



Canada - 2021 Forecast Highlights

IP Traffic

- In Canada, IP traffic will grow 2-fold from 2016 to 2021, a compound annual growth rate of 19%.
- In Canada, IP traffic will reach 5.4 Exabytes per month in 2021, up from 2.3 Exabytes per month in 2016.
- Canada's IP networks will carry 178 Petabytes per day in 2021, up from 76 Petabytes per day in 2016.
- In Canada, IP traffic will reach an annual run rate of 64.9 Exabytes in 2021, up from an annual run rate of 27.6 Exabytes in 2016.
- In Canada, IP traffic will reach 143 Gigabytes per capita in 2021, up from 63 Gigabytes per capita in 2016.
- In Canada, average IP traffic will reach 16 Tbps in 2021, and busy hour traffic will reach 106 Tbps.
- In 2021, the gigabyte equivalent of all movies ever made will cross Canada's IP networks every 1 hours.

Internet Traffic

- In Canada, Internet traffic will grow 2.7-fold from 2016 to 2021, a compound annual growth rate of 22%.
- In Canada, busy hour Internet traffic will grow 3.8-fold from 2016 to 2021, a compound annual growth rate of 30%.
- In Canada, Internet traffic will reach 4.3 Exabytes per month in 2021, up from 1.6 Exabytes per month in 2016.
- Canada's Internet traffic will be 141 Petabytes per day in 2021, up from 50 Petabytes per day in 2016.
- Canada's Internet traffic in 2021 will be equivalent to 13 billion DVDs per year, 1 billion DVDs per month, or 1 million DVDs per hour.
- In 2021, the gigabyte equivalent of all movies ever made will cross the Internet every 1 hours.

- Canadian Internet traffic in 2021 will be equivalent to 72x the volume of the entire Canadian Internet in 2005.
- In Canada, Internet traffic will reach 114 Gigabytes per capita in 2021, up from 44 Gigabytes per capita in 2016.
- In Canada, average Internet traffic will increase 2.7-fold by 2021 and will reach 13 Tbps.
- In Canada, busy hour Internet traffic will increase 3.8-fold by 2021 and will reach 85 Tbps.

Wired Wi-Fi and Mobile Growth

- Canada's Fixed/Wi-Fi was 38% of total IP traffic in 2016, and will be 44% of total IP traffic in 2021.
- Canada's Fixed/Wired was 59% of total IP traffic in 2016, and will be 51% of total IP traffic in 2021.
- Canada's Mobile was 2% of total IP traffic in 2016, and will be 4% of total IP traffic in 2021.
- Canada's Fixed/Wi-Fi was 52.1% of total Internet traffic in 2016, and will be 54.1% of total Internet traffic in 2021.
- Canada's Fixed/Wired was 45% of total Internet traffic in 2016, and will be 40% of total Internet traffic in 2021.
- Canada's Mobile was 2.9% of total Internet traffic in 2016, and will be 5.6% of total Internet traffic in 2021.
- In Canada, mobile data traffic will grow 5-fold from 2016 to 2021, a compound annual growth rate of 38%.
- In Canada, mobile data traffic will reach 240 Petabytes per month in 2021, up from 47 Petabytes per month in 2016.
- Canadian mobile data traffic will grow 2 times faster than Canadian fixed IP traffic from 2016 to 2021.
- Canada's Mobile was 2% of total IP traffic in 2016, and will be 4% of total IP traffic in 2021.
- In Canada, mobile data traffic in 2021 will be equivalent to 3x the volume of the entire Canadian Internet in 2005.

IP Video

- In Canada, IP video traffic will grow 2-fold from 2016 to 2021, a compound annual growth rate of 20%.
- In Canada, IP video traffic will reach 4.2 Exabytes per month in 2021, up from 1.7 Exabytes per month in 2016.
- In Canada, IP video will be 78% of all IP traffic in 2021, up from 74% in 2016.
- In Canada, Ultra HD will be 27.5% of IP Video traffic in 2021, up from 1.8% in 2016 (107.2% CAGR).
- In Canada, HD will be 59.2% of IP Video traffic in 2021, up from 53.4% in 2016 (22.3% CAGR).
- In Canada, SD will be 13.3% of IP Video traffic in 2021, compared to 44.8% in 2016 (-6.0% CAGR).
- In Canada, consumer IP video traffic will be 82% of consumer IP traffic in 2021, up from 82% in 2016.
- In Canada, business IP video traffic will be 60% of business IP traffic in 2021, up from 47% in 2016.

Internet Video

- In Canada, Internet video traffic will grow 3-fold from 2016 to 2021, a compound annual growth rate of 24%.
- In Canada, Internet video traffic will reach 3.2 Exabytes per month in 2021, up from 1.1 Exabytes per month in 2016.
- In Canada, total Internet video traffic (business and consumer, combined) will be 74% of all Internet traffic in 2021, up from 67% in 2016.
- In Canada, Ultra HD will be 27.8% of Internet video traffic in 2021, up from 2.5% in 2016 (100.9% CAGR).

- In Canada, HD will be 57.7% of Internet video traffic in 2021, up from 41.1% in 2016 (32.8% CAGR).
- In Canada, SD will be 14.5% of Internet video traffic in 2021, compared to 56.4% in 2016 (-5.4% CAGR).
- In Canada, consumer Internet video traffic will be 77% of consumer Internet traffic in 2021, up from 74% in 2016.
- In Canada, business Internet video traffic will be 61% of business Internet traffic in 2021, up from 48% in 2016.
- In Canada, Internet-Video-to-TV traffic will be 44% of fixed consumer Internet video traffic in 2021, up from 43% in 2016.
- In Canada, Internet-Video-to-TV traffic will increase 3-fold between 2016 and 2021 (24.9% CAGR).
- In Canada, 61 billion minutes (115,381 years) of video content will cross the Internet each month in 2021. That's 23,076 minutes of video streamed or downloaded every second.
- In Canada, 99% of all Internet video traffic will cross content delivery networks in 2021, up from 87% in 2016.
- In Canada, 79.9% of all Internet video traffic will be long-form video (including live) in 2021, up from 58.7% in 2016.

IP VOD

- In Canada, Ultra HD will be 28.4% of IP VOD traffic in 2021, up from 0.6% in 2016 (142.0% CAGR).
- In Canada, HD will be 68.2% of IP VOD traffic in 2021, up from 79.6% in 2016 (7.0% CAGR).
- In Canada, SD will be 3.4% of IP VOD traffic in 2021, compared to 19.8% in 2016 (-22.4% CAGR).

Gaming

- In Canada, Internet gaming traffic will grow 7-fold from 2015 to 2020, a compound annual growth rate of 47%.
- In Canada, Internet gaming traffic will reach 2.4 Exabytes per month in 2020, up from 745 Petabytes per month in 2015.
- In Canada, Internet gaming traffic will be 5% of consumer Internet traffic in 2020, up from 2% in 2015.

Devices

- In Canada, there will be 405.2 million networked devices in 2021, up from 230.0 million in 2016.
- In Canada, there will be 10.7 networked devices per capita in 2021, up from 6.3 per capita in 2016.
- In Canada, 20% of all networked devices will be mobile-connected in 2021.
- In Canada, M2M modules will account for 67% (271.4 million) of all networked devices in 2021, compared to 50% (115.5 million) in 2016, (18.6% CAGR).
- In Canada, PCs will account for 6% (24.5 million) of all networked devices in 2021, compared to 11% (25.1 million) in 2016, (-0.5% CAGR).
- In Canada, Tablets will account for 3% (10.3 million) of all networked devices in 2021, compared to 5% (11.5 million) in 2016, (-2.3% CAGR).
- In Canada, Smartphones will account for 7% (29.5 million) of all networked devices in 2021, compared to 10% (23.2 million) in 2016, (5% CAGR).

- In Canada, Connected TVs will account for 13% (53.2 million) of all networked devices in 2021, compared to 18% (42.1 million) in 2016, (4.8% CAGR).
- In Canada, Non-Smartphones will account for 0.1% (607037) of all networked devices in 2021, compared to 2% (4.5 million) in 2016, (-32.9% CAGR).
- In Canada, Other Portables will account for 4% (15.7 million) of all networked devices in 2021, compared to 4% (8.1 million) in 2016, (14.3% CAGR).
- In Canada, 4K TVs will account for 55% (8.8 million) of all flat panel TVs in 2021, compared to 11.0% (1.1 million) in 2016, (52.8% CAGR).
- Canada's IP traffic from non-PC devices was 54% of total IP traffic in 2016, and will be 65% of total IP traffic in 2021.
- In Canada, PCs accounted for 46% of IP traffic in 2016, and will be 35% of IP traffic in 2021.
- In Canada, TVs accounted for 41% of IP traffic in 2016, and will be 42% of IP traffic in 2021.
- In Canada, Smartphones accounted for 5% of IP traffic in 2016, and will be 11% of IP traffic in 2021.
- In Canada, Tablets accounted for 6% of IP traffic in 2016, and will be 7% of IP traffic in 2021.
- In Canada, M2M modules accounted for 2.2% of IP traffic in 2016, and will be 5.6% of IP traffic in 2021.
- In Canada, PCs accounted for 51% of consumer Internet traffic in 2016, and will be 35% of consumer Internet traffic in 2021.
- In Canada, TVs accounted for 29% of consumer Internet traffic in 2016, and will be 38% of consumer Internet traffic in 2021.
- In Canada, TVs accounted for 22% of total Internet traffic in 2016, and will be 30% of total Internet traffic in 2021.

Speed Evolution

- In Canada, the average fixed broadband speed will grow 2.6-fold from 2016 to 2021, from 25.9 Mbps to 66.6 Mbps.
- In Canada, 99% of fixed broadband connections will be faster than 5 Mbps in 2021, up from 84% today.
- In Canada, 89% of fixed broadband connections will be faster than 10 Mbps in 2021, up from 68% today.
- In Canada, 53.2% of fixed broadband connections will be faster than 25 Mbps in 2021, up from 31.3% today.
- In Canada, 43.8% of fixed broadband connections will be faster than 50 Mbps in 2021, up from 15.5% today.
- In Canada, the average Wi-Fi speeds from mobile devices will grow 2.2-fold from 2016 to 2021, from 21.8 Mbps to 47 Mbps.
- In Canada, the average mobile connection speed will grow 2-fold from 2016 to 2021, reaching 36 Mbps in 2021.

Traffic per User and Household

- In Canada, the average Internet user will generate 102.6 Gigabytes of Internet traffic per month in 2021, up 144% from 42.1 Gigabytes per month in 2016, a CAGR of 19%.
- In Canada, the average Internet household will generate 237.6 Gigabytes of Internet traffic per month in 2021, up 145% from 96.9 Gigabytes per month in 2016, a CAGR of 20%.
- In Canada, the average FTTx Internet household will generate 457.4 Gigabytes of Internet traffic per month in 2021, 123.0% more than other broadband households.

- In Canada, the average FTTx Internet household generated 228.3 Gigabytes of Internet traffic per month in 2016, 152.8% more than other broadband households.
- In Canada, there will be 3 million Internet households (21.5% of all Internet households) generating more than 250 Gigabytes per month in 2021.
- In Canada, there will be 2 million households (18.6% of all Internet households) generating more than 500 Gigabytes per month in 2021.
- In Canada, there will be 653,382 households (4.9% of all Internet households) generating more than a terabyte per month in 2021.
- In Canada, the average mobile connection will generate 5,244 Megabytes of mobile data traffic per month in 2021, up from 1,429 Megabytes in 2016.

Traffic Topology and Traffic Patterns

- In Canada, 88% of all Internet traffic will cross content delivery networks in 2021, up from 71% in 2016.
- In Canada, peak Internet traffic will grow at a compound annual growth rate of 30% from 2016 to 2021, compared to 22% for average Internet traffic.