

Offering quality experiences in an all-IP world

Any business will tell you the most dependable way to maintain steady growth is to constantly exceed the expectations of your customers. In the new age of video services and broadband delivery, this idea takes on a whole new meaning, explains Stephane Bourque, President and CEO, Incognito Software.



The Pressure to Improve Service Quality While Facing Stagnant Revenue

For years, service providers were focused on acquiring new customers, improving internal processes, and increasing network speeds to build their subscriber base to ensure their businesses flourished. Time-to-market for new devices and services had to stay competitive. While certainly important, this method for improving quality of service (QoS) quickly became an almost routine operation: buy new infrastructure, receive a call from a new subscriber, roll a truck to the subscriber's home, install and test the customer premises equipment (CPE), and be on your way. This unassertive method for improving subscriber service quality coupled with the increasing expectations and demands on data might just be the reason that service providers have been hovering near the bottom of consumer satisfaction indexes for the last decade.

Service quality for cable and Internet subscribers has grown to be about so much more than just ensuring a fast connection, and with cable and Internet penetration rates in major markets quickly approaching 100%, service providers can no longer rely on an acquisition strategy to ensure survival. In an environment where ARPU and revenue growth are stagnating, subscriber retention is the new name of the game, and improving quality of experience (QoE) throughout the duration of a subscriber's contract is the foremost method for retaining customers. With technological innovations continually coming out in an all-IP world, and new competitors banging on the door of almost every subscriber's home, service providers are now faced with an ultimatum — discover and understand what your subscribers truly value, or lose them.

What are the factors that lead to satisfied

subscribers in this new era? And how can service providers differentiate themselves from their competition to retain their customer base? The answers to these questions are becoming clearer, and much can be learned from information already stored within every operator's network.



Automated solutions are helping service providers understand subscriber experiences based on individual usage and network congestion. Through this, service providers can strategically improve subscriber QoE when and where it's necessary — boosting retention rates.

Leveraging the Power of Real Network Data to improve QoE

We've all heard the buzz term Big Data, and by now most service providers have established a plan to at least start collecting it. But as the trend for Big Data collection grew steadily over the last year, something crucial fell through the cracks: operators didn't have any efficient ways to utilise it. In order to meet and maintain the expectations of their subscribers, service providers are now looking to implement solutions that normalise key Big Data insights and then leverage that data to optimise their networks and improve their subscribers' experiences.

Furthermore, it must be understood that learning subscriber usage patterns on a

network-wide scale is not enough. It's no secret that each user will have a different perception of what great service quality means, so service providers must dig deep into their data to uncover individual user behaviours to align with individual user experience management strategies. Gaining this smart network data is vitally important when developing and deploying services that go beyond a subscriber's expectations.

To plan for smarter data collection, network operators must consider all the impacts data extraction has on their regular services. There are many methods used today to gather data from a network, but as a rule of thumb operators should always look for solutions that can glean network data with automated processes while minimising any service

impacts. If the collection mechanism negatively affects subscriber QoS, then the service provider has already tipped the scale out of their favour.

On top of that, network data is no good to operation teams if they can't quickly understand it. Providers must make use of solutions with automated organisation and normalisation of collected data mounds, and then rapidly act based on the results. If not, they risk making customers impatient while waiting for resolution to service inconsistencies or problems. Once accurate individual subscriber usage data is normalised into a readable database, operators open up countless new avenues for improving QoE. They can begin by optimising the delivery functions of their network to meet subscriber demands when and where

they are needed.

For example:

- When a business customer is using network resources and adversely affecting the QoE for residential subscribers in an area, network operation teams can allot more resources to the area to subdue potential service congestion issues

Service providers also gain new ways to tailor service offerings to meet the needs of their users.

For example:

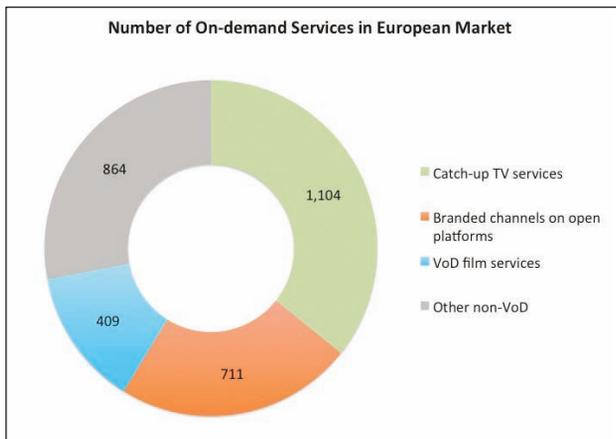
- If a subscriber consistently streams over-the-top (OTT) television content between the hours of 6pm and 8pm, an operator can maximise bandwidth allotments to that user

during the timeframe to certify a smooth HD picture throughout the duration

Threat to QoE: Bandwidth Congestion

While employing strategies like this can certainly help improve customer experiences, the road to great QoE is paved with many challenges. One of the most pressing issues facing service providers today is bandwidth congestion management. Major OTT content providers are continuing to grow at an unexpectedly rapid pace.

A recent report by the European Audiovisual Observatory found that there are now 3,000 on-demand services in the European Union, a majority of which are VoD related:



It's reported that major OTT provider Netflix expects to add over eight million new subscribers to its European subscriber base by the end of 2018. As OTT content provider networks increase in popularity and extend to new regions, the issue of bandwidth congestion management has become a tall hurdle for operators to cross — but all is not lost. With smarter network data in their arsenal, providers can utilise real-time analytics to make better network growth predictions on both a regional and per-subscriber basis. This not only helps service providers certify high QoE for their new and existing customers, it also helps network planners make smarter CAPEX investments.

Massive spikes in viewing are an additional threat to QoE as operators move toward an all-IP environment. Service providers have recently entered a new market by offering live streaming for major televised events, and it will soon become common for millions of people across the world to stream major sports tournaments like the Olympic Games and the FIFA World Cup. As these events are broadcast to multiple screens, bandwidth utilisation surges to surprising new levels. Previously, service providers have scrambled to keep up with the bandwidth requirements of millions of people tuning in at one time, leaving many customer dissatisfied with their service quality. Now, by compiling and analysing real data

from previous live-stream attempts and gaining a better understanding of subscriber behaviours and regional network requirements, operations teams can strategically optimise specific network infrastructure to meet the surge in bandwidth brought on by these live streaming events. This makes sure that users don't have issues with frame drops or pauses in their streams at crucial moments during the event.

Threat to QoE: Multi-device Homes

Aside from the challenges surrounding bandwidth, another wall standing in the way of great QoE is an operator's ability to extend customer experience management to multiple devices within the subscriber's home. When

improving QoE, it's crucial to understand that device optimisation, especially on converged service networks offering video, voice, and Internet, must serve all devices connected to a gateway. Operators must be able to offer high quality multi-screen viewing to each connected device — even over WiFi.

Performing this management starts with key-performance indicators that

network operation teams use to get at-a-glance views of service quality performance. If a subscriber's network connection isn't at its maximum speed, or an IPTV isn't working the way it should, an operator can actually know about the problem and resolve it before the subscriber is impacted. This practice puts service providers in the fortunate position to be more proactive with customer issues, reducing the risk of angry customer support phone calls. The cable television and broadband industries have seen advancements in industry protocols that allow customer service agents to access specific parts of a network and user devices to solve issues. Many of these problems used to require in-home visits from service technicians, but with remote management and increased visibility, operators are increasing the speed at which CPE issues can be fixed.

Changing Consumer Behaviours

This trend towards increasing visibility isn't just specific to operation teams either. One of the most recent trends, which offers countless benefits for improving customer QoE, is enabling subscribers with configurable self-service portals. As Internet penetration has risen, computer literacy rates in major European markets have proliferated to nearly 100%. Service providers are beginning to use this increase in literacy as a dual advantage to them and their customers: empowering



subscribers with more control over gateway and network functions, and at the same time reducing their own requirements for service technicians.

Subscriber portals also provide a safe and accurate environment for customers to monitor their own connection speeds. Many times, subscribers will use third party speedtest sites to determine bandwidth upload and download speeds, however, without considering the entire home network — which may have multiple devices using bandwidth at one time — the numbers returned from the third party sites can misrepresent actual bandwidth rates. By providing subscriber portals with accurate information, service providers can alleviate the number of customer service phone calls for performance issues. While it's certainly not realistic to expect operators to completely eliminate customer support teams, providers are realising the significant cost-savings and QoE benefits that can be gained from subscriber empowerment.

Service providers are becoming increasingly agile with their package options, offering skinny bundles for select TV channels, OTT content distributors, or any combination of the two. This flexibility is certain to gain more popularity as the cord-cutting trend grows. A week before the recent Internet and Television Exchange (INTX) conference in Chicago, USA, major operator Cablevision even announced its own 'Cord Cutter' package, a video package based on HDTV antennas with local channels and OTT content. These *à la carte* options are attracting new customers who previously didn't need, or couldn't afford, the old 100-plus channel cable packages. Tailoring packages that meet customer needs can also be achieved by offering targeted service package add ons, or even speed-upgrade premiums. Both these methods serve as a win-win, improving QoE for the subscriber while helping provider's maintain their subscriber base.

There are multiple benefits gained from providing better QoE to subscribers — and not just customer referrals. Improving QoE for cable and Internet subscribers can no longer be an afterthought. In the all-IP world, where technology races forward and competition looms around every corner, service providers must develop strategies to retain their customers. Positively differentiating themselves by offering best-in-class QoE seems like the right place to start.

If you're interested in continuing a discussion about QoE, come meet me in Cologne, Germany, at this year's ANGA COM — Booth Q35.