



# Improving Wholesale Bottom Line by Deploying a Premium Reporting Portfolio

Network and Service Quality Visualization Supports Service Offering Differentiation





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The scalability, flexibility and cost advantages of Carrier Ethernet are fueling a massive transformation of Wireless Service Providers' legacy TDM transport network infrastructures.

Ovum estimated that by 2015, 88% of all cell-site traffic will be carried over Ethernet, up from an estimated 20% today. This migration has two known drivers: the growing popularity of bandwidth-devouring applications for social media and video streaming and the rapid adoption of powerful smartphones and tablet PCs, which have drastically closed the gap between fixed and mobile broadband. Additionally, migration towards native IP backhaul is a requirement for Wireless Service Providers committed to deploying fourth generation (4G), IP-driven mobile technologies, such as LTE and WiMAX.

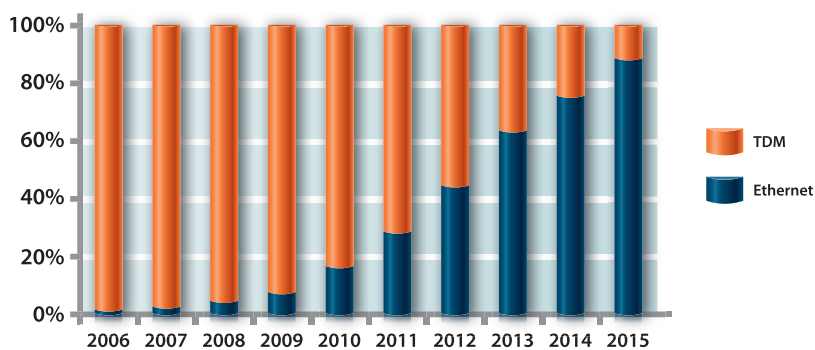


Figure 1 – Wholesale Backhaul Mix Assumptions

Source: OVUM

The difficulty of predicting the future demands of mobile data bandwidth is also influencing the traditional network capacity strategy of many Wireless Service Providers. As carriers struggle to build additional backhaul capacity quickly, the option of leasing bandwidth has become a trend rather than a rarity. This trend was validated last year in an Atlantic-ACM survey, which showed an approximate 40% spending increase on leased backhaul connections worldwide.

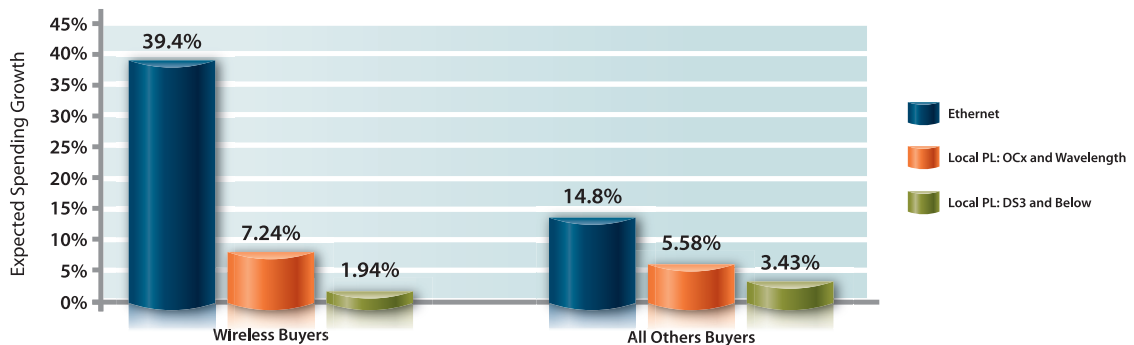


Figure 2 – Respondents Expected Changes in Spending by Product: Wireless Buyers vs. All Other Buyers

Source: 2010 ATLANTIC-ACM Metro Wholesale Carrier Report Card, November 2010.

While leasing bandwidth from Wholesale Backhaul Service Providers has become an effective strategy for increasing coverage and ramping up capacity, Wireless Service Providers are starting to realize that with leased services, they lack the control and performance visibility they have with their self-built transport networks. This lack of visibility has become a major obstacle for Wireless Service Providers trying to improve and assure the quality of service (QoS) and quality of experience (QoE) of next-generation mobile services—an increasingly important component of any market differentiation strategy.

While the projections for growth in bandwidth demand make the market for leased backhaul services attractive, there are several challenges that Wholesale Backhaul Service Providers must address if they are to increase their revenues and consequent market shares.



# Challenges for Wholesale Backhaul Service Providers

## Leased Backhaul Services Price War

It is clear that Carrier Ethernet has a number of advantages as a transport technology, but what is truly driving investment is its attractive deployment costs. According to Infonetics Research, deploying Ethernet is estimated to be six times cheaper than deploying additional TDM-based capacity. These cost advantages over traditional TDM are the reason many Wholesale Backhaul Service Providers are investing heavily in Carrier Ethernet infrastructure to meet skyrocketing bandwidth demands.

However, the lower cost of deploying Carrier Ethernet has also lowered the bar for new market entrants attracted by the increasing capacity demands of Wireless Service Providers. This added competition, as well as the growing perception of backhaul connections as “dumb pipes”, is beginning to

commoditize Carrier Ethernet-based services. The result of these factors is a “price war” between Backhaul Service offerings. An Atlantic-ACM report ranked Wireless SPs’ purchase decision criteria for wholesale backhaul services. Unsurprisingly, price was the most important criterion followed by service quality, customer service and ease of doing business.

For Wholesale Backhaul Service Providers’ product marketing organizations responsible for revenue growth, their challenge is much more than simply winning new customers. It is fighting price wars while improving perception of their services’ QoS. To differentiate and increase the perceived value of their services, they need to understand their customers’ business and purchase decision criteria. In essence, they need to figure out how to increase the value of their “dumb pipes” and avoid the price wars.

## Opportunity for Service Differentiation: Curing the Blind

As Wireless SPs have begun to lease capacity from Backhaul SPs, they realize that they have no visibility into the quality of the cell-site traffic transiting over these leased connections. Wireless SPs are “blind”, relying solely on sporadic, basic SLA reports that lack the service metrics visibility required to assure the end-to-end quality of their mobile services.

As more and more Wireless SPs focus their churn-reduction strategy around improving QoE, ensuring QoS across leased backhaul has become critical to retaining a new breed of subscribers that, through “quick-exit” alternatives like prepay and number portability, have developed a lack of tolerance for degraded service.


This lack of performance visibility presents a great opportunity for Backhaul SPs looking to augment the value of their transport services by leveraging their network and service quality. By offering Wireless SPs the visibility they need to monitor and assure their end-to-end QoS, Backhaul SPs can add value to their commoditized transport services.

At InfoVista, we believe that the time to act on this opportunity is now. Wireless SPs are demanding more actionable and real-time performance visibility into their leased services. Backhaul SPs that are proactive and get out in front of the market will be able to better position themselves, grab additional market share and stave off price erosion. Those that remain passive—continuing to offer “dumb pipes”—and fail to react to Wireless SPs’ needs will continue to feel downward pressure on their backhaul service margins.

## The Solution for Wholesale Backhaul Service Differentiation: Service and Quality Visualization

As a service differentiator, service and quality visualization lets Backhaul SPs increase the value of their services by providing Wireless SPs with actionable and real-time service performance and SLA compliance visibility. This visibility is made possible through access to various service metrics, such as services’ availability, utilization and end-to-end quality. However, service and quality visualization is more than just providing Wireless SPs with access to these metrics. It is the presentation of these metrics within the context of a specific service, which has been tailored to the business and operational needs of specific user groups, both internal and external to the Backhaul SP. It’s a holistic approach that empowers both Backhaul SPs and Wireless SPs to assure the performance of their services.

In practical terms, service and quality visualization consists of a portfolio of end-user-tailored reports offered as an add-on to existing services. Access to the reports in the portfolio can be provided to customers for an extra monthly fee, creating new revenue streams and an opportunity to further monetize existing and future network infrastructure. The reports could also be bundled with existing services as an added value service feature, providing a competitive advantage against other market offerings. The key to generating successful service differentiation lies in ensuring that customers perceive value. Ensuring this value requires both a thoughtful and methodical implementation process and a collaborative platform that supports a wide range of service models, SLAs and metrics.



# Service and Quality Visualization Solution Hierarchy Diagram

## Service Quality Analytics Framework

There are many approaches to building out a service and quality visualization-reporting portfolio. The goal of the process is to identify the type of metrics and service visibility requirements of each functional group to ensure that only relevant information reaches each end user. Based on extensive experience, InfoVista has developed its own Service Quality Analytics Framework. This Framework involves a step-by-step process that InfoVista employs through a consultative and collaborative engagement with Wholesale Backhaul Service Providers.

### Step 1:

The Framework begins with an analysis of the pain points and end-user requirements of the Backhaul SP customer base. What are Wireless SPs' business drivers? How do they try and differentiate their services/offerings? What types of service visibility do their multiple end-users demand?

For a reporting portfolio to provide value, it must be aligned with customers' business needs. Understanding the businesses of the Wireless SPs and how they deploy their offerings [i.e. strategy, service requirements and end-user needs] is a key step to delivering that value.

### Step 2:

Next, the Framework considers the service metrics associated with the backhaul service offerings. What service metrics are offered to the various Wireless SPs? What are the agreed SLAs? What functional groups need visibility of them to fulfill their objectives? What types of visibility do they need?

### Step 3:

Finally, by leveraging an understanding of Wireless SPs' strategies, service requirements and end-user needs, dashboards and/or reports are built and tailored for each specific end-user, both internally (Backhaul SPs) and externally (Wireless SPs).

Once designed and tailored, the actual service reporting portfolio can be deployed on top of the different service offerings either as standard or as a premium to the existing customer base and future prospects.

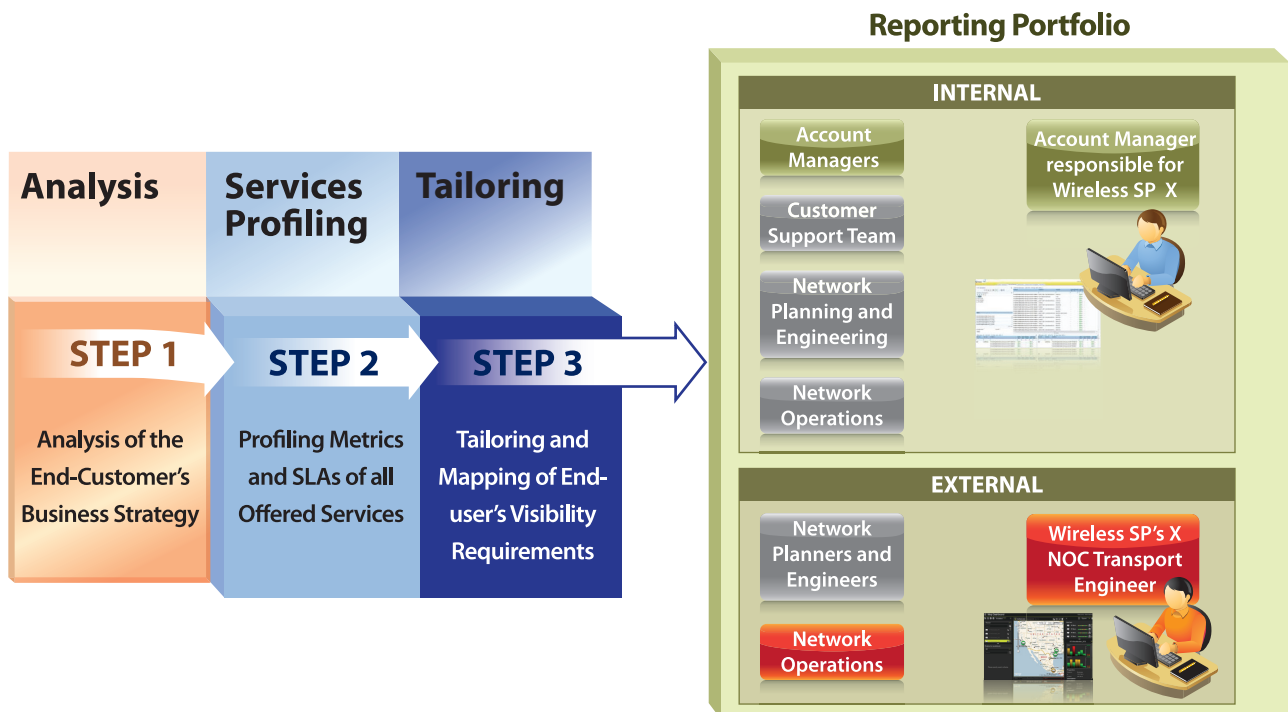


Figure 3 – Service Quality Visualization Framework

## Framework Application Example: Backhaul Service for Wireless Service Providers

A given Wireless Service Providers buys Ethernet backhaul services to handle bandwidth demand. The Wireless SP's strategy is to establish market differentiation by marketing mobile services based on its extensive network coverage and excellent service quality. Having identified these business drivers, the Wholesale Backhaul Service Providers maps the key metrics and SLAs it needs to monitor, assure and make accessible to the Wireless SP. These might include Ethernet virtual circuits' availability, service utilization, service throughput, latency, packet loss, among others. In the final phase of the process, the Backhaul SP identifies the relevant end-user profiles (i.e transport planning and network operations engineers and customer care) that are going to benefit with tailored performance reports, and enables the reports and dashboards with relevant performance views for each internal and external stakeholder.



Figure 4 – Premium Dashboard for Wireless SPs & Backhaul SP Network Operations Centre

The end result guarantees not just true end-user value by offering actionable service information, but also maximizes the utilization and accelerates the ROI of the network and performance infrastructures. To illustrate an instance of delivered end-user value, the Wireless SP's network engineers obtain online, real-time visibility on service utilization, service quality and traffic forecasting—all critical information needed to assure QoE and optimal network planning.

As an internal end-user example, the Backhaul SP's account managers get per client visibility of all of the active services purchased, service utilization, traffic forecasting and SLA alerts, so they can proactively identify upsell opportunities and monitor the client's satisfaction.

InfoVista's portfolio reinforces business strategies and addresses the differentiation challenge by enabling Backhaul SPs to compete for new business beyond price. In the Wireless SP segment example, perhaps a corporate objective of the Wireless SP is to launch burstable bandwidth offerings. The reporting portfolio could easily be extended to offer real-time operational and engineering insights on service bandwidth thresholds and burstable SLA alerts, helping the Wireless SP assure the deployment of this new service offering. This type of view would also improve the Wireless SP's perceived quality of its leased service, the second most important dimension of the purchase decision criteria.

Service differentiation through service quality visualization is most effective when it delivers these tailored views to the appropriate user profiles (account managers, customer care, network operations, engineering, product marketing) in a manner that is in line with the high-level business objectives and tactical strategies of both Backhaul SPs and Wireless SPs.

## Service Quality Assurance Platform: The Enabler

Service and quality visualization requires a platform in order to provide a collaborative reporting portfolio. This platform must support a central, hierarchical view of all services and metrics. This hierarchical view permits actionable drilldowns from the customer level all the way to the actual traffic or packet data. This integral component of the portfolio is the source where all service and performance metrics are generated and shared.

Today's network infrastructures are diverse with many vendors and technologies supporting different services to numerous market segments. Effective service and quality visualization requires delivering views of the network to multiple tenants (i.e. specific internal and external user groups) across any obstacle, in a scalable, carrier-grade and cost-effective fashion. To accelerate ROI, the platform should include a balance of pre-packaged, off-the-shelf solutions and tailoring flexibility to minimize the time to market and the value of the reporting portfolio.

## Metro Ethernet Forum (MEF) Alignment

The MEF, established in 2001, has led the effort to ensure carrier-grade service, equipment interoperability and compliance across multiple carrier networks and end-user enterprises. It has been a critical enabler of the rapid growth of Carrier Ethernet-based services.



Wireless SPs leasing Carrier Ethernet connections spanning multiple technologies, vendors and carriers require the visibility to monitor and assure the performance of these critical services. As such, it is imperative that both Backhaul SPs and Wireless SPs consider performance assurance platforms that are aligned with the latest MEF standards and conventions.

## Benefits to the Bottom-Line

Implementing a differentiation strategy based on service quality visualization can be difficult and requires buy-in from various stakeholders throughout Backhaul SPs' organizations. The benefits of better service performance and quality are obvious to both Backhaul SPs and Wireless SPs, but what's the ROI or financial advantage to the Backhaul SP? How does it get the other stakeholders to buy into this process? How does the portfolio help improve the bottom-line?

### By augmenting top-line revenue:

- Directly:
  - Creating an additional revenue stream selling add-on service performance reports
  - Protecting existing margins by reducing the risk of SLA compensations with proactive monitoring of agreed metrics
- Indirectly:
  - Increasing recurrent business revenue by implementing an automated mechanism to alert account managers of upsell opportunities
  - Winning more business through market differentiation by augmenting the value of existing offerings with value-added reports provided as cost of sale

### Increasing margin points:

- Controlling and optimizing operational costs and improving service quality
- Retiring and consolidating reporting tools on the operations and engineering side
- Right-sizing network infrastructure and services
- Minimizing Mean Time to Repair (MTTR) and improving QoE and customer service

Once implemented, the service quality platform provides a single, central view of the network for all internal and external functional groups. With all functional groups united as a common workforce leveraging this "single source of truth", it is possible to align decision-making and realize further efficiencies and improvements to customers' QoE. The result is a better orchestrated and more efficient performance management framework, which leads to better decision-making in daily network design and deployment activities.

While the platform capabilities are important, the platform supplier can have an even greater bearing on ROI. The process of implementing service quality visualization can be daunting without the support and guidance of an experienced partner. To maximize ROI, Backhaul SPs should look for a partner that has established itself as a thought-leader in the industry with membership and certifications from such organizations as the MEF. Suppliers should be able to articulate an implementation process similar to the Service Quality Analytics Framework, not just offer some report generation services bundled with a product license.



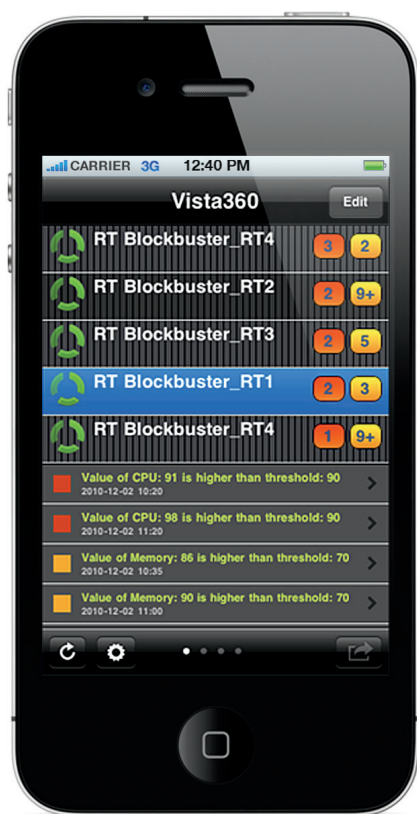
## Summary

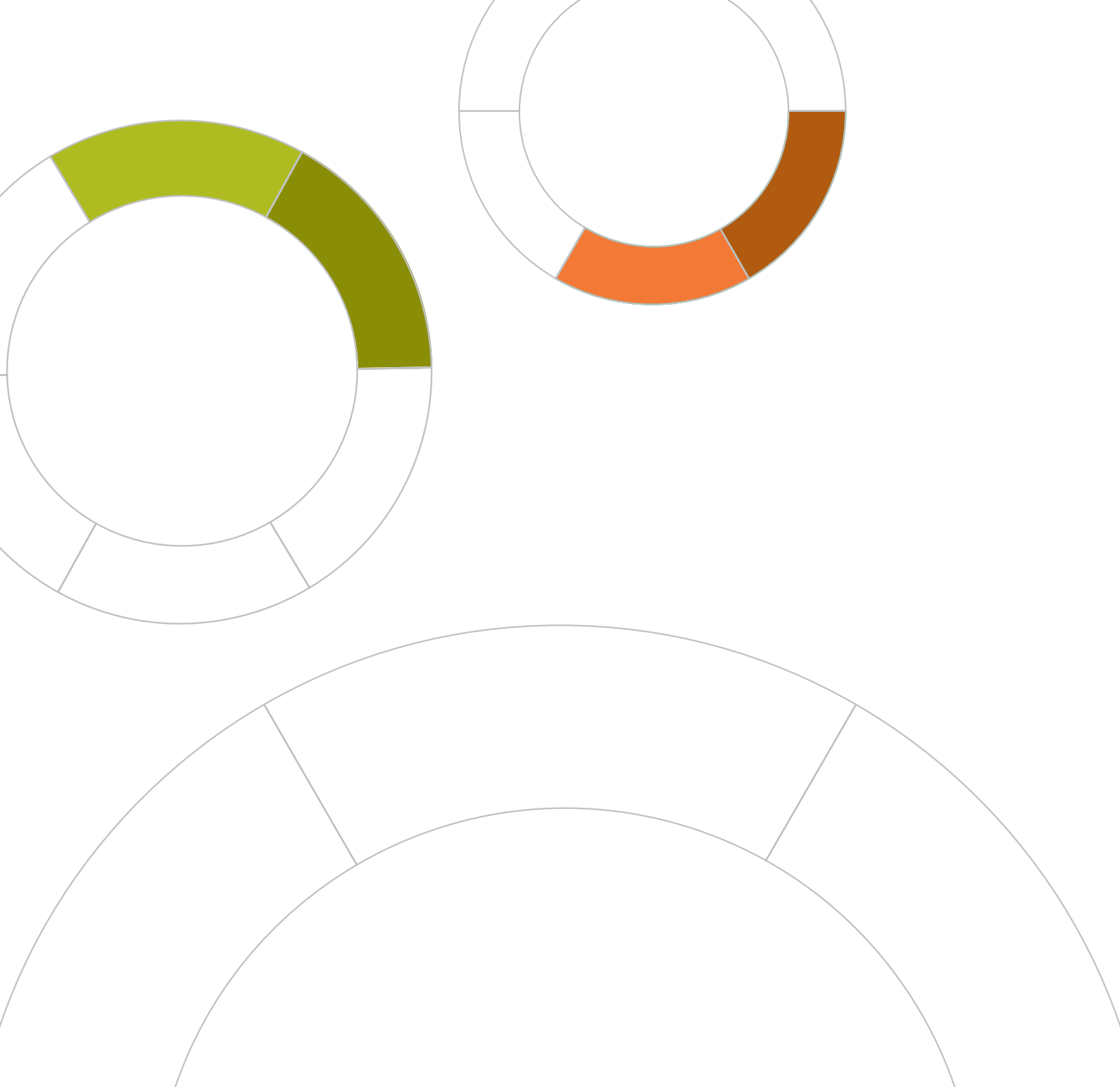
Implementing a service quality analytics framework will enable Wholesale Backhaul Service Providers to differentiate and augment the current value of their service offerings. In addition, Wholesale Backhaul Service Providers can improve customers' satisfaction drive new revenue, ensure SLA contracts are met, reduce OPEX and CAPEX and, most importantly, improve the bottom-line.

The key to realizing these benefits is deploying a scalable service quality assurance platform. The platform should be implemented through a model that analyzes customers' market segments, how they use the network and what metrics impact those services, and that provides the various internal and external user groups with actionable real-time performance visibility tailored to their respective activities.

The correct framework and platform combination will adjust to more than just Wireless Service Providers' market segments. It will enable Wholesale Backhaul Service Providers to leverage the same architecture to meet the requirements of other service offerings aimed at CLECs, ILECs, content providers, resellers and enterprises.

InfoVista provides a proven carrier-grade platform that features the right mix of pre-packaged solutions and flexibility along with the knowledge and experience to implement a successful performance-reporting portfolio.





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