Lumos Networks

Network Management Policy

Lumos Networks ("Lumos Networks" or "Company") provides this Policy in order to disclose its network management practices in accordance with the FCC's Open Internet Rules. Information about Lumos Networks' other policies and practices concerning broadband are available at **www.lumosnetworks.com** ("Lumos Networks Website").

Lumos Networks manages its network to ensure that all of its customers experience a safe and secure broadband Internet environment that is fast, reliable and affordable. Lumos Networks wants its customers to indulge in all that the Internet has to offer, whether it is social networking, streaming videos and music, to communicating through email and videoconferencing.

Lumos Networks manages its network for a number of reasons, including optimization, as well as congestion- and security-protocol-management. Lumos Networks' customers generally will not be impacted by the protocols and practices that Lumos Networks uses to manage its network.

Lumos Networks' Network Management Practices

Lumos Networks uses various tools and industry standard techniques to manage its network and deliver fast, secure and reliable Internet service. Such management tools and practices include the following:

I. **Managing Congestion**

Lumos Networks uses a commercially available software to monitor its network for bandwidth and CPU/memory utilization. When utilization has reached a threshold of 80%, hardware and links are upgraded to improve capacity. Lumos Network receives an alert when network devices exceed the 80% threshold.

Lumos Networks deploys an internally-developed application to monitor and manage customer interfaces. The company has established a rate-limit policy for customer-facing interfaces based on the amount of bandwidth purchased. This will prevent any single customer from using a disproportionate share of the bandwidth, which may interfere with other-assigned network resources. A customer may request access to that customer's statistical data for specific connections/interfaces.

Lumos Networks currently operates on a multiple 10G infrastructure. In order to increase capacity, the company is considering migrating to 100G to key network locations by 2012.

On Lumos Networks' network, all customers have access to all legal services, applications and content online and, in the event of congestion, most Internet activities will be unaffected. Some customers, however, may experience longer download or upload times, or slower surf speeds on the web if instances of congestion do occur on Lumos Networks' network.

Lumos Networks manages the volume of bandwidth usage in the aggregate, individual bandwidth usage, global spam occurrences, harmful content and denial of service attacks all in an effort to manage the stability and security of the network. Customers using conduct that abuses or threatens the Lumos Networks network or which violates the company's Acceptable Use Policy, Internet service Terms and Conditions, or the Internet Service Agreement will be asked to stop any such use immediately. A failure to respond or to cease any such conduct could result in service suspension or termination.

Lumos Networks' network and congestion management practices are 'application-agnostic', based on current network conditions, and are not implemented on the basis of customers' online activities, protocols or applications. Lumos Networks' network management practices do not relate to any particular customer's aggregate monthly data usage.

Lumos Networks' deploys a QoS Policy in order to assist with the management of bandwidth, which is available to customers for purchase. The QoS policy is the only policy under which Lumos Networks prioritizes traffic on its network. Lumos Networks does not utilize any policy that reclassifies a customer's bandwidth availability when network congestion occurs. The company relies upon its QoS policy in the event of congestion to ensure bandwidth proportion for the various types of traffic.

II. Network Security

Lumos Networks knows the importance of securing its network and customers from network threats and annoyances. The company promotes the security of its network and patrons by providing resources to its customers for identifying and reporting such threats as spam, viruses, firewall issues, and phishing schemes. Lumos Networks also deploys spam filters in order to prevent spam from reaching an online customer's email inbox.

As its normal practice, Lumos Networks does not block any protocols, content or traffic for purposes of network management except that the company may block or limit such traffic as spam, viruses, malware, or denial of service attacks to protect network integrity and the security of our customers.

III. Device Attachment Rules/Application Specific Behaviors

Lumos Networks sells VoIP products that require certification/capability validation. These products are heavily dependent upon the customer's devices. Every effort is made to certify these devices before service is turned up.

Except as may be provided elsewhere herein, Lumos Networks does not currently engage in any application-specific behaviors nor does it employ device attachment rules for its network. Customers may use any lawful applications or devices with Lumos Networks.

IV. Monitoring Schedule

Lumos Networks uses an application that will provide alerts when network utilization thresholds have been reached. Accordingly, the company does not have a regular schedule for monitoring its network. The application used by Lumos to monitor the network pulls data from network devices every 5 minutes. Nevertheless, Lumos Networks' engineers proactively monitor key points in the network to trend and manage resources. Lumos Networks also checks for abnormal traffic flows, network security breaches, malware, loss, and damage to the network. If a breach is detected or high volume users are brought to light by complaint, Lumos Networks provides notification to the customer via email or phone. If a violation of Lumos Networks' policies has occurred and such violation is not remedied, Lumos Networks will seek to suspend or terminate that customer's service.

V. Network Management Technology

Lumos Networks employs a variety of industry-standard tools, applications and devices to monitor, secure and maintain its network, including the following:
    -network monitoring software to manage network devices and bandwidth;
    -network management tools; and
    -application used to monitor customer interfaces

VI. Service Descriptions

Lumos Networks offers broadband service over copper and fiber-based technologies including DSL, FTTP, Metro-Ethernet, dedicated T1s and integrated access. The following is a list of Lumos Networks' service tiers:

DSL – ADSL2+ Technology	FTTP – GPON Optical Fiber Technology	Metro-Ethernet	T1 and Integrated Access
Up to 3Mbps down/768Kbps up	Up to 10Mbps down/3Mbps up	Ethernet connectivity among multiple locations from 1.5Mbps to 1Gbps	1.5Mbps dedicated connections supporting voice and data
Up to 6Mbps down/1Mbps up	Up to 15Mbps down/4Mbps up		
	Up to 20Mbps		

down/5Mbps up

Published rates for Lumos Networks DSL and FTTP services can be found http://www.lumosnetworks.com/content/broadband. Individual case basis pricing and bundles pricing is also available. Pricing for Metro-Ethernet and Integrated Access are negotiated on a individual customer basis, depending up on the customer's specific network requirements. Refer to http://www.lumosnetworks.com/content/business for more details.

There are no usage based fees for the services. There are no contracts or early termination fees on residential services. Business DSL services are contracted, and early termination fees may apply. In lieu of a term commitment for Business DSL, a $50 connection fee may apply.   DSL modems are provided free of charge, but $75 fee applies if the mode is returned in non-working condition. Services include web space, multiple email addresses, junk email/virus filtering, web hosting, and PC backup and security. All services may not be available in all areas.

VII. Network Performance

Lumos Networks makes every effort to support advertised speeds and will dispatch repair technicians to customer sites to perform speed tests as needed to troubleshoot and resolve speed and application performance caused by Lumos Networks' network. Lumos Networks has planned/engineered all network to meet or exceed required speed and latency requirements. Lumos Networks partners with its vendors to assess the network annually in an effort to maximize resources. Performance statistics are collected in real-time and reported in real-time.

All quoted speeds are approximate, and actual speeds are not guaranteed. DSL modem speeds are "best effort" speeds. However, customer's service performance may vary with one or more of the following factors: (1) the particular websites being accessed; (2) capacity in the public Internet beyond Lumos Networks' network; (3) customer's computer and equipment (including wireless router); (4) distance from the collocated equipment; and (5) condition of the inside wiring at customer's premise.

Customers have access to a broadband speed measurement tool to check download and upload speeds. Lumos Networks has planned/engineered all network to meet or exceed required speed and latency requirements. Lumos Networks partners with its vendors to assess the network annually in an effort to maximize resources.

Lumos Networks is in the process of developing additional systems that will allow us to measure and retain performance indicators out to test points at each major network aggregation site on the edge of our last mile network. Once these systems are developed, Lumos Networks will be able to measure system metrics on a network-wide basis and will disclose the results on its website.

VIII. Specialized Services

Lumos Networks provides Voice-over-the-Internet-Protocol (VoIP) and Internet-Protocol-Television (IPTV) services to end users. These services, also known as Specialized Services, are combined on the access and core network with other Lumos Networks service traffic including converged voice and data, home and business local and long distance calling, voicemail and calling features, web hosting and storage, and managed dedicated Internet services.

The access network (last-mile) is designed based on the offered services. In the cases where multiple service types traverse the same access network, the network is designed with the maximum requirements. The core network does not differentiate service types. Instead, it has been engineered as a "pipe" to transport all data/service types. Traffic is prioritized only in accordance with the Lumos Networks QoS Policy.

IX. Commercial Terms

In addition to this Network Management Policy, patrons may also find links to the following on the Lumos Networks Website:

- **Frequently Asked Questions ("FAQs")**
- **Acceptable Use Policy**
- **Internet Service Agreement**
- **Broadband Service Offerings and Rates**
- **Privacy Policy**

For questions, complaints or requests for additional information, please contact Lumos Networks Customer Care, 800-320-6144, Help@lumos.net.