

# Broadband Insights Report (OVBI)

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4Q20







# Introduction

The past year unquestionably has been one of tremendous change for the broadband industry. Service providers have experienced across-the-board growth in consumption and speeds, testing networks as never before. This 4Q20 edition of the OpenVault Broadband Insights Report (OVBI) uses data aggregated from OpenVault's SaaS technology solutions to pinpoint how usage growth has exploded and the differences between two key categories: subscribers on flat-rate billing (FRB) plans that offer unlimited data usage and those on usage-based billing (UBB) plans, on which subscribers are billed based on their broadband consumption.

In addition to providing a data-based snapshot of the year just concluded, this 4Q20 edition of the OVBI also breaks new ground by exploring the cumulative impact of pandemic growth on broadband networks. The combined index factors in both per-subscriber usage and the growth in subscribers to get a true picture of the type of traffic increases the industry has experienced.

As OpenVault predicted, average monthly bandwidth usage at the end of 2020 approached one-half of a terabyte (TB) of data, or close to 483 GB. Subscribers on unlimited usage plans, or FRB plans, were closer to 497 GB.

## Key findings from the 4Q20 OVBI include:

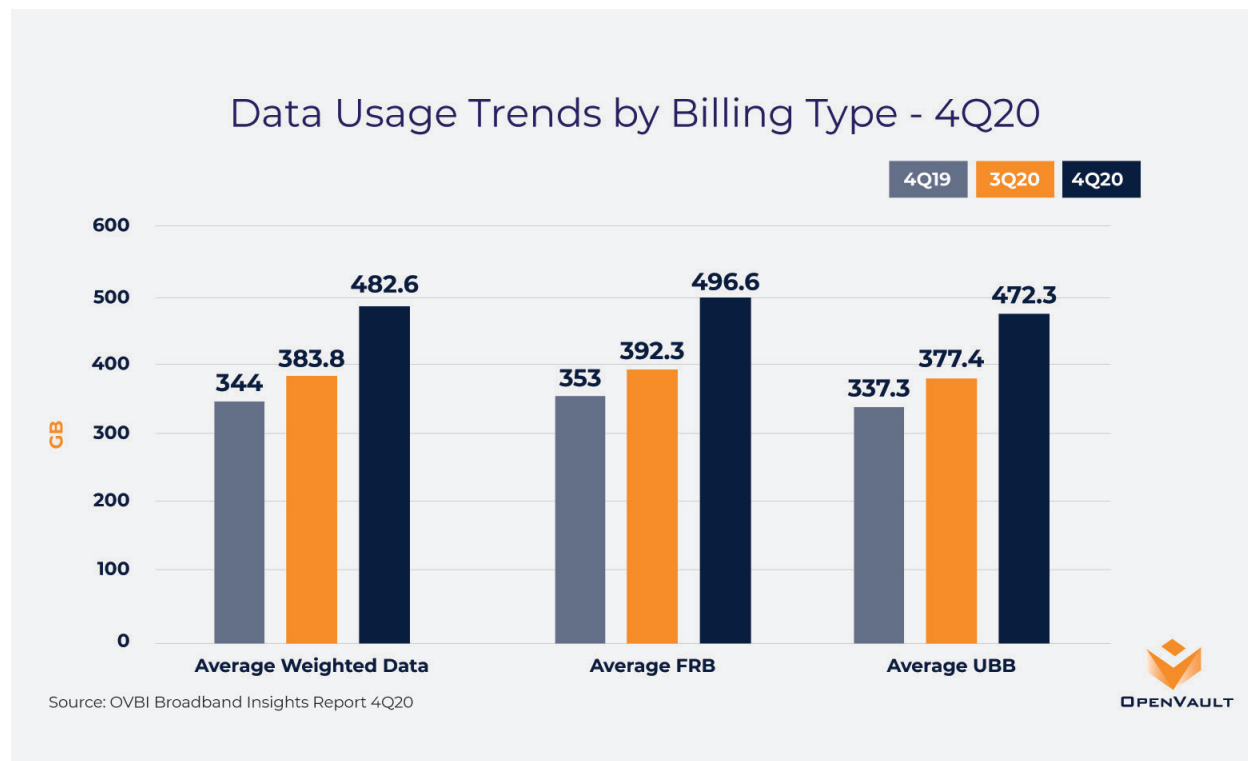
 <b>Usage</b> <p>The monthly weighted average data (both FRB and UBB) consumed by subscribers in 4Q20 was 482.6 GB, up 40% from 2019.</p>	 <b>Key ARPU Insight</b> <p>UBB operators had 73% more higher-ARPU gigabit subscribers than FRB operators.</p>
 <b>Power Users</b> <p>The power user category continues to accelerate, with 14.1% of weighted average subscribers now consuming over 1 TB of data per month, up 94% from 2019.</p>	 <b>Key Bandwidth Usage Insight</b> <p>For the first time, over half (53.6%) of all subscribers now routinely consume over 250 GB of data each month. This is an important benchmark as just a few years ago, a 250 GB monthly user was considered a power user.</p>
 <b>Speed Tiers</b> <p>For the first time, over half (50.6%) of subscribers are now provisioned for the 100 – 200 Mbps speed tier.</p>	 <b>Key UBB vs FRB Insight</b> <p>FRB-based network operators are seeing nearly 30% more 2 TB power users than operators who utilize UBB.</p>

With an entire year's worth of data, the 4Q20 OVBI puts the impact of the COVID-19 pandemic on broadband providers into proper context. The explosion in data consumption during 2020 has established a new normal of bandwidth usage that is especially visible when compared with pre-pandemic time periods.

OpenVault is a market-leading source of software-as-a-service (SaaS) broadband technology solutions and data-driven insights into worldwide broadband consumption patterns. OpenVault's tools for improving network management, growing ARPU and increasing customer satisfaction capture subscriber usage data from more than 150 service providers across four continents. OpenVault leverages these millions of subscriber data points, as well as more than a decade of historical data and industry context, to publish the OpenVault Broadband Insights Report (OVBI), a quarterly report of the most important data usage trends in the broadband industry.

# 4Q20 BROADBAND USAGE KEY FINDINGS

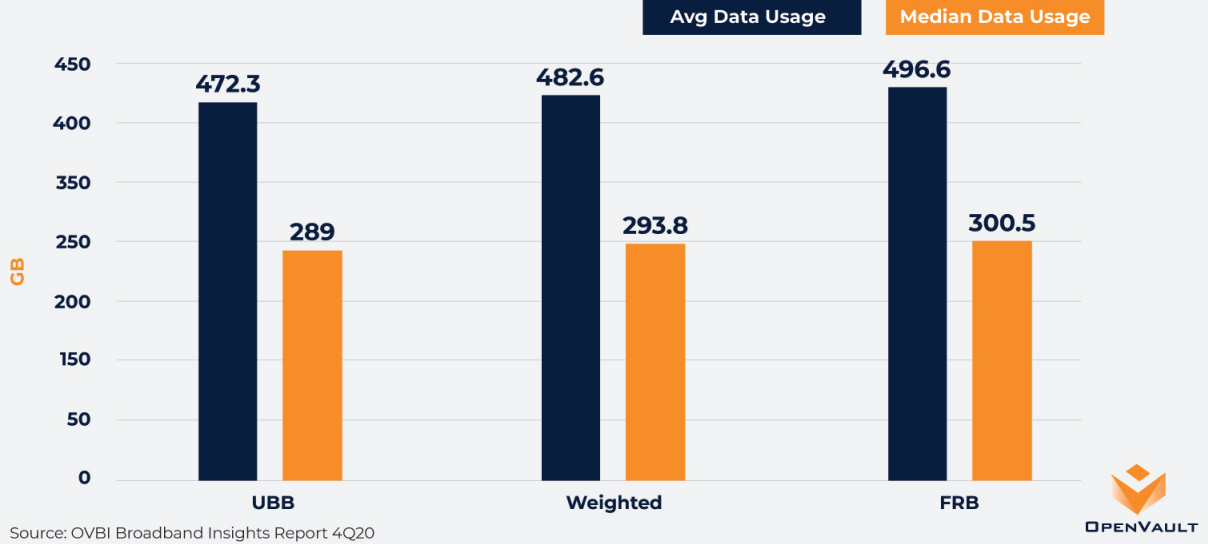
The following broadband usage trends were observed in 4Q20.



- The monthly weighted average data consumed by subscribers in 4Q20 was 482.6 GB, up 40% from 4Q19's weighted average of 344 GB, and up nearly 26% quarter-over-quarter from 3Q20. Weighted average data usage represents data usage trends for both flat-rate billing (FRB) and usage-based billing (UBB) subscribers.
- The pandemic's impact on bandwidth usage growth is well documented. Historical 4Q year-over-year growth pre-pandemic (2018 to 2019) averaged about 27%. The 40% year-over-year 4Q growth from 2019-2020 is 48% higher than the previous comparative period.
- Usage growth for both FRB and UBB subscribers picked up from the previous quarter, growing at 26% and 25% respectively.

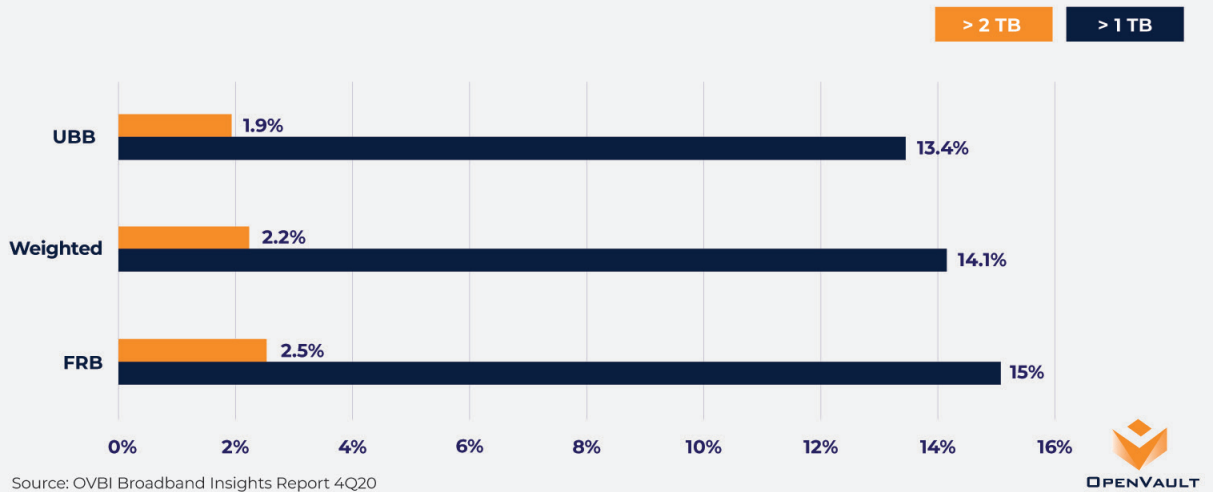
**The use of unlimited, flat-rate billing packages (FRB) increases the amount of extreme power users on the network.**

## Data Usage Comparison - 4Q20



- The median monthly weighted average usage in 4Q20 was nearly 294 GB, up 54% from 4Q19's 190.7 GB, and up 28% from 3Q20's median of 229 GB (weighted average usage combines both FRB and UBB billing approaches).
- This growth in median usage demonstrates that bandwidth usage growth defined by the pandemic is distributed evenly across most users and not driven by outliers or extreme users.
- Median FRB usage (300.5 GB) is nearly 4% higher than UBB usage (289 GB).

## Power Users Monthly Consumption - 4Q20



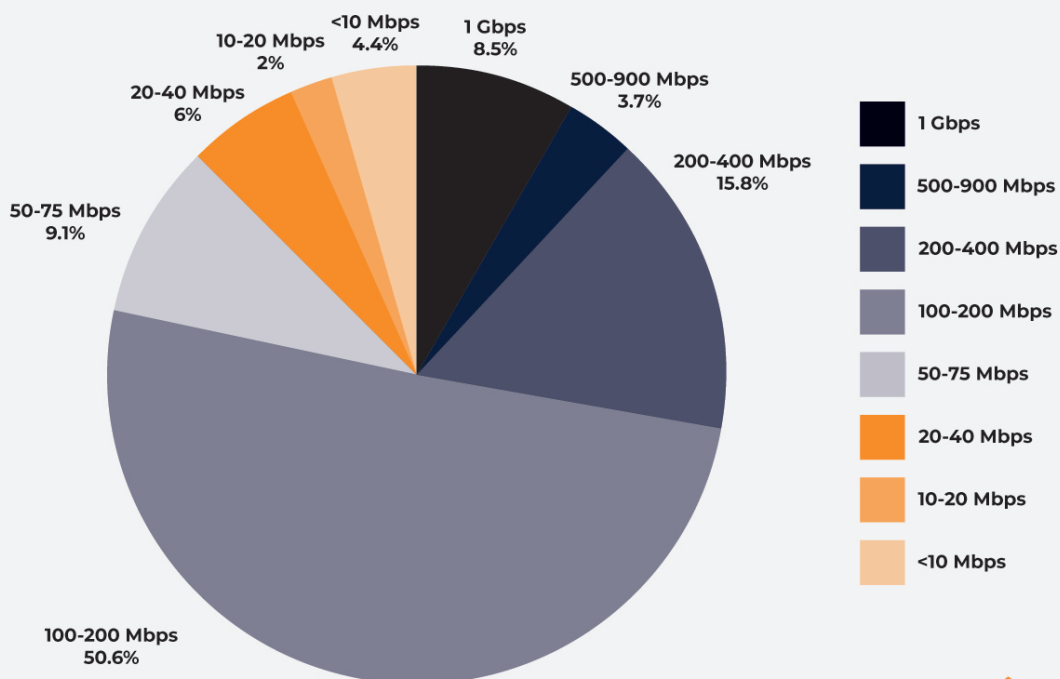
- The power user category continues its upward trajectory with 14.1% of weighted average subscribers now consuming over 1 TB of data per month, up 94% from 7.3% in 4Q19 – with 61% of that growth occurring in 4Q alone.
- The number of extreme power users, or those subscribers consuming over 2 TB per month, also continues to accelerate. In 4Q20, 2.2% of all subscribers used 2TB or more per month, representing 184% growth over 4Q19 and 120% growth between 3Q20 (1%) and 4Q20 (2.2%).
- The 4Q20 OVBI officially removed the 250 GB usage tier from the power user category, considering

**Network operators now must contend with significantly higher average bandwidth usage, with implications for both network management and revenue.**

over half (53.6%) of subscribers now routinely consume over 250 GB of data each month.

- The number of extreme power users on the network is highest among providers using unlimited, flat-rate billing packages. FRB-based network operators see nearly 30% more 2 TB power users than operators who utilize usage-based billing (UBB).

## Provisioned Broadband Speeds - 4Q20

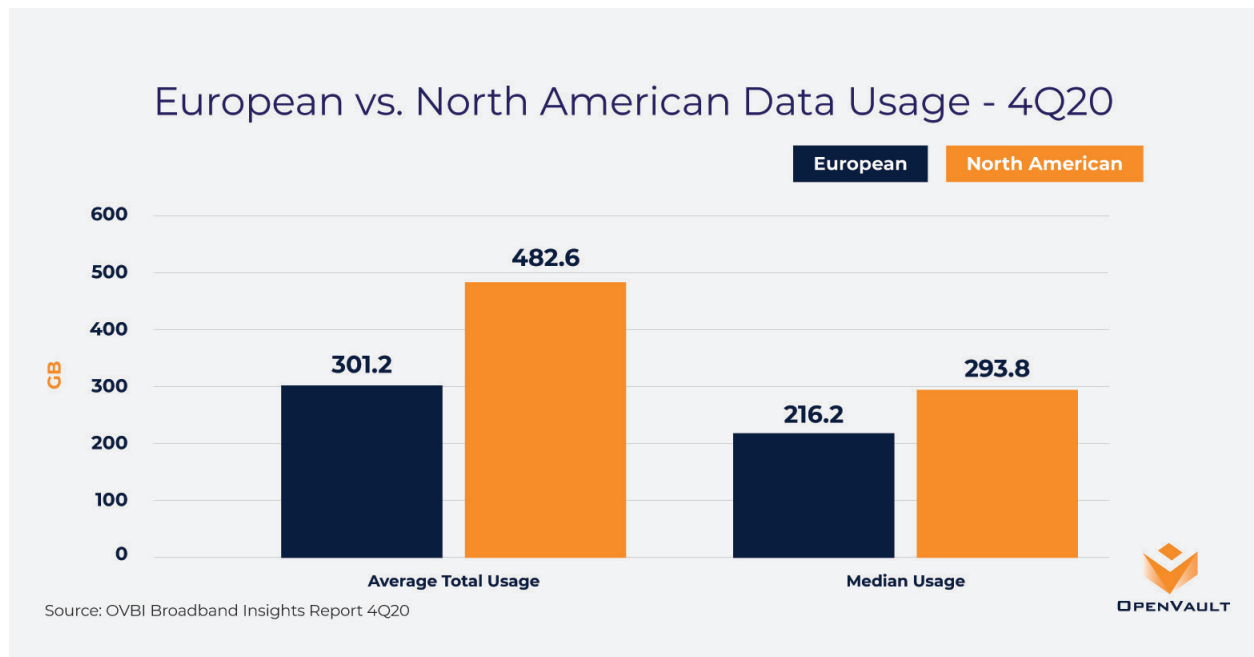


Source: OVBI Broadband Insights Report 4Q20



- The overall percentage of subscribers provisioned for gigabit speed is rapidly approaching 10%, with 8.5% of customers provisioned for the faster service in 4Q20. That's up 301% from 2.8% in 4Q19, and nearly 51% from 5.6% in 3Q20.
- Although the lowest speed (and typically lowest cost) tier of 10 Mbps saw some growth in 3Q20, it returned to normal levels at 4.4% of all subscribers, a decline of 24% from 3Q20's 5.8%.
- UBB operators had 73% more higher ARPU gigabit subscribers than FRB network operators
- For the first time, over half (50.6%) of all subscribers are now provisioned for the 100 – 200 Mbps speed tier.

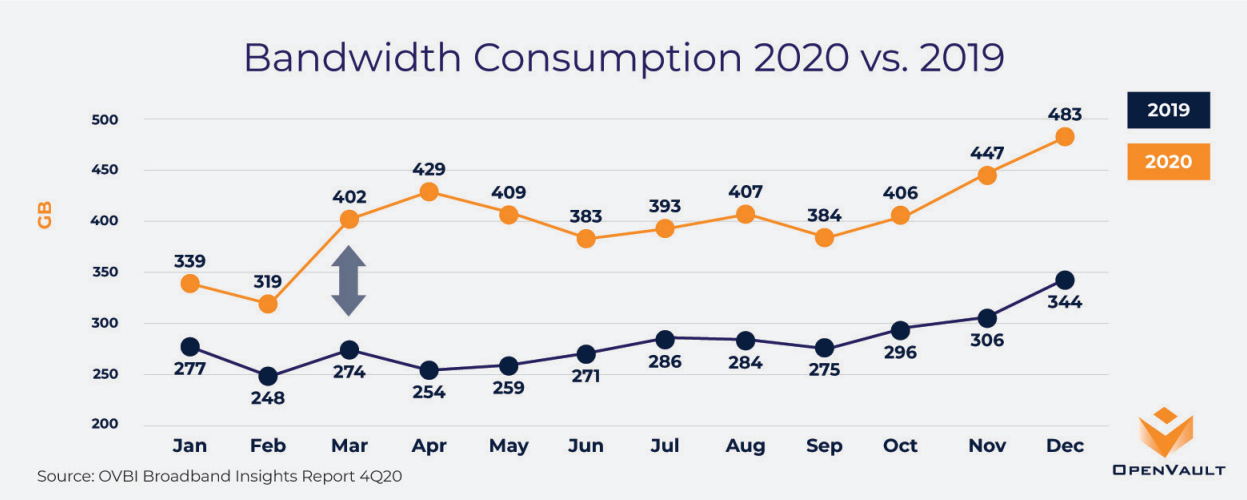
**The pandemic has accelerated the adoption of the gigabit broadband speed tier, with 301% year-over-year growth in 2020 for the higher speed, higher ARPU service.**



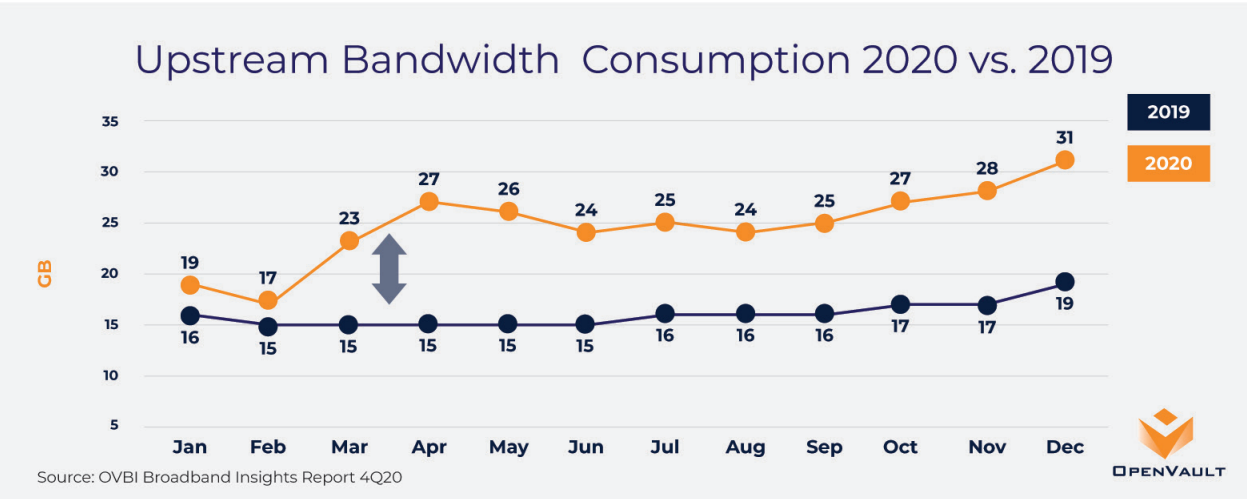
- European total average usage is up 48% from 203.5 GB in 4Q19 to 301.2 GB in 4Q20. Average European monthly data usage is roughly 62.4% of North American monthly usage.
- Median usage for European subscribers reached 216.2 GB, up 59% from 4Q19 (135.9 GB).

# PUTTING THE PANDEMIC INTO BANDWIDTH USAGE CONTEXT

As 2020 came to an end, subscribers, on average, were consuming close to one-half of a terabyte (TB) of data, up 40% from 2019. This data point is indicative of the impact of COVID-19 and has created a new normal of bandwidth usage that far exceeds pre-pandemic usage.



The impact from the pandemic began to take place in March/April 2020, as the above chart demonstrates through the growing year-over-year delta of usage patterns, beginning at that time period.



The pandemic impact is even more pronounced with the growth in upstream bandwidth, again seeing the initial spike towards the end of 1Q20. Average upstream bandwidth usage in December 2020 reached 31 GB, representing 63% growth over 2019. Upstream bandwidth usage growth topped 80% in April 2020 over April 2019. The fact that this growth has remained consistently high is particularly noteworthy for operators who are challenged with managing upstream bandwidth on their network.

## 2020 vs 2019 Implications

The new normal for bandwidth usage reveals a variety of implications for network operators, with usage and speed trends of particular importance for both network and revenue planning.

### Usage Implications



The pandemic driven year of 2020 saw dramatic increases in both bandwidth usage and new subscriber growth. The combination has driven as much as 51% of additional on-net traffic on networks observed by OpenVault.



Growth in median usage, up 54% year-over-year at the end of 2020, demonstrates that bandwidth usage growth defined by the pandemic is distributed evenly across most users and not driven by outliers or extreme users.



FRB network operators have to contend with 30% more 2 TB power users than UBB network operators. Moving to a UBB approach has proven to curtail extreme power users and the network management challenge they create.



The continued growth in upstream bandwidth, up 63% year-over-year at the end of 2020, is particularly noteworthy for network operators who are challenged with managing upstream bandwidth on their network.

### Speed Implications



The higher ARPU gigabit speed tier is growing exponentially, averaging 8.5% penetration at the end of 2020, up 301% from 2019. UBB network operators see 73% more higher ARPU gigabit subscribers on average than FRB operators.



For the first time, over half (50.6%) of all subscribers are now provisioned for the 100 – 200 Mbps speed tier. Lower speed tiers of less than 100 Mbps are now seeing penetration of only 21.5%.

FRB operators have 2.3x the number of lower-ARPU 10 Mbps tier subscribers than UBB operators.



# THE AVERAGE BROADBAND HOUSEHOLD

A snapshot of the average U.S. broadband household.

OVBI Average  
Broadband Household Index – 4Q 2020



**483 GB**

Average Bandwidth Usage



**452 GB**

Average Downstream Usage



**31 GB**

Average Upstream Usage



**207.11 Mbps**

Average Downstream Speed



**15.55 Mbps**

Average Upstream Speed



**4**

Average Number of  
Streaming Services\*

\*Deloitte Insights- Digital media trends survey, 14th edition



**10.37**

Average Number of  
Connected Devices\*

\*Statista

Source: OVBI Broadband Insight Report 4Q20



# CONCLUSION

The impact of the COVID-19 pandemic began towards the tail end of the first quarter of 2020. The impact was immediate and has forever changed bandwidth usage patterns. Network operators now must contend with significantly higher average bandwidth usage, with implications for both network management and revenue.

With average bandwidth consumption now approaching one-half a terabyte (TB), combined with new subscriber growth, network operators are contending with network traffic growth of 51%. OpenVault believes that this is the new normal reality and network operators should evaluate all network

management options to ensure they deliver the best customer experience, while maximizing profitability.

There are distinct differences with these factors between UBB and FRB network operators. FRB operators tend to have a higher concentration of extreme power users and of low end speed tier subscribers, both of which impact network management and overall revenue. OpenVault encourages all network operators to leverage the tools required to study these and other factors so they may make the most informed decisions for their network operations.

**There are distinct subscriber usage behavior differences between UBB and FRB network operators that impact network performance and revenue.**

# OpenVault Solutions Informing the 4Q20 OVBI Outcomes

OpenVault is the world's only solutions provider focused exclusively on optimizing networks and driving revenue for cable, fiber and wireless broadband operators. Our SaaS solutions improve network management, grow ARPU and increase customer satisfaction for more than 150 service provider engagements across four continents. Leveraging specific subscriber usage data within broadband provider's networks, we're able to gain unique insight into how subscribers consume broadband services and then deliver solutions that unlock the power of that data. Key findings within this OpenVault Broadband Insights Report point to the need for broadband providers to consider offering UBB plans, targeting at-risk subscribers for rightsizing and upgrade opportunities, and introducing proactive customer care.

The following OpenVault solutions allow providers to address these challenges and are selected from our full suite of value-improving network solutions.



## Revenue Generation

Our revenue-driving solution uses near real-time data as actionable information that allows providers to: grow their subscriber base with the flexibility to create new packages based on segments of the market; enhance value and ROI on existing infrastructure; decrease inbound call volume and truck rolls due to self-selected upgrades for rightsizing; better understand product mix selected by subscribers and create new plans targeting new market segments; and quickly identify power users to ensure they are subscribed to the appropriate product.

[Learn More](#)



## UBB Modeling and Deployment Tools

OpenVault has been deploying UBB programs for broadband providers since 2012 with UBB-enabling solutions deployed on three continents for operators with a few thousand subscribers to over one million generating over \$150 million in incremental revenue annually. Our rapid deployment approach allows providers to analyze and model the optimum package and associated revenue; create product definitions; educate subscribers on how to adapt as well as prepare customer care for support; and then launch the UBB package with ongoing metrics to gauge success.

[Learn More](#)



## Distance Diagnostics & Remote Care

OpenVault swiftly developed and introduced this solutions suite to support providers facing pandemic-induced heavy network usage and increased customer care demand. Distance Diagnostics & Remote Care provides actionable information for the troubleshooting of home network problems. With this solution in place, broadband providers can: remotely ID, diagnose and resolve subscribers' network issues; keep their field techs focused on plant servicing outside the subscriber's home; provide quality service to subscribers without rolling trucks and direct physical interaction; identify and proactively address node congestion, usage abusers and household-specific WiFi load issues; and reduce costs from fewer disconnects, truck rolls and customer calls.

[Learn More](#)

## *About OpenVault*

OpenVault is a market-leading source of broadband technology solutions and data-driven insights into worldwide broadband consumption patterns. OpenVault's cloud-based, SaaS solutions and tools help service providers optimize network performance, increase revenue and improve subscriber satisfaction. OpenVault aggregates and analyzes the resulting market data to provide unparalleled granular views of consumer usage that can be used to anticipate residential and business broadband trends.

For more information, please visit [openvault.com](https://openvault.com) or contact us directly:

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