



# The Disruptive Potential of Managed Wi-Fi



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Consumers' dependency on good, reliable, and speedy broadband service cannot be overstated. Broadband access has become an essential element in enhancing people's lives throughout the globe.

In numerous respects, it has become as vital to people's lives as traditional public infrastructure, like water/sewer, gas, and electric power — essentially a fourth utility necessary for modern living. Broadband access is indispensable for providing entertainment, communications, contact to vital services, and education to the world population. Put another way, reliable and accessible broadband services drive benefits that enhance the individual's quality of life in ways that are as important as food and shelter.

Faster available broadband speeds have come online for most individuals across the United States.<sup>1</sup> At the same time, many consumers may not adequately understand the advantages of faster speeds since their existing router isn't managing the distribution of Wi-Fi coverage efficiently. The benefits of faster broadband speeds should not be difficult for service providers to communicate to consumers. After all, different in-home usage models (e.g., video streaming, gaming, productivity applications, etc.) can wreak havoc with the needs of different people living under the same roof. What's more, the varied construction of both new and legacy homes, coupled with the rising number of Wi-Fi connected IoT devices, often creates a frustrating broadband experience in many households.






**Currently 88% of US households have some type of broadband service.**

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## Did you know?

-  Over **90%** of US broadband households use Wi-Fi.
-  Currently, **77%** of US broadband households have a home network router/Wi-Fi extender.
-  The average US broadband household has **14** connected devices.
-  **46%** of US broadband households have four or more OTT services.
-  Households with smart home devices now own an average of more than **8** devices.

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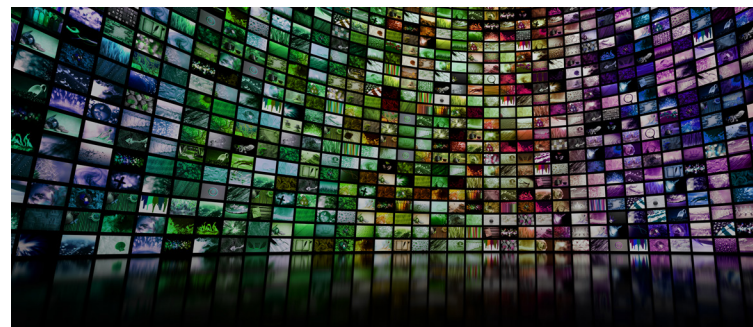
Wi-Fi challenges in the typical home are many. Cybersecurity threats, mainly hacking, have become commonplace and are often not identified until a breach occurs. Once restricted to businesses, school, healthcare entities, and government agencies, ransomware attacks can occur at the consumer level. With so many connected devices in US broadband households, unsecured IoT devices with poor default password security protocols have exacerbated the situation.

The current landscape, coupled with dramatic shifts in remote work and learning, offers significant and compelling business opportunities for service providers. This whitepaper investigates the role that “managed Wi-Fi” can play in optimizing the home broadband experience. It highlights the business opportunity that ISPs can capitalize on by encouraging consumers to upgrade their broadband speeds that create renewed subscriber “stickiness” via new incremental services revenue.

## The Current Household Broadband Challenge

Contributing to the broadband messaging challenge has been a lack of urgency from some technology companies, particularly streaming services, to encourage faster broadband speeds and from government and industry players to update the definition of broadband speeds. Some explanation about this dynamic deserves special attention.

Most industry experts<sup>2</sup> characterize the 2015 Federal Communications Commission (FCC) “definition” of broadband as insufficient and nearsighted. This statement by the FCC defined high-speed broadband as download speeds up to 25 megabits per second and upload speeds of up to 3 megabits per second (25/3 Mbps). The technical definition of broadband matters because it serves as the Federal government goal, which certifies that affordable, high-speed broadband is obtainable to the bulk of the population. Consequently, the broadband connection speeds that consumers need run into conflict with government targets.



Compounding the challenge of defining acceptable broadband speeds, based on different usage models, is ambiguous messaging from companies that deliver Over-The-Top (OTT) streaming video services. Netflix, for example, recommends only 3 Mbps for streaming standard definition (SD) video, 5 Mbps for high definition (HD), and 25 Mbps for 4K/Ultra HD (UHD) video for a quality experience.<sup>3</sup> Other streaming services (e.g., Hulu, Hulu Live TV, YouTube TV, Sling TV, AT&T TV, and Disney+) have similar minimum service speed requirements.<sup>4</sup> However, demanding applications like OTT services and online gaming services require minimum latency. Legacy wireless routers often provide poor load balancing among users, and ultimately these low broadband speeds do not provide an optimal end user experience.

Parks Associates estimates that 111 million US households (89% of the entire household market) will have some level of broadband access by year-end 2021. While this represents the vast majority of American households, there are still 11% of households (or about 13 million homes) that don't have any broadband access, a situation particularly dire in rural localities and communities. This "have nots" segment of unconnected (or "under" connected) households is disproportionately older, more rural, less educated with lower income levels compared to fully connected households.<sup>5</sup>

Some states are making significant infrastructure investments in rural areas to improve broadband speeds.



In conjunction with the Humana Foundation, AARP's Older Adults Technology Services (OATS) reports<sup>6</sup> that nearly 22 million seniors over the age of 65 in the United States lack wired broadband access at home, underscoring the digital divide attribute of America's senior community.



## Small to Medium Business Impact

**"Sufficient" broadband access remains a concern of small- and medium-sized businesses (SMB) as well, exacerbated by pandemic-driven directives for employees to work from home.**

Parks Associates research finds that 49% of SMBs indicate trepidations about their remote employees having sufficient broadband speed to perform their jobs properly, mainly due to accelerated video conferencing requirements during a typical workday.

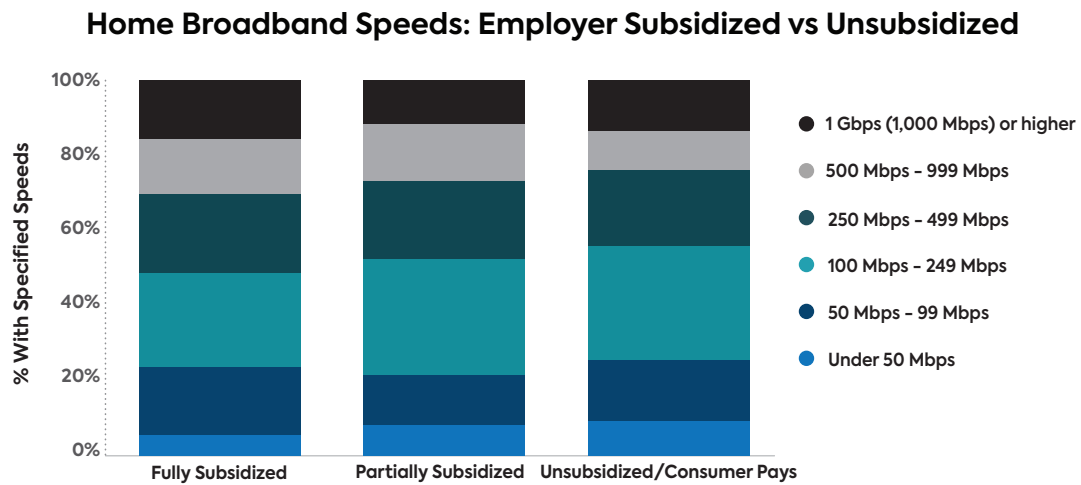
While regional swaths of the United States that have access to premium fiber-based synchronous speeds of 1 Gbps are increasing, these speed levels are overkill for most households, SMBs, and remote workers. While 200/200 Mbps-class speeds provide more than sufficient speed levels for most homes,<sup>7</sup> Parks Associates' data shows that employees who work from home and receive some level of employer subsidization for their broadband often have higher average download speeds.



**Service providers might want to target work from home users as they are more predisposed to upgrading their broadband speeds due to the employer subsidization element.**



Consumers with employer-subsidized broadband report having higher download speeds than those with unsubsidized broadband.



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Employers rely on fast internet connections in order to keep their workforces productive while working remotely.

**29% of employees with fully subsidized home internet report connection speeds of 500 Mbps or higher, indicating a potential market for very high speed internet connectivity.**

From a future-proofing standpoint, 1 Gbps speeds are useful for large file transfers between computers or high-end video gaming with multiple players using different computers in the same home. Regardless, most households can have a highly productive and enjoyable broadband experience with 200/200 Mbps-class speeds.

## “Managed Wi-Fi” Is the Disruptive Answer

Since the advent of Wi-Fi in the mid-1990s, through the first decade of the 21st century, consumers were primarily responsible for purchasing their own router and handling setup and configuration. A tedious process from a customer experience standpoint, Wi-Fi coverage in the home was often limited to a few rooms or a portion of the entire house, with little attention to security or SSID (Service Set Identifier) network password management. Parental controls were non-existent (the concept of parental controls first appeared in Windows Vista when it was released in 2007).

During the early days of broadband access, consumers purchased routers separately, and service providers furnished the cable modem. In later years, service providers began delivering both modems and the router (sometimes “combo” products) that the consumer often leased/rented.

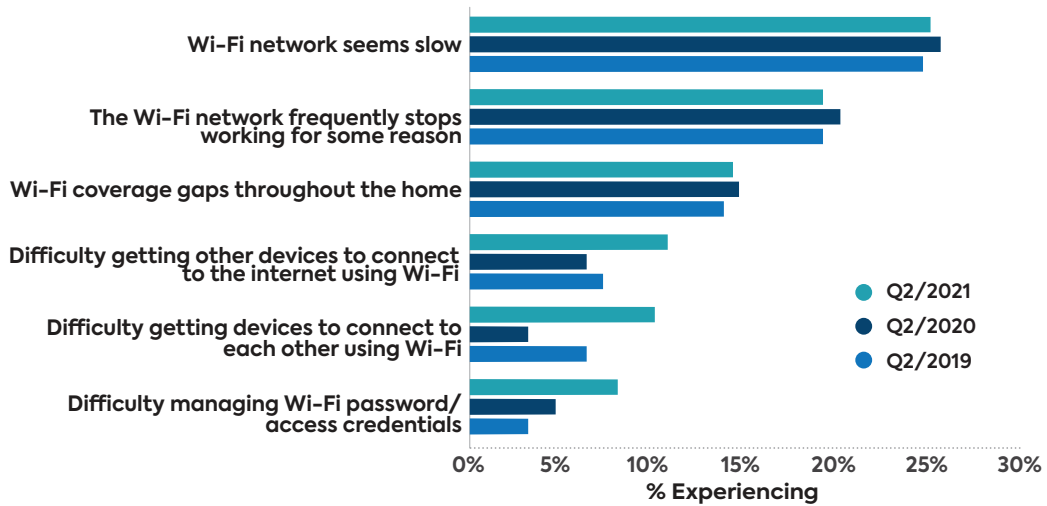
Regardless of whether a customer “owns” the router or leases it from the service provider, most customers do not distinguish poor service between the ISP and wireless data streams. As a result, the service providers end up taking the service call.

With service providers taking a broader level of responsibility for the router cable modem (effectively, the broadband “pipe” into the home), technical diagnosis of wireless issues also became more straightforward and moderately improved customer satisfaction.



In the late 2010s, “managed Wi-Fi” services began to emerge. Service providers realized that the proliferation of smart home devices throughout the home presented an enormous business opportunity that could drive incremental revenue and simultaneously enhance customer satisfaction, and with “managed Wi-Fi,” service providers essentially take a greater responsibility for distributing wireless coverage in the home. **A central benefit of the “managed Wi-Fi” experience is a single, unified mobile app.**

### Home Network: Technical Problems

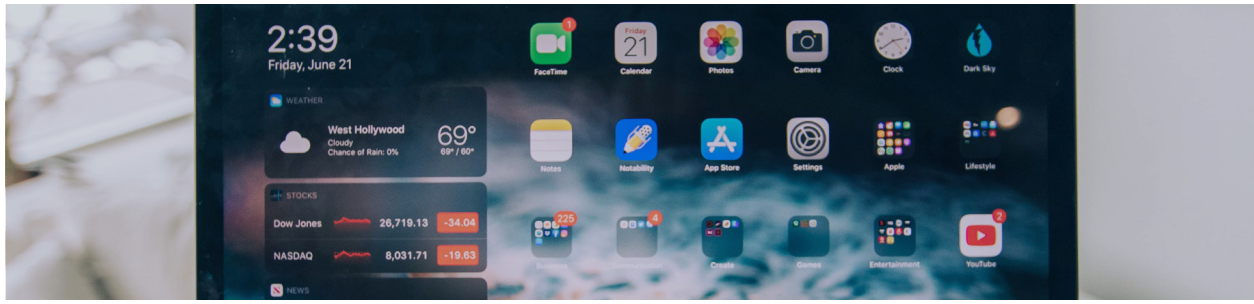


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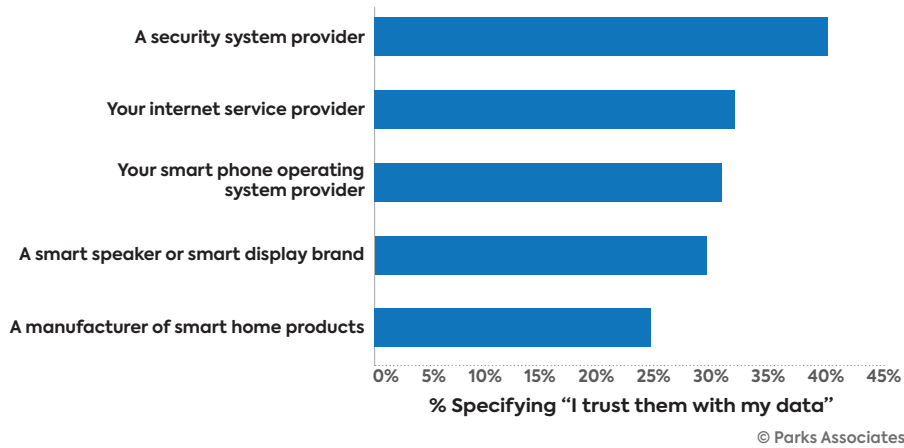
Each smart home solution often comes with its own app, and with households having multiple devices, consumers have to navigate through many different apps to control and manage their home automation, residential security, home entertainment, and other core functions.





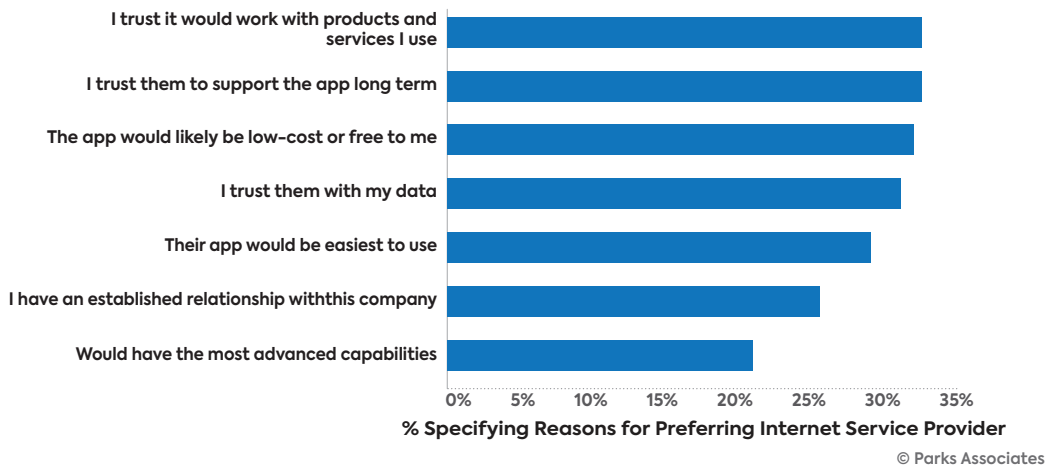


### Trustworthy Company to Access and Manage App Data US Broadband Households Interested in a Single Unified Smart Home Control App



From a consumer perspective, there are multiple advantages to a single, unified app. It mitigates the feeling of being overwhelmed by too many apps, easing navigation through one intuitive GUI and featuring a “single sign-on” approach so that the user does not have to manage multiple IDs and passwords. Moreover, a unified app can pass along information among devices (e.g., automatically lower the living room shades when the smart thermostat reports that the temperature has reached a certain level). It also would give users more information on the health and speed of their network, with tips to improve network performance, which are popular as “add-on” services among consumers.

### Reason to Trust Apps from Internet Service Providers US Broadband Households Interested in a Single Unified Smart Home Control App from ISP



## Adding Value and Revenues

From a service provider perspective, “managed Wi-Fi” offers the opportunity to build a closer and more intimate relationship with subscribers. Parks Associates research reveals that service providers enjoy a high level of satisfaction by consumers (reaching levels of nearly 60%) who obtain their networking devices from an ISP. Service providers are also ranked at the top by consumers as the “most trustworthy company to access and manage” their data, equal to traditional mobile phone providers.

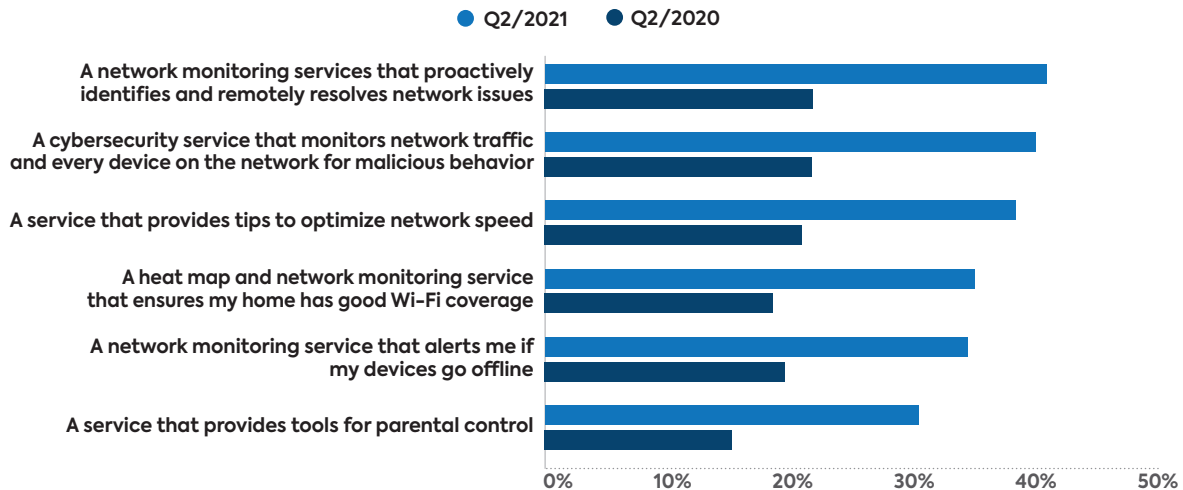
Now that service providers increasingly offer enhanced router solutions with mesh technology, the ISP becomes a singular trusted entity that provides superior performance everywhere in the home. Subscribers often have access to lifetime hardware replacement, providing peace of mind and assuaging future-proofing concerns. These “enhanced” router solutions have significant customer satisfaction benefits as they facilitate remote technical support. Finally, service providers take a more proactive role in providing the latest firmware updates, which help reinforce cybersecurity protection and optimize overall network system performance.



**A “managed Wi-Fi” approach reduces operating expenses by increasing efficiency, decreasing truck rolls, and growing revenue by easily enabling value-added services.**

### Interest in Add-On Network Services

US Broadband Households



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Recent Parks Associates consumer research underscores strong consumer appetite for “add-on” network services. Survey respondents indicated a clear preference (“Interested” or “Very Interested”) for the abilities that monitor the health of their network and give clear guidance on ways to improve performance, which a service provider can deliver through the mobile app for its managed Wi-Fi solution.

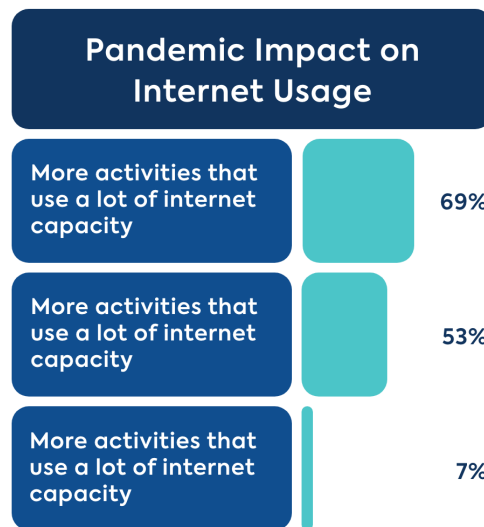


Managed Wi-Fi Overview Value Proposition				
For Consumers				
Easier remote technical support	Optimized in-home wireless coverage	Better cybersecurity protection (via automatic firmware updates)	Cross-device parental controls	Peace of mind/future-proofing
For Service Providers				
Increased efficiency of company assets	Fewer truck rolls (improved profitability)	Heightened customer satisfaction	Strengthens relationship with customer	New services that are easier to deploy

“Managed Wi-Fi” also offers service providers the ability to provide additional value-added services, especially in the SMB space. Parks Associates’ *New SMB Landscape: Devices, Communication, Security, Support* reports that 53% of SMBs are “concerned” or “very concerned” about the security of remote employees’ home networks. In this regard, CPE vendors are now offering new hardware and software solutions as part of the “managed Wi-Fi” experience tailored to the needs of employers managing remote workforces, a situation that is becoming all too common. In this scenario, devices may include embedded cybersecurity solutions that guard against enterprise threats from intrusions and cyber-hazards.

Further, “managed Wi-Fi” provides the inherent capability to employers’ IT resources to remotely support workers more easily by creating separate SSIDs to bifurcate employees’ home networks from business-related internet traffic. More advanced implementations can even include cellular connections for “fail-safe” capability in a network interruption or outage. The recent pandemic has spurred strong increased internet usage due to increases in broadband-related activities. Increases of this magnitude can drive clear and healthy interest levels for add-on network services that could be offered as part of the “managed Wi-Fi” bundle experience, especially network monitoring and cybersecurity solutions.

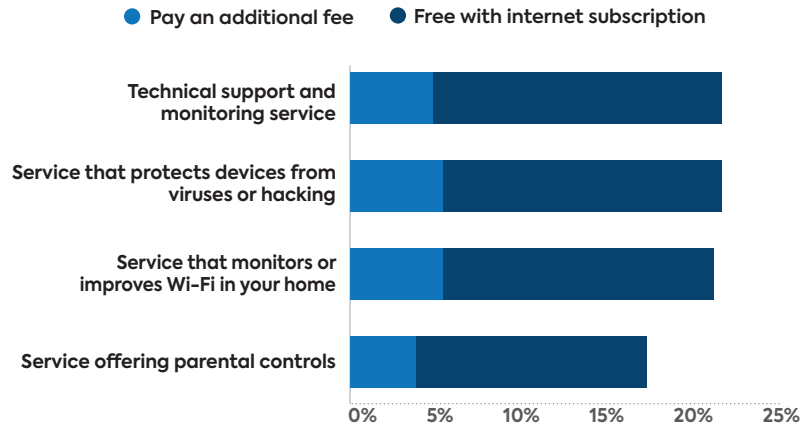
**53%** of respondents “moderately increased” or “significantly increased” their internet use since the pandemic.



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Traditionally, consumers have come to expect premium technical support offered as an upsell for a hardware sale. Service providers can flip this perception on its head. “Managed Wi-Fi” creates an excellent market opportunity for ISPs to offer technical support subscriptions. Superior marketing messaging plays a crucial role here. Service providers can efficiently target work-from-home users with security-related services, remote device/app management, and background network optimization.

### Adoption of Value-Added Services from ISP Among 10,000 Heads of US Broadband Households



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“Managed Wi-Fi” offers service providers the ability to reposition and rebrand themselves as the consumer’s trusted IT partner that assures a premium broadband experience across personal and work-related usage applications. These services, which often use agents running directly on customers’ routers, can provide advanced device recognition, parental controls, optimized wireless coverage throughout the home, or “whole-home” security.

## A Shot Across the Bow

The timing of “managed Wi-Fi” could not be better from a service provider standpoint. Bundled “triple-play” home services, generally consisting of video, phone (VoIP), and broadband capability, have steadily declined over the past seven years.

**In 2014, 70% of US broadband households reported having a home services bundle of some variation. In 2021, that percentage dropped to under 60% of households.**



However, there is some evidence that the declining appeal of independent (standalone) internet packages may be flattening as that figure is now in the 40–42% range of broadband households. This tends to support the hypothesis that material incremental mobile and home broadband offers are offsetting declines in traditional pay-TV and phone bundling.

**The average cost of standalone broadband service has risen 62% from \$39 in late 2011 to an average of \$63 in 2020.**

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## CONCLUSIONS/RECOMMENDATIONS

The changing dynamics in the service provider space present compelling upsell opportunities as overall market conditions change and consumer broadband usage models in the home morph.


First, service providers must engage in stronger benefits-oriented messaging that clearly and energetically calls out why households should upgrade their broadband speeds. About one-third of broadband households (~11 million) have diverse usage model requirements due to remote work and schooling, according to Parks Associates consumer research. Work-at-home employees are often videoconferencing 6 to 8 hours per day.

These users benefit significantly from faster download and uplink speeds. Parks Associates survey data also reveals that 44% of US broadband households reported (as of September 2020) using virtual meetings or videoconferencing tools.

Many schools across the United States have still not fully embraced in-classroom learning, and students continue to have remote (video-based) learning needs. Online gaming applications, which require low latency, have flourished over the past 18 months. Video streaming is not only one of the top in-home entertainment applications, but multiple household users stream their video content simultaneously, often in 4K/HD resolution. In short, the average US broadband household is now engaging in broadband usage models that tax conventional router functionality. Better download and upstream rates can (and should) be promoted as powerful differentiators by service providers that can serve future emerging use cases.

As many as **40%** of home workers will continue to work remotely (either entirely or hybrid part-time) after the pandemic wanes.

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**36%** of US broadband households subscribe to, or are trialing, a video gaming service.

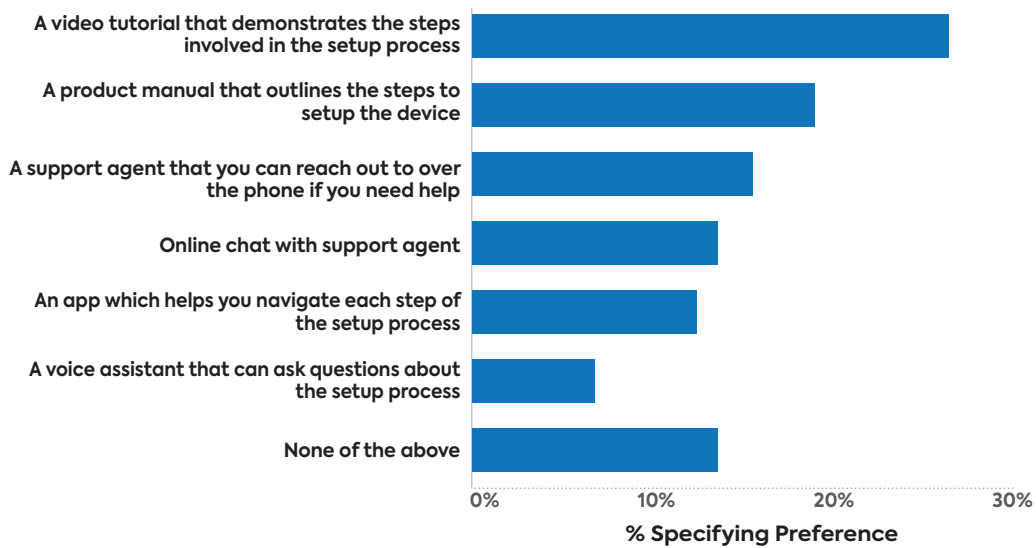
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By highlighting average uplink speeds in their consumer-facing plans, service providers give consumers the tools they need to better evaluate their options. Consumers unaware of the benefits do not upgrade their broadband speeds. Few consumers understand the technical differences and benefits between older technologies like coaxial cable, fiber optics, and hybrid implementations. Service providers offering high uplink services operate at a material competitive advantage. It allows them to position these capabilities (e.g., low latency) as the perfect solution for the usage models of today's broadband household.

**OTT subscriptions in the US will increase from ~230 million in 2021 to 277+ million in 2026, an increase of 20%+ in 5 years.**

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### Preferred Technical Support Solution for Self-installation



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Finally, service providers must reposition themselves as the consumer's IT function. Households want a worry- and stress-free experience with their in-home wireless network and do not want the burden of having to manage their router, even as they wish to take advantage of the advanced functionality that routers provide. Still, they lack the technical ability or do not have the time to manage their home networks comprehensively. The business opportunity for ISPs is not modest. Parks Associates' data highlights that consumers are not exceedingly sensitive to the price of new service bundles that "managed Wi-Fi" might enable: 27% of US broadband households express a willingness to pay \$20 per month for service bundles that include enhanced networking features, cybersecurity, parental controls and other valued capabilities. This dynamic translates into a \$720 million dollar annual revenue opportunity if just 2.7% of the US broadband population (~3M households) subscribe to these services, based on the \$20 per month figure.

"Reimagining" themselves in this manner is not a trivial undertaking. Still, it offers the potential for ISPs to strengthen their relationship with their subscribers; an outcome that can drive incremental revenue, enhance customer satisfaction, and improve bottom-line profitability.

Parks Associates, a woman-founded and certified business, is an internationally recognized market research and consulting company specializing in emerging consumer technology products and services. Founded in 1986, Parks Associates creates research capital for companies ranging from Fortune 500 to small start-ups through market reports, primary studies, consumer research, custom research, workshops, executive conferences, and annual service subscriptions.

The company's expertise includes new media, digital entertainment and gaming, home networks, internet and television services, digital health, mobile applications and services, consumer apps, advanced advertising, consumer electronics, energy management, and home control systems and security. [www.parksassociates.com](http://www.parksassociates.com)

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Mark Vena is currently President and Principal Analyst of SmartTech Research, an advisory research and marketing services firm based in San Jose, California. The company provides advisory and analyst commentary on a wide range of consumer technology topics. An insightful product and marketing technology leader with a strong product, business, and general management orientation, Mark possesses a demonstrated track record of driving product innovation and revenue growth. Mark has over 20 years of B2B and B2C branding, product marketing, product management, product planning, engagement/product launch marketing, market research, events, and general management experience with several of the world's top technology companies, including IBM, Compaq, Dell, Alienware, Synaptics, and Sling Media.

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#### END NOTES

<sup>1</sup> <https://www.allconnect.com/blog/us-internet-speeds-globally>

<sup>2</sup> <https://9to5mac.com/2021/03/04/us-high-speed-broadband/>

<sup>3</sup> <https://help.netflix.com/en/node/306>

<sup>4</sup> <https://www.whistleout.com/TV/Guides/internet-speed-you-need-for-netflix-streaming#:~:text=Other%20Streaming%20Service%20Speed%20Requirements%20%20device%29%2013Mb%20...%20%203%20more%20rows%20>

<sup>5</sup> <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/?menutem=480dace1-fd73-4f03-ad88-eae66e1f4217>

<sup>6</sup> <https://agingconnected.org/>

<sup>7</sup> <https://www.tomsguide.com/us/internet-speed-what-you-need,news-24289.html>



# RESEARCH & ANALYSIS

for Emerging Consumer Technologies

With over 35 years of experience, Parks Associates is committed to helping our clients with reliable and insightful consumer and industry research.



Smart Home Devices and Platforms



Digital Media and Platforms



Home Networks



Digital Health



Support Services



Entertainment & Video Services



Consumer Electronics



Energy Management



Home Control Systems



Home Security