

An Open Technology Initiative Report

Bandwidth Caps for Residential High-Speed Internet in the U.S. and Japan

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As part of the Open Technology Initiative's continuing research to compare international broadband capabilities and policies, we have completed this report comparing bandwidth or usage cap policies between Internet Service Providers (ISPs) in the United States and Japan. Bandwidth caps are imposed limits on the amount of data or traffic a subscriber can consume over their Internet connection. The report compares caps across multiple pricing tiers for residential high-speed Internet services including cable modem, fiber-to-the-home (FTTH) or fiber-to-the-premise (FTTP) and Digital Subscriber Lines (DSL). The report reveals a large discrepancy in the usage limits ISPs place on consumers in the two countries, with U.S. providers substantially limiting the amount of bandwidth their subscribers can consume. The data has been juxtaposed with the price and the speed of the service offering and the complete data and sources are available in an appendix at the end of the report.

ISPs with the most constrictive bandwidth caps are in the United States. As shown in Chart 1, U.S. Internet service providers (ISP) have monthly bandwidth caps as low as 1GB for combined upstream and downstream traffic, while many Japanese ISPs only utilize bandwidth caps of 5GB per day or approximately 150GB per month for upstream bandwidth, with no limit on the amount of data consumers can download.

Lowest Bandwidth Cap									
United States					Japan				
ISP	Speed Down/Up	Monthly Price	Monthly Cap Down/Up	P2P Limits	ISP	Speed Down/Up	Monthly Price	Monthly Cap Up Only	P2P Limits
Cable One	1.5Mbps/150Kbps	\$26	1GB total	No	i-revo	100Mbps/100Mbps	\$51-130	150GB	No
Cox	768Kbps/256Kbps	\$19.95	3GB/1GB	Yes	BB.	47Mbps/5Mbps	\$63	420GB	Yes
	1.5Mbps/384Kbps	\$29.99	4GB/1GB		Excite	100Mbps/100Mbps	\$60		
Time Warner	768Kbps/128Kbps	\$19.95	40GB total	Yes	Internet Initiative Japan	100Mbps/100Mbps	\$48-77	450GB	No
	1.5Mbps/256Kbps	\$34.95	(proposed)						
	7Mbps/384Kbps	\$49.95							
	10Mbps/512Kbps	\$59.90							
AT&T	768Kbps/384Kbps	\$19.95	20GB (proposed)	No	SoftBank ODN	100Mbps/100Mbps	\$53-72	450GB	No

Chart 1: Lowest bandwidth cap proposed or implemented in the U.S. and Japan.

In the U.S., bandwidth caps vary by price and speed of the service offering. For example, Cable One has the lowest monthly cap at 1GB for their Economy Plan, which advertises speeds up to 1.5 Mbps down and 150 Kbps up. Advertising similar speeds, Cox's Economy Light Package and Starter Package allows subscribers to consume 3GB bandwidth a month for downstream and 1GB a month for upstream, which translates to an average daily consumption of 100MB downstream and 33MB upstream. From a user perspective, these caps mean that subscribers cannot download more than ten, or upload more than three, high-resolution digital photos (roughly 10MB/photo) a day.

Although services offered by Japanese ISPs are more expensive than these "economy plans," they are not only much faster but offer considerably more flexibility in terms of bandwidth consumption. In Japan, the lowest cap for residential Internet of the companies we researched is 150GB per month for upstream only, implemented by i-revo, a nationwide

fiber ISP that provides up to 100Mbps symmetrical access. BB Excite, SoftBank and Internet Initiative Japan (IIJ) also imposed 420GB to 450GB bandwidth per month only on the upload side.

If a user exceeds these bandwidth caps, ISPs in the U.S. and Japan have different approaches. For example, if a subscriber uses more than 1GB on Cable One's Economy Plan, the company levies an additional fee for each additional 1GB of bandwidth consumed beyond the cap. For their other tiered services, Cable One may suspend the customer's service or require customers to upgrade to the highest tiered service. In Japan, most ISPs notify users who exceed bandwidth by email or letter. If the violation continues to exist, Japanese ISPs may suspend or terminate the service.

Even comparing the higher bandwidth caps in the two countries, including the highest priced residential plans, bandwidth caps in the U.S. are drastically lower and more restrictive than those in Japan. Chart 2 shows service options with the highest bandwidth cap in the two countries. U.S. ISPs such as Cox, Charter, Comcast and Cable One cap bandwidth from 20 GB to 250GB per month for combined up and downstream traffic for their higher-priced Internet services. Among these ISPs, Cox has the highest monthly caps, offering 300GB for downstream and 100GB for upstream to Ultimate Package subscribers (50Mbps/5Mbps). Comcast caps bandwidth at 250GB a month, combined upstream and downstream, for all tiered Internet services. Continuing the U.S. trend towards more restrictive Internet service, AT&T has proposed bandwidth caps of 20-150GB a month. In addition, some of these ISPs have imposed network management on users' Internet traffic.

High Bandwidth Cap															
United States					Japan										
ISP	Speed Down/Up	Monthly Price	Monthly Cap Down/Up	P2P Limits	ISP	Speed Down/Up	Monthly Price	Monthly Cap Up Only	P2P Limits						
AT&T	1.5Mbps/384Kbps	\$25	Proposed 20-150GB	No	NTT OCN	47Mbps/5Mbps	\$45-79	900GB	No						
	3Mbps/512Kbps	\$30				100Mbps/100Mbps	\$65								
	6.0Mbps/768Kbps	\$35													
Cox	10Mbps/738Kbps	\$45	40GB/15 GB	Yes	Mega EGG	100Mbps/100Mbps	\$56	900GB	No						
	20Mbps/3Mbps	\$60	60GB/15 GB												
	28Mbps/2Mbps	\$80	150GB/50GB												
	50Mbps/5Mbps	\$140	300GB/100 GB												
Charter	1Mbps	\$19.99	100GB total	Yes	Info Sphere	47Mbps/5Mbps	\$48	900GB	Yes						
	5Mbps	\$54.99				100Mbps/100Mbps	\$60								
	9Mbps	\$64.99	250GB total												
	20Mbps	\$79.99													
Comcast	1Mbps/384Kbps	\$24.95	250GB total	No	TikiTiki	50.5Mbps/12.2Mbps	\$46	900GB	No						
	6Mbps/1Mbps	\$42.95				100Mbps/100Mbps	\$36-64								
	8Mbps/2Mbps	\$52.95													
Cable One	5Mbps/0.5Mbps	\$49	90GB total	No	Open Circuit	47Mbps/5Mbps	\$27	900GB	No						
	10Mbps/1Mbps	\$59	150GB total			100Mbps/100Mbps	\$55-84								

Chart 2: High bandwidth cap implemented/proposed by U.S. and Japanese ISPs

As listed in Chart 3, not all ISPs in the U.S. and Japan cap usage. Of the U.S. ISPs we researched, Verizon is the only ISP that has neither proposed nor implemented bandwidth caps for subscribers of any of their service tiers. However, Verizon's terms of service explain that they may cap bandwidth usage or suspend Internet service if a subscriber overuses bandwidth. There are also several Japanese ISPs including KCN cable, famille and NetVALUE that do not have

bandwidth caps for any tiers of their ADSL and fiber Internet services. Our research also reveals that fewer of these ISPs impose any network management on a subscriber's connection, such as slowing down peer-to-peer traffic or other limits.

No Bandwidth Cap											
United States					Japan						
ISP	Speed Down/Up	Monthly Price	Monthly Cap	P2P Limits	ISP	Speed Down/Up	Monthly Price	Monthly Cap	P2P Limits		
Verizon	1Mbps/384Kbps	\$19.99	N/A	No	KCN	160Mbps/5Mbps	\$40	N/A	No		
	3Mbps/768Kbps	\$29.99			12Mbps/1Mbps	\$32					
	7.1Mbps/768Kbps	\$42.99			1Gbps/1Gbps	\$58					
	15Mbps/5Mbps	\$49.99			J:COM	160Mbps/10Mbps	\$63			N/A	Yes
	25Mbps/15Mbps	\$69.99			famille	47Mbps/5Mbps	\$44			N/A	No
	50Mbps/20Mbps	\$144.95				100Mbps/100Mbps	\$41-46				
					iTSCOM	160Mbps	\$63	N/A	Yes		
						47Mbps/5Mbps	\$42-66				
						100Mbps-1Gbps/ 100Mbps-1Gbps	\$35-68				
					Net VALUE	47Mbps/5Mbps	\$48-76	N/A	No		
							100Mbps-1Gbps/ 100Mbps-1Gbps			\$45-74	

Chart 3. No bandwidth cap implemented/proposed by U.S. and Japanese ISPs

This report demonstrates that bandwidth caps in the U.S. are more restrictive than in Japan. ISPs in Japan only cap upstream traffic, if at all, and few impose network management practices to limit bandwidth consumption. The results of this report should encourage policymakers to investigate market conditions in Japan to determine how and why their networks supports far more per-customer throughput than comparable networks in the U.S. Additionally, regulators and policymakers need to investigate why Japanese high-speed Internet subscribers get faster speeds at lower prices, with fewer limitations than subscribers in the U.S.

Appendix

United States							Japan								
ISP	Internet Service		Speed Down/Up	Monthly Price	Monthly Cap Down/Up	P2P Limits	ISP	Internet Service		Speed Down/Up	Monthly Price	Monthly Cap Up Only	P2P Limits		
Cable One	C ¹	Economy	1.5 Mbps/150Kbps	\$26	1GB total ²	No	KCN	C/A/F ³	Cable	160Mbps/5Mbps	\$40	N/A	No		
		Standard	5 Mbps/500Kbps	\$49	90GB total				ADSL	12Mbps/1Mbps	\$32	N/A	No		
		Premium	10 Mbps/1Mbps	\$59	150GB total				Fiber: K-Broad	1Gbps/1Gbps	\$58	N/A	No		
Cox	C ⁴	Economy/Lite Package	768Kbps/256Kbps	\$19.95	3GB/1GB ⁵	Yes ⁶	iTSCOM	C/F/D ⁷	Cable	160Mbps	\$63	N/A	Yes ⁷		
		Value Package	1.5Mbps/384Kbps	\$29.99	4GB/1GB				FLET'S ADSL	47Mbps/5Mbps	\$42-66				
		Preferred Package	10Mbps/2Mbps	\$44.99	40GB/15GB				Fiber Hikari	100Mbps/100Mbps	\$35-68				
		Premier Package	20 Mbps/3Mbps	\$59.99	60GB/15GB		J:COM	C ⁸	Cable every tier	160Mbps/10Mbps	\$63	N/A	Yes		
		Premier Plus Package	28 Mbps/2Mbps	\$79.99	150GB/50GB		KATCH	C ⁹	Cable every tier	120Mbps/10Mbps	\$59	N/A	Yes		
		Ultimate Package	50 Mbps/5Mbps	\$139.99	300GB/100GB		NTT OCN	D/F ¹⁰	FLET'S ADSL	47Mbps/5Mbps	\$45-79	900GB	No		
									FLET'S Hikari	100Mbps/100Mbps	\$65				
Time Warner	C ¹¹	Road Runner Lite	768Kbps/128Kbps	\$19.99	(Proposed) 5-40GB total ¹²	Yes ¹³	TikiTiki	D ¹⁴	ADSL	50.5Mbps/12.2Mbps	\$46	900GB	No		
		F	FLET'S Hikari	100Mbps/100Mbps					\$36-64						
		Road Runner Standard	7Mbps/384Kbps	\$49.95			Open Circuit	D ¹⁵	ADSL	47Mbps/5Mbps	\$27	900GB	No		
		Road Runner Turbo	10Mbps/512Kbps	\$59.90					F	Fiber FLET'S Hikari	100Mbps/100Mbps	\$55-84			
Charter	C ¹⁶	High Speed Internet	1Mbps	\$19.99	100-250GB total ¹⁷	Yes ¹⁷	Mega EGG	F ¹⁸	Fiber Service/ Fiber Hikari	100Mbps/100Mbps	\$56	900GB	No		
		Internet	5Mbps	\$54.99					Info Sphere	D/F ¹⁹	ADSL Dynamic Type	47Mbps/5Mbps	\$48	900GB	Yes
		Internet Plus	9Mbps	\$64.99							Fiber FLET'S Hikari	100Mbps/100Mbps	\$60		
		High Speed Internet Max	20Mbps	\$79.99											
Comcast	C ²⁰	Economy	1Mbps/384Kbps	\$24.95	250GB total ²¹	No ²²	BB. Excite	D/F ²³	ADSL MOREIII	47Mbps/5Mbps	\$63	420GB	Yes		
		Performance	6Mbps/1Mbps	\$42.95					Fiber FLET'S Hikari	100Mbps/100Mbps	\$60				
		Blast	8Mbps/2Mbps	\$52.95			SoftBank SpinNET	D/F ²⁴	Fiber All Hikari FLET'S plans	100Mbps/100Mbps	\$56-178	450GB	No		
AT&T	D ²⁵	Basic DSL	768Kbps/384Kbps	\$19.95	(Proposed) 20-150GB ²⁶	No	SoftBank ODN	D/F ²⁷	Fiber: B FLET'S plan/course/s-course	100Mbps/100Mbps	\$53-72	450GB	No		

Verizon	D ³¹	Express DSL	1.5Mbps/384Kbps	\$25	N/A	No ³²	Internet Initiative Japan (IIJ)	D/F ²⁸	Fiber FLET'S Hikari	100Mbps/100Mbps	\$48-77	450GB	No
		Pro DSL	3Mbps/512Kbps	\$30			Plala	D/F ²⁹	Fiber FLET'S Hikari	100Mbps/100Mbps	\$63	450GB	Yes
		Elite DSL	6Mbps/768Kbps	\$35			i-revo	F ³⁰	Fiber FLET'S Hikari	100Mbps/100Mbps	\$51-130	450GB	No
	F ³¹	Starter Plan	1Mbps/384Kbps	\$19.99			JOMON	D/F ³³	ADSL	8Mbps	\$44	N/A	Yes
		Power Plan	3Mbps/768Kbps	\$29.99					Fiber FLET'S Hikari	100Mbps/100Mbps	\$41-46		
		Turbo Plan	7.1Mbps/768Kbps	\$42.99			ASAHI Net	D/F ³⁴	FLET'S ADSL	47Mbps/1.5Mbps	\$54-63	N/A	Yes
		Fast	15Mbps/5Mbps	\$49.99					Fiber FLET'S	100Mbps/100Mbps	\$60		
		Faster	25Mbps/15Mbps	\$69.99			@nifty	D/F ³⁵	FLET'S ADSL	50Mbps/5Mbps	\$31-45	N/A	Yes
		Fastest	50Mbps/20Mbps	\$144.95					Fiber Internet: Hikari FLET'S	100Mbps/100Mbps	\$65		
							BIGLOBE	D/F ³⁶	FLET'S ADSL	50Mbps	\$31	N/A	Yes
									Fiber Hikari FLET'S/ Hikari One	1Gbps/1Gbps	\$65		
							So-Net	D/F ³⁷	ADSL	50Mbps	\$28	N/A	No
									Fiber FLET'S and Hikari One	1Gbps/1Gbps	\$65		
							InfoSakyu	D/F ³⁸	ADSL FLET'S	47Mbps/5Mbps	\$39	N/A	No
									Fiber FLET'S	100Mbps-1GMbps /100Mbps-1GMbps	\$45-74		
							famille	D/F ³⁹	ADSL FLET'S	47Mbps/5Mbps	\$48-76	N/A	No
									Fiber Hikari	100Mbps-1GMbps /100Mbps-1GMbps	\$45-74		
							U-netSURF	D/F ⁴⁰	ADSL FLET'S	47Mbps/5Mbps	\$42	N/A	No
									Fiber Hikari	100Mbps-1GMbps /100Mbps-1GMbps	\$45-74		
							FUSION GOL	D/F ⁴¹	ADSL FLET'S	47Mbps/5Mbps	\$66	N/A	No
									Fiber B FLET'S	100Mbps-1GMbps /100Mbps-1GMbps	\$74		
							ADSL-direct	D/F ⁴²	ADSL FLET'S	50Mbps/5Mbps	\$29-44	N/A	No
							Net VALUE	D/F ⁴³	ADSL FLET'S	47Mbps/5Mbps	\$38	N/A	No
									Fiber B FLET'S	100Mbps-1GMbps /100Mbps-1GMbps	\$65		

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- ¹³ Time Warner Cable Limits on P2P available in Time Warner Cable Residential services subscriber agreement Article 6 http://help.twcable.com/html/twc_sub_agreement.html and Operator Acceptable Use Policy http://help.twcable.com/html/twc_misp_aup.html
- ¹⁴ TikiTiki bandwidth cap announced on Feb. 5, 2009 <http://www.tiki.ne.jp/announce/090205.html>; Internet services: Fiber FLET'S Hikari for single residence and MDU <http://www.tiki.ne.jp/hikari/flets/fee.html> PDF; ADSL http://www.tiki.ne.jp/adsl/tikiadsl/acca/fee_e2.html PDF.
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