

**WHITE CLOUD COMMUNICATIONS US, LLC**  
**NETWORK MANAGEMENT-BROADBAND INTERNET ACCESS SERVICE DISCLOSURES**

Consistent with FCC regulations,<sup>1</sup> WHITE CLOUD COMMUNICATIONS US, LLC and its subsidiary(s), referred to as White Cloud Communications, provides this information about our broadband Internet access service. We welcome questions or comments about this information, including any questions about any portions that you do not understand. You may contact us at 855-552-2253 or contact us at [www.wcloudus.com](http://www.wcloudus.com).

**NETWORK PRACTICES**

**General description.** We provide a variety of Internet offerings to our residential and business customers over our broadband network and through other communications facilities connecting to the Internet. We monitor our network and traffic patterns and make changes we deem necessary to manage and improve overall network performance. We use reasonable, nondiscriminatory, network management practices to improve overall network performance to ensure a high-quality online experience for all users. We use various tools and techniques to manage our network, deliver our service, and ensure compliance with our Acceptable Use Policy and our Terms and Conditions of Service. We also contract with one or more third-party companies for certain network monitoring and management services. Our network management activities may include identifying spam and preventing its delivery to customer email accounts, detecting malicious traffic and preventing the distribution of viruses or other harmful code or content and using other tools and techniques in order to meet our goal of delivering the best possible Internet experience to our customers. Our network management practices do not target any specific content, application, service or device. As network management issues arise and as technology develops, we may employ additional or new network management practices.

We will update these disclosures as necessary.

**Related documents and disclosures.** Use of our broadband Internet access service is also governed by:

- White Cloud Communications Acceptable Use Policy, available at [www.wcloudus.com](http://www.wcloudus.com).
- White Cloud Communications Terms and Conditions of Service, available at [www.wcloudus.com](http://www.wcloudus.com).
- White Cloud Communications Privacy Notice, available at [www.wcloudus.com](http://www.wcloudus.com).

These documents contain important information regarding White Cloud Communications broadband Internet access service and its use and may be subject to updates and revisions. Subscribers are encouraged to review them on a regular basis.

**Blocking.** White Cloud Communications does not engage in any practice, other than reasonable network management disclosed herein, that blocks or otherwise prevents end user access to lawful content, applications, service, or non-harmful devices.

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<sup>1</sup> 47 C.F.R. § 8.1; *Preserving the Open Internet, Broadband Industry Practices*, Report and Order, 22 FCC Rcd 17905 (2010); *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 (2015); *Restoring Internet Freedom*, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd 311 (2017).

**Throttling.** White Cloud Communications does not engage in any practice, other than reasonable network management disclosed herein, that degrades or impairs access to lawful Internet traffic on the basis of content, application, service, user, or use of a non-harmful device.

**Affiliated or Paid Prioritization.** White Cloud Communications does not engage in any practice that directly or indirectly favors some Internet traffic over other traffic to benefit an affiliate or in exchange for consideration, monetary or otherwise.

**Congestion management.** This section describes our network management practices used to address congestion on our network.

### **Congestion management practices used.**

**Network monitoring.** We monitor our network for utilization trends. We receive regular reports showing changes in network traffic and congestion. We use this information to plan increases in available bandwidth, port additions or additional connectivity to the Internet. Should new technologies or unforeseen developments in the future make it necessary to implement an active congestion management program, we will update these disclosures and otherwise notify our customers of the scope and specifics of this program.

**Potential heavy bandwidth users.** Through our third-party provider, we receive reports showing end user usage for identification and management of potential heavy bandwidth users. White Cloud Communications may contact these customers whose bandwidth usage is considered excessive, based upon the data usage limits as determined by your service tier (1000 GB or 1500 GB, as applicable), to try to help those customers find an Internet plan that better suits their needs. If a reasonable solution is not found and usage remains excessive, White Cloud Communications reserves the right to limit, suspend, or terminate the high-volume user's Internet service. For information regarding your data usage limits, contact us at 855-552-2253 or contact us at [www.wcloudus.com](http://www.wcloudus.com).

**Types of traffic affected.** Our congestion management practices do not target any specific content, applications, services, or devices, or otherwise inhibit or favor certain applications or classes of applications.

**Purpose of congestion management practices.** Our broadband Internet network is a shared network. This means that our customers share upstream and downstream bandwidth. The goal of our congestion management practices is to enable better network availability and speeds for all users. Our congestion management practices serve to:

- Help us adapt and upgrade our network to maintain or improve network performance as demand for our broadband Internet network increases.
- Help us adapt and upgrade our network to maintain or improve network performance as demand for higher bandwidth applications increases. Some examples of higher bandwidth applications are gaming, streaming movies, and streaming high definition video.
- Help us identify potential heavy bandwidth users.

## **Congestion management criteria.**

Network monitoring. Our network monitoring provides data to help us plan upgrades to our network, equipment, technology, and connectivity to the Internet. As demand for our Internet service increases, and as demand for higher bandwidth applications increases, we monitor effects on network performance and plan upgrades as we deem necessary.

Potential heavy bandwidth users. We, in our sole reasonable discretion, determine the criteria for data consumption that is not characteristic of a typical residential user of White Cloud Communications' Internet broadband access service. Subject to White Cloud Communications' discretion, customer bandwidth usage that exceeds 1000 GB or 1500 GB, as determined by your broadband service tier, is considered excessive. For information regarding your data usage limits, contact us at 855-552-2253 or contact us at [www.wcloudus.com](http://www.wcloudus.com).

Effects on end user experience. Because our broadband Internet network is a shared network, periods of high network demand may result in Internet traffic congestion. End users may experience reduced bandwidth or speed during these times. Although we work to engineer and implement solutions to eliminate congestion that affects the end user experience, new technologies or unforeseen developments may require implementation of an active congestion management program. Should it become necessary in the future to implement such programs, White Cloud Communications will notify its customers of the program and the criteria under which this congestion management will be implemented.

**Application-Specific Practices.** This section discloses any application-specific practices we use, if any.

**Management of specific protocols or protocol ports.** To protect the security of our network and our customers, we may block known hostile ports. In such cases, we may block that specific port until the attack ceases, at which time we remove the block.

**Modification of protocol fields.** Not applicable.

**Applications or classes of applications inhibited or favored.** Not applicable.

**Device Attachment Rules.** This section addresses any limitations on attaching lawful devices to our network.

**General restrictions on types of devices to connect to network.** We place no general restrictions on lawful devices that a customer may connect to our network, so long as the device is: (i) compatible with our network; and (ii) does not harm our network or other users. Our broadband Internet service works with most PCs and laptops including Macs, and other Internet compatible devices like game systems and Internet-enabled TVs. If a password-protected wireless router is connected to our broadband Internet service, wireless Internet compatible devices properly connected to the router including computers, tablets, smartphones, and other devices can connect to our network. If a customer or potential customer believes they have an unusual configuration, our customer service department will help determine if there is a compatibility problem.

Cable Modems. Our WHITE CLOUD COMMUNICATIONS US, LLC Modem broadband Internet service requires connection of a cable modem or gateway modem to our network. You can obtain a cable modem from us or provide your own device that meets the above criteria.

Optical Network Terminal. Our White Cloud Communications fiber broadband Internet service for business customers requires connection of an optical network terminal to our network. You can obtain an optical network terminal from us.

**Network and End User Security.** This section provides a general description of the practices we use to maintain security of our network. We use a number of tools and techniques to protect our network and end users from malicious and unwanted Internet traffic such as preventing the distribution of viruses or other harmful code and preventing the delivery of spam to customer email accounts.

**Practices used to ensure end user security, including triggering conditions.**

Virus and Spam filtering: We offer email and personal website hosting. We use industry standard virus scanning and prevention techniques to filter email and website traffic for virus activity and Spam.

**Practices used to ensure security of the network, including triggering conditions.**

Virus and Spam filtering: Our email and website traffic is filtered for virus activity and Spam using industry standard virus scanning and prevention techniques. Should an email message be found to contain a virus, the message will be deleted without notification given to either the sender or the intended recipient(s). All spam is quarantined, however the email customer has the option to delete.

Hostile port blocking: We block known hostile ports to prevent unwanted files, browser hacking and virus attacks.

**PERFORMANCE CHARACTERISTICS**

**General Service Description.** Our broadband Internet service enables a customer to connect an Internet-enabled device through either a wired or wireless connection. Our WHITE CLOUD COMMUNICATIONS US, LLC Modem broadband Internet access service includes wiring and a cable modem. Our White Cloud Communications Fiber broadband Internet access service for business customers includes wiring and an optical network terminal. Our broadband Internet access service enables residential and commercial subscribers to access all lawful content, applications, and services of their choice available on the Internet.

No Internet service provider can guarantee a specific speed at all times – the actual speed a customer will experience while using the Internet depends on a variety of conditions. These can include the customer’s computer, the customer’s home network configuration, or the performance of the website visited.

**Service technology.** We deliver our WHITE CLOUD COMMUNICATIONS US, LLC Modem broadband Internet service over our coaxial / hybrid fiber-coaxial network using the Data Over Cable Service Interface Specification (DOCSIS). Customers subscribing to our cable service access our network using cable modems or gateway modems. To connect from our network to the Internet, we use equipment called a Cable Modem Termination System (CMTS) that acts as a gateway to the Internet for our customers' cable modems. This is a shared network, which means that our customers share upstream and downstream bandwidth.

We deliver our White Cloud Communications Fiber to the Premise broadband Internet service for business customers over our Fiber network using Active Ethernet or Gigabit-Capable Passive Optical Network. Business customers subscribing to our Fiber service access our network using optical network terminals. To connect from our network to the Internet, we use fiber access equipment that acts as a gateway to the Internet for our business customers.

### **Expected and actual speeds and latency.**

**Expected performance.** We offer customers a variety of broadband Internet service levels. We provide a description of the expected maximum transfer speeds associated with each service level for both residential and business services on our website.

Speed. The speeds we identify for each broadband Internet service level are the maximum upload and download speeds that customers are likely to experience. We provision our customers' modems and engineer our network to deliver the speeds to which our customers subscribe. However, we do not guarantee that a customer will actually achieve those speeds at all times. A variety of factors can affect upload and download speeds, including customer equipment, network equipment, congestion in our network, congestion beyond our network, performance issues with an Internet application, content, or service, and more.

Latency. Latency is another measurement of Internet performance. Latency is a term that refers to the time it takes for information to travel between your computer and your Internet destination. High latency occurs when the time it should normally take for the information to make the trip becomes abnormally long. Latency is typically measured in milliseconds, and generally has no significant impact on typical everyday Internet usage. Most applications, such as email and websites, work well despite average latency. Highly interactive applications, such as multi-player games, do not work well with higher latency. As latency varies based on any number of factors, most importantly the distance between a customer's computer and the ultimate Internet destination (as well as the number and variety of networks your packets cross), it is not possible to provide customers with a single figure that will define latency as part of a user experience.

Actual speed and latency performance. The actual speed and latency experienced by individual users may vary depending upon network conditions and other factors. Actual performance of our Cable Modem service in most cases will conform to national wireline broadband Internet speed and latency levels reported by the FCC.<sup>2</sup> The FCC has reported cable

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<sup>2</sup> See FCC's Office of Engineering and Technology and Office of Strategic Planning & Policy Analysis, *2016 Measuring Broadband America Fixed Broadband Report, A Report on Consumer Fixed Broadband Performance in the United States*,

ISP subscribers receive mean download speeds that are 109.33% of advertised speeds, and mean upload speeds that are 115.30% of advertised speeds. The FCC has reported fiber subscribers receive mean download speeds that are 107.73% of advertised speeds, and mean upload speeds that are 149.53% of advertised speeds.<sup>3</sup> In addition, the FCC has reported mean latency<sup>4</sup> delays for cable ISPs at about 22.24 milliseconds and about 13.59 milliseconds for fiber ISPs.<sup>5</sup>

**Suitability of the Service for Real-time Applications.** Our broadband Internet access service is suitable for typical real-time applications, including messaging, voice applications, video chat applications, gaming, and Internet video. If users or developers have questions about particular real-time applications, please contact us at 855-552-2253.

### **Non-Broadband Internet Access (BIAS) Data Services.**

Non-BIAS Data services offered to end users. We offer several managed or “non-BIAS data” services over our network, sharing network capacity with other high-speed Internet services. Managed non-BIAS data services include Voice over Internet Protocol (VoIP), Internet Protocol video, and dedicated bandwidth to high volume business users, including fiber services.

Effects of non-BIAS data services on availability and performance of broadband Internet access service. Our provision of non-BIAS data services has no effect on the availability and performance of our broadband Internet access service.

## **COMMERCIAL TERMS**

**Prices.** Monthly prices for our residential and business broadband Internet access services are available upon request through our website, [www.wcloudus.com](http://www.wcloudus.com).

**Fees for early termination.** There is no fee for early termination; however, customers must provide 30 days’ notice prior to disconnecting while under a contracted agreement with White Cloud Communications.

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(Dec. 1, 2016) (available at <https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-report-2016>) (“2016 Measuring Broadband America Report”).

<sup>3</sup> 2016 Measuring Broadband America Report, *Validated Data, Statistical Averages, Download Sustained and Upload Sustained*, (Dec. 1, 2016) (available at <https://www.fcc.gov/reports-research/reports/measuring-broadband-america/validated-data-measuring-broadband-america-2016#block-menu-block-4>) (data presented is unweighted mean percentage of advertised speeds, taken over a 24 hour, Saturday-Sunday period).

<sup>4</sup> The FCC has defined latency is the total length of time it takes a signal to travel from an origination point to the nearest server, plus the time for an acknowledgement of receipt to travel back to the origination point. The nearest server is the server providing the minimum round trip time.

<sup>5</sup> 2016 Measuring Broadband America Report, *Validated Data, Statistical Averages, Latency*, (Dec. 1, 2016) (available at <https://www.fcc.gov/reports-research/reports/measuring-broadband-america/validated-data-measuring-broadband-america-2016#block-menu-block-4>) (data presented is unweighted mean latency in milliseconds, taken over a 24 hour, Saturday-Sunday period).

**Privacy Policies.** We collect and store information from many sources as it relates to providing and maintaining service to our customers. Individually identifiable customer information, including usage data obtained in our role as your broadband Internet access service provider is only used to provide the service, improve your use of the service, manage our network, or as otherwise required or authorized by law.

We do not disclose individually identifiable broadband Internet access service customer or use information to third parties except: (i) as necessary to provide our broadband Internet service and to manage our network; or (ii) in response to law enforcement requests, subpoenas, court orders, or as otherwise required or authorized by law.

For more information on our additional broadband Internet access subscriber privacy policies, please visit our White Cloud Communications Privacy Notice, available at [www.wcloudus.com](http://www.wcloudus.com).

**Inspection of network traffic.** We routinely monitor network and traffic patterns.

Virus and Spam filtering. Our email and website traffic is filtered for virus activity and Spam using industry standard virus scanning and prevention techniques. Should an email message be found to contain a virus the message will be deleted without notification given to either the sender or the intended recipient(s). All spam is quarantined, however the email customer has the option to delete.

**Storage of network traffic information.** Dynamic Host Configuration Protocol (DHCP) information is a code included in all network traffic that associates that traffic with a particular device sending or receiving the traffic. We store DHCP information for at least three years. The data generated on each customer's usage is divided into broad categories for analysis to help us monitor and predict trends in usage for our customers as a whole.

**Provision of aggregate or anonymized network traffic information to third parties.** We may disclose aggregate or anonymized network traffic information to third parties for purposes of providing and managing our broadband Internet service or if required by law.

**Use of network traffic information for non-network management purposes.** We do not use network traffic information for non-network management purposes. However, data regarding a customer's excessive data usage may be utilized for discussions to move that customer to a higher broadband plan.

**Redress options.** We welcome questions about our broadband Internet access service. This section discloses redress options for end users and edge providers.

**End user complaints and questions.** End users with complaints or questions relating to the White Cloud Communications Broadband Service or these disclosures should contact 855-552-2253 or [www.wcloudus.com](http://www.wcloudus.com).

Questions. We will endeavor to answer questions promptly via email or voice.

Complaints. For written complaints, a customer service representative will contact the end user via phone call. We will attempt to resolve complaints informally, escalating the matter to senior management if needed.

**Edge provider complaints and questions.** Edge providers with complaints or questions relating to our broadband Internet access service or these disclosures should contact 855-552-2253 or [www.wcloudus.com](http://www.wcloudus.com).

Questions. We will endeavor to answer questions promptly via email or voice.

Complaints. For written complaints, a customer service representative will contact the edge provider via phone call. We will attempt to resolve complaints informally, escalating the matter to senior management if needed.