



Broadband Insights Report (OVBI)

3Q22

Introduction

Subscribers' seemingly endless demand for faster speeds continued to drive broadband narratives in the third quarter of 2022. The latest edition of the OpenVault Broadband Insights (OVBI) report shows how subscribers' self-selection and service providers' automatic upgrades have resulted in increases of as much as 100% in key speed metrics.

The 3Q22 OVBI highlights year-over-year increases of 35% in the gigabit tier to more than 15% of all subscribers and a doubling in size of the 200-400 Mbps to nearly 55% of all subs. The report also shows how faster speeds are fueling greater consumption that may be reflected in the need for increased capacity in the future. This edition also continues to track usage of Affordable Connectivity Plan participants, first discussed in 2Q22. ACP participants continue to outpace the larger population with bandwidth usage, indicating potential network issues among this cohort.

As with all editions of the OVBI, this 3Q22 version uses data points from millions of individual broadband subscribers, aggregated from OpenVault's software-as-a-service (SaaS) technology solutions. The data is used to pinpoint usage patterns, including 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.

UBB network operators have been successful in converting subscribers to faster-speed, higher-ARPU speed packages, particularly with speeds of 200 Mbps or faster. Over 80% of UBB subscribers now are in that category, with over 16% taking a gigabit or faster tier.



Key findings from the 3Q22 OVBI include:



Usage

The monthly weighted average data consumed by subscribers in 3Q22 was 495.5 GB, up 13.9% from 3Q21.



Key ARPU Insight

FRB operators have 2.5x more subscribers in the lower-ARPU speed tier (50 Mbps or less) vs UBB operators.



Power Users

Close to 16% of all subscribers in 3Q22 consumed 1 TB or more of data.



Key Bandwidth Usage Insight

ACP participants' median usage of 474.2 GB in 3Q22 is 46% higher than the median usage of the entire population.



Speed Tiers

The gigabit subscriber tier surpassed 15% of all users for the first time in 3Q22.



Key UBB vs FRB Insight

Close to 83% of UBB subscribers receive speeds of 200 Mbps or faster, compared with only 59% of FRB subscribers.

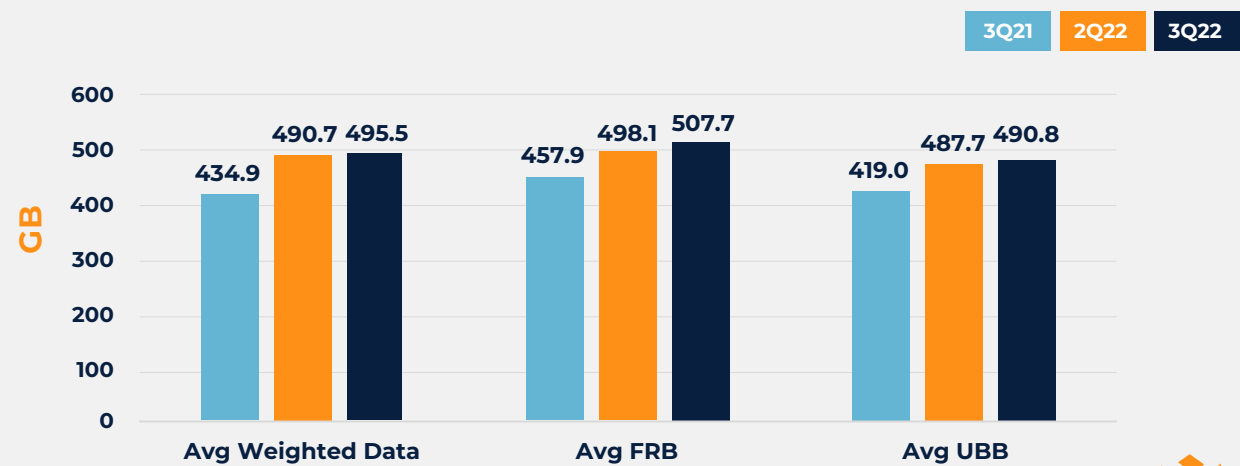


3Q22 Broadband Usage Key Findings

The following broadband usage trends were observed in 3Q22.

FIGURE 1

Data Usage Trends by Billing Type — 3Q22



OpenVault Broadband Insights Report 3Q22



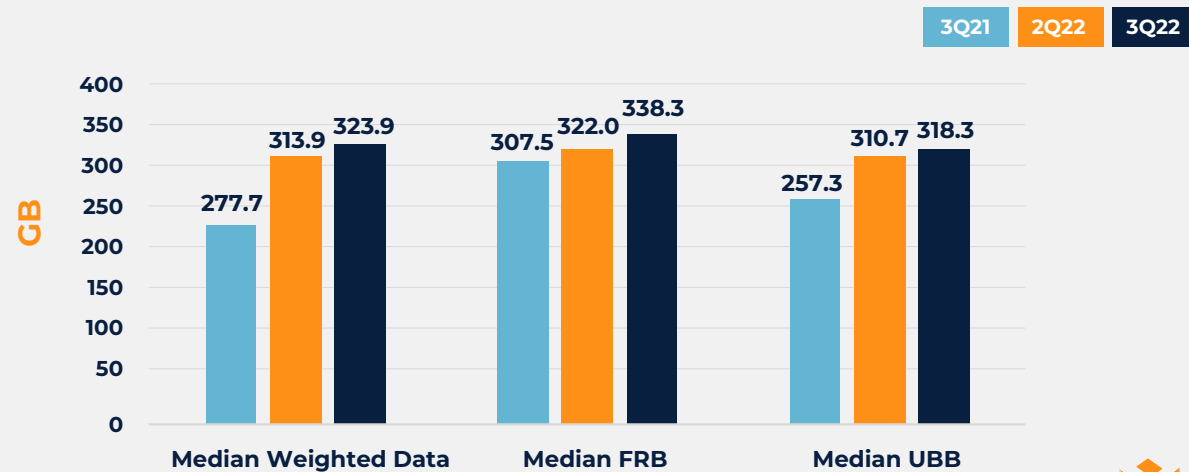
FRB subscribers exceeded 500 GB in usage during 3Q22.

- The monthly weighted average data consumed by subscribers in 3Q22 was 495.5 GB, up 13.9% from 3Q21’s weighted average of 434.9 GB, and relatively flat sequentially (quarter-over-quarter) from 2Q22. This is in line with historical third quarter seasonal patterns. Weighted averages combine data from FRB and UBB subscribers. *Figure 1*
- Annual upstream and downstream bandwidth growth were relatively even at 13.9% and 13.2%, respectively.
- Average UBB usage grew at an annual rate of 17.1% in 3Q22, outpacing both average FRB annual growth (10.9%) and average weighted annual growth (13.9%). *Figure 1*



FIGURE 2

Median Usage Trends by Billing Type — 3Q22



OpenVault Broadband Insights Report 3Q22



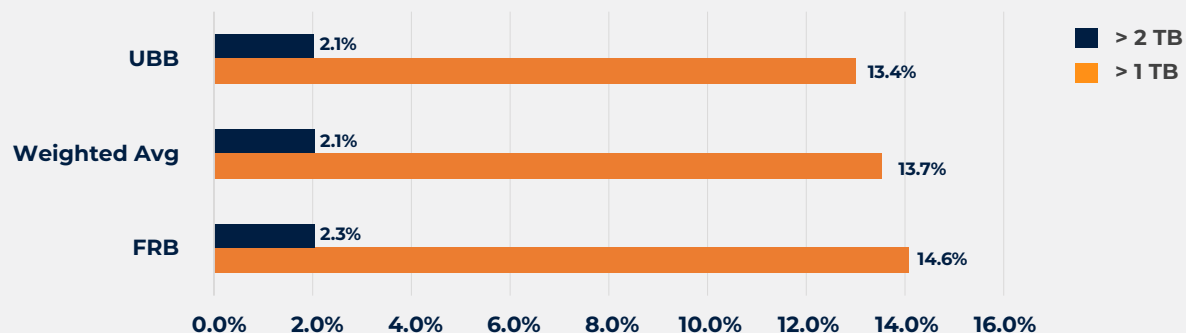
- The monthly weighted median usage in 2Q22 was 314 GB, up nearly 15% from 274 GB a year ago, and down 7.2% sequentially from 1Q22's median of 338 GB. ^{Figure 2}
- Median usage for UBB providers (311 GB) was down close to 5% sequentially in 2Q22, compared with a 13% decline for FRB providers. ^{Figure 2}

UBB subscribers are adopting faster speed tiers when compared with FRB subscribers, which contributes to a higher growth rate for median usage.



FIGURE 3

Power Users' Monthly Consumption — 3Q22



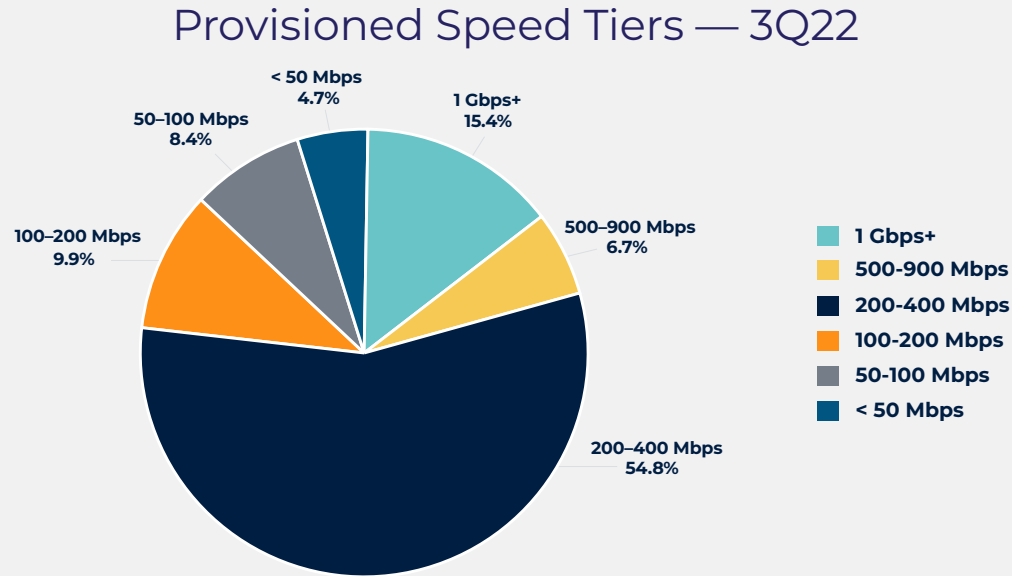
OpenVault Broadband Insights Report 3Q22



- Annual growth of super power users (2 TB or more per month) was nearly 50% — almost double that of power users in the 1 TB or more category, which grew at nearly 28%. ^{Figure 3}
- FRB users of 1 TB or more were the only power user category to see growth in both 2Q22 and 3Q22. ^{Figure 3}



FIGURE 4



OpenVault Broadband Insights Report 3Q22



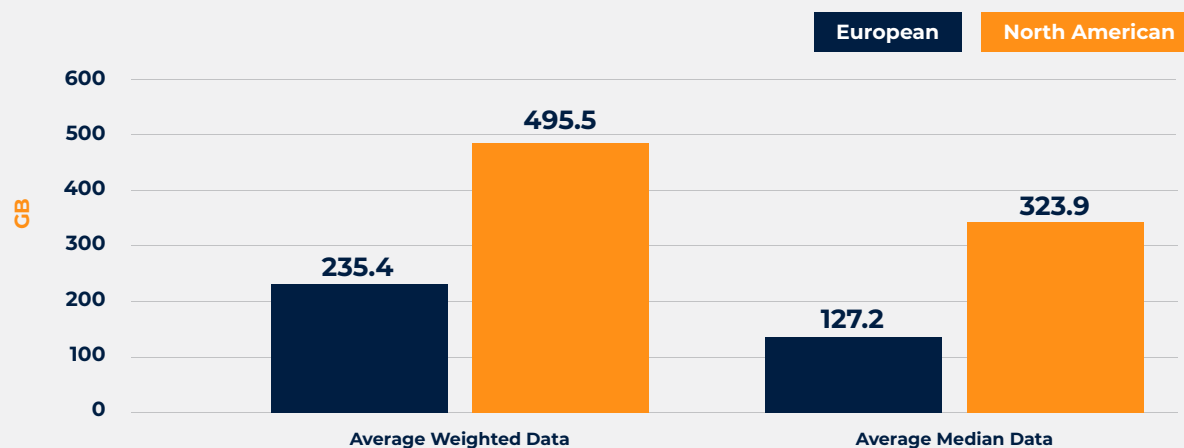
Four out of five UBB subscribers receive broadband speeds of 200 Mbps or more.

- The gigabit subscriber tier reached 15.4% of all subscribers, up over 35% from a year ago (11.4%). *Figure 4*
- The speed tier with the fastest annual growth is the 200-400 Mbps tier, which doubled to 54.8% of all subscribers from 27.4% a year ago. *Figure 4*
- The slowest speed tier of less than 50 Mbps continues to shrink, at 4.7% in 3Q22, down over 50% from a year ago (9.8%). *Figure 4*
- At 16.2%, UBB subscribers with a gigabit or faster tier outpace both FRB subscribers (13%) and weighted average subscribers (15.4%).



FIGURE 5

European vs. North American Data Usage — 3Q22



OpenVault Broadband Insights Report 3Q22



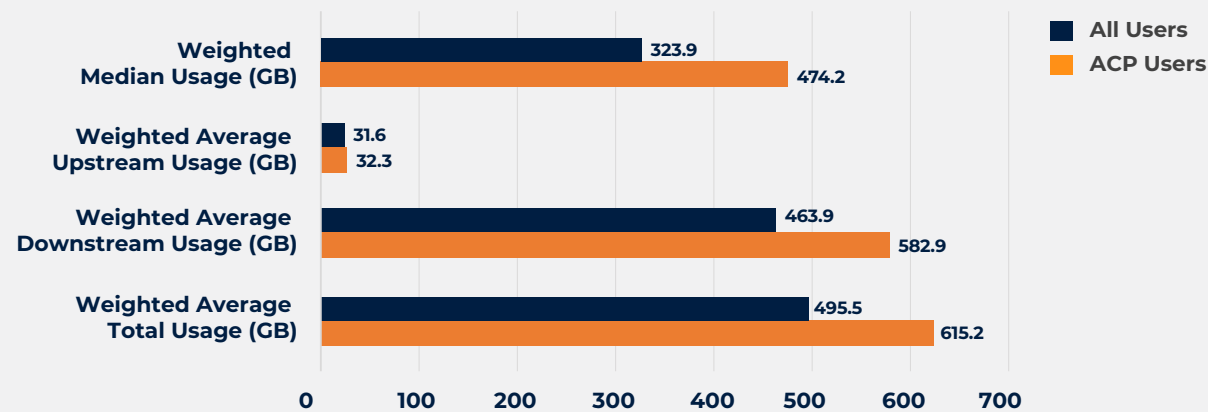
- European average data usage (235.4 GB) is up 19.3% from a year ago, which is ahead of North American annual growth of 13.9%. ^{Figure 5}
- North American median data usage (323.9 GB) is over 2.5x that of European median data usage (127.2 GB). ^{Figure 5}



Affordable Connectivity Plan (ACP) Usage

FIGURE 6

ACP Usage vs. Overall Usage — 3Q22



OpenVault Broadband Insights Report 3Q22



- We began tracking a small sample of ACP subscribers in 2Q22, which revealed higher usage among ACP participants, compared to all users. That trend continued in 3Q22 with ACP participants consuming 615.2 GBs of data on average, which is 24% more than that of the larger population (495.5 GB). *Figure 6*
- ACP participants' data usage declined 6%, down from 654 GBs in 2Q22 to 615.2 GBs in 3Q22. *Figure 6*
- Over 18% of ACP participants were power users in 3Q22, consuming over 1 TB of data per month, compared with close to 16% of the overall population.

Upstream data usage for both ACP participants and the broader population was virtually the same in 3Q22, but ACP participants consume 26% more downstream data



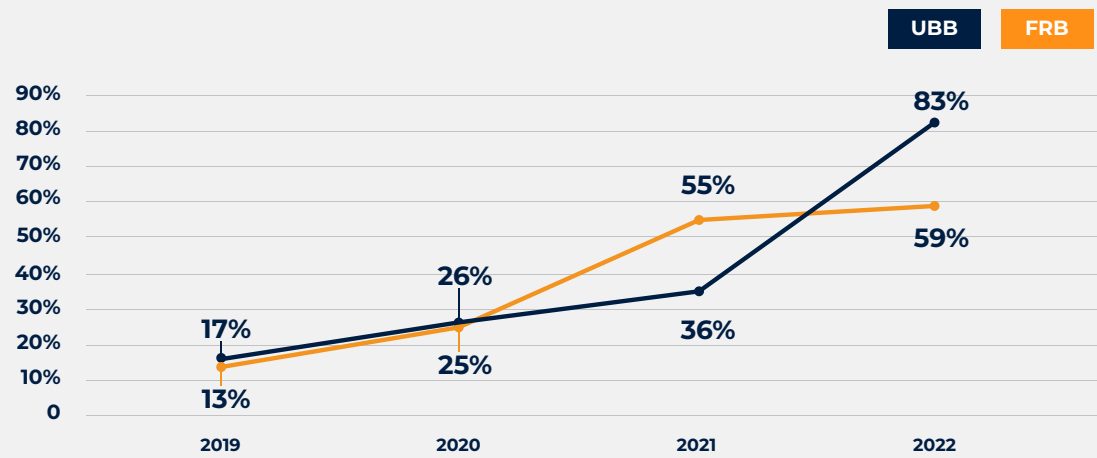
Impact of UBB Speed Trends

UBB subscribers are adopting faster speed tiers, which is driving higher data usage for UBB networks. Often UBB subscribers opt to take faster tiers because of the associated higher data allowances, or UBB operators are automatically increasing speeds at little or no cost to subscribers. Regardless of the upgrade factor, UBB networks are seeing more data usage.

Figure 7 below plots speed adoption trends for both UBB and FRB operators, illustrating faster growing adoption of higher-speed tiers for UBB subscribers. Over 83%, or 4 out 5 UBB subscribers, are now on 200 Mbps or faster speed tiers, compared with only 59% of FRB subscribers.

FIGURE 7

Subscriber % for ≥200 Mbps Speed Tier



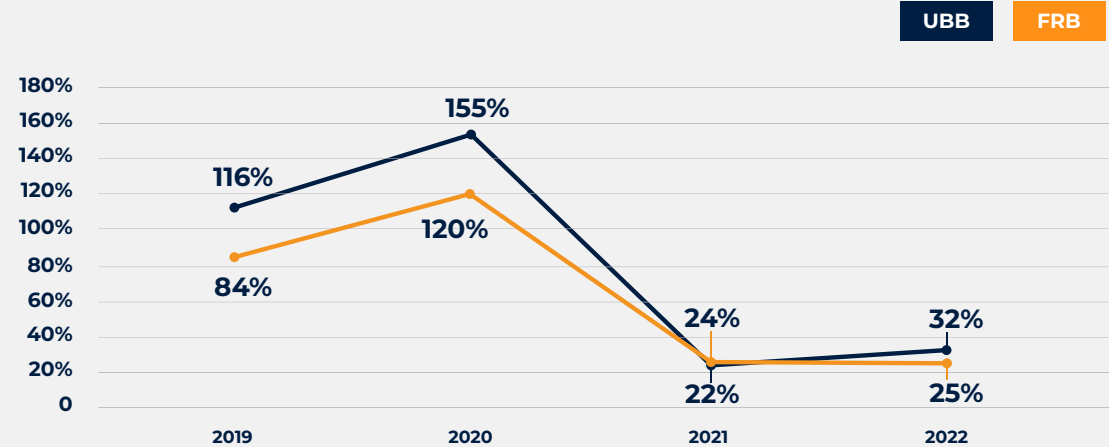
OpenVault Broadband Insights Report 3Q22



This higher adoption of faster speeds for UBB networks impacts bandwidth usage growth as well. While FRB networks historically have higher amounts of bandwidth usage, the growth rate for UBB networks is actually higher. Figure 8 below illustrates this data point by plotting the annual percentage growth rate of power users (consuming 1 TB or more per month) for both UBB and FRB networks, with UBB networks seeing higher growth compared to FRB networks.

FIGURE 8

Annual % Growth of Power Users



OpenVault Broadband Insights Report 3Q22



The 2020 spike in power user annual growth is related to the COVID-19 pandemic. Other bandwidth usage data points that support this comparison trend include the growth rate of median usage. In 3Q22, UBB network median usage growth was 24%, compared to 10% for FRB networks.



Industry Observations

Below are recent milestones or data equivalences that put the OVBI's 3Q22 historic usage rates into perspective.



152.1 MM

subscribers added by
Disney+ in 3Q22

Source: Indiewire.com 8/1/2022



2.5 Quintillion

bytes of data created
everyday

Source: EarthWeb.com 9/22/22



1 GB

of data can create
350,000 emails

Source: EarthWeb.com 9/22/22



333.2 Billion

emails are sent
per day

Source: EarthWeb.com 9/22/22



20%

people online are
watching online games

Source: EarthWeb.com 9/22/22



62 MM

hours of streams are watched
daily on Twitch

Source: DataProt.net 8/24/22



OVBI Average Broadband Household Index 3Q22

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



495.45 GB
Average Bandwidth Usage



463.9 GB
Average Downstream Usage



31.6 GB
Average Upstream Usage



347.8 Mbps
Average Downstream Speed



23.5 Mbps
Average Upstream Speed



Conclusion

Average monthly bandwidth usage approached ½ a terabyte in 3Q22, as familiar seasonal patterns for data usage were evident. FCC Affordable Connectivity Program participants continue to outpace the larger population across all categories except for average upstream usage, where they match the broader population. The 3Q22 OVBI also reveals the continuing adoption of faster speed tiers, as subscribers who take the slowest speed tier of <50 Mbps are down nearly 50% in 3Q22 compared with 3Q19. Conversely, subscribers who take the gigabit speed tier are up over 600% in the same time period.

These speed tier trends are particularly evident with UBB networks, where the percentage growth in the adoption of faster speed tiers is the highest. This trend is impacting bandwidth usage characteristics, with faster growth in both power users and median bandwidth usage.

The benefits of a UBB strategy for network operators now include better ARPU growth dynamics in addition to better network capacity management, as more UBB subscribers are adopting higher-ARPU faster-speed tiers in comparison with subscribers on FRB networks.



OpenVault Solutions to Address This Report's Insights

From network congestion to increasing revenue, OpenVault offers solutions to improving the value of broadband networks. Three of the solutions associated with this report's insights are:



Subscriber Upgrade Candidates

Now broadband providers can identify, in near real-time, subscribers with usage behavior that approaches the maximum speed of their service packages. Perfect for upgrading to higher speed and more provider-lucrative plans, OpenVault solutions enable targeted subscribers to experience higher QoE and reduce their need for customer care.



Boost Network Capacity

For providers who have invested in a DOCSIS 3.1 network, OpenVault offers a means to supercharge it. Broadband providers can deploy a closed-loop and automated data-driven solution that dynamically creates bandwidth without human intervention. Through persistent analysis of data from each CM and CMTS, the OpenVault Profile Management Application (PMA) learns the state of the system and creates profile sets tailored to the unique real-world environment of each OFDM/OFDMA channel – essentially creating “virtual node splits” and opening up more usable bandwidth.



ACP Reporting

OpenVault makes Affordable Connectivity Program audit reporting a simple process. OpenVault's access to subscriber usage data enables us to track usage/zero usage calculating as defined by the FCC. These reports provide a list of accounts that have hit the threshold for consecutive days with zero usage (also as defined by the FCC): 15 Days; 30 Days; or 45 Days and includes: MAC addresses; billing account; usage by month – upstream, downstream, and total; and data repository providing multiple years of history.

Learn more about these and other revenue increasing and network management solutions at OpenVault.com.



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 or contact us directly:

OpenVault

111 Town Square Place, Suite 1180
Jersey City, New Jersey 07310
sales@openvault.com
201-677-8480

