



Indonesia - 2021 Forecast Highlights

IP Traffic

- In Indonesia, IP traffic will grow 5-fold from 2016 to 2021, a compound annual growth rate of 37%.
- In Indonesia, IP traffic will reach 3.1 Exabytes per month in 2021, up from 643 Petabytes per month in 2016.
- Indonesia's IP networks will carry 102 Petabytes per day in 2021, up from 21 Petabytes per day in 2016.
- In Indonesia, IP traffic will reach an annual run rate of 37.3 Exabytes in 2021, up from an annual run rate of 7.7 Exabytes in 2016.
- In Indonesia, IP traffic will reach 11 Gigabytes per capita in 2021, up from 2 Gigabytes per capita in 2016.
- In 2021, the gigabyte equivalent of all movies ever made will cross Indonesia's IP networks every 2 hours.

Internet Traffic

- In Indonesia, Internet traffic will grow 4.9-fold from 2016 to 2021, a compound annual growth rate of 37%.
- In Indonesia, Internet traffic will reach 3.0 Exabytes per month in 2021, up from 614 Petabytes per month in 2016.
- Indonesia's Internet traffic will be 98 Petabytes per day in 2021, up from 20 Petabytes per day in 2016.
- Indonesia's Internet traffic in 2021 will be equivalent to 9 billion DVDs per year, 749 million DVDs per month, or 1 million DVDs per hour.
- In 2021, the gigabyte equivalent of all movies ever made will cross the Internet every 2 hours.
- Indonesian Internet traffic in 2021 will be equivalent to (n/a)x the volume of the entire Indonesian Internet in 2005.

- In Indonesia, Internet traffic will reach 11 Gigabytes per capita in 2021, up from 2 Gigabytes per capita in 2016.
- In Indonesia, average Internet traffic will increase 4.9-fold by 2021 and will reach 9 Tbps.

Wired Wi-Fi and Mobile Growth

- Indonesia's Fixed/Wi-Fi was 54% of total IP traffic in 2016, and will be 38% of total IP traffic in 2021.
- Indonesia's Fixed/Wired was 18% of total IP traffic in 2016, and will be 13% of total IP traffic in 2021.
- Indonesia's Mobile was 29% of total IP traffic in 2016, and will be 49% of total IP traffic in 2021.
- Indonesia's Fixed/Wi-Fi was 54.9% of total Internet traffic in 2016, and will be 39.0% of total Internet traffic in 2021.
- Indonesia's Fixed/Wired was 15% of total Internet traffic in 2016, and will be 10% of total Internet traffic in 2021.
- Indonesia's Mobile was 29.9% of total Internet traffic in 2016, and will be 50.8% of total Internet traffic in 2021.
- In Indonesia, mobile data traffic will grow 8-fold from 2016 to 2021, a compound annual growth rate of 53%.
- In Indonesia, mobile data traffic will reach 1.5 Exabytes per month in 2021, up from 184 Petabytes per month in 2016.
- Indonesian mobile data traffic will grow 2 times faster than Indonesian fixed IP traffic from 2016 to 2021.
- Indonesia's Mobile was 29% of total IP traffic in 2016, and will be 49% of total IP traffic in 2021.
- In Indonesia, mobile data traffic in 2021 will be equivalent to (n/a)x the volume of the entire Indonesian Internet in 2005.

IP Video

- In Indonesia, IP video traffic will grow 7-fold from 2016 to 2021, a compound annual growth rate of 47%.
- In Indonesia, IP video traffic will reach 2.3 Exabytes per month in 2021, up from 334 Petabytes per month in 2016.
- In Indonesia, IP video will be 75% of all IP traffic in 2021, up from 52% in 2016.
- In Indonesia, Ultra HD will be 8.4% of IP Video traffic in 2021, up from 0.6% in 2016 (147.4% CAGR).
- In Indonesia, HD will be 50.5% of IP Video traffic in 2021, up from 16.9% in 2016 (83.4% CAGR).
- In Indonesia, SD will be 41.1% of IP Video traffic in 2021, compared to 82.5% in 2016 (28.2% CAGR).
- In Indonesia, consumer IP video traffic will be 76% of consumer IP traffic in 2021, up from 54% in 2016.
- In Indonesia, business IP video traffic will be 62% of business IP traffic in 2021, up from 36% in 2016.

Internet Video

- In Indonesia, Internet video traffic will grow 7-fold from 2016 to 2021, a compound annual growth rate of 48%.
- In Indonesia, Internet video traffic will reach 2.2 Exabytes per month in 2021, up from 317 Petabytes per month in 2016.
- In Indonesia, total Internet video traffic (business and consumer, combined) will be 74% of all Internet traffic in 2021, up from 52% in 2016.

- In Indonesia, Ultra HD will be 8.6% of Internet video traffic in 2021, up from 0.7% in 2016 (146.6% CAGR).
- In Indonesia, HD will be 49.4% of Internet video traffic in 2021, up from 15.5% in 2016 (86.0% CAGR).
- In Indonesia, SD will be 42.0% of Internet video traffic in 2021, compared to 83.8% in 2016 (28.5% CAGR).
- In Indonesia, consumer Internet video traffic will be 75% of consumer Internet traffic in 2021, up from 53% in 2016.
- In Indonesia, business Internet video traffic will be 64% of business Internet traffic in 2021, up from 39% in 2016.
- In Indonesia, Internet-Video-to-TV traffic will be 17% of fixed consumer Internet video traffic in 2021, up from 12% in 2016.
- In Indonesia, Internet-Video-to-TV traffic will increase 7-fold between 2016 and 2021 (46.4% CAGR).
- In Indonesia, 8 billion minutes (14,361 years) of video content will cross the Internet each month in 2021. That's 2,872 minutes of video streamed or downloaded every second.
- In Indonesia, 47% of all Internet video traffic will cross content delivery networks in 2021, up from 27% in 2016.
- In Indonesia, 48.9% of all Internet video traffic will be long-form video (including live) in 2021, up from 50.1% in 2016.

IP VOD

- In Indonesia, Ultra HD will be 3.5% of IP VOD traffic in 2021, up from 0.0% in 2016 (397.6% CAGR).
- In Indonesia, HD will be 82.0% of IP VOD traffic in 2021, up from 57.1% in 2016 (58.8% CAGR).
- In Indonesia, SD will be 14.4% of IP VOD traffic in 2021, compared to 42.9% in 2016 (18.8% CAGR).

Gaming

- In Indonesia, gaming traffic will grow 11-fold from 2016 to 2021, a compound annual growth rate of 63%.
- In Indonesia, gaming traffic will reach 101 Petabytes per month in 2021, up from 9 Petabytes per month in 2016.
- In Indonesia, gaming traffic will be 4% of consumer Internet traffic in 2021, up from 2% in 2016.

Devices

- In Indonesia, there will be 594.0 million networked devices in 2021, up from 423.0 million in 2016.
- In Indonesia, there will be 2.2 networked devices per capita in 2021, up from 1.6 per capita in 2016.
- In Indonesia, 73% of all networked devices will be mobile-connected in 2021.
- In Indonesia, M2M modules will account for 18% (109.3 million) of all networked devices in 2021, compared to 9% (39.7 million) in 2016, (22.5% CAGR).
- In Indonesia, PCs will account for 4% (21.8 million) of all networked devices in 2021, compared to 5% (20.5 million) in 2016, (1.2% CAGR).
- In Indonesia, Tablets will account for 5% (27.9 million) of all networked devices in 2021, compared to 2% (9.9 million) in 2016, (23% CAGR).

- In Indonesia, Smartphones will account for 49% (291.5 million) of all networked devices in 2021, compared to 39% (163.4 million) in 2016, (12.3% CAGR).
- In Indonesia, Connected TVs will account for 7% (39.8 million) of all networked devices in 2021, compared to 2% (10.1 million) in 2016, (31.7% CAGR).
- In Indonesia, Non-Smartphones will account for 16.2% (96.1 million) of all networked devices in 2021, compared to 42% (177.9 million) in 2016, (-11.6% CAGR).
- In Indonesia, Other Portables will account for 1% (7.5 million) of all networked devices in 2021, compared to % (1.5 million) in 2016, (38% CAGR).
- In Indonesia, 4K TVs will account for 32% (9.0 million) of all flat panel TVs in 2021, compared to 10.0% (567,490) in 2016, (73.8% CAGR).
- Indonesia's IP traffic from non-PC devices was 47% of total IP traffic in 2016, and will be 79% of total IP traffic in 2021.
- In Indonesia, PCs accounted for 53% of IP traffic in 2016, and will be 21% of IP traffic in 2021.
- In Indonesia, TVs accounted for 5% of IP traffic in 2016, and will be 8% of IP traffic in 2021.
- In Indonesia, Smartphones accounted for 36% of IP traffic in 2016, and will be 58% of IP traffic in 2021.
- In Indonesia, Tablets accounted for 4% of IP traffic in 2016, and will be 9% of IP traffic in 2021.
- In Indonesia, M2M modules accounted for 1.3% of IP traffic in 2016, and will be 2.6% of IP traffic in 2021.
- In Indonesia, PCs accounted for 50% of consumer Internet traffic in 2016, and will be 20% of consumer Internet traffic in 2021.
- In Indonesia, TVs accounted for 4% of consumer Internet traffic in 2016, and will be 6% of consumer Internet traffic in 2021.
- In Indonesia, TVs accounted for 3% of total Internet traffic in 2016, and will be 6% of total Internet traffic in 2021.

Speed Evolution

- In Indonesia, the average fixed broadband speed will grow 2.2-fold from 2016 to 2021, from 7.4 Mbps to 16.0 Mbps.
- In Indonesia, 78% of fixed broadband connections will be faster than 5 Mbps in 2021, up from 52% today.
- In Indonesia, 46% of fixed broadband connections will be faster than 10 Mbps in 2021, up from 26% today.
- In Indonesia, 13.1% of fixed broadband connections will be faster than 25 Mbps in 2021, up from 5.1% today.
- In Indonesia, 3.1% of fixed broadband connections will be faster than 50 Mbps in 2021, up from 1.6% today.
- In Indonesia, the average Wi-Fi speeds from mobile devices will grow 1.5-fold from 2016 to 2021, from 6.7 Mbps to 10 Mbps.
- In Indonesia, the average mobile connection speed will grow 4-fold from 2016 to 2021, reaching 11 Mbps in 2021.

Traffic per User and Household

- In Indonesia, the average Internet user will generate 28.8 Gigabytes of Internet traffic per month in 2021, up 160% from 11.1 Gigabytes per month in 2016, a CAGR of 21%.
- In Indonesia, the average Internet household will generate 92.9 Gigabytes of Internet traffic per month in 2021, up 223% from 28.8 Gigabytes per month in 2016, a CAGR of 26%.

- In Indonesia, the average FTTx Internet household will generate 135.4 Gigabytes of Internet traffic per month in 2021, 103.9% more than other broadband households.
- In Indonesia, the average FTTx Internet household generated 63.4 Gigabytes of Internet traffic per month in 2016, 117.9% more than other broadband households.
- In Indonesia, there will be 2 million Internet households (15.0% of all Internet households) generating more than 250 Gigabytes per month in 2021.
- In Indonesia, there will be 483,679 households (4.0% of all Internet households) generating more than 500 Gigabytes per month in 2021.
- In Indonesia, there will be 120,920 households (1.0% of all Internet households) generating more than a terabyte per month in 2021.
- In Indonesia, the average mobile connection will generate 3,807 Megabytes of mobile data traffic per month in 2021, up from 549 Megabytes in 2016.

Traffic Topology and Traffic Patterns

- In Indonesia, 40% of all Internet traffic will cross content delivery networks in 2021, up from 16% in 2016.