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Overview

[How this information is governed by terms and conditions](#)

[How does Verizon manage congestion?](#)

[What security measures has Verizon deployed?](#)

[Does Verizon block, throttle or modify any specific protocols?](#)

[Does Verizon allow consumers to use non-branded devices and applications?](#)

[How does Verizon manage its applications like email?](#)

[How can customers who have concerns or questions about their Broadband Internet Access Services contact Verizon?](#)

Network Management

Overview

Verizon continues to invest in the most advanced broadband networks in the world. We do this so that our networks and services can meet customer demands now and in the future.

The network management information below is intended to provide further information regarding Verizon's network management practices. Verizon has used sound engineering principles in the design and operation of its broadband network to ensure a good user experience for all customers.

The descriptions in this network management section are for informational purposes only and may be changed at any time.

How this information is governed by terms and conditions

Verizon Wireless

Your Customer Agreement governs the use of Verizon services. Broadband internet services are subject to the [Customer Agreement](http://www.verizonwireless.com/legal/notices/customer-agreement) (<http://www.verizonwireless.com/legal/notices/customer-agreement>). In addition to your Customer Agreement, you can find specific information about Data Services along with a description of "Permitted Uses" and "Prohibited Uses" policies for Data Services at [Important Plan Information](http://www.verizonwireless.com/support/important-plan-information/) (<http://www.verizonwireless.com/support/important-plan-information/>). Additional information can also be found in the [Verizon Privacy Policy](https://www.verizon.com/about/privacy/privacy-policy-summary) (<https://www.verizon.com/about/privacy/privacy-policy-summary>). This information covers all Verizon Wireless services that provide you with internet access through our Data Services over the Verizon Wireless 3G (or Ev-DO), 4G LTE or 5G Ultra Wideband (UWB) network.

If you are an E-Rate customer, your use of Verizon Data Services may also be governed by any applicable government contract or Major Account Agreement. This information applies to postpaid and prepaid consumer services as well as Broadband Internet Access Services purchased through the Schools and Libraries (E-Rate) program. If you are an enterprise or government customer (other than the purchaser of an E-Rate service), these policies may not be applicable, and you should refer any questions regarding these topics to your account manager.

Verizon Online

Your use of Verizon Online services is governed by various service terms and conditions, including the Verizon Online Acceptable Use Policy (referred to as "AUP"). The various services terms and conditions and the AUPs that are applicable to residential and business customers of Verizon Online Internet access services are available from a central location on our Terms web page. Nothing in this guide serves to change your rights and obligations, or ours, under any Verizon terms of service, AUPs or other policies. The descriptions in this guide are provided for informational purposes only and may be changed at any time.

Verizon Business

Your use of services provided by Verizon Business is governed by various service terms and conditions, including your contract for service, the [Verizon Business Service Publication and Pricing Guide](http://www.verizonenterprise.com/publications/service_guide/) (http://www.verizonenterprise.com/publications/service_guide/), and the Verizon Business Acceptable Use Policy (AUP). Various service terms and conditions can be found on our [Business Terms](http://www.verizonenterprise.com/terms/us/) (<http://www.verizonenterprise.com/terms/us/>), page.

Nothing in this section in anyway restricts or limits our right to enforce our terms of service, our AUP, or any of our other policies. Similarly, nothing in this Network Management section creates any contract or binding obligation on the part of Verizon Business.

How does Verizon manage congestion?

Verizon strives to provide customers with the highest quality experience possible when using our network.

Verizon Wireless

Verizon Wireless has used sound engineering principles in the design and operation of its broadband network to ensure a good user experience for all customers. An individual user's experience will vary depending upon many factors, including the plan they select, the network (3G Ev-DO, 4G LTE or 5G UWB) the customer is using and the device in use.

Verizon Wireless has implemented optimization technologies across its 4G LTE network to transmit data files in a more efficient manner to allow available network capacity to benefit the greatest number of users. These techniques include TCP optimization, video caching, and sizing video files more appropriately for mobile devices. The optimization process is agnostic as to the content itself and to the website that provides it. While Verizon Wireless invests much effort to avoid changing text, image, and video files in the optimization process and while any change to the file is likely to be indiscernible, the optimization process may minimally impact the appearance of the file as displayed on a customer's device.

In addition, in order to optimize customers' video viewing experiences on their devices over our 4G LTE network while ensuring a high quality experience for other users of the network, Verizon seeks to transmit video downloads or streams to smartphones at 480p or 720p, depending on the plan, and to devices with larger screens at 1080p, unless a different video resolution is disclosed in the description of a particular plan. This practice does not make any distinction based on the content of the video or the source website. To achieve this optimization, Verizon limits the throughput speeds of such video downloads or streams over our 4G LTE network (which may be below the 5 - 12 Mbps 4G LTE download speeds typically provided). This practice results in the video provider's content server sending the appropriate resolution video file for that speed, if available.

On certain plans, we may prioritize your 4G LTE data behind other traffic. If the cell site you are connected to begins experiencing high demand during the duration of your session, your 4G LTE data speeds may be slower than the other traffic's. Once the demand on the site lessens, or if you connect to a different site not experiencing high demand, your speed will return to normal. Any such network management practices will be disclosed in the descriptions of impacted plans.

Verizon Online

Verizon Online does not affirmatively manage congestion on the network through mechanisms such as real-time throttling, blocking, or dropping of specific end user traffic based on source or content. There are no usage caps applicable to Verizon Online's internet access services.

Bandwidth is provided on a per-line (not a per-device) basis. The speed of the service may vary based on network or internet congestion, your computer configuration, your use of Fios TV Video on Demand service (VOD), the condition of your telephone line and the wiring inside your location, among other factors. Your Fios Internet service and Fios TV VOD service share capacity on the fiber-optic connection to your home. The capacity available for your Fios Internet access service may be reduced if you are watching multiple Fios TV VOD titles simultaneously.

Verizon Business

Verizon Business works to provide a quality internet experience for all of our customers and utilizes reasonable network management practices to help achieve that objective. Verizon Business does not manage congestion on the network through real-time throttling, blocking, or dropping of specific end user traffic based on the source or content. There are also no usage caps applicable to these internet access services.

What security measures has Verizon deployed?

Verizon Wireless

Verizon Wireless recognizes that a reliable network must be, among other things, a secure network. Our customers are empowered by a network that is available when they need it. Verizon Wireless works to protect its network against outside attacks, tampering, malicious activity and network events that may in any way disrupt or degrade customers' ability to use Verizon Wireless Data Services. Every day, Verizon Wireless seeks to maintain the highest levels of network reliability and performance.

Verizon Wireless guards against traffic patterns that appear to be associated with disruptive or malicious intent. Unless part of an opted-in customer service, Verizon Wireless does not block lawful traffic based on content or subject. Occasionally, cases arise where Verizon Wireless must make a judgment, determining that the value of protecting our entire customer base from malicious or other adverse, network-impacting traffic outweighs access issues experienced by a few. Examples include internet sources or destinations that are major sources of spam and sources that aggressively scan internet addresses or those that have attempted attacks against Verizon Wireless infrastructure or customer end-points.

Verizon Wireless blocks a limited number of internet addresses that are disruptive or malicious and typically persistent. This is based on our own analysis and third-party intelligence. Verizon Wireless does not block sites based on content or subject, unless the internet address hosts unlawful content or is blocked as part of an opted-in customer service. Verizon Wireless regularly reviews and modifies the list of blocked internet addresses, taking any off the list that are no longer perceived as a threat.

Verizon Wireless seeks to limit or contain the impact, or potential impact, of malicious software found on customer equipment. Where practical, Verizon Wireless takes measures to block the instructions that this malicious software, or "malware," receives from the outside, limiting the impact on the network and preventing high, unexpected billed usage.

If you would like information about access to a particular internet site or destination through the Verizon Wireless network, please email us at vzwnetsec@verizonwireless.com (<mailto:vzwnetsec@verizonwireless.com>).

In addition to protecting the security of our network, Verizon Wireless also strives to protect its users' on-line privacy. Verizon Wireless does collect certain information regarding on-line usage and use such information for certain limited purposes. For information on how Verizon Wireless protects your privacy, please review our [Privacy Policy](http://www22.verizon.com/privacy/) (<http://www22.verizon.com/privacy/>), which includes the following points:

Verizon Wireless collects information about your use of our products and services. Information such as call records, websites visited, wireless location, application and feature usage, network traffic data, service options you choose, mobile and device number, and other similar information may be used for billing purposes, to deliver and maintain products and services, or to help you with service-related issues or questions. In addition, subject to any legal restrictions that may apply, this information may be used for other purposes such as providing you with information about product or service enhancements, determining your eligibility for new products and services, and marketing to you based on your use of your products and services. This information may also be used to: (1) manage and protect our network, services and users from fraudulent, abusive, or unlawful uses; and (2) subject to consent practices described in the Privacy Policy, help us improve our services, research and develop new products, and offer promotions and other services. This type of information may be aggregated or anonymized for business and marketing uses by us or by third parties.

Verizon Online and Verizon Business

Verizon Online and Verizon Business follow network security policies and practices intended to address threats to our network and customers. Online activity that violates our terms of service or our AUP or otherwise is targeted at or threatens to undermine the integrity or normal operation of our networks or services, or the security of our networks or our customers, may result in suspension or termination of service. We reserve the right at any time to take action to protect the integrity and normal operation of our networks and to safeguard our customers from internet threats, including fraud and other forms of abuse. Such actions may include, but are not limited to, blocking, redirecting, or rate-limiting traffic using specific protocols, delivered over specific protocol ports, or destined for particular domain names or IP addresses associated with malicious activity.

If you use a Wi-Fi-equipped router provided by Verizon Online (or other third-party router), that router may provide a capability for you to encrypt traffic transmitted between your wireless device and your Wi-Fi-enabled in-home router. We urge you to use this encryption setting to protect your service from being accessed by people you don't know and haven't authorized to use your service. You are responsible for activity using your connection and you may be responsible for unlawful use by someone

else – like illegal downloading or uploading copyrighted material. Please note that Wi-Fi encryption does not encrypt traffic you send over the internet – it just provides encryption for the Wi-Fi portion of the communications path between your wireless device and your Wi-Fi-enabled in-home router.

If you are using a router or modem provided by Verizon Online, that router or modem may support advanced security features such as a firewall, parental controls, logging, malicious site detection, and other networking features. Instructions to access and configure such features for your Verizon Online-provided router or modem are available on verizon.com, our mobile app, and the user manual for your device.

Verizon offers various services, including TechSure Plus and TechSure Premium, to make your online experience safer and more secure.

Does Verizon block, throttle or modify any specific protocols?

Verizon Wireless

Verizon Wireless does not limit, block or rate-control specific protocols or protocol ports other than for security reasons, modify protocol fields in ways not prescribed by the protocol standard, or otherwise inhibit or favor certain applications or classes of applications of traffic on our internet access service.

On certain plans, we may prioritize your data behind other traffic. If the cell site you are connected to begins experiencing high demand during the duration of your session, your data speeds may be slower than the other traffic's. Once the demand on the site lessens, or if you connect to a different site not experiencing high demand, your speed will return to normal. Any such network management practices will be disclosed in the descriptions of impacted plans.

Verizon Online and Verizon Business

Except as noted below with respect to blocking outbound traffic on port 25, Verizon Online and Verizon Business do not limit, block or rate-control specific protocols or protocol ports based on the source or content, other than for security reasons as set forth below. We do not modify protocol fields in ways not prescribed by the protocol standard, or otherwise inhibit or favor certain applications or classes of applications of traffic on our Internet access service.

If you use Verizon Online's domain name service (DNS) and type a nonexistent or unavailable Uniform Resource Locator (URL) or enter a search term into your browser address bar, Verizon Online may present you with a Verizon Online Error Assist web search page containing suggested links based upon the query you entered in lieu of your receiving an NXDOMAIN or similar error message. Verizon Online's provision of the Error Assist page may impact applications that rely on an NXDOMAIN or similar error message and may override similar browser-based search results pages. If you would prefer not to receive Error Assist pages from Verizon Online, you can disable this functionality.

Access to email services may be provided to customers by a Verizon affiliate or a third party. Email services provided by a Verizon affiliate or a third party will be governed by the email provider's terms of service, as well as the email provider's applicable privacy, email, security and anti-spam policies.

Does Verizon allow consumers to use non-branded devices and applications?

Verizon Wireless

You may activate devices that Verizon Wireless has certified to be compatible with its network, including devices not purchased directly from Verizon Wireless. If you did not purchase your device from Verizon Wireless, please be aware that certification of a device for use on the Verizon Wireless network does not mean that Verizon Wireless has made any determination as to the call quality or other functionality provided by the device.

Some individual devices may not support specific applications. You should investigate the capabilities and functions of any device before buying it to determine whether it supports the applications that you want to use.

You may access any lawful application for use on the Verizon Wireless Broadband Internet Access networks, subject to our Customer Agreement, our Data Services Terms and Conditions, the Verizon Privacy Policy and our security policies. Verizon Wireless reserves the right at all times to intervene to protect the integrity of our network.

Verizon Online and Verizon Business

You may attach any lawful device to the network as long as it does not harm the network or the provision of internet access service, facilitate theft of service or a violation of our AUP or any terms of service, or harm other users of the service.

Verizon Online offers [TechSure \(https://www.verizon.com/home/utilities/security/\)](https://www.verizon.com/home/utilities/security/), for consumers to assist in the installation and configuration of third-party devices for an additional fee.

Some individual devices may not support specific applications. You should investigate the capabilities and functions of any device before buying it to determine whether it supports the applications that you want to use.

How does Verizon manage its applications like email?

Access to email services may be provided to customers by a Verizon affiliate or a third party. Email services provided by a Verizon affiliate or a third party will be governed by the email provider's terms of service, as well as the email provider's applicable privacy, email, security and anti-spam policies.

If you use Verizon Online's domain name service (DNS) and type a nonexistent or unavailable Uniform Resource Locator (URL) or enter a search term into your browser address bar, Verizon Online may present you with a Verizon Online Error Assist web search page containing suggested links based upon the query you entered in lieu of your receiving an NXDOMAIN or similar error message. Verizon Online's provision of the Error Assist page may impact applications that rely on an NXDOMAIN or similar error message and may override similar browser-based search results pages. If you would prefer not to receive Error Assist pages from Verizon Online, you can disable this functionality.

Verizon's Internet Dedicated Access service offers you the ability to configure prioritization of your own traffic across your dedicated circuit running from our edge router to your customer premise equipment. Information on how to do so is available from your account representative.

How can customers who have concerns or questions about their Broadband Internet Access Services contact Verizon?

Verizon Wireless

If you have concerns or questions about the performance characteristics, network management practices, or the terms and conditions for these services, you can contact Verizon Wireless through the methods detailed on our [Contact Us page \(http://www.verizonwireless.com/b2c/contact/index.jsp\)](http://www.verizonwireless.com/b2c/contact/index.jsp).

To find a Verizon Wireless retail outlet near you, please visit our [Store Locator \(http://www.verizonwireless.com/stores\)](http://www.verizonwireless.com/stores).

For customers who need auditory, visual or mobility assistance, please call our National Accessibility Customer Service Center at 1.888.262.1999 or *611 from your wireless phone, 8:00 am to 9:00 pm ET Monday – Friday or visit our [Accessibility section \(/about/accessibility/overview\)](/about/accessibility/overview) for more information.

If you purchase Data Services under Verizon Wireless' Federal Supply Schedule, or other federal contracts, please call 800.295.1614.

Verizon Online

If you have concerns or questions about the performance characteristics, network management practices, or the terms and conditions for these services, you can contact Verizon Online through the methods detailed in our [Customer Service section \(https://www.verizon.com/support/\)](https://www.verizon.com/support/).

For customers who need auditory, visual or mobility assistance, please call our Verizon Center for Customers with Disabilities at 1.800.974.6006 Voice or TTY 508.251.5301 Videophone, 8:30 am to 5:00 pm ET Monday – Friday, or email: [vcdd@verizon.com \(mailto:vcdd@verizon.com\)](mailto:vcdd@verizon.com), or visit our [Accessibility section \(/about/accessibility/overview\)](/about/accessibility/overview) for more information.

Verizon Business

If you have concerns or questions about the performance characteristics, network management practices, or the terms and conditions for these services, you can contact Verizon Business through the methods detailed on our [Support page](http://www.verizonenterprise.com/support) (<http://www.verizonenterprise.com/support>).

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Supporting small business: It's all rhythm and no blues (</about/news/supporting-small-business-rhythm-and-no-blues>)

Alisa's House of Salsa dances to a new beat in a time of crisis.

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Verizon is a global leader delivering innovative communications and technology solutions that improve the way our customers live, work and play.

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[Open Internet](/about/our-company/open-internet) (</about/our-company/open-internet>)

[Accessibility](/about/accessibility/overview) (</about/accessibility/overview>)

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