U.S. Internet Analysis – *The Small Business Need for Speed*

> Over **2 million** U.S. small businesses subscribe to internet delivering **less than 50 Mbps**

Study Highlights

▪ *Almost 95% of businesses surveyed indicated they need speeds higher than 25 Mbps, and 85% believed **50 Mbps at minimum would be the best fit** for their primary business location.*

▪ ***More than 2 million U.S. business locations** subscribe to broadband services that deliver downstream internet speeds **less than 50 Mbps**.*

• *If sub-standard internet negatively impacts productivity by just 5%, the **cost** to U.S. small businesses would **exceed $80 Billion.***

▪ *70% of U.S. SMBs that use DSL as their primary form of internet connectivity do not have service exceeding 50 Mbps, and just over 20% receive less than the 25 Mbps threshold established by the FCC as the minimum to be considered broadband.*

▪ ***Mobile broadband** as a company's primary business internet connection is one of the **fastest growing technology services**, increasing 44% over the forecast period (2020-2024).*

Introduction

Fast, secure and reliable internet connectivity is more important today than ever. Much of the focus on internet speeds and availability has measured consumer access, but what about small businesses? Dependable internet connectivity that is capable of handling applications critical to daily operations has long been among the most important technological considerations for most small businesses.

Small business productivity is vital for the health of the U.S. economy. Based on the latest statistics from the *U.S. Small Business Administration*, small businesses account for almost half of all employees and about a third of all U.S. exports. When robust internet access is so critical to the smooth operations of this important economic segment it begs the question: ***How many small businesses have access to competitive broadband services at a price they can afford?*** This report answers that question by analyzing the U.S. broadband landscape with a focus on small business internet capabilities and requirements.

Internet Impact on SMB Productivity

Internet connectivity has become the communications lifeblood of most small businesses. Basic applications like email, internet connectivity, website updates and increasingly phone services are dependent on fast and reliable internet access. In fact, internet connectivity has become so critical that our recent study on the impact of internet outages found that over two thirds of SMBs believe that losing internet access would decrease productivity by at least 75%. (A free copy of this report is available at https://www.ooma.com/business-offers/smb-internet-outage-impact-report/).

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Mercifully, most internet outages last only a few hours, but slow or sub-standard internet may have a similar impact on productivity over the long run. If, for example, instead of a full-scale outage, the average small business was just 5% less productive due to sub-standard internet over a full year, the productivity cost to U.S. businesses would be *in excess of $80 Billion.*

Just as sub-standard home internet speeds can impair activities like video streaming or online gaming sessions, competitive internet speed is critical to the smooth operations of small businesses.

> **Videoconferencing** has been maturing as a technology and has made steady gains in both the consumer and business world for over a decade. More recently, in the current work at home environment, the collaboration technology has exploded. Even when the U.S. business environment normalizes, we are forecasting a significant spike in small business videoconferencing usage that will continue to expand beyond internal office usage and become a direct interface that customers and clients will require.
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> Sub-standard internet speeds will also drag on productivity associated with software and services like **accounting tools or customer relationship management (CRM)** systems that increasingly depend on seamless cloud-based access necessary for running day-to-day small business operations. Even something as basic (and critical) as **Point of Sale (POS)** interactions depend on a fast, reliable internet connection.
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> In addition to operational productivity, there is also the customer to consider. In a survey conducted last year, over 90% of businesses indicated they used **Wi-Fi service** at their business location with 40% offering connectivity to their customers and clients. In retail, hospitality or other businesses that are customer-facing, the quality of Wi-Fi impacts customer choice. There are many issues that can interfere with a strong Wi-Fi signal but having sub-standard internet speed guarantees underperformance at the source.
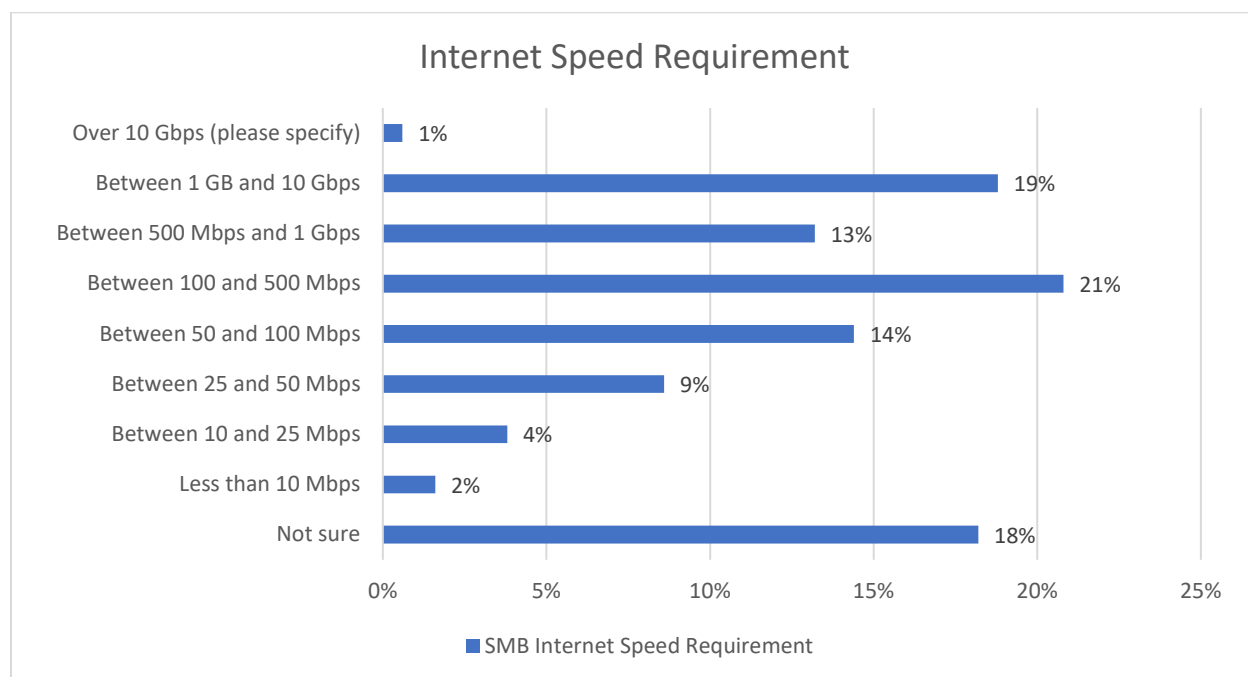
The impact of outages is particularly painful, but sub-standard internet service has long been one of the primary reasons SMBs either switch from one broadband provider to another or stay with their existing provider. For example, results from the most recent *Independence Research Customer Experience & Satisfaction Survey* shows that when asking SMBs "*Please choose the top things you like best about your company's existing internet provider*" **Internet Speed** was the top choice at 60%, compared with "High Quality Customer Support" at 34% or "Good Price" at 22%.

Perhaps the best measure of the importance of Internet speed is when SMBs vote with their dollars. Our recent *U.S. SMB Connectivity & Wi-Fi Survey,* asks small business decision-makers about their upcoming plans for technology investment, and consistent with past surveys, they indicated that upgraded internet services were among their top tech priorities.

Defining "Sub-standard" Internet

It is difficult to put a hard number on what level of speed is adequate for a small business to realize its full productivity. Different sizes, different industries, different application usage etc. make assigning an arbitrary threshold complicated. In 2015, the FCC redefined the standard for "broadband" at 25 Mbps downstream and 3 Mbps upstream – likely based on being slightly higher than the 24 Mbps downstream capability of ADSL2+, the DSL technology most widely deployed in the U.S.

An alternative method is to use a demand-based approach. In our *U.S. SMB Connectivity & WiFi Survey* Independence Research surveyed 500 U.S. small businesses in 2019 and asked how much internet speed would satisfy their business's requirements.

Internet Speed Requirement

Category	SMB Internet Speed Requirement
Over 10 Gbps (please specify)	1%
Between 1 GB and 10 Gbps	19%
Between 500 Mbps and 1 Gbps	13%
Between 100 and 500 Mbps	21%
Between 50 and 100 Mbps	14%
Between 25 and 50 Mbps	9%
Between 10 and 25 Mbps	4%
Less than 10 Mbps	2%
Not sure	18%

Almost 95% of businesses surveyed indicated they needed speeds higher than 25 Mbps, and 85% believed at least a minimum of 50 Mbps would be the best fit for their primary business location.

The following chart measures and forecasts the number of U.S. small business locations served by sub-standard internet service:

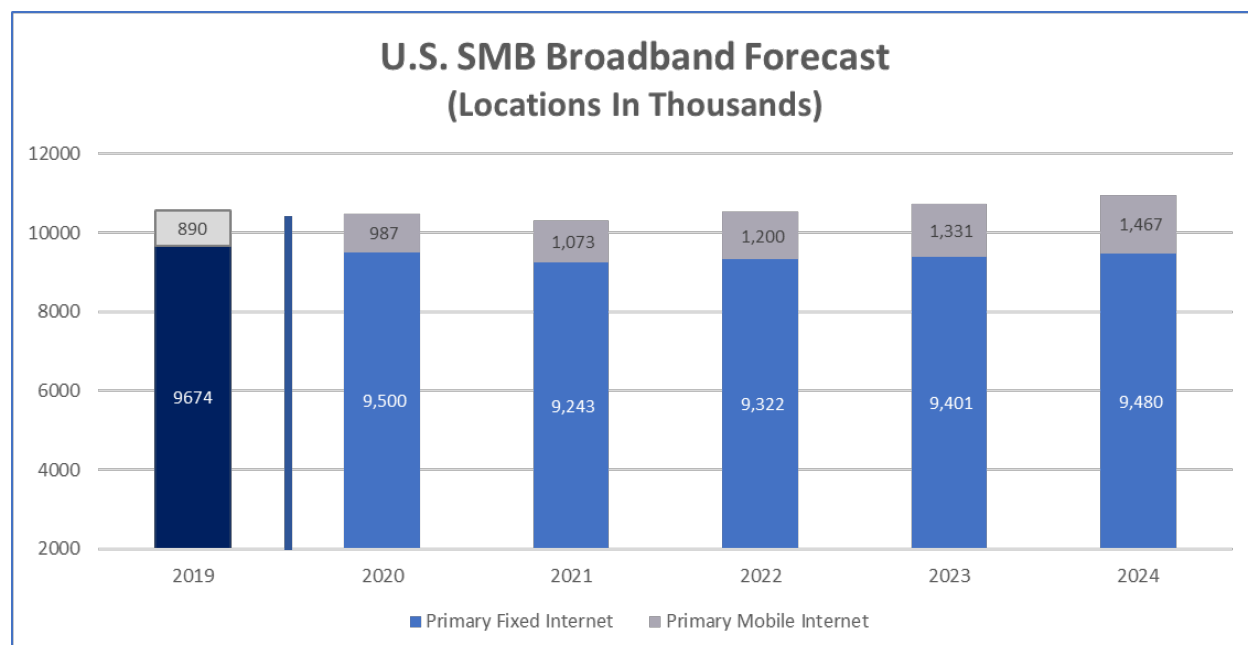| Under 50 Mbps Subscriber Count	2020	2021	2022	2023	2024
DSL	1,469	1,393	1,348	1,301	1,270
Cable Modem	229	206	177	170	148
Satellite/Other	313	319	318	315	322
Total	**2,011**	**1,917**	**1,843**	**1,786**	**1,739**
Locations in thousands		*Source: Independence Research LLC, 2020*			

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The future of DSL in the SMB

Over the next five years, the U.S. landscape for small business broadband will be impacted by two main drivers: availability and adoption of fiber to the premises (FTTP) and availability and adoption of mobile broadband offerings.

Unfortunately for small businesses at the lower end of the DSL performance scale, FTTP is an unlikely option. While it is true that service providers that have both DSL and FTTP capabilities are aggressively moving their subscriber base from copper to fiber, those serving areas are much more likely to be in areas that are more densely populated. Since Google changed the way fiber broadband is built out and marketed by utilizing a practice that was once derided as "red lining," fiber builds are based on profitability models. From an ISP profitability and ROI perspective, if DSL is not worth upgrading in a certain area, it is unlikely that the same area is a strong candidate for a fiber build.

Cable modem dominates DSL in most markets the two go head to head. At the lower end of the DSL performance scale, and even in the mid-tiers this is even more likely. This forecast assumes that in those markets where cable modem competes vs. sub-standard DSL, cable modem overwhelmingly wins. As a result, sub-standard DSL is not likely to be severely impacted by cable modem going forward, because the damage has already been done.

By carefully examining U.S. Small Business Administration and U.S. Census data and correlating with multiple *Independence Research* SMB technology surveys we believe the total number of non-home-based, broadband connected U.S. business locations to be approximately 10.5 million. The following chart shows the transition of SMB technology subscriptions over a five-year time period.

U.S. SMB Broadband Forecast
(Locations In Thousands)

Year	Primary Fixed Internet	Primary Mobile Internet
2019	9674	890
2020	9,500	987
2021	9,243	1,073
2022	9,322	1,200
2023	9,401	1,331
2024	9,480	1,467

The promise of mobile internet replacing sub-standard DSL is more likely. 4G and 5G availability continues to be expanded and offers potential speed and performance upgrades. However, low performance business DSL is typically priced very aggressively, and the delta between price and performance will have to make sense even for those businesses stuck with sub-standard DSL or satellite.

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Summary

It is clear internet services unable to achieve a minimum of 25 Mbps are considered too slow for almost all U.S. small businesses, and that speeds under 50 Mbps are considered inadequate by the vast majority (85%). Nevertheless, this analysis calculates that in 2020 almost 1.47million, or 70% of U.S. SMBs that use DSL as their primary form of internet connectivity do not subscribe to services exceeding 50 Mbps, and just over 20% receive less than the 25 Mbps threshold established by the FCC. This climbs to jus over 2 million when sub-standard satellite and cable modem services are also included.

Like most embedded technologies, DSL will not completely disappear any time soon. However, economic upheaval coupled with technological advances will create opportunities for replacement technologies that will bring faster, more reliable broadband service to millions of U.S. small businesses over the next decade.

Final Word..

SMBs: *Shop around.* There are more options than might be first apparent. Available and affordable wireline services typically boil down to cable modem, DSL or if you're lucky, fiber-based passive optical network (PON). However, there are wireless alternatives – and with 5G deployment well underway, high speed mobile internet options will only increase.

Channel Partners: *Pay attention to your access partner's broadband capabilities.* Connectivity issues can cause a variety of issues for applications requiring low latency or higher bandwidth requirements. The smaller the end customer, the less likely they will be able to afford enterprise-grade fiber and are reachable only by mass market broadband solutions. The type of broadband makes a difference.

Internet Service Providers: *Upgrade or lose customers.* There are many competing strategic priorities for a broadband service provider and plowing CAPEX into broadband infrastructure is an expensive choice - but the research is clear – internet connectivity is the number one technology priority for small businesses, and most often they either stay loyal or switch depending on how much speed they can get.

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