



Measuring Internet performance and density

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Unique IP addresses seen by Akamai



- Requests for any Akamai service
 - Web, FTP, streaming, anti-virus/patch downloads
- Does not de-duplicate DHCP/PPPOE/NAT hosts
- Estimated 1 billion users behind IP addresses
- 38 Countries with less than 1,000 IP addresses

Country	Q2 08 Unique IP's	Q1 08 Change	Q4 07 Change
- Global	346,151,241	+5.2%	+11%
1 United States	102,006,996	+5.2%	+11%
2 China	34,004,601	+4.8%	+13%
3 Japan	25,456,816	+2.8%	+4.9%
4 Germany	23,826,611	+5.1%	+18%
5 France	16,909,729	+2.9%	+6.3%
6 United Kingdom	16,552,605	+4.2%	+11%
7 South Korea	13,249,291	-2.2%	+0.3%
8 Canada	10,144,269	+3.5%	+7.8%
9 Spain	8,472,640	+3.7%	+7.8%
10 Italy	6,977,409	+5.3%	+13%



Fastest Internet countries (>5Mbps)

- Actual speeds measured from TCP sessions
 - Akamai does not throttle individual TCP sessions
 - Akamai manages how many TCP sessions per server
- Measurement limitations
 - Widely deployed TCP stack quirks
 - Countries with less than 1,000 IP addresses

Country	% >5 Mbps	Q1 08 Change	Q4 07 Change
- Global	19%	+19%	+16%
1 South Korea	64%	+0.2%	-4.5%
2 Japan	52%	+9.3%	+16%
3 Hong Kong	37%	+6.0%	-4.3%
4 Sweden	32%	+9.0%	-0.8%
5 Belgium	26%	+28%	+57%
6 United States	26%	+29%	+30%
7 Romania	22%	+6.1%	+8.5%
8 Netherlands	22%	+9.5%	+5.4%
9 Canada	18%	+35%	+19%
10 Denmark	18%	+24%	+50%



Slowest Internet countries (<256Kbps)



- Connections to Akamai less than 256Kbps
- Islands, Satellites, Africa
- Measurement limitations
 - Akamai has servers in many, but not every country
 - Countries with less than 1,000 IP addresses

Country	% <256 Kbps	Q1 08 Change	Q4 07 Change
- Global	7.4%	-6.8%	-14%
1 Rwanda	94%	-3.0%	-3.7%
2 Solomon Islands	93%	-1.8%	-2.5%
3 Ethiopia	92%	-2.3%	-3.3%
4 New Caledonia	90%	-0.6%	-1.9%
5 Zambia	90%	+0.9%	+1.4%
6 Vanuatu	88%	N/A	-2.4%
7 Tajikistan	88%	+2.3%	+2.9%
8 Cuba	87%	-6.6%	-5.6%
9 Equatorial Guinea	87%	+2.4%	N/A
10 Uganda	86%	-6.5%	-6.7%
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96 United States	8.2%	+5.8%	+9.8%



What speed is today's Critical Mass?

- Global connections greater than 2Mbps
- Measurement limitations
 - Akamai customers compared to global users



Country	% >2 Mbps	Q1 08 Change	Q4 07 Change
- Global	59%	+6.8%	+4.6%
1 South Korea	90%	-3.7%	-5.1%
2 Belgium	90%	-0.1%	1.4%
3 Japan	87%	+0.7%	+1.7%
4 Hong Kong	87%	-0.3%	-1.8%
5 Switzerland	85%	-3.8%	-3.4%
6 Slovakia	83%	+2.6%	+3.2%
7 Norway	82%	-1.3%	-3.6%
8 Denmark	79%	+8.5%	+16%
9 Netherlands	77%	-2.0%	-4.5%
10 Sweden	75%	+1.0%	-2.0%
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20 United States	71%	+13%	+10%



Additional Information



Akamai State of the Internet report

<http://www.akamai.com/stateoftheinternet/>

Questions???