



# Broadband Insights Report (OVBI)

*2Q22*

# Introduction

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Participants in the United States' FCC's Affordable Connectivity Program are exhibiting broadband usage patterns that exceed those of the broader connected population, according to initial results contained in the 2Q22 OpenVault Broadband Insights Report (OVBI).

Broadband providers need to be aware of the potential impact to network performance as they roll out the ACP to new subscribers. Additionally, data in this edition reveals shifting usage patterns among subscribers on usage-based billing (UBB) plans, who are adopting higher-ARPU speed tiers and whose usage pattern growth is surpassing that of subscribers on flat-rate billing in some important categories.

As with all editions of the OVBI, this 2Q22 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 subscribers on flat-rate billing (FRB) plans that offer unlimited data usage and those on UBB plans, on which subscribers are billed based on their broadband consumption.

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**An initial sample look at participants in the FCC's Affordable Connectivity Program reveals a voracious appetite for bandwidth, with median monthly usage of half a terabyte, nearly 60% more than the broader population.**

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# Key findings from the 2Q22 OVBI include:



## Usage

The monthly weighted average data consumed by subscribers in 2Q22 was 490.7 GB, up 13.1% from 2Q21.



## Key ARPU Insight

UBB operators have close to 30% more highest-ARPU gigabit subscribers than operators that use FRB.



## Power Users

The power user category of 1 TB or more usage per month grew 30% from a year ago.



## Key Bandwidth Usage Insight

ACP participants are consuming, on average, 163 more gigabytes of data per month than the broader population.



## Speed Tiers

The 200 – 400 Mbps speed tier is by far the most popular tier, with well over half of all subscribers choosing it.



## Key UBB vs FRB Insight

Annual median usage growth for UBB networks was 2.5x more than for FRB networks.

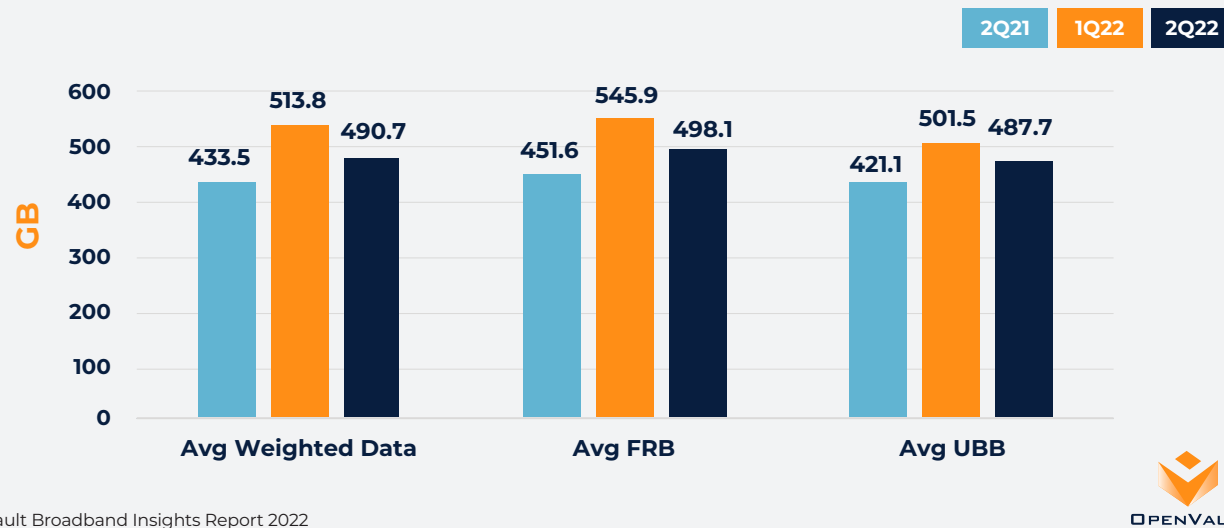


# 2Q22 Broadband Usage Key Findings

The following broadband usage trends were observed in 2Q22.

FIGURE 1

## Data Usage Trends by Billing Type — 2Q22



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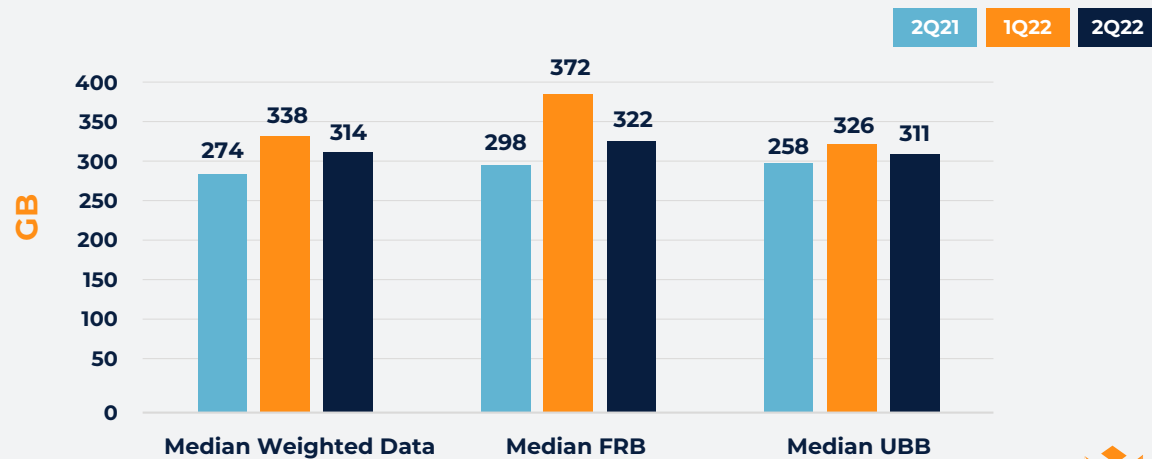
Seasonal patterns of less data usage during the second quarter of the year caused overall average usage in 2Q22 to dip below half a terabyte for the first time since 3Q21.

- The monthly weighted average data consumed by subscribers in 2Q22 was 490.7 GB, up 13.1% from 2Q21's weighted average of 433.5 GB, and down 4.5% sequentially (quarter-over-quarter) from 1Q22. This is in line with historical second quarter seasonal patterns. Weighted averages combine data from FRB and UBB subscribers. Figure 1
- Annual upstream data usage growth (10.5%) was outpaced by downstream data usage growth (13.4%) in 2Q22.
- UBB networks realized greater annual growth in upstream usage, up 18.5%, as compared to FRB networks, which saw relatively flat growth in upstream data usage.



FIGURE 2

## Median Usage Trends by Billing Type — 2Q22



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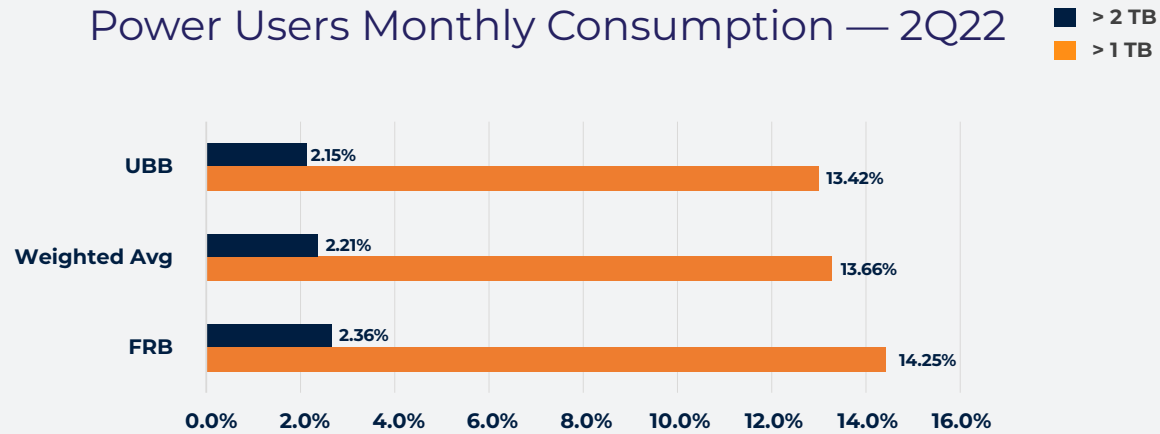
- The monthly weighted median usage in 2Q22 was 314 GB, up nearly 15% from 274 GB a year ago, and down 7.2% sequentially from 1Q22's median of 338 GB.
- Median usage for UBB providers (311 GB) was down close to 5% sequentially in 2Q22, compared with a 13% decline for FRB providers.

UBB network operators are having more success in moving subscribers into higher-speed packages which is impacting data usage growth, as evidenced by 20% median usage annual growth in 2Q22 for UBB, compared to only 8% for FRB.



FIGURE 3

## Power Users Monthly Consumption — 2Q22



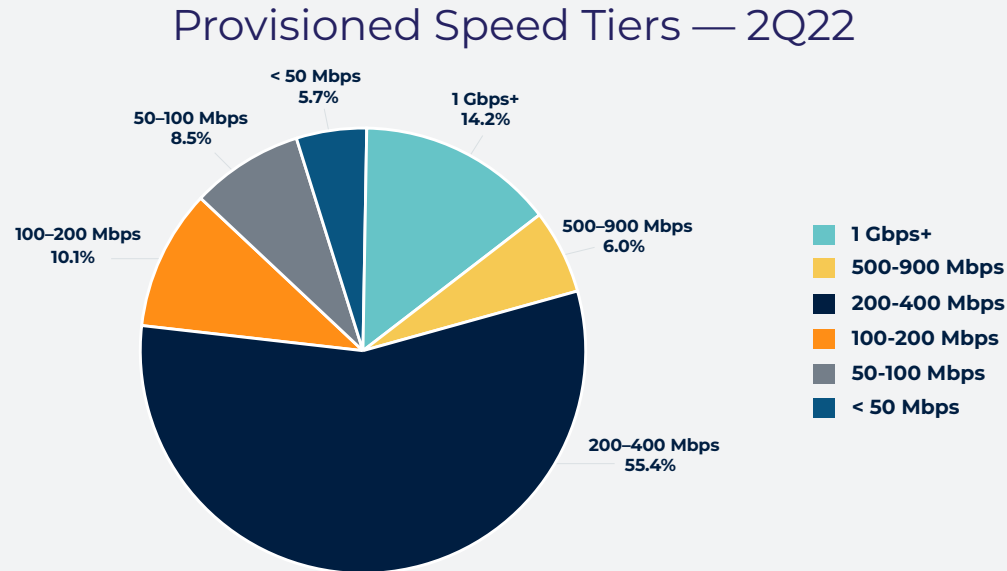
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- Close to 16% of all subscribers consumed 1 TB or more in bandwidth each month in 2Q22, up 26.8% from a year ago.
- Faster speed tier adoption among UBB subscribers is impacting data usage at all levels, including the super power user category of 2 TB or more of usage per month. Annual super power user growth for UBB was 55% compared with 43% for FRB subscribers.



FIGURE 4



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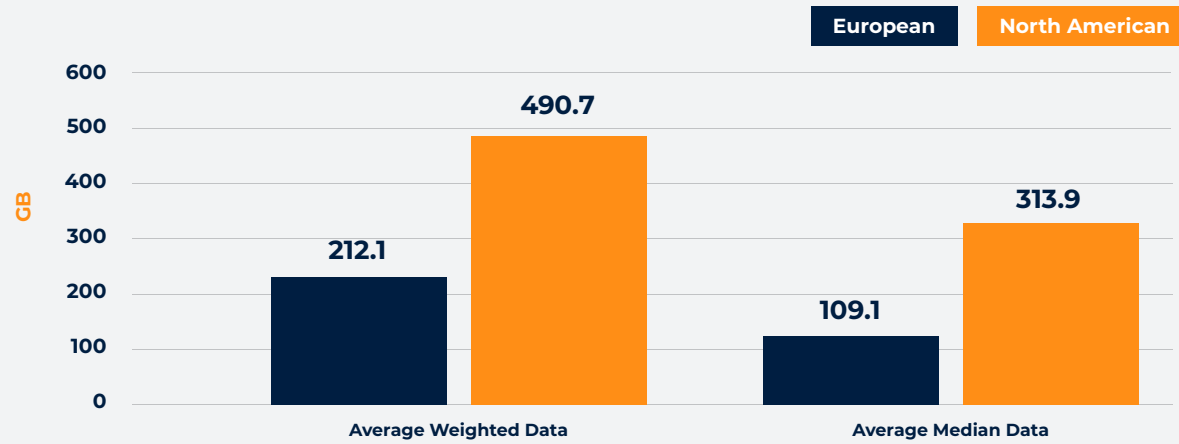
Three out of four subscribers now receive broadband speeds of 200 Mbps or higher.

- The gigabit subscriber tier in 2Q22 reached 14.2% of all subscribers, up more than 35% from a year ago (10.5%).
- With 55% of subscribers in 2Q22, the 200 – 400 Mbps speed tier is by far the most popular tier.
- The slowest speed tier of less than 50 Mbps continues to shrink; in 2Q22 it was 5.7% of all subscribers, down nearly 25% from 1Q22 (7.6%).



FIGURE 5

## European vs. North American Data Usage — 2Q22



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- European average data usage (212.1 GB) declined close to 8% from 1Q22 (230.3), highlighting seasonal usage patterns similar to what were seen in North America.
- North American median data usage (313.9 GB) approached 3x that of European median data usage (109.1 GB) in 2Q22.





# The Affordable Connectivity Program: An Initial Glimpse

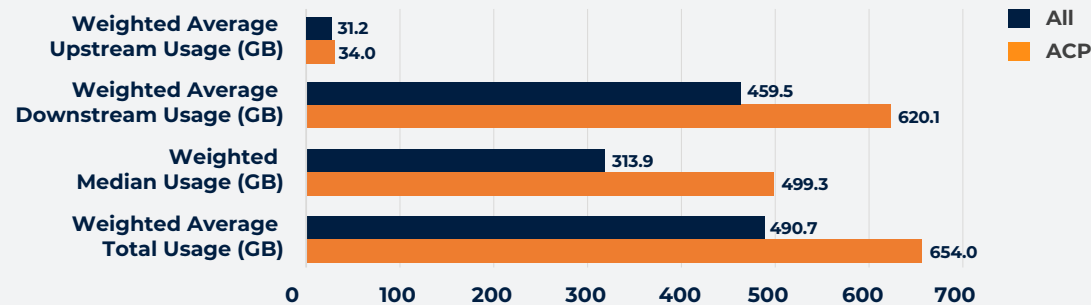
In January 2022 in the U.S., the FCC launched the Affordable Connectivity Program (ACP) to support low-income households connecting to the Internet. The program provides a \$30 per month (\$75 for tribal households) subsidy that can be applied towards a monthly internet subscription. The program has a budget of \$14.2 billion and replaced the similar Emergency Broadband Benefit (EBB) Program, launched during the COVID-19 pandemic.

OpenVault was able to observe usage behavior of several thousand ACP participants during 2Q22, providing an initial glimpse into the impact of the ACP. Without a doubt, ACP participants are taking advantage of the program, and their bandwidth usage exceeds that of the broader population in most categories. As Figure 6 illustrates, ACP participants' average usage at 654 GB is 33.3% more than the overall average. ACP participants' median usage of close to 500 GB exceeds overall median usage by almost 60%.



FIGURE 6

### ACP Usage vs. Overall Usage — 2Q22



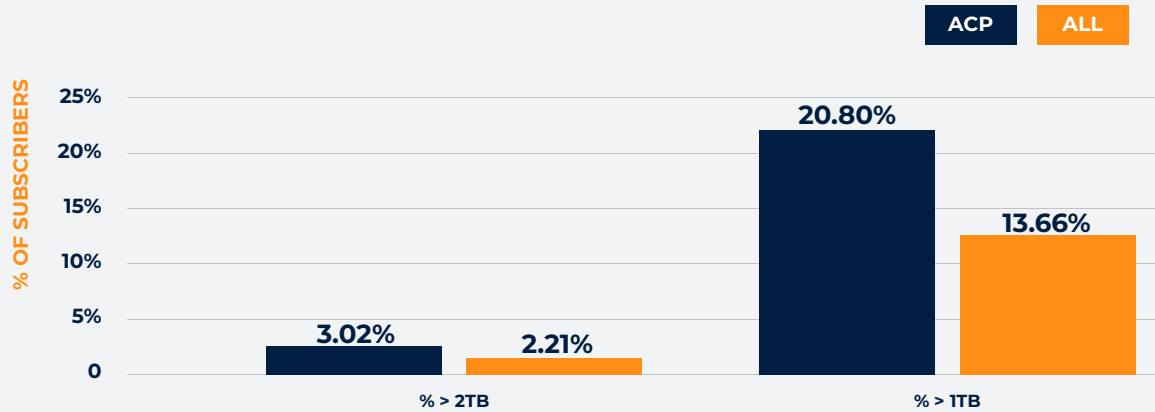
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Compared with all subscribers, ACP participants are significantly more likely to be power users. There are 36% more ACP power users (>1 TB) than the overall average, and there are 52% more ACP super power users (>2 TB). <sup>Figure 7</sup>

FIGURE 7

## ACP Power Users — 2Q22



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While OpenVault analyzed a relatively small sample size, the data is important for service providers and regulators alike to understand. With close to one-fourth (23.8%) of ACP participants qualifying as power users, the impact of an expanding ACP subscriber base has significant implications for broadband traffic.



# The Changing Nature of UBB Subscribers

UBB network operators are having great success in driving subscribers into higher-speed, higher-ARPU broadband tiers. That success is also driving more bandwidth usage, as faster broadband tiers correlate directly with higher bandwidth consumption. As a result, UBB subscriber growth in many usage categories is outpacing FRB subscriber usage growth.

While total bandwidth usage on FRB networks is still higher, UBB network usage is growing faster. For example, as Figure 8 below illustrates, median usage growth for UBB subscribers reached 310.7 GB in 2Q22, up from 257.5 GB in 2Q21, a 20.6% increase. By comparison, FRB usage growth for the same period reached 322 GB, up from 298 GB, an increase of only 8.1%.

FIGURE 8

## UBB vs. FRB Annual Usage Growth — 2Q22

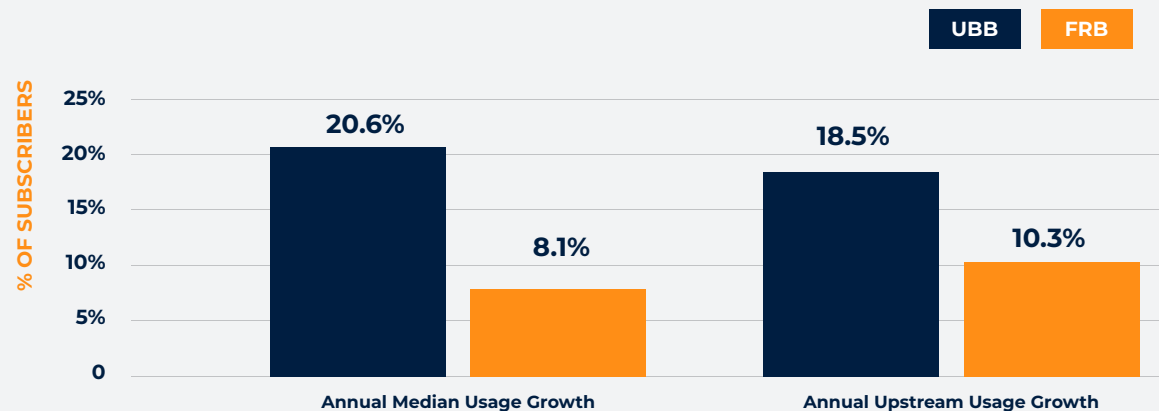
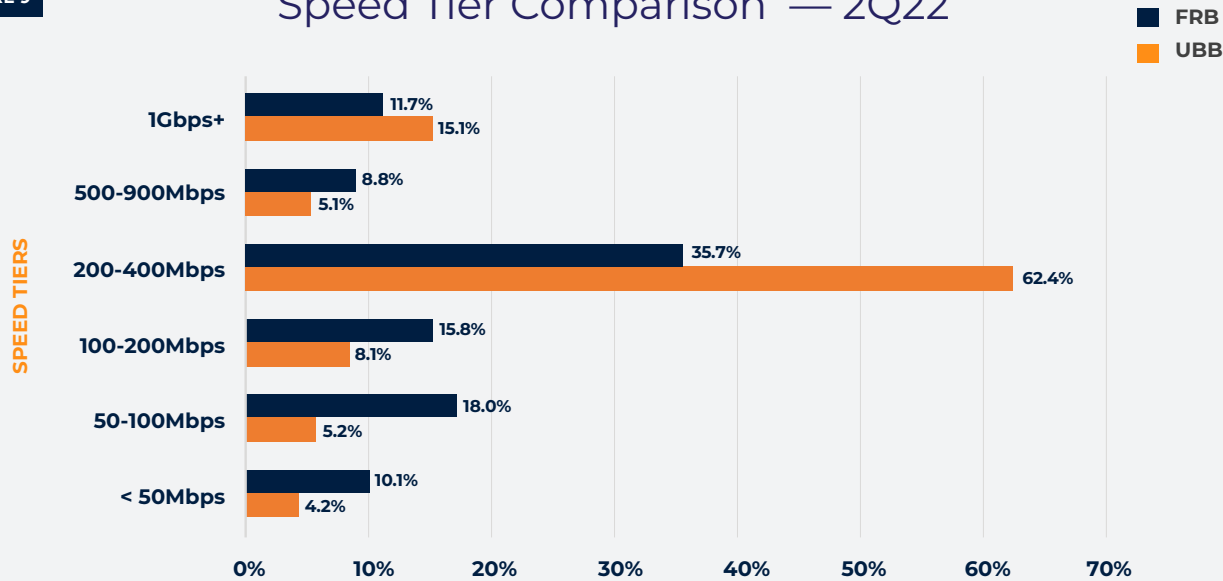


Figure 9 below correlates this higher usage growth for UBB subscribers to higher adoption rates of the top speed tiers.

FIGURE 9

### Speed Tier Comparison — 2Q22



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More than 82% of UBB subscribers choose a speed tier of 200 Mbps or faster, compared with only 56% of FRB subscribers. Conversely, nearly 44% of FRB subscribers choose a tier of slower than 200 Mbps, compared with only 17% of UBB subscribers. UBB network operators are successfully migrating subscribers to higher speed tiers and increasing ARPU as a result.



## Additional Observations



The average upstream data usage of 31.2 GB in 2022 is 2.3x more than the 2018 average of 13.6 GB.



In just 4 years, the super power user category of 2 TB or more in monthly bandwidth usage has increased more than 11x.



When compared to the broader population, there are 52% more 1 TB or more monthly bandwidth power users among ACP participants.



Thirty-six percent of all subscribers consumed a half terabyte or more of data each month in 2Q22.

## Speed Observations



FRB networks have 3x as many low-ARPU subscribers in the 100 Mbps or lower tiers than UBB networks.



At 14.2%, the gigabit speed tier was the second most popular tier in 2Q22.



# Average Broadband Household

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

OVBI Average Broadband Household Index – 2Q22



## 490.7 GB

Average Bandwidth Usage



## 459.5 GB

Average Downstream Usage



## 335 Mbps

Average Downstream Speed



## 85%

Households with at least One Streaming Device\*

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



## 31.2 GB

Average Upstream Usage



## 23 Mbps

Average Upstream Speed



## 25 per household

Average Number of Connected Devices\*

\*Statista



# Conclusion

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While the 2Q22 OVBI revealed familiar second quarter seasonal patterns of slight declines in sequential growth, it also revealed illuminating insight into a growing sub-sector of the overall online population – participants in the FCC’s Affordable Connectivity Program. Early indications suggest these participants have a healthy appetite for broadband, driving significantly higher usage patterns in comparison with the average subscriber. This is an important trend to track in the coming quarters.

UBB subscribers are accelerating their data usage, thanks in large part to those subscribers adopting faster broadband speed tiers. This faster growth in subscribers’ data usage has UBB operators closing the historical data consumption gap with FRB operators, another trend worth watching.

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**As network operators strive to use an effective network management strategy that balances the best customer experience with maximizing return-on-investment, the evolving UBB strategy appears to be working. UBB network operators are effectively managing traffic on their networks, while also migrating more subscribers to higher-ARPU speed packages. This is a win-win for all.**

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# 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](https://www.openvault.com).





# About OpenVault

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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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