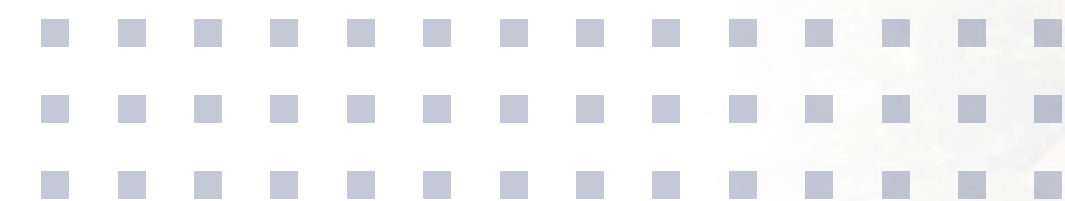




# How To Assure the Broadband Experience for Your Subscribers

Deliver Operational Efficiency and Service  
Excellence Using a Platform Approach to  
Broadband Assurance





# Table of Contents

- 3** Introduction: A Guide To Broadband Assurance
- 4** Chapter 1: How To Assure Broadband Experiences
- 6** Chapter 2: Implementing an Integrated Model
- 8** Chapter 3: A Platform Approach to Broadband Assurance
- 10** Chapter 4: Evolving Broadband Assurance
- 13** Conclusion: A Platform for Future Growth
- 14** References





# Transform Complexity into Clarity: A Guide To Broadband Assurance

As broadband service providers (BSPs) seek to grow their business, they risk adding cost and complexity in several areas, including upgrading to the latest network technologies, supporting an increasing number of connected devices, and offering new value-added managed services. At the same time, BSPs must meet rising subscriber expectations regarding network reliability and performance.

Addressing all these concerns risks operating expenses (OPEX) spiraling out of control. A recent survey revealed that 95% of BSP executives must focus on operational efficiency to remain competitive.<sup>1</sup> However, many remain hampered by varying systems and the inability to collect and analyze data across their network. As a result, they are failing to drive efficiency and optimize processes—and ultimately failing to meet subscriber expectations.

The solution lies in a platform-based approach to service delivery, integrating disparate systems into a unified platform, and enabling network data to be transformed into actionable insights. A platform also enables a comprehensive approach to assuring the broadband experience that can be implemented across the organization.

In this eBook, we show you how to develop a comprehensive broadband assurance strategy that simplifies operations, supports growth, and delivers service excellence—while ensuring OPEX doesn't swallow up profits.





# How To Assure Broadband Experiences

Broadband assurance comprises a wide range of capabilities to ensure the reliability, performance, and quality of broadband services. This includes monitoring network performance and health, identifying where issues occur, and optimizing service delivery and support.

The goal is to address and resolve issues as rapidly as possible, even anticipating where problems will arise to proactively address them before they disrupt performance. These processes can be increasingly automated using new technologies, further driving efficiency and relieving pressure on support and operations teams.

Broadband assurance also serves as a launchpad for new service innovations. By maintaining a high level of network performance and reliability, BSPs can roll out new managed services, knowing that rigorous testing and optimization processes are already in place.





## Developing a Strategy for Broadband Assurance

An effective and comprehensive broadband assurance strategy must include:

- **Network monitoring:** Continuously observing network performance to detect and address issues in real time.
- **Performance monitoring:** Ensuring optimal performance via accurate testing of speeds, latency, and other critical parameters.
- **Customer support:** Arming customer support representatives (CSRs) with the insights they need to understand subscriber issues and act quickly.
- **Troubleshooting:** Diagnosing and resolving broadband issues quickly to minimize downtime.
- **Quality of experience (QoE):** Measuring subscriber satisfaction using data related to the service experience to ensure consistency with the subscriber's expectations.
- **Proactive maintenance:** Adding intelligence across the network to proactively identify where issues are likely to occur in the future.
- **Security management:** Safeguarding the network against cyber threats and ensuring subscriber data remains secure.
- **Analytics and reporting:** Using data analytics to gain insights into network and service performance and delivering data reports to relevant teams.
- **Compliance monitoring:** Adhering to regulatory standards and industry best practices to maintain service quality and reliability.
- **Continuous development:** Working with third-party experts to refine processes and pathways to success.



### MIDSOUTH FIBER REDUCES INBOUND CALLS WITH AUTOMATED NOTIFICATIONS AND ALARMS FOR NETWORK ASSURANCE

MidSouth Fiber of Texas used webhooks in Operations Cloud to introduce a revolutionary new system for detecting network outages. MidSouth integrated [Operations Cloud](#) with their existing customer management and billing system to receive real-time updates regarding disruptions and impacted subscribers. This allows internal teams to take swift action and dramatically reduces the volume of inbound calls to their service centers.

Implementing this system in-house would have taken MidSouth months, but they rolled out the new system seamlessly on the [Calix Broadband Platform](#).



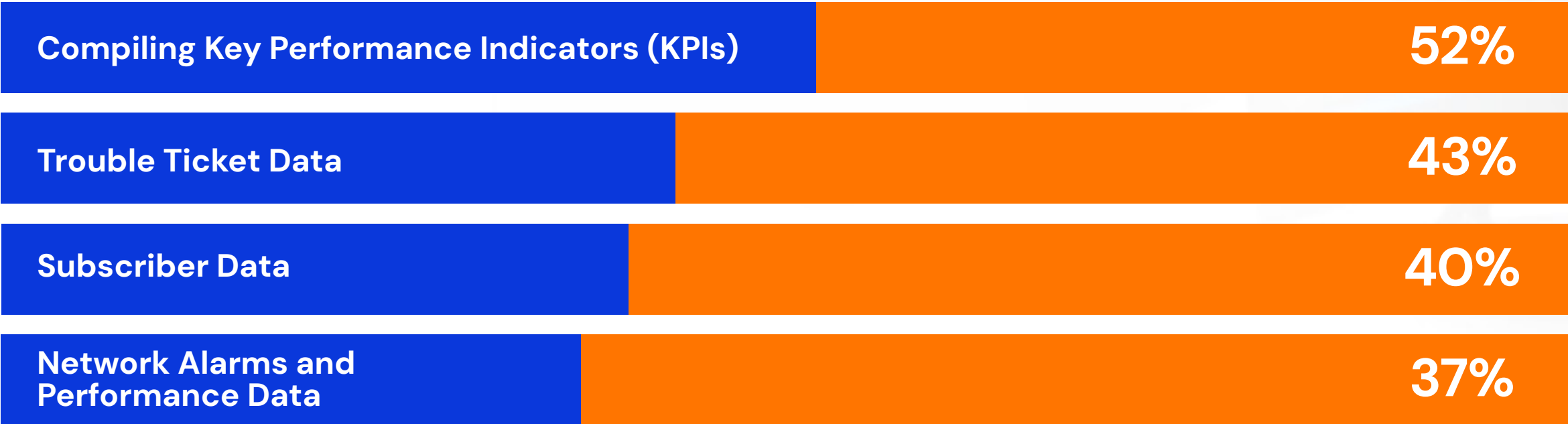
# Implementing an Integrated Model

Broadband assurance must be implemented organization-wide—from customer service to operations to field teams—as part of the end-to-end subscriber experience. To do this, BSPs must consider an integrated approach instead of viewing their teams as separate components. Different teams may use different tools for different tasks, but everything must be fully integrated and visible across the organization. This is essential for optimizing performance, driving efficiencies, and improving overall service quality.

An integrated approach can transform operations, especially data use. Many BSPs lack platform integration, so data collection and analysis are generally low. In fact, according to a recent Heavy Reading survey of BSP executives, most BSPs analyze only 52% or less of the data their network generates.<sup>2</sup> This limits their ability to create actionable insights to drive improvements and efficiencies across the network and support teams.

## How are BSPs using data?

According to the same survey, here’s what BSPs are measuring:



There is still plenty of room to improve data strategies, as many BSPs do not collect or analyze any data.



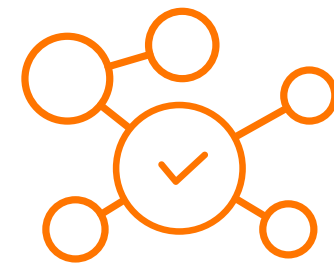
## Data-Driven Assurance

Capturing data across the networks makes implementing broadband assurance organization-wide possible. The following are examples of data-driven practices that can be used to assure services and the network.



### Service Assurance

- Multi-gig speed and latency testing
- Fault and event management
- Quality of service (QoS ) management
- Customer experience management
- Service-level agreement (SLA) monitoring
- Trouble ticket management



### Network Assurance

- Automated notifications and alarms
- Proactive health monitoring
- Scheduled reporting
- Subscriber segmentation

Data-driven insights should also be leveraged for strategy development, risk management, regulatory compliance, process optimization, and technical training.



## TIPMONT TRANSFORMS OPERATIONS WITH PROACTIVE HEALTH MONITORING NETWORK ASSURANCE

[Tipmont](#), an Indiana-based electric cooperative, wanted to expand into new markets and launch managed services without adding cost and complexity to their operations. They used [Operations Cloud](#) to transform their small network operations center (NOC) and deploy a proactive approach to service disruptions and outages.

With the [Calix Broadband Platform](#), Tipmont implemented real-time alerts for potential network issues and utilized geo-mapping features to identify impacted subscribers quickly. As a result, Tipmont is instantly alerted to subscriber outages and can determine the scale of PON outages—proactively identifying network health issues before they impact subscribers.



# A Platform Approach to Broadband Assurance

The key to integrating these broadband assurance capabilities and maximizing the benefits rests in a platform approach.

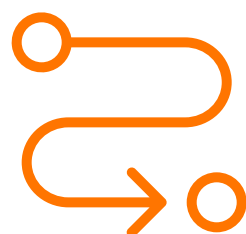
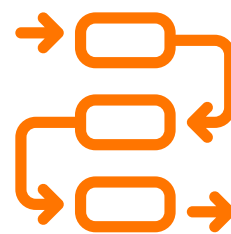
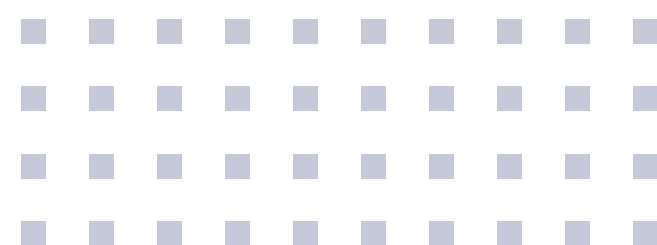
A broadband platform is an integrated suite of hardware, software, and cloud-based components that simplify deploying and operating broadband networks. It aims to eliminate the cost, complexity, and risks associated with delivering new subscriber services and experiences. A platform is crucial in gaining end-to-end visibility of everything happening in the network, spanning subscribers, services, and systems. The platform model also drives efficiencies via automation and streamlines operational processes—supporting innovation and scalability.

The combination of these capabilities means BSPs can diversify into new markets beyond residential (such as small businesses and multi-dwelling units) and stand out by delivering value-added managed services. And everything is managed on a single platform with the same systems, personnel, and workflows.

By contrast, using different systems and tools for different network parts means BSPs cannot achieve consistency or scalability, leading to unmanageable OPEX. Even using a discrete set of best-of-breed components requires human resources to bridge the different systems, resulting in missed information and human error.





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# Evolving Broadband Assurance


The gigabit era of broadband is upon us. The number of connected households with speeds of 1 Gbps and above will reach more than 300 million in 2024, more than quadrupling from 2021.<sup>2</sup> These services are concentrated mainly in developed markets like the United States.

Some BSPs are offering broadband speeds as high as 10 Gbps. However, market demand for such speeds is at an early stage. And marketing on speed alone—even at these highest tiers—risks a race to the bottom on price.

To avoid this, BSPs must differentiate on factors beyond speed to assure future growth. These differentiators can be based on network reliability, QoE, Wi-Fi performance, and value-added services.

Broadband assurance is also critical to delivering effective service differentiation.





Several key advancements over the coming years will shape the evolution of broadband assurance:

- **Enhanced network monitoring and analytics** driven by advanced AI/ML and big data capabilities.
- **Fully automated and self-healing networks** that can autonomously diagnose and fix problems without human intervention.
- **Hyper-personalized user experiences** and tailoring services based on highly individualized user behaviors and preferences.
- **Next-generation customer support** that is more efficient and personalized, leveraging advanced analytics and intelligent technologies to scale the service experience.
- **Integrated connectivity** consistent and reliable for a growing number of connected devices, including the Internet of Things (IoT).
- **Enhanced security** with more robust encryption methods to protect data privacy and more sophisticated systems to detect and mitigate cyber threats.
- **Sustainability initiatives** introducing more energy-efficient networks and systems to reduce the environmental impacts of broadband.



## SCTELCOM DRIVES SUBSCRIBER SATISFACTION WITH ENHANCED CUSTOMER SUPPORT

SCTelcom leveraged the wealth of data in their network to dramatically improve how they respond to subscriber issues. Using [Service Cloud's](#) reporting dashboards—featuring data visualization tools, widgets, and graphs—SCTelcom's support teams can easily analyze and act on data. They also integrated these insights into their daily workflows and processes managing the customer experience.

By using Service Cloud, SCTelcom reduced internet-related trouble tickets by 29% and truck rolls by 24% while driving their subscriber satisfaction scores well above the industry average.



# A Platform for Future Growth

In an era where broadband connectivity is as essential as electricity and water, the pressure on BSPs to maintain and enhance service quality is immense. However, they cannot rely on traditional methods to keep their networks running efficiently and cost-effectively.

A platform-based approach with a comprehensive broadband assurance strategy is key. By integrating network monitoring, performance management, proactive maintenance, and advanced analytics into a unified platform, BSPs can transform data into actionable insights, streamline operations, and enhance the customer experience.

The broadband platform must be built around three guiding principles: integration, intelligence, and innovation.

- An *integrated* and consistent operational framework.
- The *intelligence* to understand what's happening in the network.
- An *innovation* platform for rapid service evolution.

Underpinned by integrated broadband assurance capabilities, this approach allows BSPs to diversify revenue streams and enter new markets, resulting in reduced OPEX, improved service reliability, and the ability to innovate at scale—all delivering an unrivaled subscriber experience.



## Assuring the Broadband Experience on the Calix Broadband Platform

The [Calix Broadband Platform](#) empowers BSPs with a revolutionary network and management foundation that provides everything needed to grow revenue and reduce costs. By understanding and improving network, service, and subscriber performance, BSPs can lower expenses and eliminate guesswork.

The software-defined [Intelligent Access™](#) solution lets BSPs use the latest broadband access innovations at software speed to flexibly and cost-effectively deploy anywhere and grow with demand. The [Unlimited Subscriber™](#) portfolio provides a system for every use case. Integrated [Calix Cloud®](#) applications deliver end-to-end insights and visibility that enhance operational, support, and marketing workflows for better team productivity and subscriber experience. This includes specialized tools such as [Operations Cloud](#) and [Service Cloud](#).

In addition, [Calix Success](#) provides resources and professional guidance to achieve and exceed broadband assurance objectives, accelerating time to value and ensuring a maximum return on investment.

[Learn more](#)

**Schedule a consultation today to discover how BSPs implement comprehensive broadband assurance strategies on the Calix Broadband Platform.**





<sup>1</sup> “State of the Broadband Service Provider 2023,” Heavy Reading

<sup>2</sup> Omdia, 2023

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