 3.0	Y

Fixed Wireless Access gateways

Model	LTE	LTE antennas		Other WAN	5 GHz Wi-Fi	2.4 GHz Wi-Fi	LAN	USB/MoCA	VoIP
<u>NVG558</u>	4G LTE up to cat 12, CBRS 5G sub-6 GHz option	Internal, optional external antennas		1 GbE, 2.5 GbE or 5 GbE	4x4 802.11ac or 802.11ax dual-band or single-band	4x4 802.11n or 4x4 802.11ax	4 GbE	1x USB 3.0	Optional

xDSL gateways

Model	ADSL2+	VDSL2		Other WAN	5 GHz Wi-Fi	2.4 GHz Wi-Fi	LAN	USB/MoCA	VoIP
NVG448X	Y	Y		1 GbE	4x4 802.11ax	2x2 802.11ax	4x1 GbE	1x USB 3.0	Optional

Ethernet gateways

Model				WAN	5 GHz Wi-Fi	2.4 GHz Wi-Fi	LAN	USB/MoCA	VoIP
NVG568LX				1 GbE or 2.5 GbE	4x4 802.11ax	3x3 802.11ax	3 GbE	1x USB 3.0	Y

Wi-Fi extenders

Model	Form			Wi-Fi configuration	5 GHz Wi-Fi	2.4 GHz Wi-Fi	LAN		
<u>X5</u>	Desktop			Dual-band concurrent	4x4 802.11ax	2x2 802.11ax	2x1 GbE		
<u>VAP4641</u>	Plug/Desktop			Dual-band concurrent	4x4 802.11ac	2x2 802.11n	1x1 GbE		

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.

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