Coon Rapids Municipal Utilities

March 2013

Communications Special

Announcing Faster Speeds and Better Value for Internet Customers!

NETWORK IMPROVEMENTS

Over the past few months, CRMU has been updating its internet facilities to increase our quality of service. These upgrades consist of the installation of an additional cable modem termination system (CMTS)

and the doubling of our transport pipe or connection to the internet.

By installing an additional CMTS, we are effectively doubling our network's capacity by dividing our network load over two different CMTSs. Additionally, we have upgraded our transport pipe to the internet two-fold to accommodate for system growth and to provide a much higher, sustained quality of service for each internet connection.

CRMU feels that these improvements were necessary to keep up with the ever increasing internet bandwidth demand. Every year more internet capable devices are added to the network and streaming video over the internet has increased downstream traffic dramatically.

VIDEO STREAMING

For those who stream video from online sources, the speed at which data can be sent is critical. For example—most online streaming sites recommend 2 to 3 Mbps for an SD video and between 4 to 9 Mbps for an HD stream to have a quality experience.

When streaming video the "internet speed" or "available bandwidth" is not the only factor that can cause a video to stall and buffer. Popular streaming services could have too many people trying to access the same video at the same time, or perhaps your streaming in the evening when demand for bandwidth is high in your neighborhood, or others in your house might be streaming music, playing games, or browsing the internet at the same time.

Also, if you have an "older" router with limited bandwidth capabilities, your streaming device might not be receiving all the bandwidth it needs. This is especially true of WiFi connections, which can also be problematic because of interference from other wireless devices in the area. If your router is more than three years old and you want to stream video, you may want to consider upgrading. See the article on the back page for more information on router selection.

NEW RESIDENTIAL INTERNET SERVICE SPEEDS

Res Essential	**256/256 Kbps**
Res Standard	**6/1 Mbps**
Res Basic	**12/2 Mbps**
Res Plus	**18/3 Mbps**

**** Business service plans have also been upgraded. Please call for details.***

Internet speeds are a combination of download (first number) and upload speeds (second number). The download speed is the pace at which data is transferred to your computer, and upload is the speed at which data is uploaded to the internet.

INTERNET GROWTH TRENDS

According to Cisco's latest Visual Networking Forecast, global IP traffic has increased eightfold over the past five years, and will increase threefold over the next five years. The number of devices connected to IP networks is also predicted to be nearly three times as high as the global population in 2016.

With these staggering growth statistics expected in the near future, it is imperative that CRMU continuously monitor and upgrade its network accordingly to keep up with demand. According to the Cisco forecast, in 2016 global IP traffic is expected to reach 1.3 zettabytes per year, or 1,300 exabytes, or 1,300,000 petabytes, or 1,300,000,000 terabytes, or 1,300,000,000,000 gigabytes.

Even though CRMU's network is expected to keep up with demand in the near future, the hybrid fiber optic-coax system has its limitations. Understanding this, the CRMU Board of Trustees has started the planning process for a future fiber-to-the-home type network.

Optimize Your Internet Speed: *Choose the Right Router*

On the front page, we shared information about the speed upgrades coming in February to our internet service plans. Here's what you can do to optimize the speed of the internet at your home or business.

Just as CRMU continues to make improvements to our communications network, we want to make sure that customers have the right equipment in their homes and businesses to optimize internet performance.

Many customers have setup a wireless network using a wireless router. A wireless router allows multiple devices to share the internet signal without the need to run a physical connection to each device. Some customers may need to upgrade their wireless routers in order to take advantage of the speed and reliability now available from CRMU.

Older routers may not have the processing capabilities to keep up with the capacity in CRMU's system. An older router may not be able to deliver maximum speeds offered on each internet service tier.

An "older router" may not be able to do what you expect. Manufacturers update the technology used in their routers every six to twelve months. If your router is more than a year old, you may benefit from an upgrade to the newest, fastest version.

Industry experts suggest that customers upgrade their router at least every three years for optimal performance. You may be able to extend the life of some older routers by updating the firmware.

We encourage you to invest some time to research wireless options and features to determine which wireless router meets your needs. The lowest priced router may not be the best choice. Invest in a router that will meet your performance, coverage and reliability needs.

At a minimum, we recommend using a single-ban 802.11n (wireless-N) series router. Wireless-N is backward compatible with 802.11a(wireless-A), 802.11b (wireless-B), and 802.11g (wireless-G), so you can use any existing wireless equipment you have.

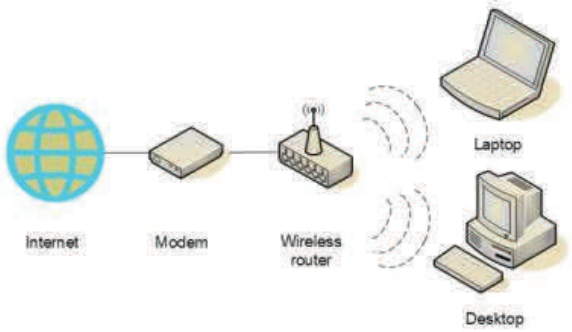
If you have a mix of older and newer wireless devices, you may want to consider a more expensive dual-band router. A dual-band router will allow newer devices to take advantage of higher wireless speeds. If you do not select a dual-band router, mixing older and newer devices on the same band can force newer devices to slow down.

As a note to customers, wireless routers are part of "your" in-home network and not part of CRMU's internet service. While CRMU currently assists customers with troubleshooting and fixing issues related to their wireless routers at no charge - this may change due to the increased workload arising from the amount of new in-home networks.

Features to look for when buying a wireless router:

Standards: You first want to check whether it's a wireless-B, wireless-G, or wireless-N generation router. The letters refer to the router's wireless communication standard. 802.11b (wireless-B) is the oldest, followed by 802.11g (wireless-G) and the latest is 802.11n (wireless-N). The primary difference among the router standards is speed and range.

Single band vs. Dual band: If you have a mix of older and newer wireless devices, you may want to consider a more expensive dual-band router. A dual-band router will allow newer devices to take advantage of higher wireless speeds and can cut down on interference.



Security: Make sure the router you are considering uses up-to-date security protocols to protect your network.