Spectrum Business™: White Paper

Fiber or Coaxial: Which one is best for your property?

Both transmit at data rates that are far superior to alternatives like DSL and T1 lines, but each has unique advantages in terms of guest experience.

WHITE PAPER

The ability to experience fast and dependable connectivity throughout your property is something guests have come to expect. That's because 99% of them travel with at least one wireless device. In fact, traffic from wireless and mobile devices is projected to exceed traffic from wired devices by 2019[1]. So, as more people connect through smartphones and tablets, offering enough bandwidth to replicate the experience people are accustomed to in their own homes and offices is essential to your property's success.

As guest expectations rise, the need to deliver top-notch Internet and reliable WiFi will continue to gain importance.

Whether it's streaming movies, running mobile apps, video conferencing, or downloading cloud based files, providing a fast and reliable connection for guests is no longer a convenience—it's an absolute necessity. In fact, a recent Hotels.com survey found that free WiFi is the most important hotel amenity, trumping a free breakfast, prime location, free parking, and swimming pool[2]. That just highlights the need to ensure both business and leisure guests have always-on access to their "office and home away from home."

While the optimal choice in terms of networking solutions is one that ultimately meets guest expectations, the choices are evolving fast. Older, slower DSL (digital subscriber line)-based services are giving way to faster, IP-centric and optical Internet options. Advancement in cable-based technologies and wider availability is giving hotels, motels and restaurants access to higher transmission data rates that deliver less error and latency, while fiber-based solutions offer an alternative that provides even faster, symmetric broadband connection service and offers flexible bandwidth to address surging demand.

With multiple options for your networking needs that deliver reliablility, it's not always obvious which is most beneficial for your property. The best approach to choosing between coaxial or fiber optic cable involves an assessment of the potential impact of each on the guest experience. While both are capable of carrying information between computers, servers, network hubs, radios and telephones, the exploding use of wireless devices is a big consideration. With the growing demand for WiFi throughout your property, Fiber may be worth the investment in terms of delivering the extra bandwidth and faster speeds that guests often require for entertainment and communication services.

Fiber Optic Cable

A leading technology, fiber optic cable is built around a glass or silica core and designed to transmit more data, more quickly over long distance than conventional copper lines or DSL. Data passes through the fiber in the form of light at remarkable speeds. Fiber optic cables often contain several silica cores, and each fiber can accommodate many wavelengths (or channels), allowing fiber to handle ever increasing data-capacity requirements. This is especially useful for avoiding hiccups when multiple guests are sharing the same network on a variety of wireless devices.

Since the conductor in fiber optic cable is glass, it does not generate ambient electricity. That makes fiber immune to electromagnetic, radio or other types of transmission interference. Fiber is a relatively recent innovation developed in the past 40 years, so while it is popular, it is not as widespread as coaxial cable. More expensive to install and operate than coaxial, fiber offers a big benefit in terms of the flexibility of bandwidth and reliability that can consistently deliver the fastest speeds in-room and around your property—boosting guest experience and employee productivity.

With a fiber optic network, having dedicated access is probably the number one advantage. That means data runs through the Internet with synchronous transfer, so uploads are as quick as downloads. For guests who are sending critical work files from their mobile devices or streaming movies to a tablet, this can be crucial to creating a positive experience at your property. With a fiber network, there's also no performance limit on your WiFi, even during peak usage times. Unlike signal degradation that can occur in copper or coaxial networks, fiber networks are able to reduce signal degradation so everyone can use as much bandwidth as they need uninterrupted.

FIBER ADVANTAGES

Capacity
Bandwidth can be increased in increments so you only pay for what you need.

Flexibility
High-speed transfer and scalable bandwidth easily support unlimited and increasing guest usage for entertainment and communication.

Reliability
Your network uptime is guaranteed by SLAs*.

FIBER IS IDEAL FOR

+ Businesses such as hotels and motels that require more bandwidth to support uploading or downloading large files, streaming video, and bandwidth intensive apps, especially via WiFi.

+ The ability to deliver and scale the fastest Internet speeds from lobbies to restaurants to guest rooms, and provide service indoors and outdoors.

Fiber networks are also highly reliable. Often backed by strong service level agreements (SLAs), they guarantee uptime, so hiccups in service or downtime is never a concern. In addition, fiber is highly flexible when it comes to adjusting service. So, as the guest expectation that high quality Internet is available and running at all times, Fiber allows you to simply increase bandwidth as the need arises. This is great for keeping up with demands today and being armed to meet them tomorrow.

Why fiber for your property?

If your goal is to increase guest loyalty, a fiber network is essential to ensure the most positive communications experience for everyone who walks through your lobby doors—from business travelers to vacationers to your own employees.

*Subject to the terms of the service agreement. Subject to change.

The ability to transmit data unimpeded over a long distance provides access to your network—and WiFi—effortlessly from any device, so you have the confidence that you can always fulfill everyone's technology needs.

Coaxial Cable

A well-known technology that has been commonly used since the early 20th century, coax has been relatively unchallenged since it was introduced. Super resilient and quality constructed, coax cables are made of copper cores surrounded by a dielectric insulator, then a woven copper shield is sealed in plastic covering. This shielded design allows the copper core to transmit data quickly, without interference or damage from environmental factors. While coax connections have successfully delivered high-speed Internet to meet guest needs for years, the technology is being challenged to transmit faster and bigger amounts of data as the use of portable devices creates skyrocketing demand.

Originally used by the military and for telephone service, coax was introduced to consumers through cable television. As the Internet became more widely available, coax became the standard for communications networks in industries like hospitality and others, because of its resilience and high bandwidth capacity. Unlike DSL, the transmission quality of a hybrid fiber-coax network is less impacted by distance, so you can count on reliable speeds.

While fiber optic transmits data synchronously, coax data transfer is asynchronous. This makes it a good option for businesses that have a large amount of incoming data, but less bandwidth intensive outgoing data. To keep pace with the surging need for bandwidth, coax Internet speeds are always increasing, and they consistently provide download and upload transmission capabilities that are multiple times faster than DSL. This makes coax an attractive choice for smaller hotels and motels that have a moderate level of network and WiFi usage.

COAX ADVANTAGES

Value
Coax networks are more cost-efficient than Fiber networks, DSL, and T1 lines while providing very high throughput rates.

Speed
Fast download speeds for transmitting files and streaming video.

Redundancy
Coax offers a great option for network redundancy when a Fiber network is already in place.

COAX IS BEST FOR

+ Small hotels and motels with guest connectivity and back room needs that are not excessive in terms of bandwidth.

+ Properties that desire fast Internet to accommodate guest wireless devices at a lower price.

+ Overcoming the hiccups and lack of reliability associated with DSL.

Why Coax?

Coax solutions provide fantastic value and compelling Internet speeds for properties that do not have an enormous amount of guest traffic. Quicker and more economical than DSL or T1 lines, coax is a great option if your network is not being challenged by overwhelming downloads or uploads that are leading to lack of bandwidth. The other advantage of coax is that implementation and installation is very quick.

	DSL	COAXIAL	T1	FIBER
COST	$	$	$$$	$$$$
DOWNLOAD SPEED	Up to 15 Mbps**	Up to 100 Mbps	Up to 1.5 Mbps	Up to 1 Gbps
UPLOAD SPEED	Up to 1 Mbps**	Up to 5 Mbps	Up to 1.5 Mbps	Up to 1 Gbps
SERVICE LEVEL AGREEMENT	No	No	Yes	Yes
WIFI COMPATIBILITY	Slow speeds, minimal capacity	Fast speeds, good capacity	Poor speeds, low capacity	Fastest speeds, maximum capacity
BEST FOR	Personal email, smaller file sharing	Sending and recieving emails of all types and sizes, file sharing, running apps, streaming video	Text-based email, basic browsing	Email, large file sharing, video conferencing, running cloud apps, downloading movies, uploading files to the cloud, multiple users

**Speed Comparison based on advertised DSL speeds on att.com and verizon.com as of 11/23/15. Restrictions Apply.

Summary

There's no right or wrong choice between fiber and coax. It really depends on the specific needs of your property and demand of your guests. While both networking options provide fast connection rates and reliable service, fiber has the ability to keep up more rapidly with guests who are streaming movies, shows and files on their WiFi devices, creating the need for exponential bandwidth. On the other hand, coax is a proven solution that offers much greater download speeds than DSL at a lower cost, and continues to enhance the guest experience without hiccups—in addition to providing significant monthly savings.

Why Spectrum Business Hospitality Solutions?

When it comes to keeping guests happy and ensuring repeat visits, you need the confidence of a leading technology provider. Spectrum Business is the one partner you need to find customized, cost-efficient, best-in-class entertainment and connectivity solutions that are easy to manage and designed to help you keep ahead of the competition. From Internet with the fastest available speeds, to Video that delivers the most free HD, to phone with unlimited calling and essential features, we help you easily scale your services for the optimal guest experience—today and tomorrow.

[1] Cisco Visual Networking Index: Forecast and Methodology, 2014-2019, May 27, 2015 [2] Hotels.com 2015 Hotel Amenities Survey