

Best Practices for Implementing Broadband Usage Management

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Introduction

With over 2 billion Internet users worldwide and no end in sight, broadband internet is a convenience many people can't imagine a life without it. The steady increase in broadband users over the years has been a boon for the service provider industry, but this growth has presented challenges. When providers initially launched their broadband service, they offered flat-rate plans with no limits to the amount of data a subscriber could use. Operators had plenty of bandwidth on their network and to the backbone. Broadband speeds were not as high as today, and content on the Web was primarily static.

Cable providers began upgrading their plants to offer higher speeds and differentiate their service. To compete with cable companies, telcos started rolling out fiber to increase their bandwidth. Internet providers were regularly offering higher and higher speeds to their subscribers with little or no price increase. About the same time, the content available on the Web began to change, and customers started using more and more of the increased bandwidth available to them.

The most significant challenge and need for change came about with the rise in video streaming as entertainment. The popularity of streaming apps like Netflix, Amazon Prime, and Hulu helped build the explosion of video streaming and has produced a surge in subscribers. YouTube, the most popular free video streaming service in the world, has over two billion active users. Film and TV studios have not remained idle over the past decade either. AT&T (WarnerMedia and HBO), Comcast (NBC), CBS and Disney have all launched streaming services.

And with an increase in video conferencing, live video streaming and IoT devices like home security cameras, upstream bandwidth use has increased the bandwidth use per subscriber more than ever before.

These are the three applications or activities that began the bandwidth problems. They gobble up the most bandwidth--and will bog down your network as a result.

1. Video. Online video is the clear culprit when it comes to bandwidth use. Most types of Internet browsing won't crush your network. Video will, and it will do it very quickly.

2. Large file types. Businesses and home offices that deal with a heavy volume of large file types can run into problems, too. Think of every legal brief, photo shoot or catalogue attachment someone sends and resends (and resends).

3. Music. Music through Internet radio applications such as Pandora when subscribers working from home turn them on and leave them running continuously.

With the endless and continuous supply of streaming videos, television shows and movies online, free unlimited bandwidth plans are simply not practical anymore. And as customers continue to replace their traditional pay TV subscription with online only, even more bandwidth is being consumed with no accompanying revenue to the provider.

But, operators need to be profitable in order to upgrade their network and keep up with bandwidth demands. Implementing data limits or charging for higher data use is the only reasonable solution, but as an Internet service provider you need to carefully consider how you implement such solutions.

One challenge associated with broadband usage management is how to actually manage the consumption of data among subscribers. Providers already offer different levels of service based on speed. But speed is just one variable. A natural next step is to accurately track bandwidth use and put the processes in place to eventually enforce data usage limits.



The Time is Right

Smaller providers have been hesitant to implement usage quotas for several reasons, including backlash from angry customers. For example, Time Warner took a PR beating in 2009 when they tried to impose usage-based pricing, and that memory is still fresh in the minds of some providers. But, unlike a few years ago, subscribers today are more likely to accept usage quotas. Several national and regional broadband providers have successfully implemented usage quotas, which will make it easier for smaller providers to now put them in place.

Another concern providers have is how to actively monitor usage and enforce limits. While early adopters had to develop their own tools, there are now powerful tools available from third-parties that are designed specifically to monitor data usage. Whether you build your own, or purchase a third-party product, make sure your solution has features that will support the best practices for enforcement as outlined in this paper.

Plan Carefully

When you are ready to implement usage-based pricing it is important to plan carefully. As a first step, you should look at the data use by your customers over a couple of months. You may be surprised. Consumers will tend to gravitate to the lowest-priced package with a speed that meets their needs. But, customers on lower-priced tiers can also be some of the highest bandwidth users, and like most others, they will use those resources during peak hours. The point is to have a way to address your highest use customers without making the majority of your subscribers feel like they are being punished or getting less for their money. This will also make it easier when it is time to sell the new usage policies.

Next, think about the tiers you want to establish. As you study the data, you will see that there are a percentage of customers who use very little bandwidth. Consider establishing an economy package that includes a relatively small amount of data transfer. In addition to promoting loyalty from your low-use (and low-cost) customers, this will give you a lower price point to promote in the market. As those customers begin to use more bandwidth, you can advise them to upgrade to a plan that includes more bandwidth.

Don't forget your heavy users. A lot of broadband customers are cutting the video cord and are now watching all their TV and movie content by streaming. Even if you are the one who is losing the video subscription, you want to keep the broadband account if it can be profitable.

The planning stage is also the time to determine how you will be tracking bandwidth usage and enforcing limits. There are products that will track subscriber usage, and automatically notify customers when they are approaching or have exceeded their data limits.

Before you ever charge for usage, you need to make sure you have a way for customers to see how much data they have transferred at any time during the month. Be sure you make available a usage meter that customers can check. Having a method to accurately track and report usage is critical, since your subscriber's service level and/or billing can be based on their bandwidth use. If you are a cable provider, the best way to collect usage is using a protocol called IPDR (Internet Protocol Detail Record). IPDR is more efficient and more accurate for collecting data usage than SNMP (Simple Network Management Protocol). IPDR is part of the CableLabs DOCSIS standard, which means no additional equipment needs to be deployed. If possible, use a bandwidth management tool that leverages IPDR for data collection.



Communicate Early and Often

Make sure you communicate well in advance of implementing any usage quotas. Start with a letter sent via postal mail, as well as an email, a bill insert and perhaps a notice on your website letting customers know about the upcoming usage policy change. Be sure to highlight the reason for implementing usage plans, which is so a small percentage of users do not negatively impact all subscribers. Include examples of things your customers will be able to do with the bandwidth provided in each tier, such as how many HD movies and songs they could stream or download. Finally, make sure you change your Terms of Service to reflect the fact that usage quotas are in place and that subscribers may see additional charges based on their bandwidth use.

Consider the Consequences Carefully

Consider carefully how and when you will enforce any bandwidth usage limits. There are several options, but some are better than others such as monthly quotas for internet packages and charges for additional data used at the end of each month if exceeded. A notice to a subscriber when nearing their limit and any charge that may incur puts your subscriber in charge of their data use, not you. Putting an account on hold or restricting speeds for an extended period of time will certainly get the customer's attention and will prompt a call to your office. But, that call may be to cancel your service rather than upgrading or paying for additional bandwidth.

For purposes of usage limits, you could consider excluding usage that occurs during what would normally be your non-peak hours, which will provide a way to offer customers a break on usage quotas while having less impact on your network. For example, you could create a policy where bandwidth use in the middle of the night, or other times when there is little congestion on the network, is not counted towards daily or monthly quotas.

As customers reach their monthly limit you can take additional action, including charging for additional bandwidth. If you choose to bill for excess usage, you can do this manually by going through a report at the end of the month of all users who exceeded their limit. With a little programming work, you should also be able to tie your bandwidth management system into your billing system and add charges automatically.

Whatever policy and enforcement method you choose, be sure to clearly communicate the policy and the consequences beforehand in both your general communication efforts, as well as specific notifications as customers approach or reach limits. People don't like to be surprised by unexpected charges. Make sure your system supports real-time notifications to the end-user through email and/or text messaging.



Start Slowly

Give customers a chance to get used to the idea of usage limits by easing them into the new system. Start by turning on usage monitoring one or two months in advance, before enforcing usage tiers. Let customers know when they have approached or reached their bandwidth quota and include in your notifications the date when enforcement will begin and what the consequences will be. Once again, there are bandwidth management products available that will monitor usage and automatically message customers as usage thresholds are nearing.

After you set up your quotas, you will find that a percentage of users will reach a monthly usage quota almost every month. Notifications targeted at these higher-use customers will give them a chance to consider changing their usage habits before any consequences actually take effect. This is also a good time to begin upselling customers to higher bandwidth plans if the customer determines that they will need the additional bandwidth. This can be done through your automatic messaging. Also, check usage reports and make proactive phone calls to subscribers who are close to or have reached their usage limits to make sure they are aware of the new usage policies and to see if they want to

Implement Your Policies

If you have carefully planned, communicated and tested your system, you should be able to manage data quotas with minimal impact to the majority of your customer base. There should also be no surprise for those customers who regularly come close to or reach your bandwidth thresholds. In addition to having a positive impact on overall bandwidth usage, you will have an opportunity to increase the average revenue received from customers as they use more of the bandwidth on your network and pay for more data.

Visit us online to learn about Bandwidth Management and Usage-based billing solutions from ZCorum.

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Biography

Rick Yuzzi is the Vice President of Marketing for ZCorum. He has over 35 years experience in sales, marketing and management. Hired in 1995 to establish the sales department for a fledgling Internet Service Provider that later became ZCorum, he is now a key member of the executive team, overseeing the company's marketing efforts.



ZCorum provides broadband Internet and communication solutions to telcos, cable companies, utilities, and municipalities, assisting in all facets of broadband implementation, integration, engineering and consulting, network monitoring and diagnostics. ZCorum also offers wholesale, private-labeled Internet services, including data and VoIP provisioning, email, Web hosting, and 24x7 support for end-users, enabling service providers to compete effectively in their local rural and suburban markets. ZCorum is headquartered in Alpharetta, GA. For more information, please visit ZCorum.com or contact us at 1-800-909-9441.