

FROM THE INDUSTRY

A Dual Mandate for Broadband Providers:

MAINTAINING AN ACCEPTABLE
ROI WHILE MEETING BROADBAND
GROWTH DEMANDS

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Broadband providers are presently facing difficult decisions. What's new, huh? Rapidly evolving broadband technologies are reshaping the view of how growing demand for broadband capacity can be addressed. However, fiscally responsible broadband providers must consider technology decisions in the context of P&L impact. Limiting churn to protect current revenue, reducing OPEX through workforce efficiency, and deferring CAPEX where possible are key components of a successful plan to keep owners, shareholders, and customers happy.

Here's the reality: since broadband consumption skyrocketed during the pandemic, it has never looked back. According to the 4Q24 OVBI, Openvault's regular industry report, average usage is approaching 700GB per month with extreme power users consuming as much as 34TB of downstream bandwidth per month. Additionally, traffic in the limited upstream plant continues to climb sharply, with upstream consumption growing 70% faster than downstream.

As DOCSIS broadband providers have transitioned to broadband-first strategies, they've been in a race to stay ahead of consumer pressure for higher speeds and now, perhaps more importantly, higher levels of broadband quality of experience (QoE). Investments in network infrastructure, DOCSIS 3.1 technology, and well-trained workforces help providers stay ahead of demand, but more is needed to address the fundamental issues that can impact both the broadband experience and the fiscal bottom line.

In order for broadband providers to meet the demand for higher broadband capacity

AND a superior QoE while maintaining an acceptable ROI it is critical that the broadband network AND the provider's workforce be operating at the highest efficiency possible. Proactive Network Maintenance (PNM), Profile Management Application (PMA), and congestion management tools are helping providers reduce costs of field operations, anticipate and correct network issues before subscribers are impacted, and optimise broadband network performance to ensure more satisfied subscribers.

Here's how this already is paying off for the broadband community:

- **Workforce Optimisation** – The use of strategic PNM programmes, including PNM mobile applications, is improving metrics on modem installs and consolidating customer QoE concerns for triage and more effective remediation. These PNM tools enable multiple teams – i.e., customer care, field technicians, outside plant technicians, and NOC personnel – to have enhanced visibility of issues that can affect quality of experience. The result is shorter mean time to repair and a higher subscriber satisfaction – and significant OPEX reductions.
- **Leveraging Network Analytics** – Machine learning is delivering new capabilities that empower operations teams to work more efficiently. An early example is the introduction of “virtual sweeps” to the operational model. Operators traditionally conduct physical network sweeps on scheduled intervals to ensure their RF plant is free of impairments impeding the delivery of high-quality broadband. “Virtual sweeps” reduce the cost associated with traditional physical sweeps and give outside plant teams more

visibility and analysis to ensure that the infrastructure remains in a state that can deliver high QoE broadband.

- **Reducing Congestion and Increasing Capacity** – Power users of up to 34TB per month – in the downstream alone – are making node splits less useful in relieving congested channels, since the power user simply moves to the “new node.” Providers are adopting instead data-driven, automated solutions that enable flexible, surgical approaches to congestion management. Additionally, PMA is increasing broadband capacity by as much as 40% on existing DOCSIS infrastructure by leveraging advanced algorithms to calculate highly optimised profiles for upstream and downstream traffic. These tools often lead to a superior broadband QoE and lower capital expenditures.

One of the best examples of how new tools – in this case, PMA – are riding to the rescue is in driving higher capacity and resiliency for providers who have made the investment in DOCSIS 3.1. When network impairments prevent D3.1 modems from bonding to D 3.1 spectrum, the D3.1 modems fall back to DOCSIS 3.0 SC-QAM channels, reducing service quality for D3.1 subscribers and causing congestion that impacts D3.0 subscribers. PMA tools that dynamically create optimised profiles are helping D3.1 modems remain bonded to D3.1 channels, increasing broadband QoE for all subscribers.

Considering the “dual mandate” for broadband providers to deliver higher capacity broadband while maintaining a strong P&L, innovative tools that increase operational efficiency, network performance and subscriber satisfaction will continue to rise in importance.

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