Maintaining a competitive advantage in the era of Network Neutrality

How Procera’s Subscriber Intelligence Solutions can help broadband operators

WHAT DOES THE FCC NETWORK NEUTRALITY ORDER MEAN FOR OPERATORS?
Network operators in the United States have been waiting for years for clarity on what the FCC would propose for regulation in the area of Network Neutrality. In March 2015, the FCC published the text of their proposed Network Neutrality framework targeted at broadband operators in the United States. There is still some confusion on the part of network operators on what exactly is forbidden and what is allowed by the order, and this document is Procera’s attempt to distil the critical parts of the filing.

The Network Neutrality ruling applies for both fixed and mobile broadband Internet access providers. This is different from the initial proposals that were floated, which exempted wireless operators from the ruling. However, the FCC argues that the wireless industry is mature now, and has become the primary method of broadband Internet access for parts of the population. The ruling does not include premise operators, enterprise services, VPNs, hosting, or data storage, which the FCC is treating as managed services.

NETWORK NEUTRALITY: BRIGHT LINE RULES
The main portion of the ruling is the establishment of what the FCC calls the “Bright Line Rules”, which are explicitly forbidden. These three pillars of Network Neutrality are:

• No Blocking
Consumers should have access to all lawful content available on the Internet. This clause is specifically targeting cases where an operator may attempt to block access to content or applications that would compete with their own services and stifle innovation.

• No Throttling
This prohibits operators from degrading lawful Internet traffic based on source, destination, or content. This clause is specifically targeting throttling of a competing service in an attempt to make the service unusable without explicitly blocking the service. There are specific allowances for “Reasonable Traffic Management”, but we will revisit that later.

• No Paid Prioritization
An operator is not allowed to directly or indirectly favor some traffic over other traffic, including through use of techniques such as traffic shaping, prioritization, resource reservation, or other forms of preferential traffic management, either (a) in exchange for consideration (monetary or otherwise) from a third party, or (b) to benefit an affiliated entity. This clause is commonly called the “Fast Lanes” provision, as it seeks to avoid creating a multi-tiered Internet that could confuse consumers.
Look for the inclusion of up-to-date applications and the coverage of emerging trends in popular network traffic themes such as cloud-based applications and social media.

**NETWORK NEUTRALITY: EXPLICIT REQUIREMENTS ON OPERATORS**

The ruling also includes the first reference to Content Delivery Networks (CDNs) and their relationship with both broadband operators and consumers. The ruling states “No Unreasonable Interference or Disadvantage to Consumers or Edge Providers”, where Broadband providers that are acting as gatekeepers between consumers and Edge Providers (aka CDNs) may not unreasonably interfere with or disadvantage an end user to access lawful content or the edge providers ability to provide that content to end users.

This clause is in response to content providers like Netflix that are claiming that they are being unfairly charged in peering relationships with large operators who sit between the content provider and consumers. This is a big change, however, the FCC does not specify any specific rules or regulations that will be assessed, only that this will be addressed on a case-by-case basis if a complaint is filed. There are specific allowances for “Reasonable Traffic Management” in this clause as well.

There is also an explicit requirement for Enhanced Transparency. Broadband operators must disclose accurate information regarding network management practices, performance, and commercial terms of its broadband offerings. This clause is designed to allow operators to manage their networks to deliver a high quality of experience to their subscribers, but to force them to communicate the reality of their service offerings. There have been many public instances of “unlimited” plans not living up to their advertisement, and this clause is designed to force the operators to be clear and not deceptive to consumers.

Several items are explicitly called out in this clause: disclosure of promotional rates, all fees and surcharges, data caps, adding packet loss as a measure of network performance, and requiring notification to consumers if a network practice is likely to significantly affect their usage of the service. (Note: there is a temporary exemption for operators with less than 100,000 subscribers until December 15, 2015).

**ENHANCING SUBSCRIBER EXPERIENCE IN THE AGE OF NETWORK NEUTRALITY**

What is critical for broadband operators to recognize is that the FCC has left plenty of opportunity for innovation and the ability to ensure that their subscribers have a great broadband experience. Within the text of the ruling are several areas that Procera can help an operator differentiate their service offerings from the competition.

Reasonable Network Management: Reasonable Network Management is defined as a practice that has a purely technical network management justification and tailored to achieving a legitimate network management purpose, but does not include business practices. This clause recognized that mobile and Wi-Fi networks have unique challenges with the dynamic conditions that they operate under, but is attempting to draw the line for operators that attempted to cap unlimited plans as reasonable traffic management. The ruling uses the example of network behavior during periods of congestion as a practice that should be detailed to the consumer.
HOW PROCERA CAN HELP WITH NETWORK MANAGEMENT

Procera offers multiple solutions that can help an operator manage their network without running foul of the FCC ruling. Our Fair Usage solutions enable operators to ensure that subscribers have fair access to bandwidth, even during times of congestion. Procera’s sophisticated congestion management technology can scale to millions of connections and delivers maximum efficiency for the available bandwidth. This enables a broadband operator to delay CAPEX while still delivering a high Quality of Experience to their subscribers.

NETWORK QUALITY MONITORING AND REPORTING

The FCC describes reporting for throughput, latency, and packet loss as KPIs to measure the performance of broadband providers. Operators will be asked to report their performance to the FCC to ensure truth in advertising.

HOW PROCERA CAN HELP WITH NETWORK QUALITY MONITORING

Procera’s Network Scoring Solution provides a ScoreCard view that gives operators an understanding of what quality their network is capable of delivering. Networks are rated from A to F in categories that subscribers care about: Web Surfing, Streaming Video, Social Media, Real-time Gaming, Upload, Download and Voice Applications. Procera’s Network Scoring Solution provides a ScoreCard view that gives operators an understanding of what quality their network is capable of delivering.

Networks are rated from A to F in categories that subscribers care about: Web Surfing, Streaming Video, Social Media, Real-time Gaming, Upload, Download and Voice Applications. Executive Management can use the scores to prioritize and make decisions on CAPEX and OPEX investments. Engineers can drill down deeper and analyze the actions to take at different parts of the network. Marketing can use scores to differentiate with services where the operator is particularly strong. All traffic is measured for every subscriber, all the time. Using sub-second measurement intervals guarantees that we see the quality even for very short sessions, such as a web page download.

• Consumer selected Differentiated Services

One critical clause states “Because our no-throttling rule addresses instances in which a broadband provider targets particular content, applications, services, or non-harmful devices, it does not address a practice of slowing down an end user’s connection to the Internet based on a choice made by the end user. For instance, a broadband provider may offer a data plan in which a subscriber receives a set amount of data at one speed tier and any remaining data at a lower tier…We note that user-selected data plans with reduced speeds must comply with our transparency rule, such that the limitations of the plan are clearly and accurately communicated to the subscriber”

This clause is very important for operators, as it gives them the ability to offer “unlimited tiered services” that combine speed and volume for data capped services that are FCC-friendly.

• Usage Allowances/Data Caps

The ruling acknowledges that usage allowances may benefit consumers by offering them more choices over a greater range of service options, and allow for better pricing models – especially for rural and wireless operators with limited capacity. As with zero rating, the FCC states that they assess unreasonable interference on a case-by-case basis if they believe data caps are being abused or are implemented non-transparently.
HOW PROCERA CAN HELP WITH DIFFERENTIATED SERVICES AND USAGE ALLOWANCES

This clause is the single biggest opportunity for broadband operators to differentiate their service offerings under Network Neutrality. We have fixed and mobile operators around the world that are using our technology to offer tiered services and manage usage allowances for their subscribers. Some examples of these services include offering unlimited plans that will be managed during times of congestion more aggressively than capped plans, plans that offer specific allowances for video traffic, location-specific offering (Fixed Mobile substitution replacing DSL with LTE at home), or low cost plans that only allow specific traffic types (pre-paid Facebook plans, limited bandwidth for video or file sharing, etc.).

Procera’s unique ability to combine subscriber, location, plan, content, and application awareness with Policy Enforcement enables us to integrate with policy solutions to offer differentiated services. A significant advantage that Procera can offer in policy enforcement is our ability to scale to offer unique services to each subscriber on the network without requiring thousands of policies to be configured, enabling the offering of mass market personalized services.

• Zero Rating

The ruling explicitly states that there are benefits to consumers for zero rating some traffic, with particular reference to the use in mobile services. The FCC does state that they will keep an eye on this practice, but that it is not considered paid prioritization under this ruling.

HOW PROCERA CAN HELP WITH ZERO RATING

Zero-Rating traffic can be very simple or very hard, depending on what your service offering is designed to offer. Many zero rating solutions are implemented using access control lists in routers or gateways – and these lists must scale to include every possible destination/source for every application or CDN that will send traffic as part of the service offering. Procera’s ability to recognize specific or groupings of applications or content dramatically simplify the process to zero-rate traffic.

Rather than long ACLs, the operator can simply configure zero-rating for all streaming music or all social networking traffic, exploding the opportunities for niche service offerings targeted at specific service offerings or even targeting specific devices. T-Mobile’s Music Freedom service – which zero rates streaming audio services is a perfect example of a service offering that is called out in the FCC ruling as a benefit to consumers that is completely legal within the Network Neutrality framework.

Although the Network Neutrality ruling has been controversial for many broadband operators, the ruling is very close to what has been expected all along.
SUMMARY: ENHANCING THE SUBSCRIBER EXPERIENCE IN THE AGE OF NETWORK NEUTRALITY

Although the Network Neutrality ruling has been controversial for many broadband operators, the ruling is very close to what has been expected all along. There are many areas that an operator can differentiate their services to customers and not violate any of the FCC “Bright Line” rules (blocking, throttling, and paid prioritization). The tools provided by Procera give broadband operators the ability to understand what services are valued by their customers and ensure that the network still delivers a high quality of experience to their subscribers.

Most importantly for broadband operators is to understand the experience that subscribers are receiving from the network, and Procera’s Analytics and Enforcement solutions enable operators to Gain Insights and Take Action to Improve the Subscriber Experience.

CONTACT YOUR PROCERA SALES REPRESENTATIVE TO EXPLORE MORE OF OUR NETWORK NEUTRALITY FRIENDLY SOLUTIONS.