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Broadband Insights Report (OVBI)

3Q 2020

Introduction

Continued growth among "power users" who consume 1 TB or more of data, the steady migration of subscribers to faster speed tiers, and the revenue implications for broadband service providers are among the most notable developments in the OpenVault Broadband Insights (OVBI) report for the third quarter of 2020.

Using data aggregated from its software-as-a-service (SaaS) technology solutions, OpenVault has pinpointed key trends in 3Q20 among 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 bandwidth consumption. The 3Q20 OVBI also provides a deeper analysis of the true impact of power users on the network, outlining both usage and revenue implications. New in 3Q20 is the OVBI Broadband Household Index, which provides a snapshot of key metrics for the average U.S. household.

OpenVault analysis shows there is an immediate ARPU growth opportunity for network operators, with roughly 30% of power users in the FRB category identified as "low hanging fruit."

Key findings from the 3Q20 OVBI include:

Usage
The monthly weighted average data consumed by subscribers in 3Q20 was 383.8 GB, up nearly 40% from 2019. Weighted average data usage represents data usage trends across both FRB and UBB subscribers.

Key Bandwidth Usage Insight
The sweet spot for comparable bandwidth usage to speed tier is the 100 Mbps – 200 Mbps category, which makes up about 36% of all subscribers who consume about 36% of all bandwidth.

Power Users
The power user category trajectory remains on the rise with 8.8% of weighted average subscribers now consuming over 1 TB of data per month, up 110% from 2019.

Key ARPU Insight
Among the top 1% of power users, 49% more of FRB subscribers take a lower cost, lower ARPU broadband tier than UBB subscribers.

Speed Tiers
The overall percentage of subscribers provisioned for gigabit-speed surpassed 5% for the first time, reaching 5.6%.
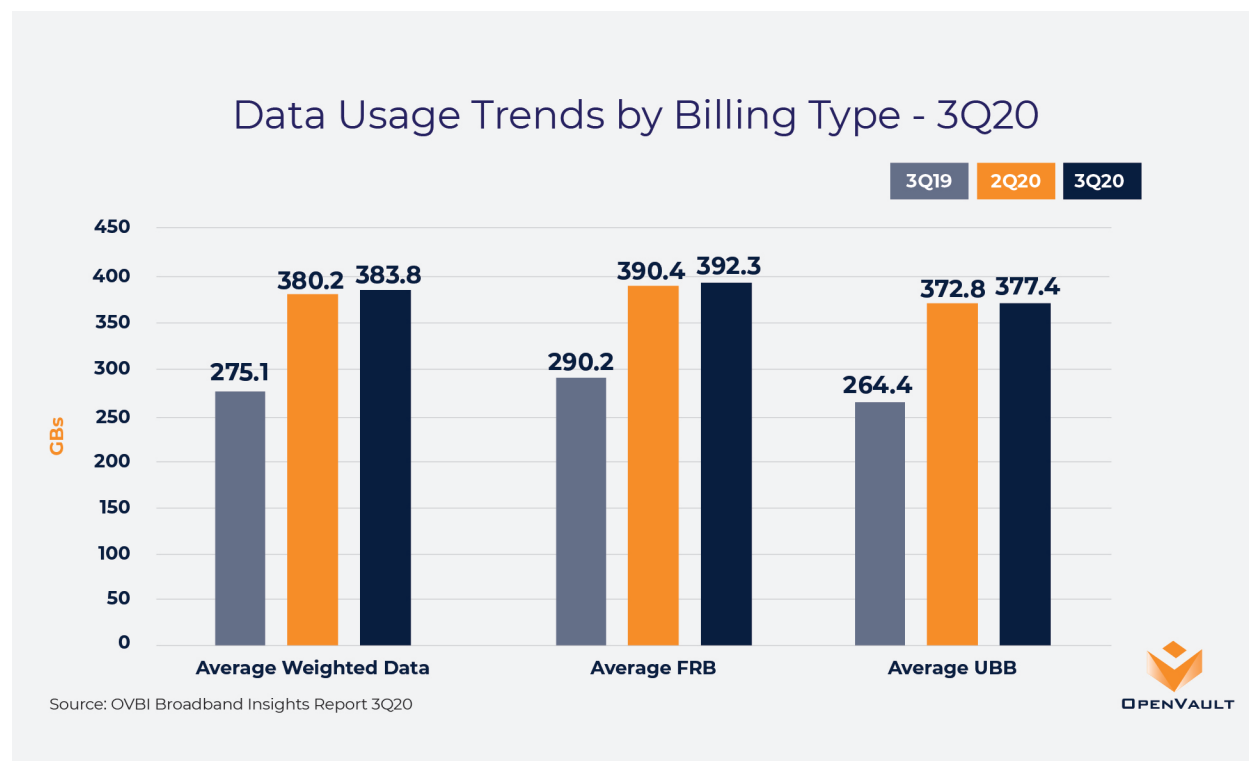
Key UBB vs FRB Insight
UBB operators had roughly 25% more gigabit subscribers than FRB network operators in 3Q20.

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.
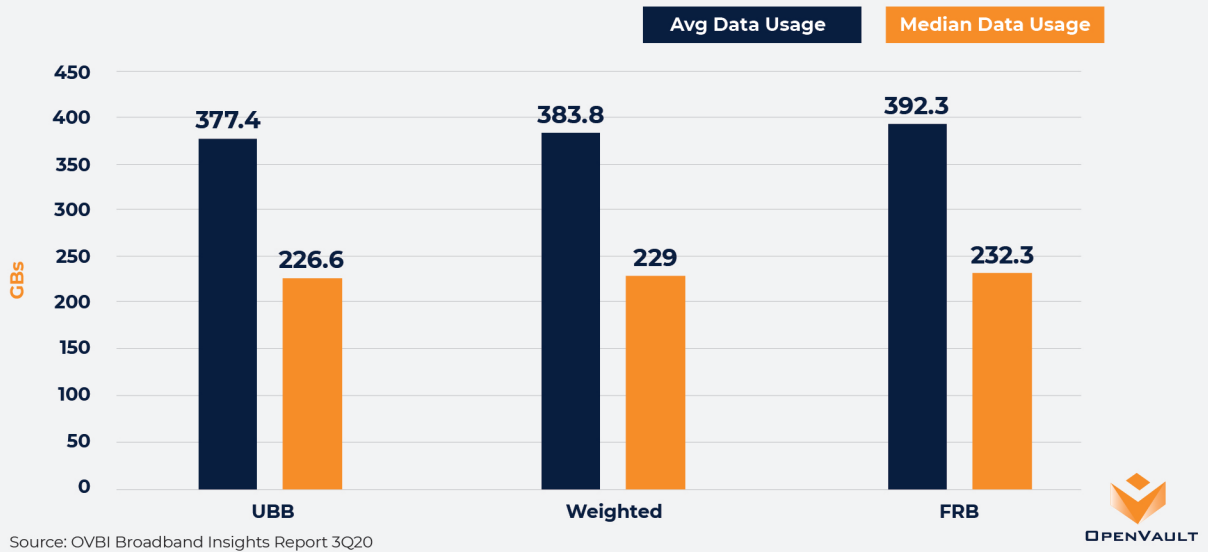
3Q20 BROADBAND USAGE KEY FINDINGS

The following broadband usage trends were observed in 3Q20.

Data Usage Trends by Billing Type - 3Q20

Legend: 3Q19 | 2Q20 | 3Q20

	Average Weighted Data	Average FRB	Average UBB
3Q19	275.1	290.2	264.4
2Q20	380.2	390.4	372.8
3Q20	383.8	392.3	377.4

GBs

Source: OVBI Broadband Insights Report 3Q20

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- The monthly weighted average data consumed by subscribers in 3Q20 was 383.8 GB, up nearly 40% from 3Q19's weighted average of 275.1 GB, but up less than 1% from 2Q20. Growth for both FRB and UBB subscribers remained essentially flat between 2Q20 and 3Q20.

- This trend points to the significant pandemic-driven growth in bandwidth year-over-year, but also highlights that traffic growth has plateaued during the pandemic.

- While bandwidth usage is remaining relatively flat quarter-over-quarter, it is not retreating to pre-pandemic levels, indicating that COVID-19 driven usage growth has established a new normal pattern for bandwidth usage.
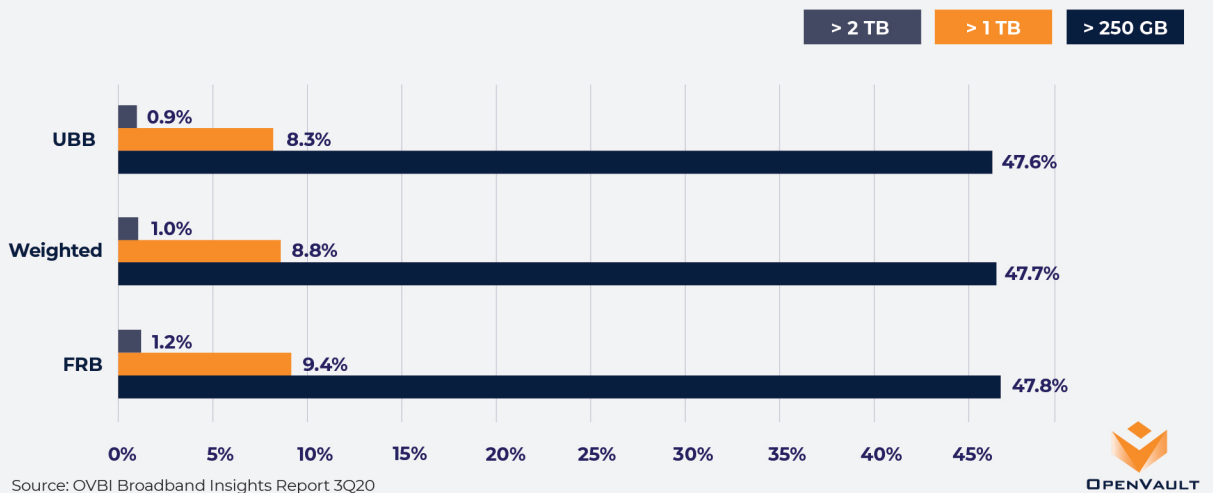
The top 10% of subscribers by usage consume more than half (54%) of all upstream traffic.

Data Usage Comparison - 3Q20

	Avg Data Usage	Median Data Usage

UBB: 377.4 / 226.6
Weighted: 383.8 / 229
FRB: 392.3 / 232.3

GBs (y-axis: 0–450)

Source: OVBI Broadband Insights Report 3Q20

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- The median monthly weighted average usage in 3Q20 was 229 GB, up more than 55% from 3Q19's 147.4 GB, and up a modest 2.5% from 2Q20's median of 223.3 GB. The 2.5% increase extended across both FRB and UBB subscribers.

Power Users Monthly Consumption - 3Q20

	> 2 TB	> 1 TB	> 250 GB
UBB	0.9%	8.3%	47.6%
Weighted	1.0%	8.8%	47.7%
FRB	1.2%	9.4%	47.8%

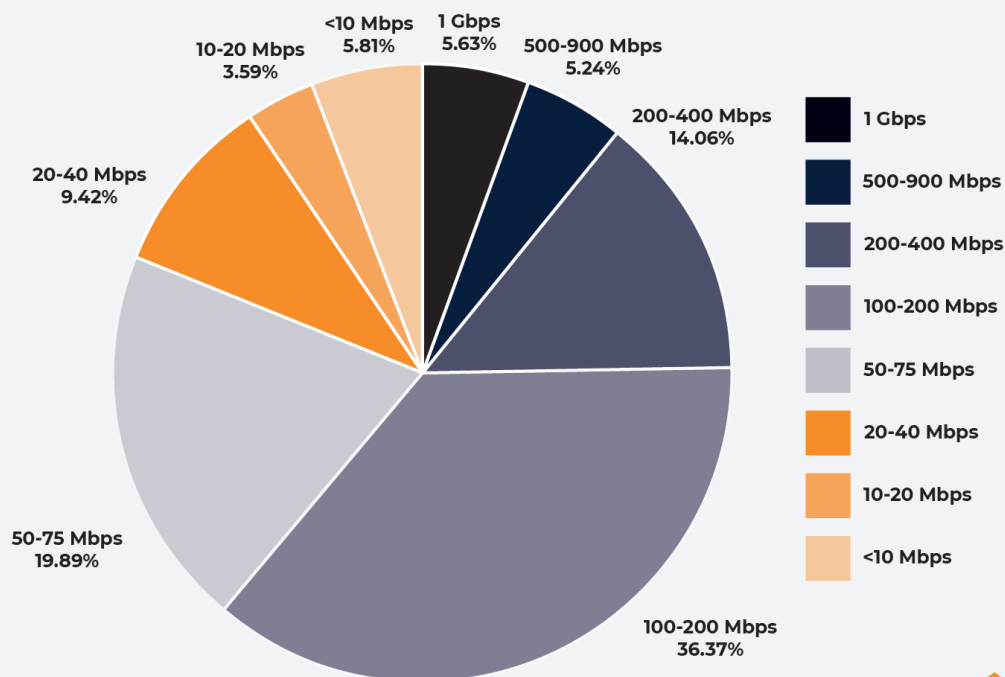Source: OVBI Broadband Insights Report 3Q20

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- The power user category trajectory remains on the rise with 8.8% of weighted average subscribers now consuming more than 1 TB of data per month, up 110% from 4.2% in 3Q19. By comparison, year-over-year growth in 3Q19 registered only 62% from the 2018 observations.

- The subcategory of extreme power users, or those subscribers consuming more than 2 TB per month, continues its sharp ascent in 3Q20. While only 1% fall into this category, that figure is up 172% from 3Q19's number of .36%.

The goal for network operators is to ensure that subscribers who consume the most bandwidth are in faster, higher ARPU speed tiers.

- The use of unlimited, flat-rate billing packages (FRB) increases the amount of extreme power users on the network, with FRB-based network operators seeing 34% more 2 TB power users than operators who utilize usage-based billing (UBB).

Provisioned Broadband Speeds - 3Q20

Pie chart legend and values:
- 1 Gbps — 5.63%
- 500-900 Mbps — 5.24%
- 200-400 Mbps — 14.06%
- 100-200 Mbps — 36.37%
- 50-75 Mbps — 19.89%
- 20-40 Mbps — 9.42%
- 10-20 Mbps — 3.59%
- <10 Mbps — 5.81%

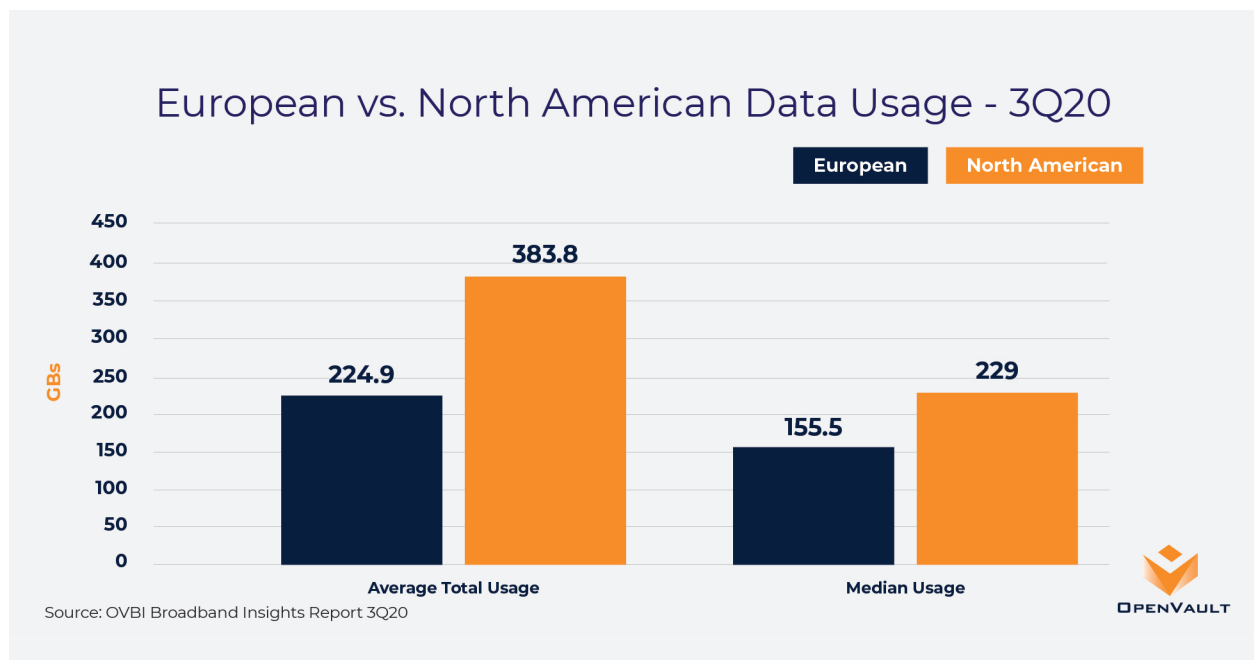Source: OVBI Broadband Insights Report 3Q20

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- The overall percentage of subscribers provisioned for gigabit-speed surpassed 5% for the first time, reaching 5.6%, up 124% from 2.5% in 3Q19, and up more than 14% quarter-over-quarter from 4.9% in 2Q20.

- Growth in broadband speeds appears to be occurring at both ends of the spectrum. While the gigabit speed tier increased by 14%, the 10 Mbps and below speed tier also increased, by 41% from 4.1% to 5.8%. Growth at the lower end tier may be pointing to subscribers looking to save money with lower end, lower cost broadband tiers.

- Usage based billing (UBB) operators had roughly 25% more gigabit subscribers than FRB operators in 3Q20, perhaps due to the fact that UBB operators often provide higher usage quotas for the gigabit tier than the slower bandwidth tiers. This provides incentive to subscribers of UBB operators to upgrade to the faster speeds.

- The most popular provisioned speed category is unchanged at 100 – 200 Mbps, capturing about 36%, relatively the same amount as 2Q20.

> **Gigabit subscribers make up just 5.6% of total subscribers but consume 12.1% of downstream bandwidth**

European vs. North American Data Usage - 3Q20

European   **North American**

GBs

- Average Total Usage: European 224.9, North American 383.8
- Median Usage: European 155.5, North American 229

Source: OVBI Broadband Insights Report 3Q20

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- European total average usage is up 26% from nearly 178 GB in 3Q19 to 224.9 GB in 3Q20. As in North America, quarter-over-quarter growth in Europe was basically flat, increasing by 3 GB, or just over 1%.

- Median usage for European subscribers reached 155.5 GB, up 36% from 3Q19 (114.3 GB).

The Impact of Power Users

Power users, or subscribers who consume 1 TB or more of data per month have a profound impact on the network. The power user category has seen tremendous growth in the past few quarters, with roughly 10% of all subscribers now falling into this category.

It's important for network operators to understand the impact these power users have and the revenue opportunities they present.

Usage Implications

Gigabit subscribers make up just 5.6% of total subscribers but consume 12.1% of downstream bandwidth and 13% of upstream bandwidth

The top 10% of subscribers by monthly consumption, or power users, consume more than 38% of all downstream traffic. The top 1% consume more than 7% of total downstream traffic.

The impact is even greater on the upstream, where the top 10% of subscribers by usage consume more than half (54%) of all upstream traffic. The top 1% consume more than 19% of total upstream traffic.

Speed tiers also have an impact on usage, with higher speed subscribers consuming more bandwidth.

Revenue Implications

OpenVault analysis of these usage trends reveals key strategies for network operators to maximize ARPU. The goal for network operators is to ensure that subscribers who consume the most bandwidth are in faster, higher ARPU speed tiers. Usage-based billing operators are achieving this goal more, on average, than network operators who utilize flat rate unlimited billing.

Among UBB subscribers, 80% of the top 1% of power users subscribe to a higher ARPU 200 Mbps or higher speed tier, compared with just 62% of FRB subscribers, a difference of 30%.

Among the top 1% of power users, 49% more of FRB subscribers take a lower cost, lower ARPU broadband tier than UBB subscribers.

Moving power users into higher broadband tiers not only can have a material impact on ARPU but also on the quality of their experience. Power users typically need the faster speeds based on their usage behavior.

THE AVERAGE BROADBAND HOUSEHOLD

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

OVBI Average
Broadband Household Index – 3Q 2020

384 GB
Average Bandwidth Usage

359 GB
Average Downstream Usage

25 GB
Average Upstream Usage

169.8 Mbps
Average Downstream Speed

13.1 Mbps
Average Upstream Speed

4
Average Number of
Streaming Services*

10.37
Average Number of
Connected Devices*

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

*Statista

Source: OVBI Broadband Insight Report 3Q20

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CONCLUSION

The massive surge of bandwidth usage created by the COVID-19 pandemic has settled in a bit, with relatively flat growth across all usage categories. Bandwidth usage trends have settled on a new normal that still exceeds pre-pandemic levels. For broadband operators, the surge appears to be over, giving operators room to breathe and better understand the impact of higher usage trends and accelerating speed tiers.

That analysis can now focus on how to manage the network and how to maximize ARPU in the face of this new normal. Moving higher usage subscribers into higher ARPU packages should be an important objective.

OpenVault analysis shows there is an immediate ARPU growth opportunity, with roughly 30% of power users in the FRB category identified as "low hanging fruit." These subscribers are consuming more than 1 TB of data per month but are in lower cost, lower ARPU packages.

With cost deltas of $20 to $30 between slower speed packages and higher speed packages, the revenue opportunity is significant. There are tools available to network operators to help understand and identify where these opportunities lie, while also helping them better manage their networks and improve their ability to meet the changing demands of subscribers.

Moving power users into higher broadband tiers not only can have a material impact on ARPU but also on the quality of their experience.

OpenVault Solutions Informing the 3Q20 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 and OpenVault Europe GmbH are market-leading sources of broadband technology solutions and data-driven insights into worldwide broadband consumption patterns. The companies' cloud-based, SaaS solutions and tools help service providers optimize network performance, increase revenue and improve subscriber satisfaction. OpenVault and OpenVault Europe aggregate and analyze the resulting market data to provide unparalleled granular views of consumer usage that can be used to anticipate residential and business broadband trends.

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