



Broadband Speed Guide

Typical online activities with minimum download speed (Megabits per second or Mbps). Speeds are based on one access running one activity at a time.

FCC Minimum Download

CCC - Recommends

Speeds (Mbps)/

Email:

0.5 Mbps

0.5-1Mbps

Web browsing

Typical website navigation

0.5

1-Mbps

Interactive pages and short videos

1

1-2Mbps

Streaming Radio

Less than 0.5

Phone Calls (VOIP)

Less than 0.5

Watching Videos

Standard streaming videos

0.7

1-2(Mbps)

Streaming feature movies

1.5

2-4(Mbps)

HD Quality streaming

4

6Mbps (720p) 7-9Mbps (1080p)

10-12Mbps (4k/UltraHD)

Video Conferencing

Basic video conferencing / Skype

1

HD video conference / Skype

4

Gaming

Game Console connecting to internet	1	
Two-way online gaming in HD	4	6Mbps (720p) 7-9Mbps (1080p) 10-12Mbps (4k [4096 x 2160] pixels)

Multiple access such as in a business or home will required additional bandwidth depending on what is being access on the internet. Light user who use the internet for e-mail, web browsing, w/some video stream it does not require a higher band width.

Of course, the factors that effect this is the “Content Being Access” and “How Many Users are accessing the Content at any given time?” A household topically will have between 1 to 4 users and will require a minimum service of 30Mbps - 50Mbps. In a business environment this will be slight different as you are not streaming video content but are providing other services more curucial such as security access to your local business network, providing a VPN service,

User Level Breakdown

Light Users (Basic Functions Email, web surfing, and basic streaming video)

Moderate Users (Basic Functions, plus one high demand application)

Heavy Users (Basic Functions plus more than one high demand application running at the same time)

Light Users	10-20Mbps
Medium Users	30-50Mbps
Heavy Users	50-100Mbps
Extreme Users	100 – 300Mbps
Insane Users	300Mbps – up

Ultra HD 25Gbps is recommended for streaming video.

Streaming Services Recommend Internet Service Speeds

Skype Recommend Speeds.

<https://support.skype.com/en/faq/FA1417/how-much-bandwidth-does-skype-need>

Youtube

<https://support.google.com/youtube/answer/78358?hl=en>

Netflix

<https://help.netflix.com/article/en/node/306?ba=GSButtonClick&q=recommended%20internet%20speed%20for%20netflix>

Hulu

<http://www.hulu.com/help/articles/166380>

Speed Test Links

<http://speedtest.nyroc.rr.com/>

<http://www.speedtest.net/>

<http://my.verizon.com/services/speedtest/s>

<http://www.att.com/speedtest/>

FCC Information Links

http://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db1230/DOC-337086A1.pdf



Last Updated: 02-25-2016

